GCM
ENVIRO
SYNERGIES

Annexe A

Sommaire exécutif

SOMMAIRE EXÉCUTIF

La propriété minière Shaakichiuwaanaan, appartenant à Ressources PMET inc. (PMET) et sa filiale québécoise Innova Lithium inc., est un projet de mise en valeur du lithium en cours de développement. La propriété est située au nord-est de Nemaska et à l'est de Radisson. La propriété est accessible par une route située approximativement au kilomètre 270 de la route Trans-Taiga.

Les seules activités présentement effectuées sur la propriété Shaakichiuwaanaan sont des travaux d'exploration minière. Un campement d'exploration est présent au kilomètre 270 de la route Trans-Taiga. Une route d'accès d'environ 15 km permet de se déplacer du camp d'exploration à la propriété. Le projet d'exploitation prévoit une fosse à ciel ouvert, une mine souterraine incluant une rampe d'accès et un portail, une usine de traitement du minerai, deux haldes à mort-terrain, deux haldes à matière organique, deux haldes à minerai (faible teneur et haute teneur), une halde à stériles à faible risque et une halde de co-placement des stériles et des résidus miniers prévue avec des mesures d'étanchéité.

Les principales étapes de restauration à la fermeture complète de la mine comprennent le démantèlement, par un entrepreneur certifié, des bâtiments et autres infrastructures de surface, de même que la mise à niveau, la scarification et la végétalisation des surfaces affectées. La halde à stériles à faible risque sera recouverte de matières organiques, puis revégétalisée. La halde de co-placement des stériles et des résidus miniers sera recouverte d'un système multicouche incluant une géomembrane, puis recouverte de matières organiques et revégétalisée par hydroensemencement. Les haldes à minerai n'entreposant plus de matériel à la fin de vie de la mine seront caractérisées, scarifiées et revégétalisées. Les bassins de décantation seront quant à eux vidés, remblayés et revégétalisés, les digues seront régalées et la superficie sera revégétalisée, à l'exception des bassins des haldes à stériles et à co-placement, pour lesquels les géomembranes seront retirées, puis une brèche sera créée dans la digue des bassins.

Il est prévu que les travaux de restauration décrits au paragraphe précédent s'échelonnent sur quatre (4) années suivant l'arrêt de l'exploitation minière et la fermeture de l'usine de traitement de minerai. Le suivi postrestauration est prévu sur une période de cinq (5) ans afin de respecter la Directive 019.

Les coûts de restauration, de même que le montant de la garantie financière, se chiffrent à **249 102 400 $ CA**, incluant les coûts indirects, les coûts de suivi et une contingence de 20 %.

GCM ENVIRO SYNERGIES

Annexe B

Cartes et plans

B1. Localisation générale du site minier
B2. Plans – Aménagement général des infrastructures
B3. Titres miniers du territoire visé par le site minier
B4. Mesures d'arrêt temporaire des activités
B5. Plans et diagrammes de tuyauterie et d'instrumentation – Gestion des eaux et aires d'accumulation
B6. Plans – Bâtiments

B1. Localisation générale du site minier

-77°0,000′ -76°0,000′ -75°0,000′ -74°0,000′

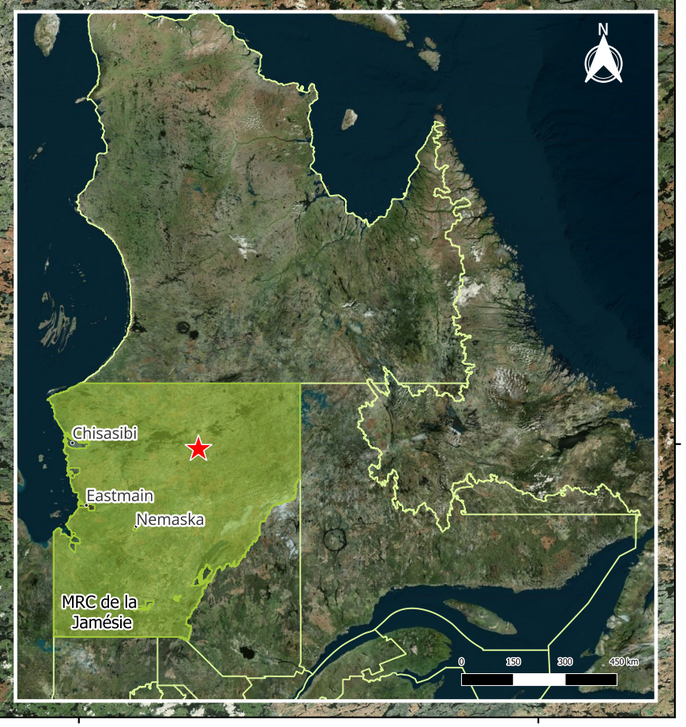
53°54,000′ 53°12,000′ 52°30,000′

N

Radisson

Route Transtaïga

Route Billy-Diamond



RESSOURCES PMET RESOURCES

PROJET MINIER SHAAKICHIUWAANAAN
RESSOURCES PMET INC.

Localisation générale du projet minier

★ Projet minier Shaakichiuwaanaan

Routes

Source:
Découpages administratifs : MRNF Québec, 2025
Photographie aérienne : © Bing Maps, 2025

Projet: 24-2164-0682

Réalisé par: William Beauregard
Vérifié par: Marianne Côté

0 10 20 30 40 km

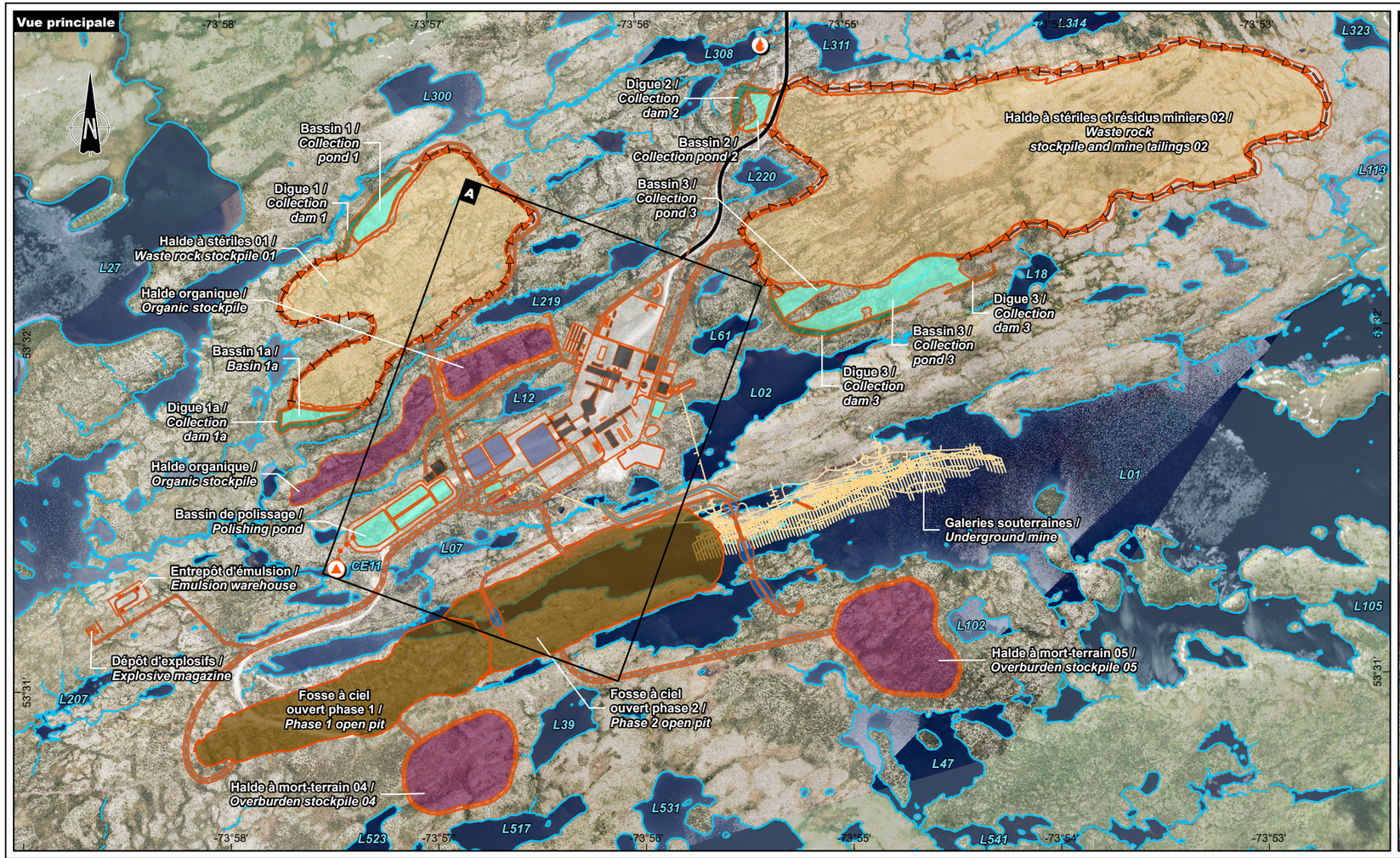
Projection MTM, zone 8, Nad83

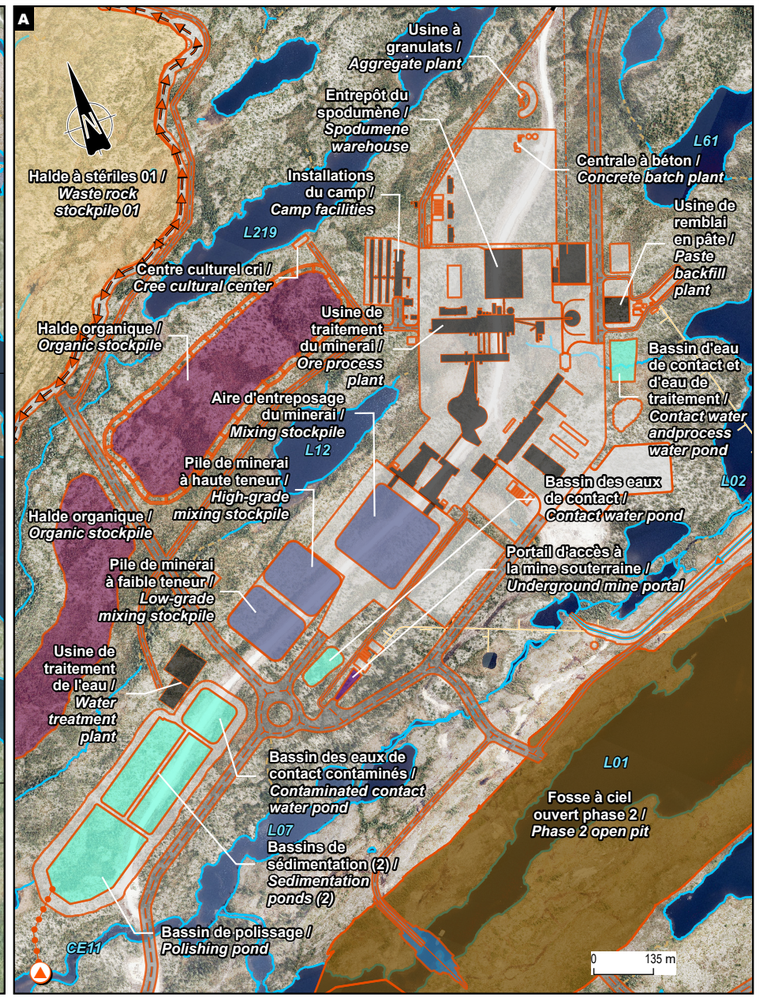
GCM ENVIRO SYNERGIES

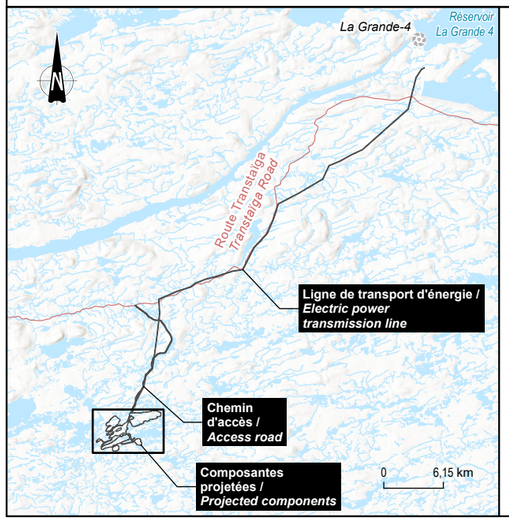
Mars 2026 **Carte 1**

GCM
ENVIRO
SYNERGIES

B2. Plans – Aménagement général des infrastructures







Zone d'étude / *Study Area*

- Projet / *Project*

Composantes du projet / *Project Components*

Existante / *Existing*

- Chemin d'accès / *Access road*

Projetées / *Projected*

- Effluent minier / *Mining effluent*
- Prise d'eau / *Water intake*
- Barrage / *Dam*
- Canal / *Channel*
- Canal de dérivation / *Diversion Channel*
- Chemin secondaire / *Secondary road*
- Fossé / *Ditch*
- Galerie souterraine / *Underground mine*
- Ligne de transport d'énergie / *Power transmission line*
- Aire d'entreposage du minerai mixte / *Mixed ore stockpile*
- Autre / *Other*
- Bâtiment ou équipement / *Building or equipment*
- Digue / *Dam*
- Bassin / *Basin*
- Digue des bassins / *Basins dam*
- Fosse / *Pit*
- Halde à mort-terrain et organique / *Overburden stockpile*
- Halde à stériles et/ou résidus / *Waste rock and/or tailings stockpile*
- Portail d'accès à la mine souterraine / *Underground mine portal*
- Voie de circulation / *Roadway*

Hydrographie / *Hydrography*

- Plan d'eau / *Waterbody*

Cours d'eau / *Watercourses*

- Intermittent / *Intermitent*
- Permanent / *Permanent*
- Souterrain / *Underground*

Projet minier Shaakichiuwaanaan /
Shaakichiuwaanaan Mining Project

Étude d'impact sur l'environnement /
Environmental Impact Assessment

Carte 5-1 / *Map 5-1*
Composantes du projet minier / *Mining Project Components*

Sources / Sources
SDA, 1/20 000, MERN, 2024-02
CanVec+, 1/50 000, RNCan, 2014
CanVec, 1/250 000, RNCan, 2017
BDGA, 1/1 000 000, MRN Québec, 2014
BDGA, 1/1 000 000, MRN Québec, 2002
AQréseau+, réseau routier, MERN, 2024-03-01
G Services Miniers, Composantes projetées, CASN-A-001-GE-SKE-0005-A, 2025

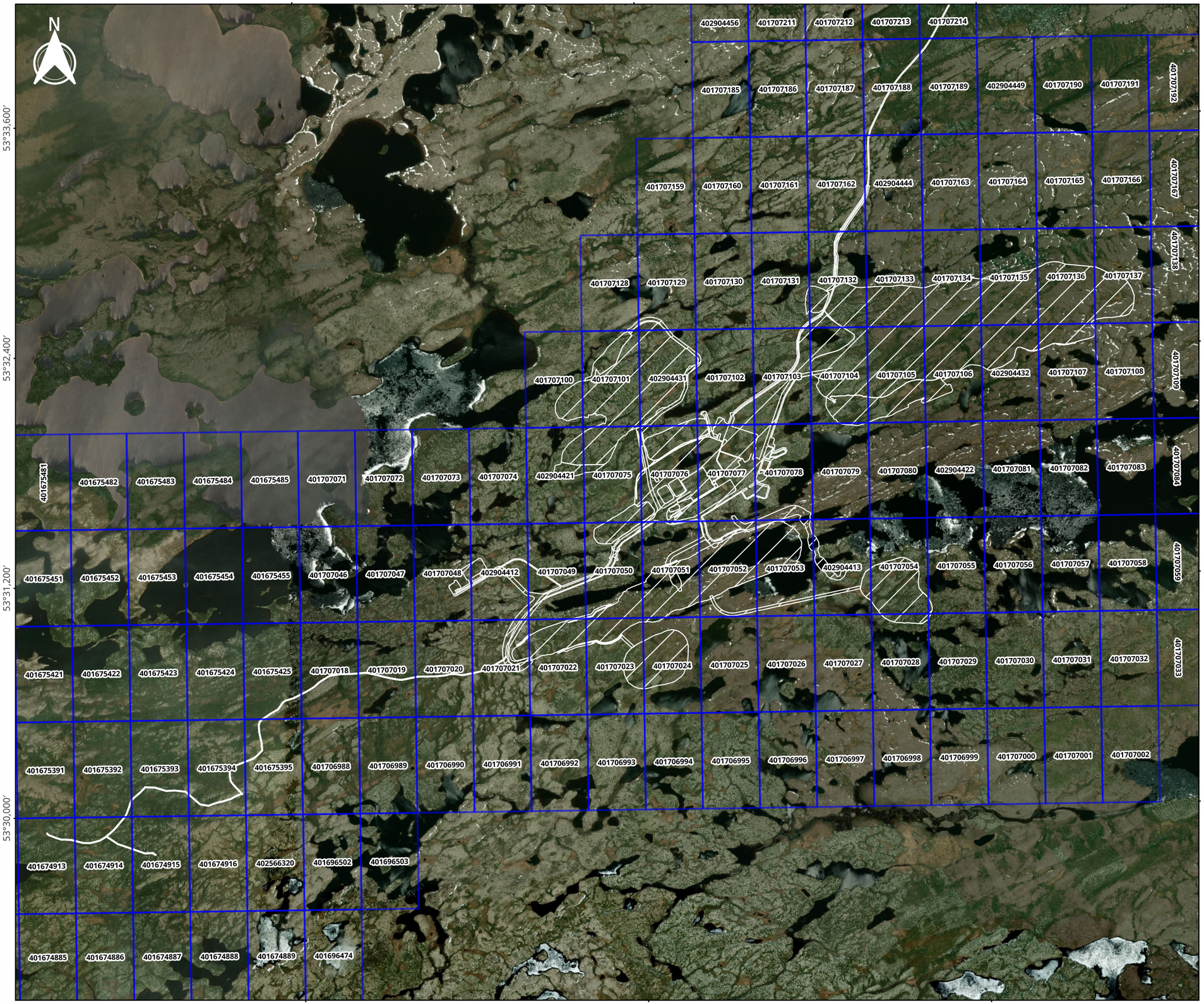
0 260 520 m
UTM, fuseau 18, NAD83 (CSRS)

2026-03-10

Préparation / Prepared by : M-H. Brisson
Dessin / Drawn by : J. Roy
Approbation / Approved by : M-H. Brisson
CA0001724_3318_eie_ch05_c01_02_260310.aprx
CA0001724_3318_eie_c05_01_087_infras_proj_260310

La précision des limites et les mesures montrées sur ce document ne doivent pas servir à des fins d'ingénierie ou de délimitation foncière. Aucune analyse foncière n'a été effectuée par un arpenteur-géomètre. /
Boundary accuracy and measurements shown on this document are not intended for engineering or land delineation purposes. No land analysis has been performed by a land surveyor.

B3. Titres miniers du territoire visé par le site minier



RESSOURCES PMET RESOURCES

PROJET MINIER SHAAKICHIUWAANAAN
RESSOURCES PMET INC.

Titres miniers reliés au projet

- Infrastructures minières
- Titres miniers

Source:
Titres miniers : Données GESTIM (MRNF), 2026
Infrastructures : G Mining Services, 2025 (CASN-A-001-GE-GA-0002_RevC)
Photographie aérienne : © Bing Maps, 2025

Projet: 24-2164-0682

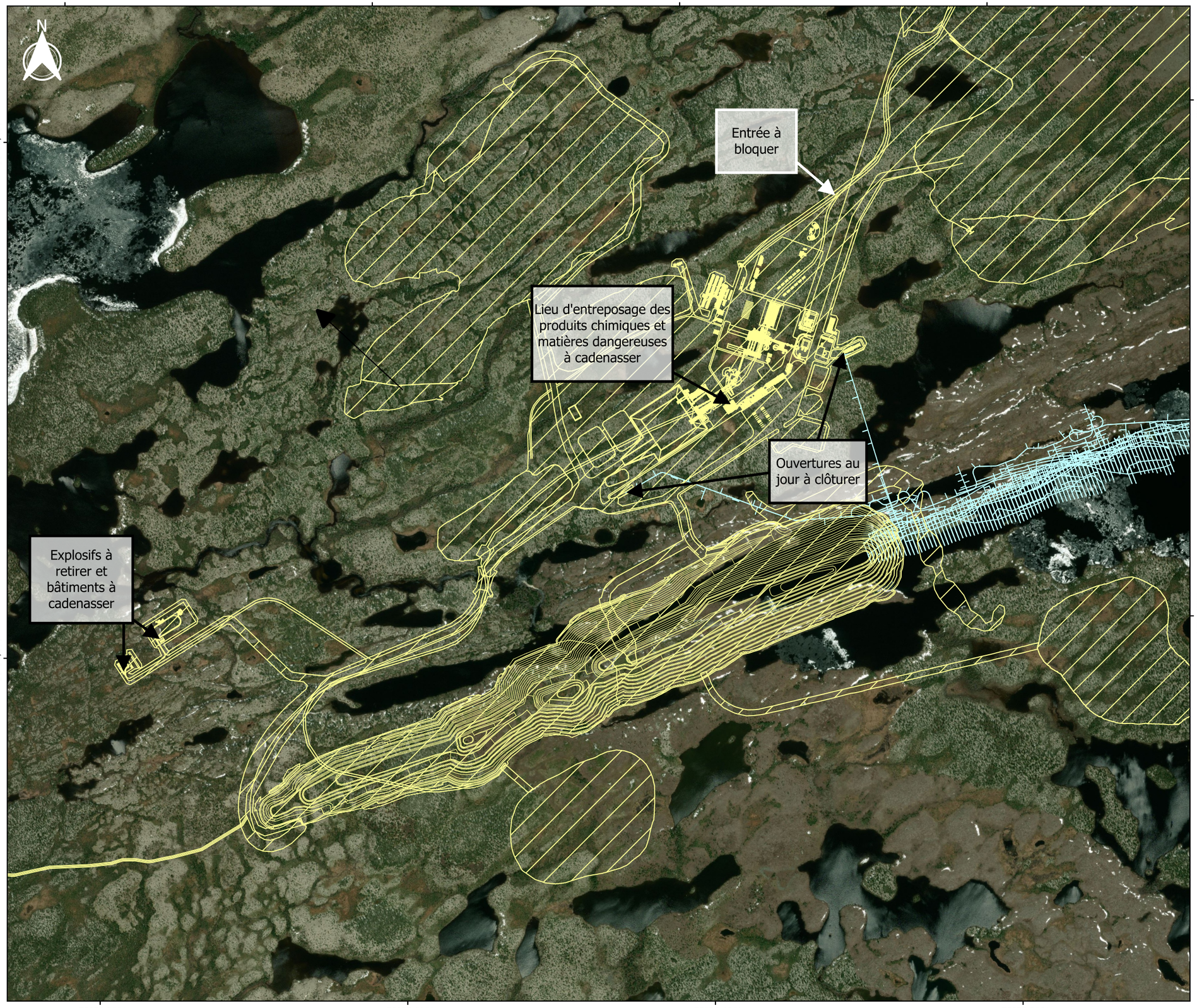
Réalisé par: William Beauregard
Vérifié par: Marianne Côté

0 300 600 900 1 200 1 500 m
Projection MTM, fuseau9, NAD83 (SCRS)

GCM ENVIRO SYNERGIES

Mars 2026 **Carte 2**

B4. Mesures d’arrêt temporaire des activités



RESSOURCES PMET RESOURCES

PROJET MINIER SHAAKICHIUWAANAAN
RESSOURCES PMET INC.

Mesures en cas d'arrêt temporaire des activités

- Infrastructures minières de surface
- Infrastructures minières souterraines

Source:
Infrastructures : G Mining Services, 2025 (CASN-A-001-GE-GA-0002_RevC)
Photographie aérienne : © Bing Maps, 2025

Projet: 24-2164-0682

Réalisé par: William Beauregard
Vérifié par: Marianne Côté

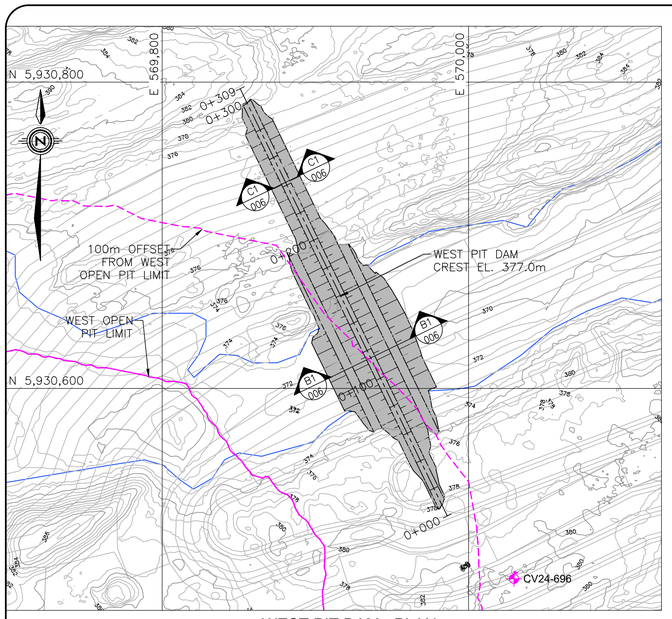
0 200 400 600 m
Projection MTM, fuseau9, NAD83 (SCRS)

GCM ENVIRO SYNERGIES

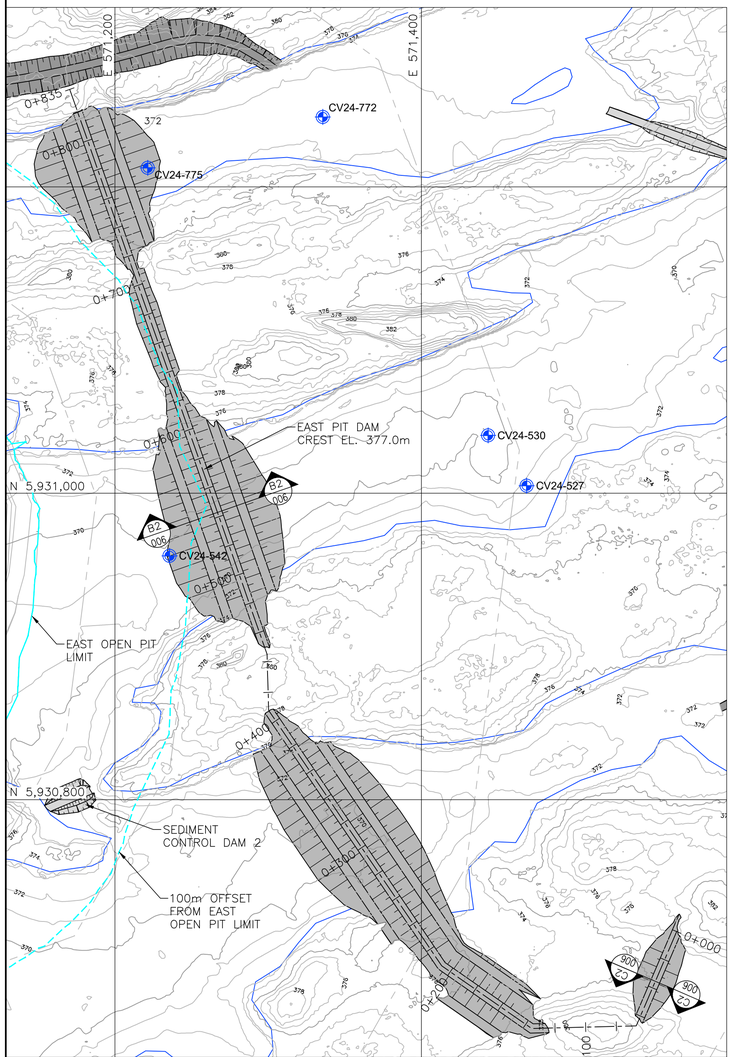
Mars 2026 **Carte 4**

GCM
ENVIRO
SYNERGIES

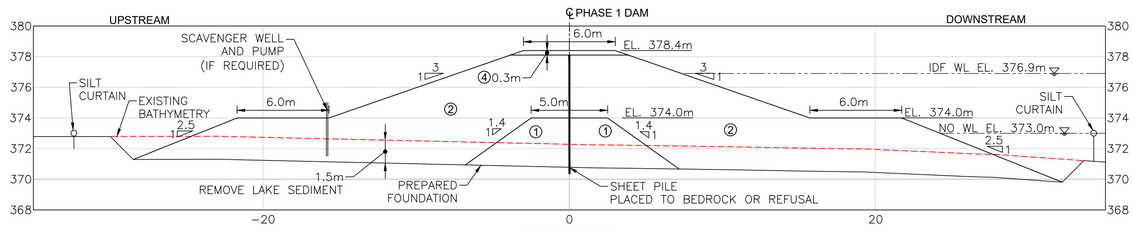
B5. Plans et diagrammes de tuyauterie et d'instrumentation
Gestion des eaux et aires d'accumulation



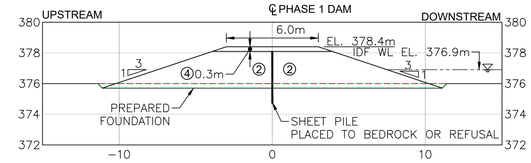
WEST PIT DAM - PLAN
SCALE=1:2000



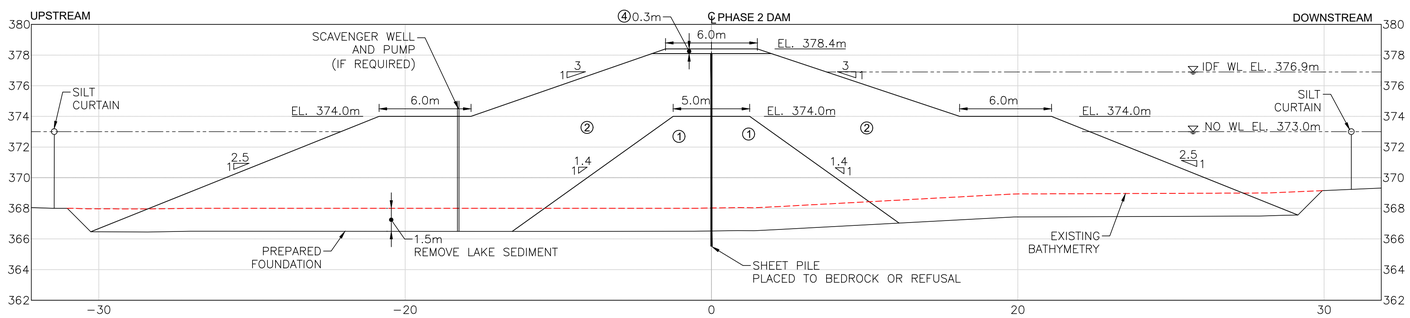
EAST PIT DAMS - PLAN
SCALE=1:2000



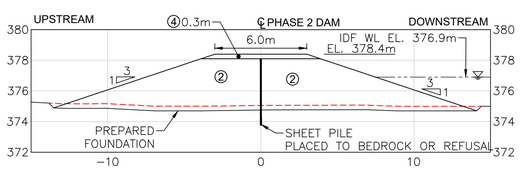
SECTION B1
WEST PIT DAM
SCALE=1:200



SECTION C1
WEST PIT DAM
SCALE=1:200



SECTION B2
EAST PIT DAM
SCALE=1:200



SECTION C2
EAST PIT DAM
SCALE=1:200

NOTES

1. THE CO-ORDINATES, DIMENSIONS AND ELEVATIONS ARE IN METERS. ELEVATIONS ARE TIED TO MEAN SEA LEVEL. CO-ORDINATES ARE BASED ON UTM NAD83(CSRS) ZONE 18 METRIC GRID PROJECTION.
2. CONTOURS WERE DERIVED FROM LiDAR SURVEY FROM PATRIOT LiDAR DATED OCT 11, 2022.

LEGEND

CV24 - BOREHOLES FROM 2024 GORTECHNICAL INVESTIGATION

OBSERVATION WELL

MATERIALS

(1) CRUSHED STONE (-75mm)
(2) WASTE ROCK (-450mm)
(3) TILL / SAND BENTONITE CEMENT FILL
(4) GRANULAR B TYPE II
(5) FILTER / BEDDING SAND (-4.75mm)
(6) TRANSITION SAND AND GRAVEL (-26.5mm)
(7) RIP-RAP EROSION PROTECTION
(8) SAND / SILT (OVERBURDEN)
(9) CLEAR STONE (-19mm)
(G1) NON-WOVEN GEOTEXTILE (500g/m²)
(G2) NON-WOVEN NEEDLE PUNCHED GEOTEXTILE (300g/m²)
(GL) 1.5mm DOUBLE TEXTURED LLDPE GEOMEMBRANE

0 40 80 120m
SCALE= 1:2000

0 4 8 12m
SCALE= 1:200

ATKINSRÉALIS #: 702381-0000-4GDD00-0008

REV	DESCRIPTION	PAR BY	ING ENG	DATE
C	ISSUED FOR FEASIBILITY STUDY	A.C.	B.M.	25/09/10
B	CLIENT REVIEW / COMMENT	A.C.	B.M.	25/07/28
A	INTERNAL REVIEW	A.C.	B.M.	25/04/12

PATRIOT BATTERY METALS

AtkinsRéalis

Mining Services

CONCEPTEUR/DESIGN:	P. ADDIS	25-09-10
DESSINATEUR/DRAWN:	M. SYKES	25-09-10
VÉRIFIÉ PAR/CHECKED:	R. ALAM	25-09-10
INGÉNIEUR/ENGINEER:	B. MORRISSETTE	25-09-10
ÉCHELLE/SCALE:	AS SHOWN	DATE

PROJET/PROJECT:

PHASE:
ÉTUDE DE FAISABILITÉ
FEASIBILITY STUDY

TITRE:
-
-
-
-

TITLE
DYKES AND DIVERSION FOR LAKE 001
PLAN, SECTIONS AND DETAILS
-
-

DESSIN NUM./DRAWING NO.: CASN - A

327 - WM - DWG - 0001 - C
AREA DISC. TYPE SEQ. REV.

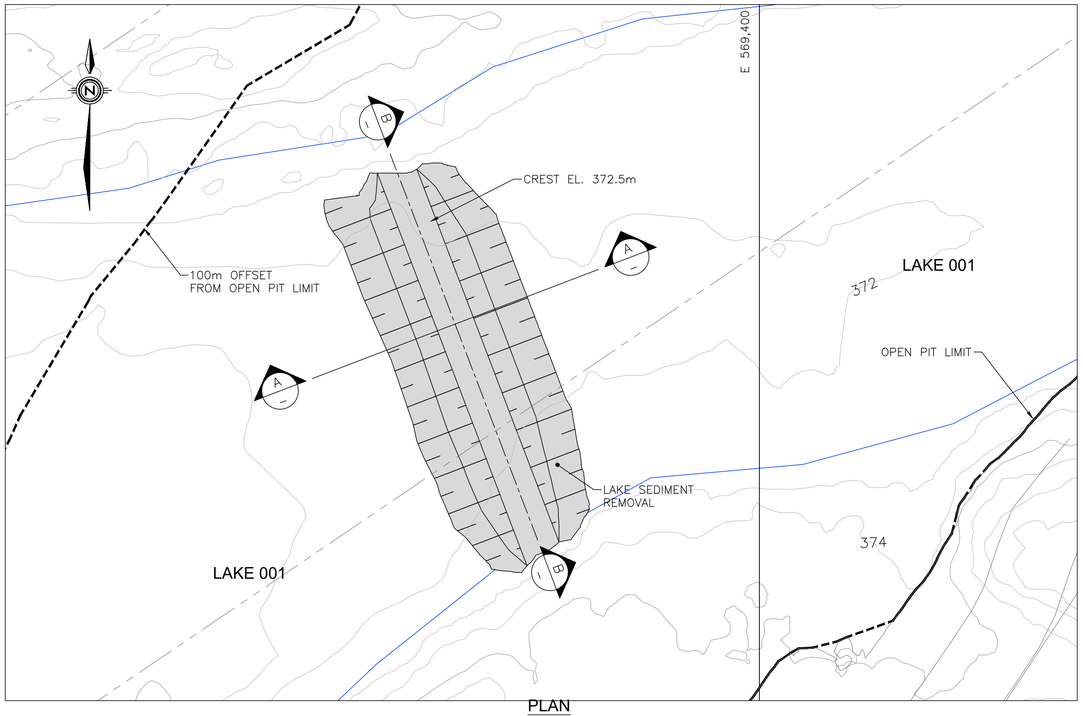
PAPER SIZE FORMAT: A1

SAVED ON: 25-10-01 12:34 PM BY Shea, Mark
PATH: C:\Users\SYKEM\OneDrive - Atkins\Real\Shared Documents - 702381 PR Metals Strauss\Havvanan project\40_Engineering\40_Drawings\0000\CASN-A-327-WM-DWG-0001_C.dwg

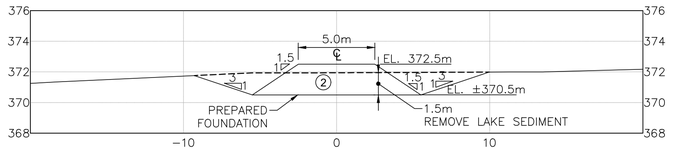
PAPER SIZE FORMAT : A1

NOTES

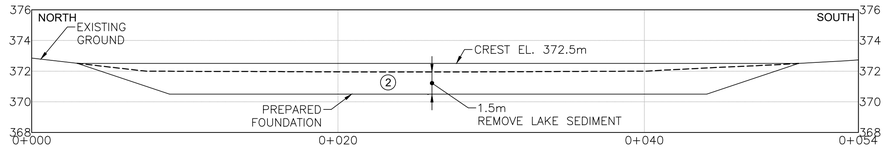
1. THE CO-ORDINATES, DIMENSIONS AND ELEVATIONS ARE IN METERS. ELEVATIONS ARE TIED TO MEAN SEA LEVEL. CO-ORDINATES ARE BASED ON UTM NAD83(CSRS) ZONE 18 METRIC GRID PROJECTION.
2. CONTOURS WERE DERIVED FROM LiDAR SURVEY FROM PATRIOT LiDAR DATED OCT 11, 2022.
3. STRIP LAKE SEDIMENT CONSISTS OF LOOSE SANDY SILT (ML) AND SILTY SAND (SM)



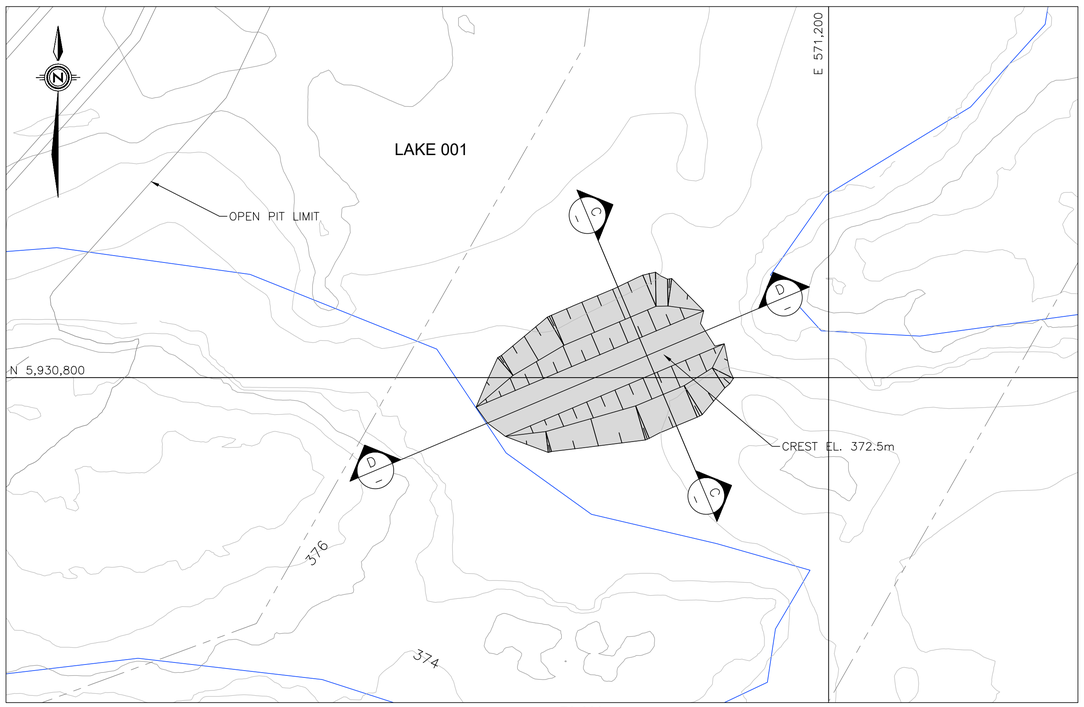
PLAN
SEDIMENT CONTROL DAM 1
SCALE=1:500



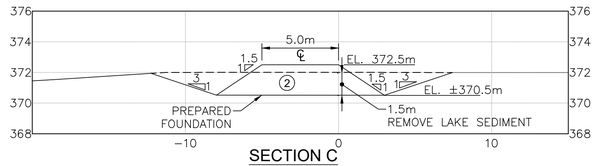
SECTION A
SCALE=1:200



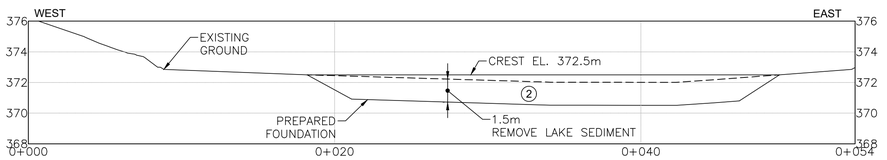
SECTION B
SCALE=1:200



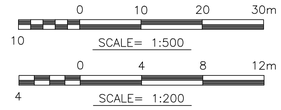
PLAN
SEDIMENT CONTROL DAM 2
SCALE=1:400



SECTION C
SCALE=1:200



SECTION D
SCALE=1:200



MATERIALS

1. CRUSHED STONE (−75mm)
2. WASTE ROCK (−450mm)
3. TILL / SAND BENTONITE CEMENT FILL
4. GRANULAR B TYPE II
5. FILTER / BEDDING SAND (−4.75mm)
6. TRANSITION SAND AND GRAVEL (−26.5mm)
7A. RIP-RAP EROSION PROTECTION (D_{50}=200mm)
7B. RIP-RAP EROSION PROTECTION (D_{50}=300mm)
7C. RIP-RAP EROSION PROTECTION (D_{50}=400mm)
8. SAND / SILT (OVERBURDEN)
9. CLEAR STONE (−19mm)
G1. NON-WOVEN GEOTEXTILE (500g/m²)
G2. NON-WOVEN NEEDLE PUNCHED GEOTEXTILE (300g/m²)
GL. 1.5mm DOUBLE TEXTURED LLDPE GEOMEMBRANE

ATKINSRÉALIS #: 702381-0000-4GDD00-0009

REV	DESCRIPTION	PAR BY	ING ENG	DATE
C	ISSUED FOR FEASIBILITY STUDY	A.C.	B.M.	25/09/10
B	CLIENT REVIEW / COMMENT	A.C.	B.M.	25/07/28
A	INTERNAL REVIEW	A.C.	B.M.	25/04/12

PATRIOT BATTERY METALS

AtkinsRéalis

Mining Services

CONCEPTEUR/DESIGN:	R. ALAM	
DESSINATEUR/DRAWN:	D. KRASNOV	25-05-20
VÉRIFIÉ PAR/CHECKED:	P. ADDIS	
INGÉNIEUR/ENGINEER:	B. MORRISSETTE	
ÉCHELLE/SCALE:	AS SHOWN	DATE

PROJET/PROJECT:

PHASE:
ÉTUDE DE FAISABILITÉ
FEASIBILITY STUDY

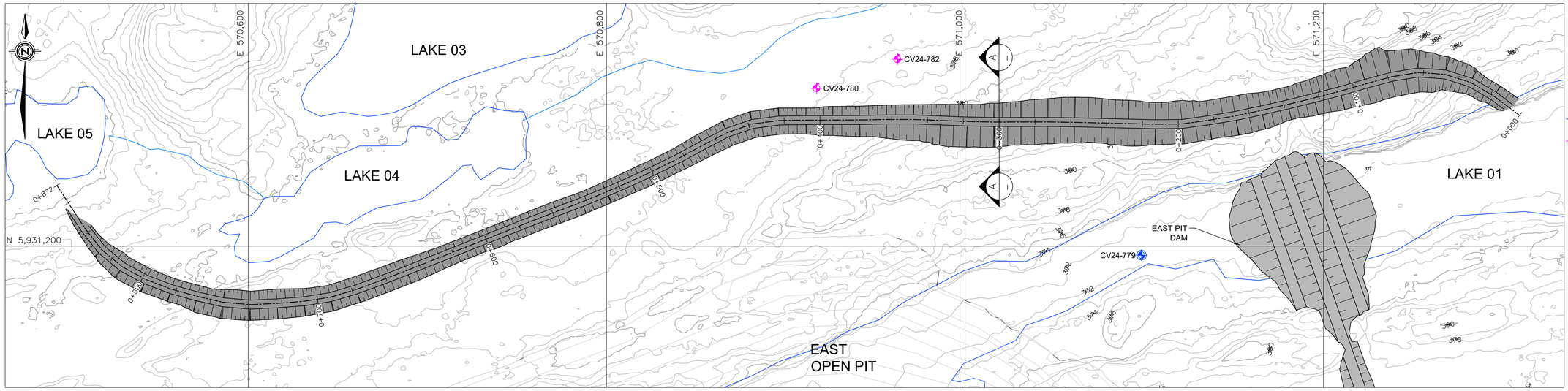
TITRE:
-
-
-
-

TITLE
SEDIMENT CONTROL DAM
FOR DEWATERED LAKE FOOTPRINT
PLAN AND SECTION
-

DESSIN NUM./DRAWING NO.: CASN - A

327 - WM - DWG - 0002 - C
AREA DISC. TYPE SEQ. REV.

SAVED ON: 25-09-08 3:33 PM BY Sykes, Mark
PATH: C:\Users\SYKEM\OneDrive - AtkinsRéalis\Shared Documents - 702381 PB Metals Shaakichiuwaanaan project\40_Engineering\40_Drawings\0000\CASN-A-327-WM-DWG-0002_C.dwg



PLAN
SCALE=1:1250

NOTES

1. THE CO-ORDINATES, DIMENSIONS AND ELEVATIONS ARE IN METERS. ELEVATIONS ARE TIED TO MEAN SEA LEVEL. CO-ORDINATES ARE BASED ON UTM NAD83(CSRS) ZONE 18 METRIC GRID PROJECTION.
2. CONTOURS WERE DERIVED FROM LiDAR SURVEY FROM PATRIOT LiDAR DATED OCT 11, 2022.

LEGEND

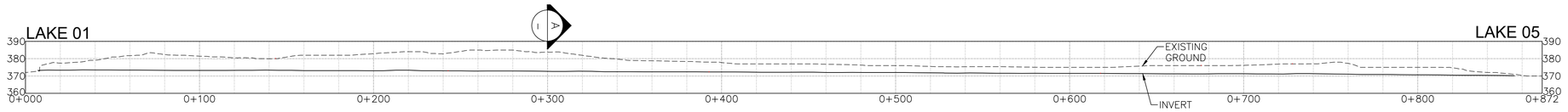
CV24 - BOREHOLES FROM 2024 GORTECHNICAL INVESTIGATION

OBSERVATION WELL

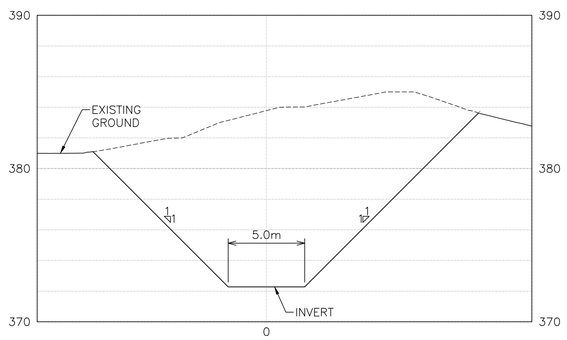
30 — 0 30 60 90m — SCALE= 1:1500

25 — 0 25 50 75m — SCALE= 1:1250

4 — 0 4 8 12m — SCALE= 1:200



PROFILE ALONG DIVERSION CHANNEL CENTERLINE
SCALE=1:1500



SECTION A
SCALE=1:200

MATERIALS

1. CRUSHED STONE (−75mm)
2. WASTE ROCK (−450mm)
3. TILL / SAND BENTONITE CEMENT FILL
4. GRANULAR B TYPE II
5. FILTER / BEDDING SAND (−4.75mm)
6. TRANSITION SAND AND GRAVEL (−26.5mm)
7A. RIP-RAP EROSION PROTECTION (D_{50}=200mm)
7B. RIP-RAP EROSION PROTECTION (D_{50}=300mm)
7C. RIP-RAP EROSION PROTECTION (D_{50}=400mm)
8. SAND / SILT (OVERBURDEN)
9. CLEAR STONE (−19mm)
G1. NON-WOVEN GEOTEXTILE (500g/m²)
G2. NON-WOVEN NEEDLE PUNCHED GEOTEXTILE (300g/m²)
GL. 1.5mm DOUBLE TEXTURED LLDPE GEOMEMBRANE

ATKINSRÉALIS #: 702381-0000-4GDD00-0010

REV	DESCRIPTION	PAR BY	ING ENG	DATE
C	ISSUED FOR FEASIBILITY STUDY	A.C.	B.M.	25/09/10
B	CLIENT REVIEW / COMMENT	A.C.	B.M.	25/07/28
A	INTERNAL REVIEW	A.C.	B.M.	25/04/12

PATRIOT BATTERY METALS

AtkinsRéalis

Mining Services

CONCEPTEUR/DESIGN:	R. ALAM	25-09-10
DESSINATEUR/DRAWN:	M. SYKES	25-09-10
VÉRIFIÉ PAR/CHECKED:	P. ADDIS	25-09-10
INGÉNIEUR/ENGINEER:	B. MORRISSETTE	25-09-10
ÉCHELLE/SCALE:	AS SHOWN	DATE

PROJET/PROJECT:

PHASE:
ÉTUDE DE FAISABILITÉ
FEASIBILITY STUDY

TITRE:
-
-
-
-

TITLE
DIVERSION DITCH

PLAN, PROFILE AND SECTION
-

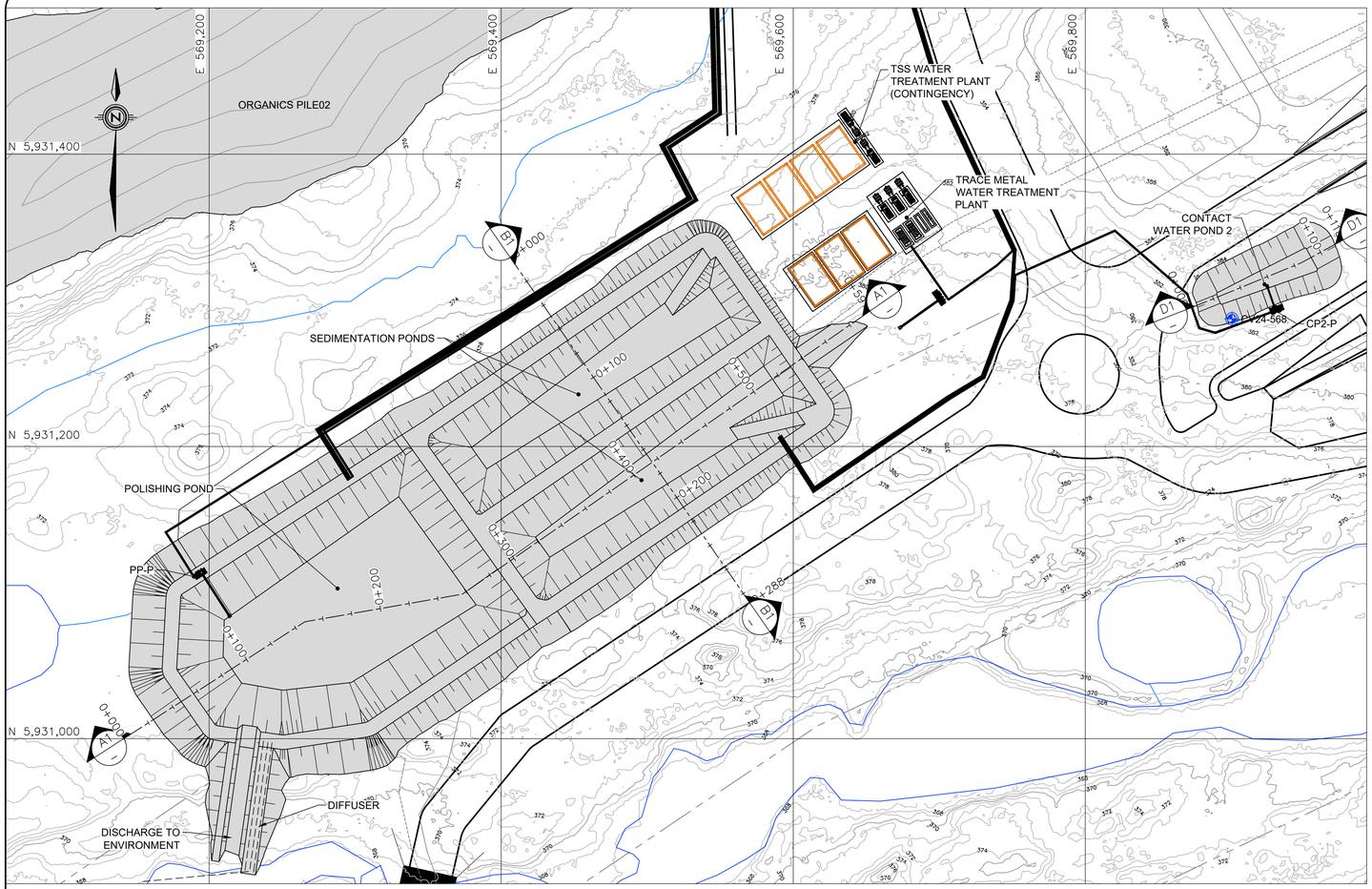
DESSIN NUM./DRAWING NO.: CASN - A

327 - WM - DWG - 0003 - C
AREA DISC. TYPE SEQ. REV.

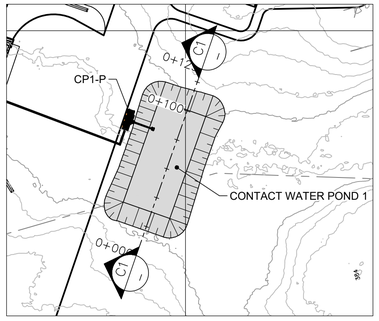
PAPER SIZE FORMAT : A1

SAVED ON: 25-10-02 12:30 PM BY Sykes, Mark
PATH: C:\Users\SYKEM\OneDrive - AtkinsRéalis\Shared Documents - 702381 PB Metals Shaakichiuwaanaan project\40_Engineering\40_Drawings\0000\CASN-A-327-WM-DWG-0003_C.dwg

PAPER SIZE FORMAT : A1



WATER MANAGEMENT PONDS - PLAN
SCALE=1:2000



WATER MANAGEMENT PONDS - PLAN
SCALE=1:2000

NOTES

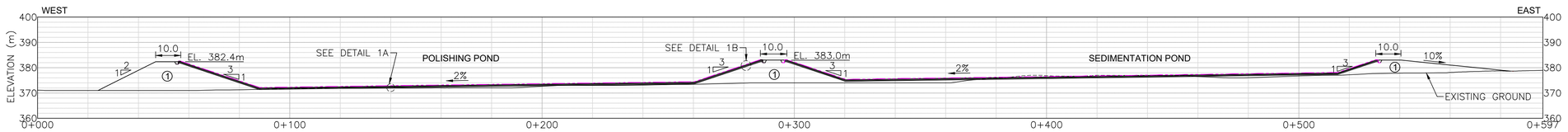
1. THE CO-ORDINATES, DIMENSIONS AND ELEVATIONS ARE IN METERS. ELEVATIONS ARE TIED TO MEAN SEA LEVEL. CO-ORDINATES ARE BASED ON UTM NAD83(CSRS) ZONE 18 METRIC GRID PROJECTION.
2. CONTOURS WERE DERIVED FROM LIDAR SURVEY FROM PATRIOT LIDAR DATED OCT 11, 2022.

LEGEND

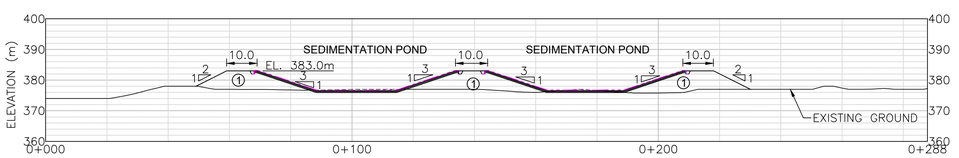
- CV24 - BOREHOLES FROM 2024 GORTECHNICAL INVESTIGATION
- OBSERVATION WELL

0 40 80 120m
SCALE= 1:2000

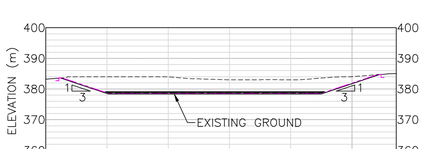
0 20 40 60m
SCALE= 1:1000



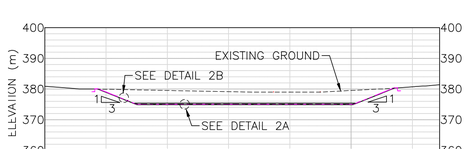
SECTION A1
SCALE=1:1000



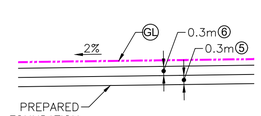
SECTION B1
SCALE=1:1000



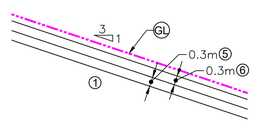
SECTION D1
SCALE=1:1000



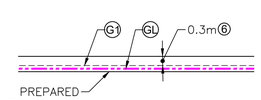
SECTION A1
SCALE=1:1000



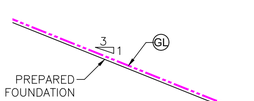
DETAIL 1A
WATER MANAGEMENT POND FLOOR
SCALE=1:100



DETAIL 1B
WATER MANAGEMENT POND SLOPE
SCALE=1:100



DETAIL 2A
CONTACT WATER POND FLOOR
SCALE=1:100



DETAIL 2B
CONTACT WATER POND SLOPE
SCALE=1:100

MATERIALS

1. CRUSHED STONE (-75mm)
2. WASTE ROCK (-450mm)
3. TILL / SAND BENTONITE CEMENT FILL
4. GRANULAR B TYPE II
5. FILTER / BEDDING SAND (-4.75mm)
6. TRANSITION SAND AND GRAVEL (-26.5mm)
7A. RIP-RAP EROSION PROTECTION (D_{50}=200mm)
7B. RIP-RAP EROSION PROTECTION (D_{50}=300mm)
7C. RIP-RAP EROSION PROTECTION (D_{50}=400mm)
8. SAND / SILT (OVERBURDEN)
9. CLEAR STONE (-19mm)
G1. NON-WOVEN GEOTEXTILE (500g/m²)
G2. NON-WOVEN NEEDLE PUNCHED GEOTEXTILE (300g/m²)
GL. 1.5mm DOUBLE TEXTURED LLDPE GEOMEMBRANE

ATKINSRÉALIS #: 702381-0000-4GDD00-0011

REV	DESCRIPTION	PAR BY	ING ENG	DATE
C	ISSUED FOR FEASIBILITY STUDY	A.C.	B.M.	25/09/10
B	CLIENT REVIEW / COMMENT	A.C.	B.M.	25/07/28
A	INTERNAL REVIEW	A.C.	B.M.	25/04/12

PATRIOT BATTERY METALS

AtkinsRéalis

Mining Services

CONCEPTEUR/DESIGN:	P. ADDIS	25-09-10
DESSINATEUR/DRAWN:	M. SYKES	25-09-10
VÉRIFIÉ PAR/CHECKED:	R. ALAM	25-09-10
INGÉNIEUR/ENGINEER:	B. MORRISSETTE	25-09-10
ÉCHELLE/SCALE:	AS SHOWN	DATE

PROJET/PROJECT:

PHASE:
ÉTUDE DE FAISABILITÉ
FEASIBILITY STUDY

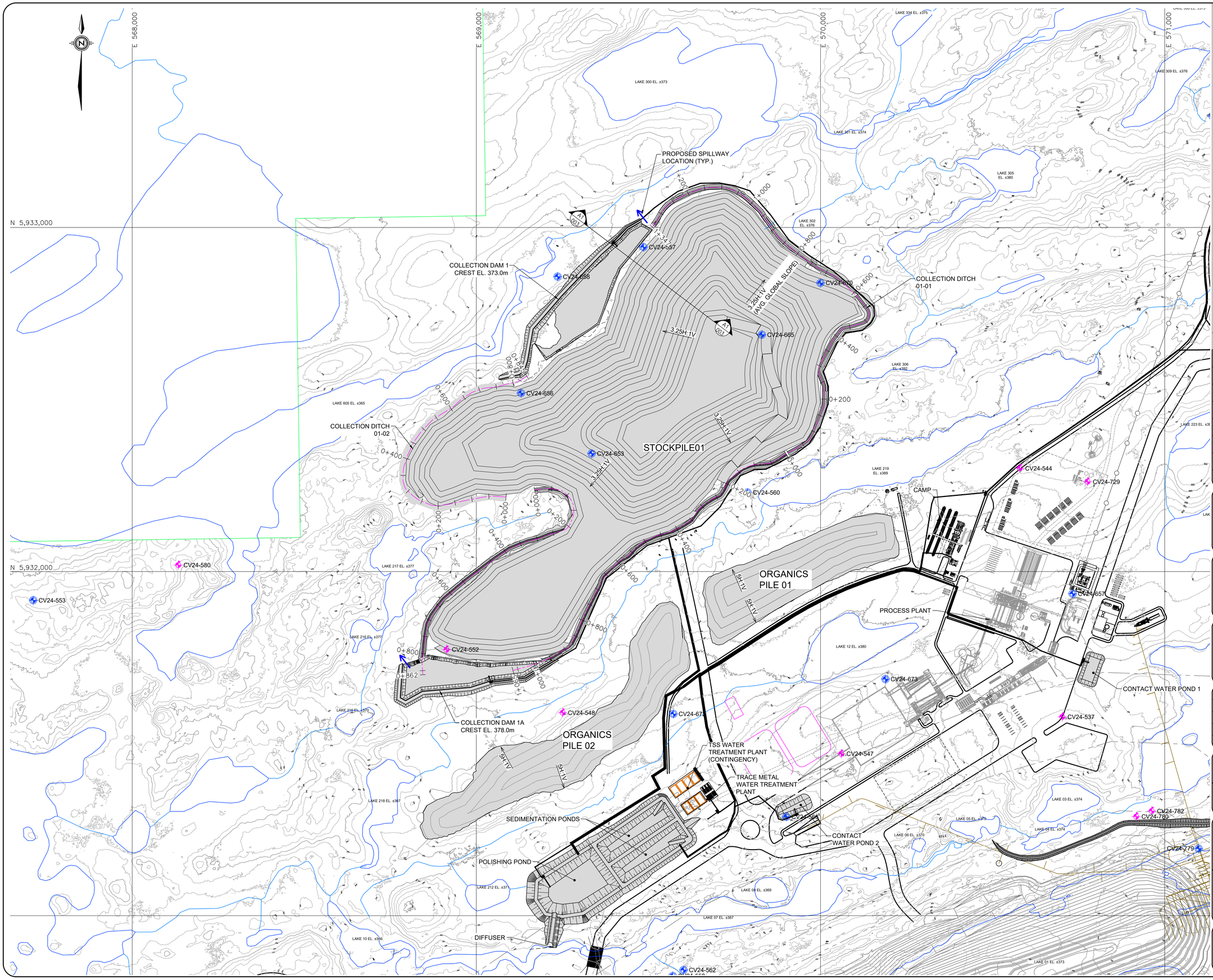
TITRE:
-
-
-
-

TITLE
WATER TREATMENT PONDS
PLANS, SECTIONS AND DETAILS
-
-

DESSIN NUM./DRAWING NO.: CASN - A

320 - WM - DWG - 0004 - C
AREA DISC. TYPE SEQ. REV.

SAVED ON: 25-10-07 7:46 PM BY: Sykes, Mark
PATH: C:\Users\SYKEM\Desktop - Add\Patriot\Shared Documents - 702381 PB Metals Shaakichiwaanaan project\40_Engineering\40_Drawings\0000\CASN-A-327-WM-DWG-0004_C.dwg



NOTES

1. THE CO-ORDINATES, DIMENSIONS AND ELEVATIONS ARE IN METERS. ELEVATIONS ARE TIED TO MEAN SEA LEVEL. CO-ORDINATES ARE BASED ON UTM NAD83(CSRS) ZONE 18 METRIC GRID PROJECTION.
2. CONTOURS WERE DERIVED FROM LiDAR SURVEY FROM PATRIOT LiDAR DATED OCT 11, 2022.

LEGEND

CV24 - BOREHOLES FROM 2024 GORTECHNICAL INVESTIGATION

OBSERVATION WELL

ATKINSRÉALIS #: 702381-0000-4GDD00-0003

REV	DESCRIPTION	PAR BY	ING ENG	DATE
C	ISSUED FOR FEASIBILITY STUDY	A.C.	B.M.	25-09-10
B	ISSUED FORCLIENT REVIEW	P.A.	B.M.	25-04-10
A	ISSUED FOR INTERNAL REVIEW	P.A.	B.M.	25-01-10

PATRIOT BATTERY METALS

AtkinsRéalis

Mining Services

CONCEPTEUR/DESIGN:	P. ADDIS	25-09-10
DESSINATEUR/DRAWN:	M. SYKES	25-09-10
VÉRIFIÉ PAR/CHECKED:	R. ALAM	25-09-10
INGÉNIEUR/ENGINEER:	B. MORRISSETTE	25-09-10
ÉCHELLE/SCALE:	1:5,000	DATE

PROJET/PROJECT:
SHAAKICHIUWAANAAN

PHASE:
ÉTUDE DE FAISABILITÉ
FEASIBILITY STUDY

TITRE:
-
-
-
-

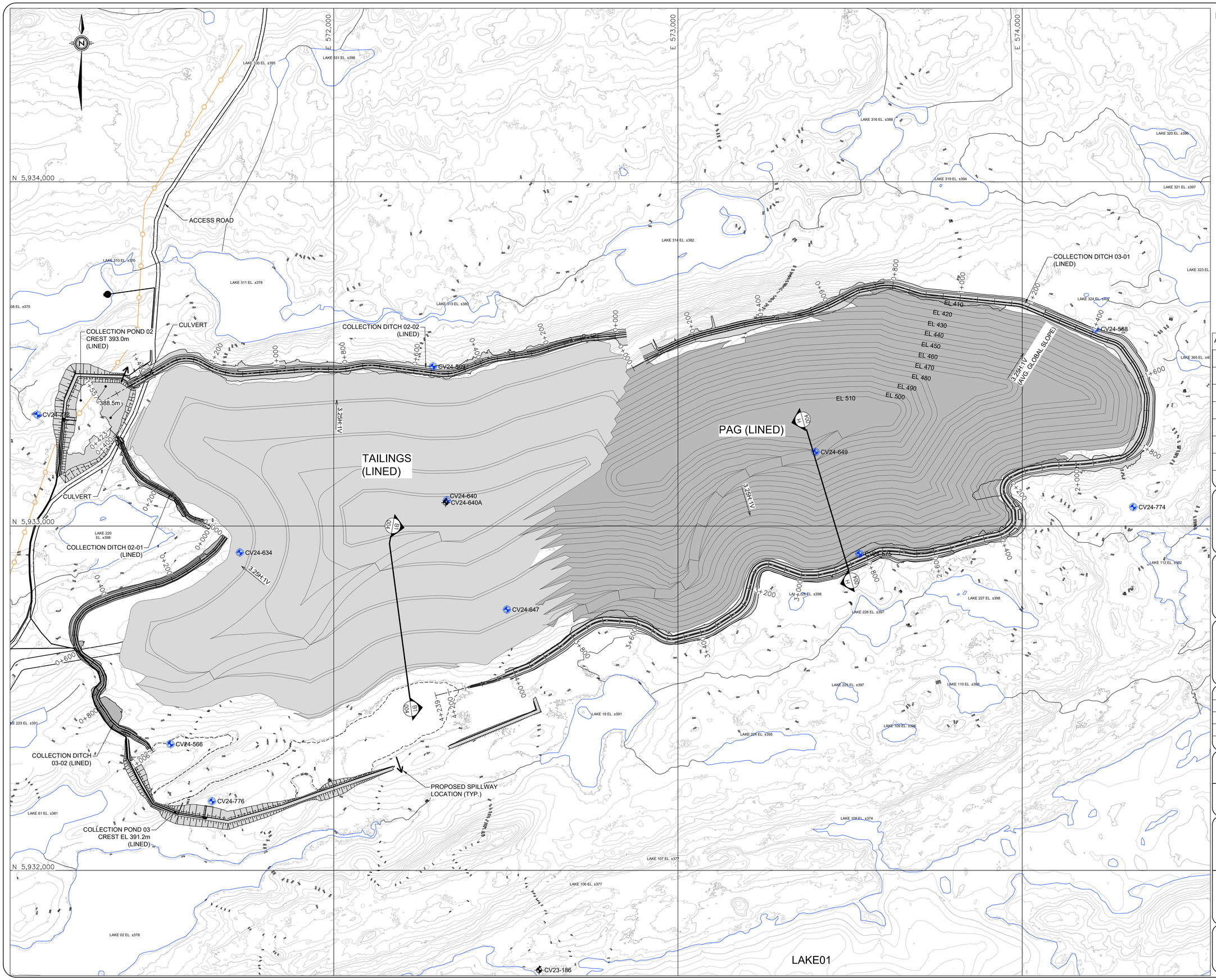
TITLE
STOCKPILE 001, ORGANICS PILES AND WATER MANAGEMENT AT INDUSTRAIL AREA PLAN
-

DESSIN NUM./DRAWING NO.: CASN - A

370 - GT - DWG - 0001 - C
AREA DISC. TYPE SEQ. REV.

PAPER SIZE FORMAT : A1

SAVED ON: 25-10-02 12:28 PM BY Sykes, Mark
PATH: C:\Users\SYKEM\OneDrive - AtkinsRéalis\Shared Documents - 702381 PB Metals Shaakichiuwaanaan project\40_Engineering\40_Drawings\0000\CASN-A-370-GT-DWG-0001_C.dwg



NOTES

1. THE CO-ORDINATES, DIMENSIONS AND ELEVATIONS ARE IN METERS. ELEVATIONS ARE TIED TO MEAN SEA LEVEL. CO-ORDINATES ARE BASED ON UTM NAD83(CSRS) ZONE 18 METRIC GRID PROJECTION.
2. CONTOURS WERE DERIVED FROM LiDAR SURVEY FROM PATRIOT LiDAR DATED OCT 11, 2022.

LEGEND

CV24 - BOREHOLES FROM 2024 GORTECHNICAL INVESTIGATION

OBSERVATION WELL

100 0 100 200 300m

SCALE= 1:5000

ATKINSRÉALIS #: 702381-0000-4GDD00-0004

REV	DESCRIPTION	PAR BY	ING ENG	DATE
C	ISSUED FOR FEASIBILITY STUDY	P.A.	B.M.	25-09-10
B	ISSUED FOR PROJECT REVIEW/APPROVAL/COMMENTS	P.A.	B.M.	25-01-24
A	ISSUED FOR INTERNAL REVIEW	P.A.	B.M.	25-01-10

PATRIOT BATTERY METALS

AtkinsRéalis

Mining Services

CONCEPTEUR/DESIGN:	P. ADDIS	25-09-10
DESSINATEUR/DRAWN:	M. SYKES	25-09-10
VÉRIFIÉ PAR/CHECKED:	R. ALAM	25-09-10
INGÉNIEUR/ENGINEER:	B. MORRISSETTE	25-09-10
ÉCHELLE/SCALE:	1:5,000	DATE

PROJET/PROJECT:
SHAAKICHIUWAANAAN

PHASE:
ÉTUDE DE FAISABILITÉ
FEASIBILITY STUDY

TITRE:
-
-
-
-

TITLE
STOCKPILE 002
PLAN
-
-

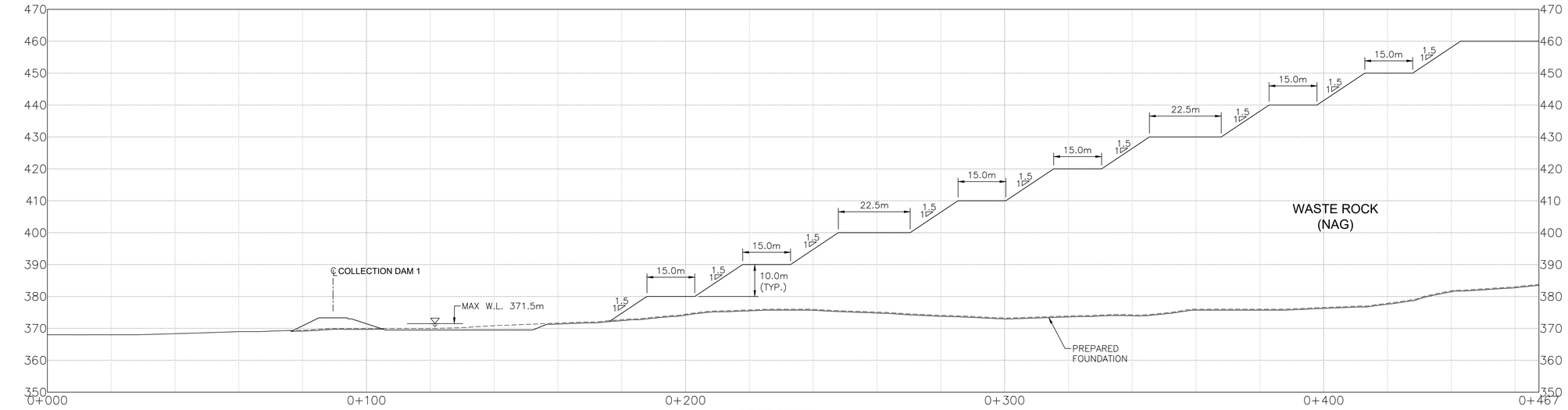
DESSIN NUM./DRAWING NO.: CASN - A

370 - GT - DWG - 0002 - C
AREA DISC. TYPE SEQ. REV.

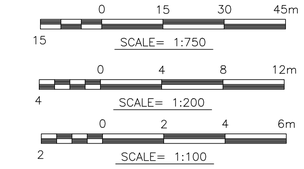
PAPER SIZE FORMAT : A1

SAVED ON: 25-10-02 12:25 PM BY Sykes, Mark
PATH: C:\Users\SYKEM\OneDrive - AtkinsRéalis\Shared Documents - 702381 PB Metals Shaakichiuwaanaan project\40_Engineering\40_Drawings\0000\CASN-A-370-GT-DWG-0002_C.dwg

PAPER SIZE FORMAT : A1



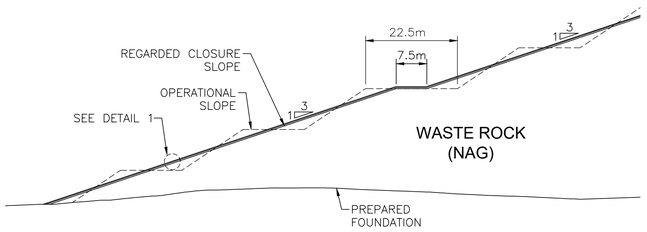
SECTION A1
STOCKPILE01 WASTE ROCK - OPERATION
SCALE=1:750



MATERIALS

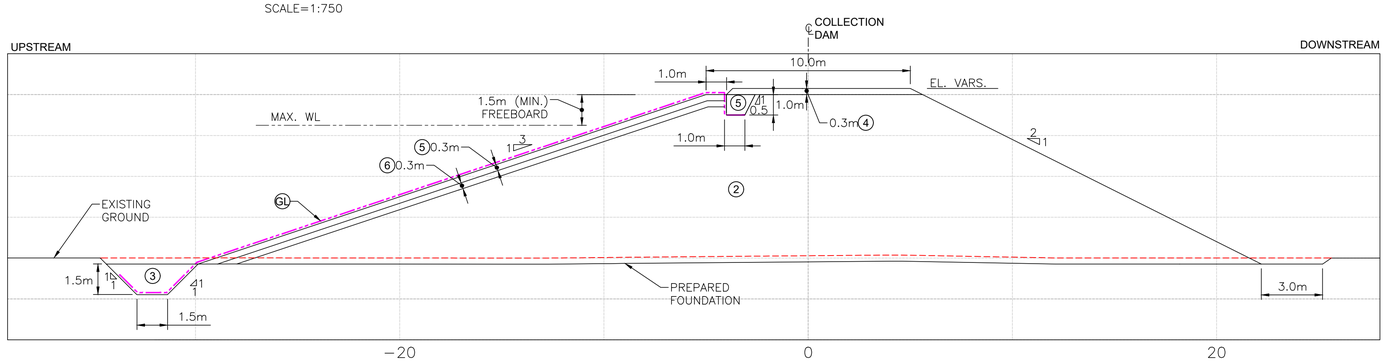
1. CRUSHED STONE (−75mm)
2. WASTE ROCK (−450mm)
3. TILL / SAND BENTONITE CEMENT FILL
4. GRANULAR B TYPE II
5. FILTER / BEDDING SAND (−4.75mm)
6. TRANSITION SAND AND GRAVEL (−26.5mm)
7. RIP−RAP EROSION PROTECTION
8. SAND / SILT (OVERBURDEN)
9. CLEAR STONE (−19mm)

G1. NON−WOVEN GEOTEXTILE (500g/m²)
G2. NON−WOVEN NEEDLE PUNCHED GEOTEXTILE (300g/m²)
GL. 1.5mm DOUBLE TEXTURED LLDPE GEOMEMBRANE

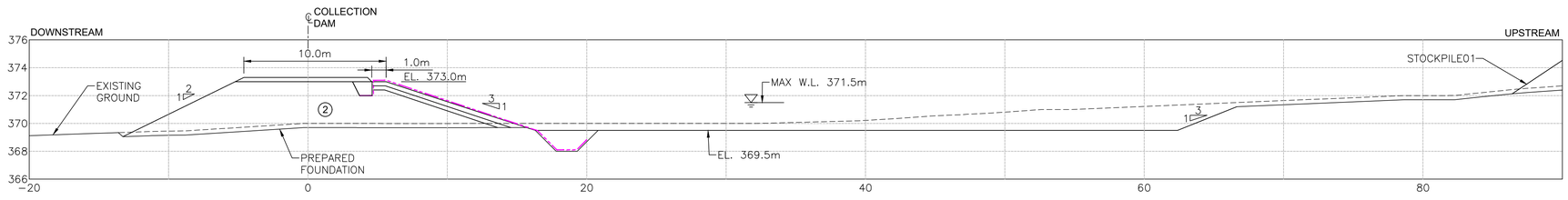


TYPICAL STOCKPILE01 SECTION
CLOSURE
SCALE=1:750

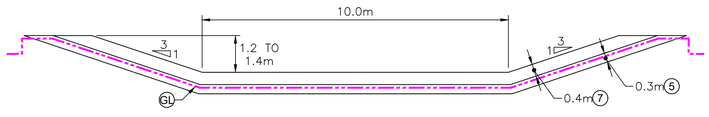
DETAIL 1
CLOSURE
SCALE=1:100



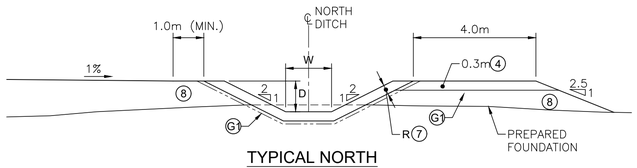
TYPICAL COLLECTION POND DAM SECTION
POND 1 AND 1A
SCALE=1:150



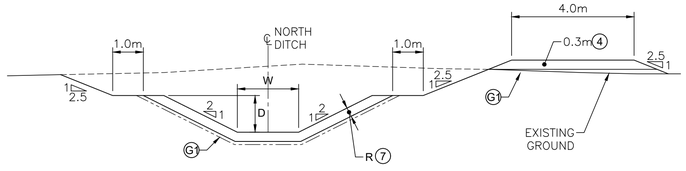
TYPICAL COLLECTION POND DAM SECTION
POND 1
SCALE=1:200



TYPICAL SPILLWAY SECTION
SCALE=1:100



TYPICAL NORTH
COLLECTION DITCH
SCALE=1:100



TYPICAL NORTH
COLLECTION DITCH
SCALE=1:100

DITCH	CHAINAGE START	CHAINAGE END	WIDTH (W)	DEPTH (D)	RIPRAP THICKNESS (R)
01−01	1+482	0+910	1.5 m	1.2 m	300 mm
	0+910	0+718			450 mm
	0+718	0+688			300 mm
	0+688	0+000	2.0 m	1.0 m	
01−02	0+000	0+846	1.5 m	1.0 m	300 mm
01A−01	0+000	1+068	2.0 m	1.0 m	300 mm
01A−02	0+000	0+863	1.5 m	1.0 m	300 mm

ATKINSRÉALIS #: 702381-0000-4GDD00-0005

REV	DESCRIPTION	PAR BY	ING ENG	DATE
C	ISSUED FOR FEASIBILITY STUDY	A.C.	B.M.	25-09-10
B	ISSUED FORCLIENT REVIEW	P.A.	B.M.	25-04-10
A	ISSUED FOR INTERNAL REVIEW	P.A.	B.M.	25-01-10

PATRIOT BATTERY METALS

AtkinsRéalis

Mining Services

CONCEPTEUR/DESIGN:	P. ADDIS	25-09-10
DESSINATEUR/DRAWN:	M. SYKES	25-09-10
VÉRIFIÉ PAR/CHECKED:	R. ALAM	25-09-10
INGÉNIEUR/ENGINEER:	B. MORRISSETTE	25-09-10
ÉCHELLE/SCALE:	AS SHOWN	DATE

PROJET/PROJECT:

PHASE:
ÉTUDE DE FAISABILITÉ
FEASIBILITY STUDY

TITRE:
-
-
-
-

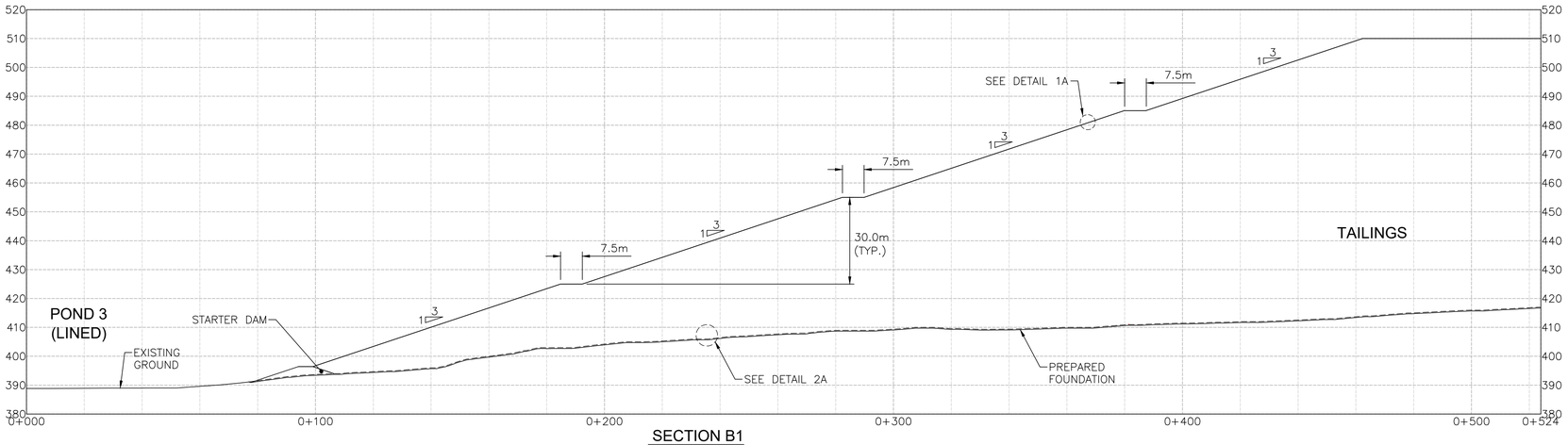
TITLE
STOCKPILE AND WATER MANAGEMENT
SECTIONS AND DETAILS
1 OF 2
-

DESSIN NUM./DRAWING NO.: CASN − A

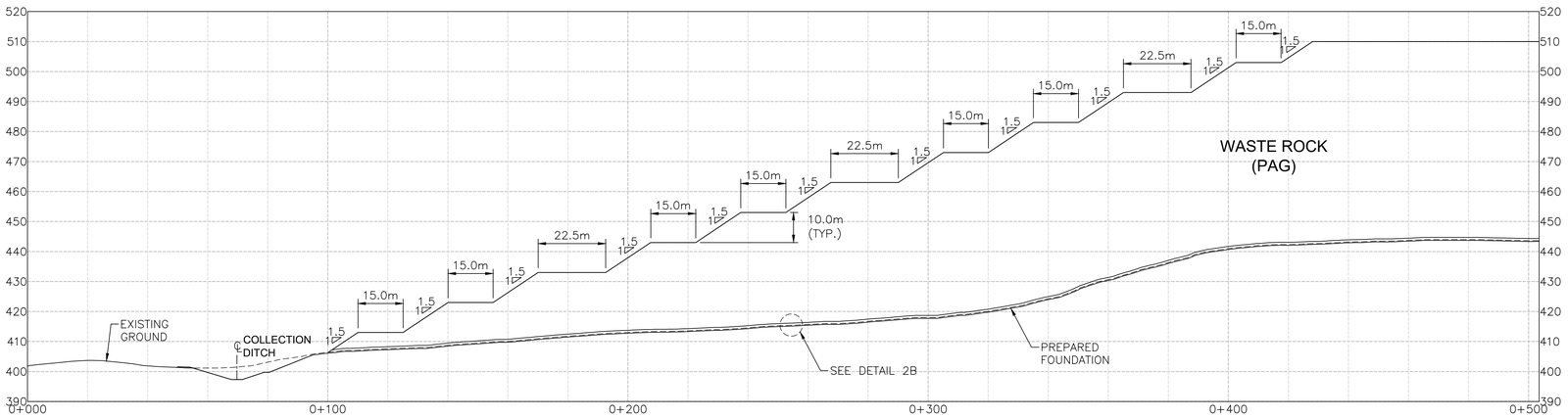
370	GT	DWG	0003	C
AREA	DISC.	TYPE	SEQ.	REV.

SAVED ON: 25-09-09 3:12 PM BY Sykes, Mark
PATH: C:\Users\SYKESM\OneDrive - AtkinsRéalis\Shared Documents - 702381 PB Metals Shaakichiwaanan project\40_Engineering\40_Drawings\0000\CASN-A-370-GT-DWG-0003_C.dwg

PAPER SIZE FORMAT : A1

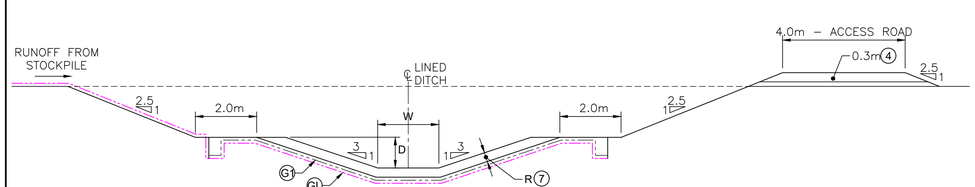


SECTION B1
STOCKPILE02 - TAILINGS - OPERATION
SCALE=1:1000



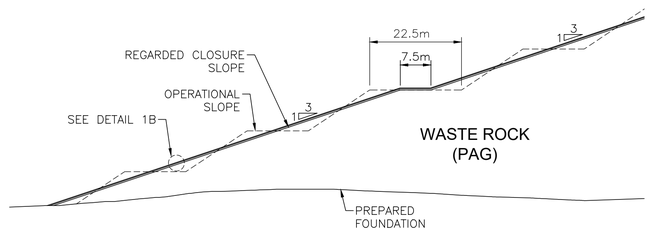
SECTION H
STOCKPILE02 - PAG - OPERATION
SCALE=1:1000

TYPICAL COLLECTION POND SECTION
LINED POND
SCALE=1:200

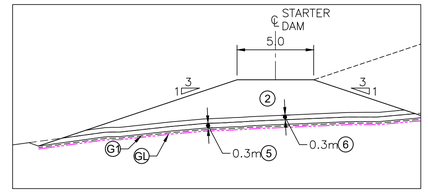


TYPICAL LINED
COLLECTION DITCH
SCALE=1:100

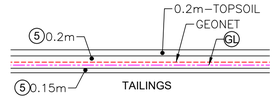
DITCH	CHAINAGE START	CHAINAGE END	WIDTH (W)	DEPTH (D)	RIPRAP THICKNESS (R)
02−01	0+000	0+423	2.5 m	1.2 m	300 mm
02−02	0+000	0+515	1.5 m	1.1 m	300 mm
	0+516	1+557	3.0 m	1.3 m	
03−01	0+000	0+508	2.0 m	1.2 m	300 mm
	0+508	0+706			450 mm
	0+706	1+786		1.5 m	300 mm
	1+786	4+036	3.0 m	2.2 m	
	4+036	4+239	5.0 m		
03−02	0+000	0+578	2.0 m	1.1 m	300 mm
	0+578	0+647			450 mm
	0+647	1+006			300 mm



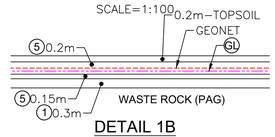
TYPICAL STOCKPILE01 SECTION
CLOSURE
SCALE=1:750



TYPICAL STARTER DAM
SCALE=1:200

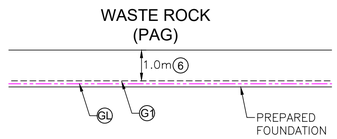


DETAIL 1A
CLOSURE-TAILINGS
SCALE=1:100



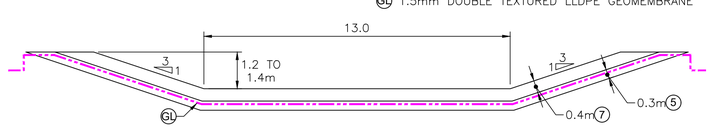
DETAIL 1B
CLOSURE-WASTE ROCK (PAG)
SCALE=1:100

DETAIL 2A
BASIN GEOMEMBRANE - TAILINGS
SCALE=1:100



DETAIL 2B
BASIN GEOMEMBRANE - WASTEROCK (PAG)
SCALE=1:100

1. CRUSHED STONE (−75mm)
2. WASTE ROCK (−450mm)
3. TILL / SAND BENTONITE CEMENT FILL
4. GRANULAR B TYPE II
5. FILTER / BEDDING SAND (−4.75mm)
6. TRANSITION SAND AND GRAVEL (−26.5mm)
7. RIP−RAP EROSION PROTECTION
8. SAND / SILT (OVERBURDEN)
9. CLEAR STONE (−19mm)
- G1 NON−WOVEN GEOTEXTILE (500g/m²)
- G2 NON−WOVEN NEEDLE PUNCHED GEOTEXTILE (300g/m²)
- GL 1.5mm DOUBLE TEXTURED LLDPE GEOMEMBRANE



TYPICAL SPILLWAY SECTION
SCALE=1:100

SCALE= 1:1000
SCALE= 1:200
SCALE= 1:100

ATKINSRÉALIS #: 702381-0000-4GDD00-0006

REV	DESCRIPTION	PAR BY	ING ENG	DATE
C	ISSUED FOR FEASIBILITY STUDY	A.C.	B.M.	25-09-10
B	ISSUED FORCLIENT REVIEW	P.A.	B.M.	25-04-10
A	ISSUED FOR INTERNAL REVIEW	P.A.	B.M.	25-01-10

PATRIOT BATTERY METALS

AtkinsRéalis

Mining Services

CONCEPTEUR/DESIGN: P. ADDIS	25-09-10
DESSINATEUR/DRAWN: M. SYKES	25-09-10
VÉRIFIÉ PAR/CHECKED: R. ALAM	25-09-10
INGÉNIEUR/ENGINEER: B. MORRISSETTE	25-09-10
ÉCHELLE/SCALE: AS SHOWN	DATE

PROJET/PROJECT:

PHASE:
ÉTUDE DE FAISABILITÉ
FEASIBILITY STUDY

TITRE:
-
-
-
-

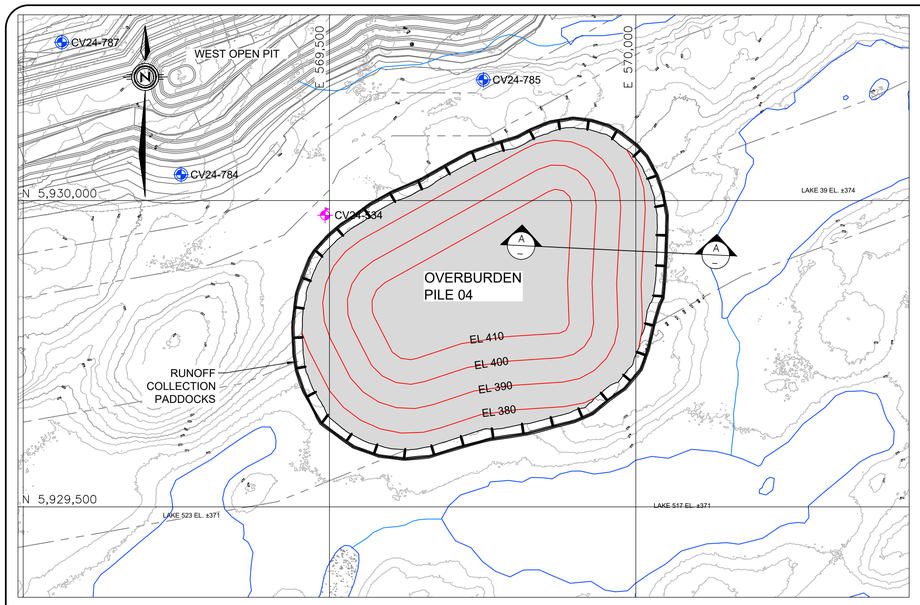
TITLE
STOCKPILE AND WATER MANAGEMENT
SECTIONS AND DETAILS
2 OF 2
-

DESSIN NUM./DRAWING NO.: CASN - A

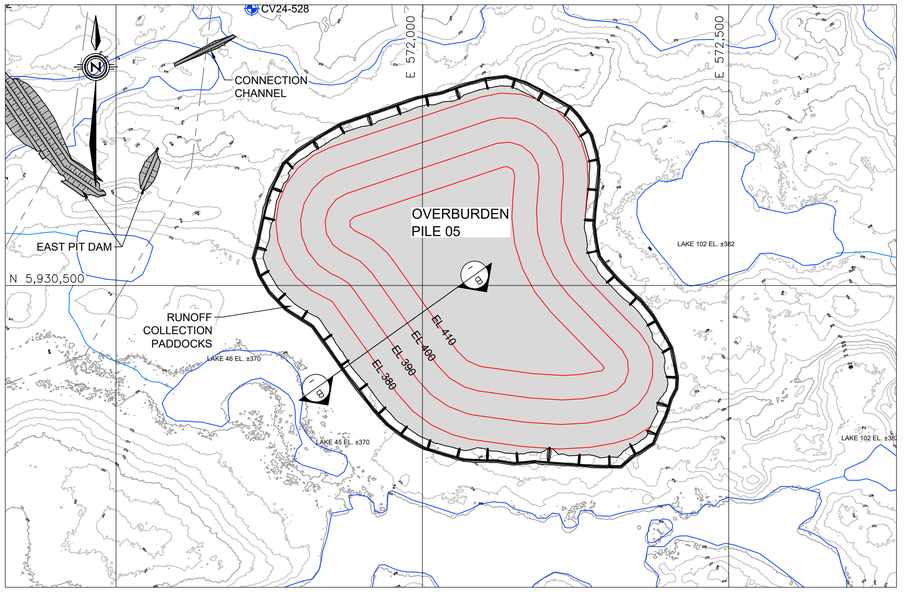
370 - GT - DWG - 0004 - C
AREA DISC. TYPE SEQ. REV.

SAVED ON: 25-09-09 3:15 PM BY Sykes, Mark
PATH: C:\Users\SYKESM\OneDrive - AtkinsRéalis\Shared Documents - 702381 PR Metals Strauss\Ikwanaan project\40_Engineering\40_Drawings\0000\CASN-A-370-GT-DWG-0004_C.dwg

PAPER SIZE FORMAT : A1



PLAN
OVERBURDEN PILE 04
SCALE=1:5000



PLAN
OVERBURDEN PILE 04
SCALE=1:5000

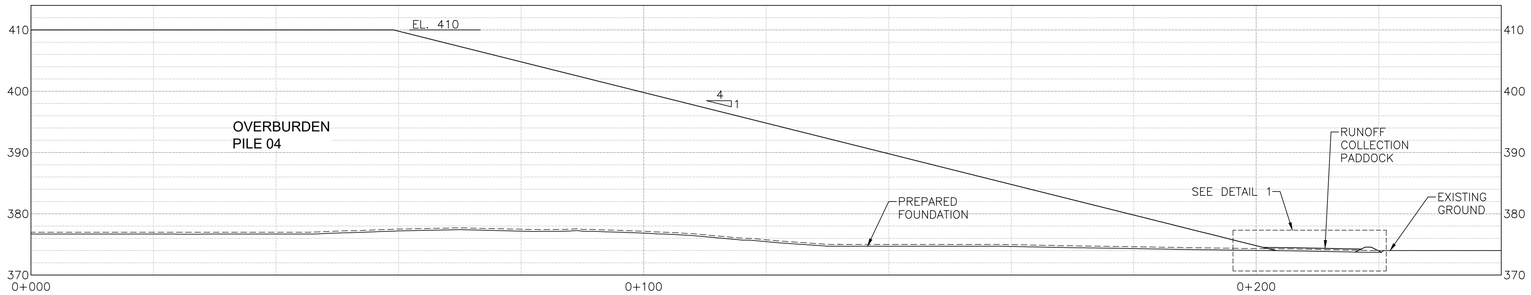
NOTES

1. THE CO-ORDINATES, DIMENSIONS AND ELEVATIONS ARE IN METERS. ELEVATIONS ARE TIED TO MEAN SEA LEVEL. CO-ORDINATES ARE BASED ON UTM NAD83(CSRS) ZONE 18 METRIC GRID PROJECTION.
2. CONTOURS WERE DERIVED FROM LiDAR SURVEY FROM PATRIOT LiDAR DATED OCT 11, 2022.

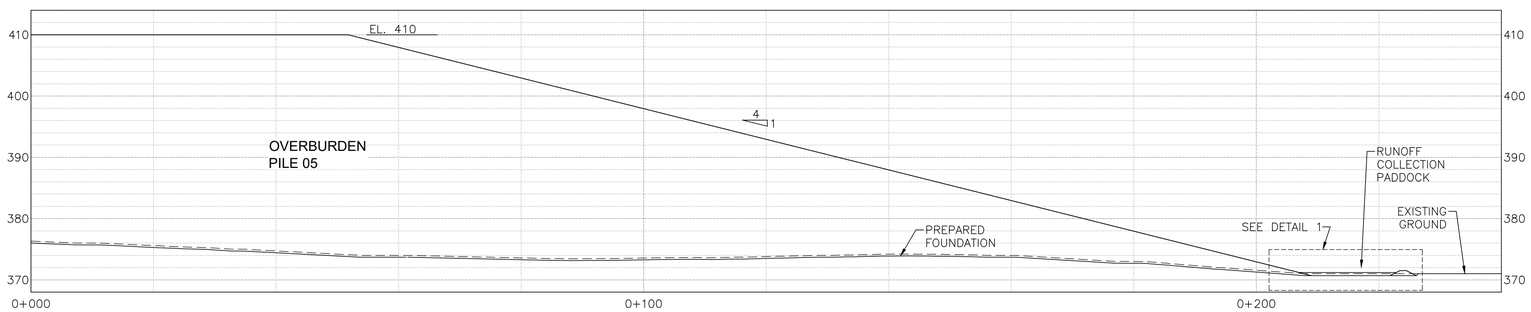
LEGEND

CV24 - BOREHOLES FROM 2024 GORTECHNICAL INVESTIGATION

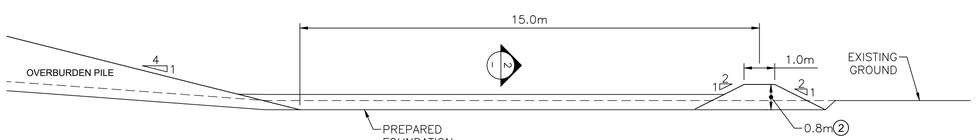
OBSERVATION WELL



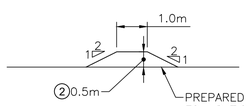
SECTION A
OVERBURDEN PILE 04
SCALE=1:500



SECTION B
OVERBURDEN PILE 05
SCALE=1:500



DETAIL 1
RUNOFF COLLECTION PADDOCK
SCALE=1:100



DETAIL 2
RUNOFF COLLECTION PADDOCK
SCALE=1:100

1. CRUSHED STONE (-75mm)
2. WASTE ROCK (-450mm)
3. TILL / SAND BENTONITE CEMENT FILL
4. GRANULAR B TYPE II
5. FILTER / BEDDING SAND (-4.75mm)
6. TRANSITION SAND AND GRAVEL (-26.5mm)
7. RIP-RAP EROSION PROTECTION
8. SAND / SILT (OVERBURDEN)
9. CLEAR STONE (-19mm)
G1. NON-WOVEN GEOTEXTILE (500g/m²)
G2. NON-WOVEN NEEDLE PUNCHED GEOTEXTILE (300g/m²)
GL. 1.5mm DOUBLE TEXTURED LLDPE GEOMEMBRANE

0 100 200 300m
100 SCALE= 1:5000
0 10 20 30m
10 SCALE= 1:500
0 2 4 6m
2 SCALE= 1:100

ATKINSRÉALIS #: 702381-0000-4GDD00-0007

REV	DESCRIPTION	PAR BY	ING ENG	DATE
C	ISSUED FOR FEASIBILITY STUDY	A.C.	B.M.	25-09-10
B	ISSUED FORCLIENT REVIEW	P.A.	B.M.	25-04-10
A	ISSUED FOR INTERNAL REVIEW	P.A.	B.M.	25-01-10

PATRIOT BATTERY METALS

AtkinsRéalis

Mining Services

CONCEPTEUR/DESIGN:	P. ADDIS	25-09-10
DESSINATEUR/DRAWN:	M. SYKES	25-09-10
VÉRIFIÉ PAR/CHECKED:	R. ALAM	25-09-10
INGÉNIEUR/ENGINEER:	B. MORRISSETTE	25-09-10
ÉCHELLE/SCALE:	1:3,000	DATE

PROJET/PROJECT:
SHAAKICHIUWAANAAN

PHASE:
ÉTUDE DE FAISABILITÉ
FEASIBILITY STUDY

TITRE:
-
-
-
-

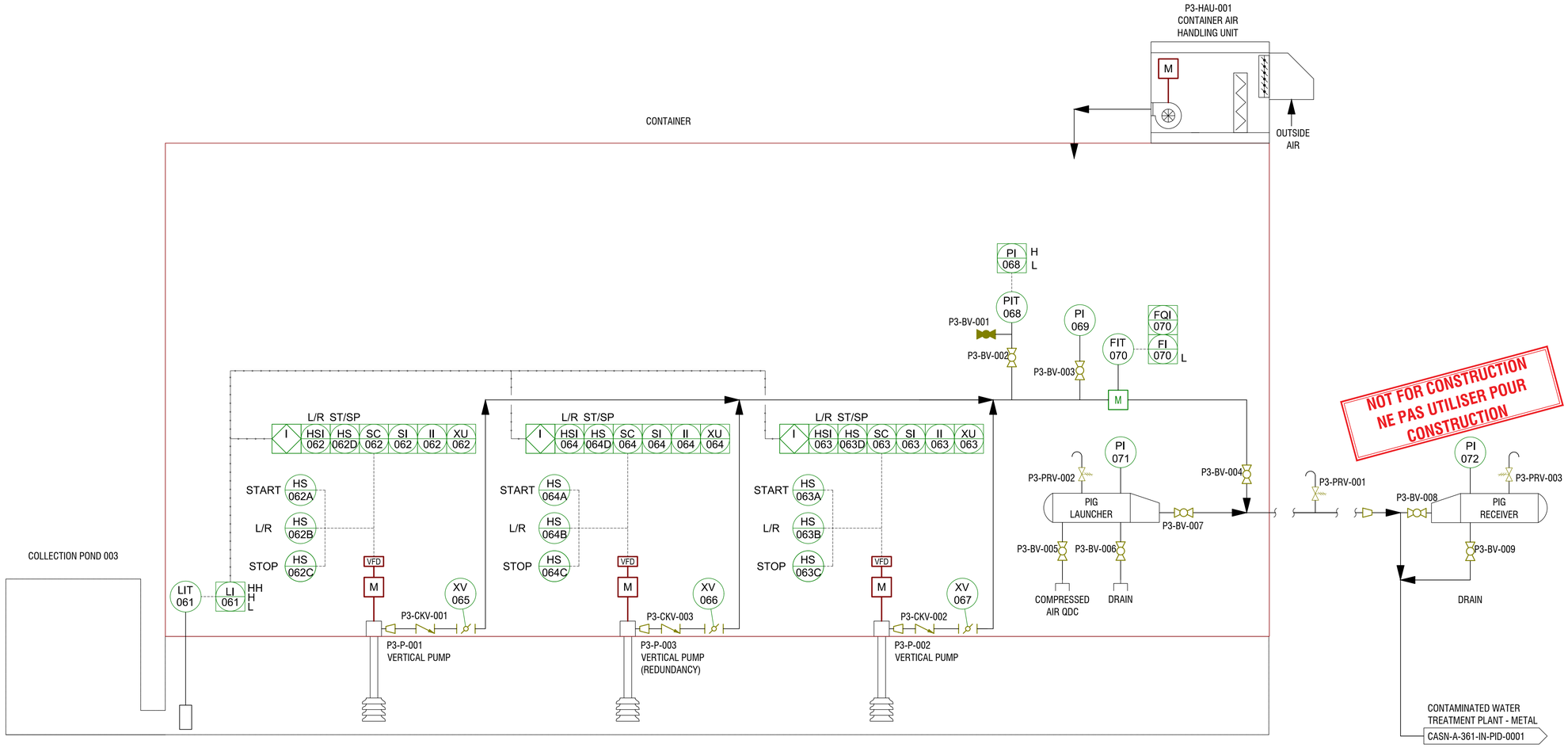
TITLE
OVERBURDEN PILES04 AND 05
PLANS, SECTIONS AND DETAIL
-
-

DESSIN NUM./DRAWING NO.: CASN - A

370	GT	DWG	0005	C
AREA	DISC.	TYPE	SEQ.	REV.

SAVED ON: 25-10-01 12:02 PM BY Shea, Mark
PATH: C:\Users\SYKEM\Desktop\Revit Models\Shared Documents - 702381 PR Metals Shaakichiuwaanaan project\40_Engineering\40_Drawings\0000\CASN-A-370-GT-DWG-0005_C.dwg

PAPER SIZE FORMAT - A1



NOT FOR CONSTRUCTION
NE PAS UTILISER POUR CONSTRUCTION

REV	DESCRIPTION	PAR BY	ING ENG	DATE
C	FINAL RELEASE FOR FEASIBILITY STUDY	D.K.	A.C.	25-09-15
B	INITIAL RELEASE ISSUED FOR CLIENT REVIEW	D.K.	A.C.	25-09-03
A	INITIAL RELEASE ISSUED FOR INTERNAL REVIEW	R.D.	A.C.	25-05-02

PATRIOT BATTERY METALS

AtkinsRéalis

702381-5100-45DG10-005

Mining Services

CONCEPTEUR/DESIGN:	A. COGULET	25-05-02
DESSINATEUR/DRAWN:	R. DIDIER	25-05-02
VÉRIFIÉ PAR/CHECKED:	AL NGUYEN	25-05-02
INGÉNIEUR/ENGINEER:	A. COGULET	25-05-02
ÉCHELLE/SCALE:	N.T.S.	DATE

PROJET/PROJECT:
SHAAKICHIUWAANAAN

PHASE:
ÉTUDE DE FAISABILITÉ
FEASIBILITY STUDY

TITRE:
BASSIN DE COLLECTE 003
SCHÉMA DE TUYAUTERIE
ET D'INSTRUMENTATION
FRANCAIS

TITLE
COLLECTION POND 003
PIPING AND INSTRUMENTATION DIAGRAM

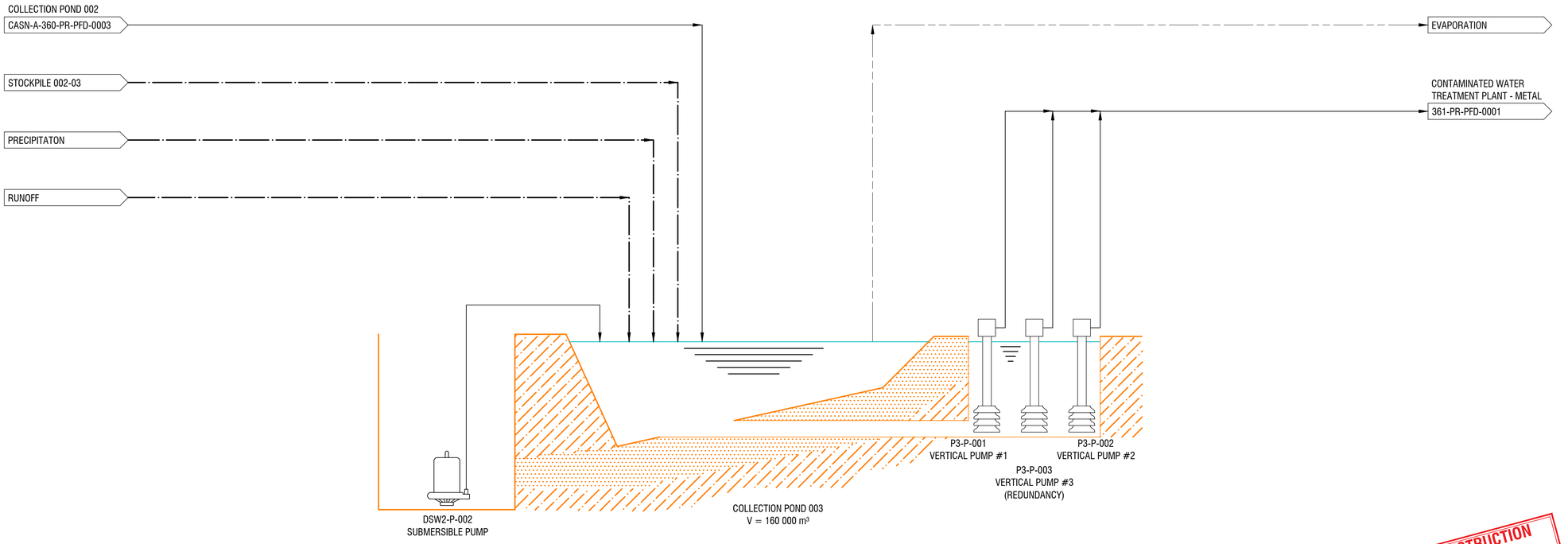
ENGLISH

DESSIN NUM./DRAWING NO.: CASN - A

360	IN	PID	0004	C
AREA	DISC.	TYPE	SEQ.	REV.

INGÉNIEURE
Antoine Cogulet
6028243
QUÉBEC
Ing. PhD
6028243

SAVED ON: 25-09-15 9:21 AM BY Kwame Drehli
PATH: C:\Users\KRB5353\Desktop\Work\Related\702381 PB Metals Shaakichiuwaanaan project - 8. Drawings\3-C\Pumping_stations\PAID\CASN-A-360-IN-PID-0004.dwg



NOT FOR CONSTRUCTION
NE PAS UTILISER POUR
CONSTRUCTION

INGÉNIEUR.E
Antoine Cogulet
6028243
QUÉBEC

Ing. PhD
6028243.

LEGEND

PUMPED
GRAVITY
ALTERNATIVE

REV	DESCRIPTION	PAR BY	ING ENG	DATE
C	FINAL RELEASE FOR FEASIBILITY STUDY	D.K.	A.C.	25-09-15
B	INITIAL RELEASE ISSUED FOR CLIENT REVIEW	D.K.	A.C.	25-09-03
A	INITIAL RELEASE ISSUED FOR INTERNAL REVIEW	R.D.	A.C.	25-04-30

PATRIOT BATTERY METALS

AtkinsRéalis

702381-5100-45DG02-004

Mining Services

CONCEPTEUR/DESIGN:	A. Cogulet	25-04-30
DESSINATEUR/DRAWN:	R. DIDIER	25-04-30
VÉRIFIÉ PAR/CHECKED:	AL Nguyen	25-04-30
INGÉNIEUR/ENGINEER:	A. Cogulet	25-04-30
ÉCHELLE/SCALE:	N.T.S.	DATE

PROJET/PROJECT:
SHAAKICHIUWAANAAN

PHASE:
ÉTUDE DE FAISABILITÉ
FEASIBILITY STUDY

TITRE:
BASSIN DE COLLECTE 003
DIAGRAMME DE FLUX DE PROCESSUS
DESSIN ET NOTES
FRANCAIS

TITLE
COLLECTION POND 003
PROCESS FLOW DIAGRAM
DRAWING AND NOTES
ENGLISH

DESSIN NUM./DRAWING NO.: CASN - A

360 - PR - PFD - 0004 - C
AREA DISC. TYPE SEQ. REV.

PAPER SIZE FORMAT : A1

SAVED ON: 25-09-15 9:29 AM BY Krasnov, Dmitrii
PATH: C:\Users\KRASD3\OneDrive - AtkinsRéalis\702381 PB Metals Shaakichiuwaanaan project - 8. Drawings\C\Pumping_stations\PFD\CASN-A-360-PR-PFD-0004.dwg

PAPER SIZE FORMAT - A1

SODIUM HYPOHCLORITE

FIT 006

FW-GV-026

FW-GV-025

PT 003B

FIT 003B

FW-GV-018

FW-GV-017

FW-GV-019

FW-CHK-003

PT 003A

PT 003C

FW-CHK-004

FW-P-005
BOOSTER PUMP

FIT 003A

FW-GV-015

FW-GV-016

PT 001B

FW-GV-012

AE ORP

FW-XV-009

FW-GV-008

FW-XV-003

DRAIN

HEATER

FW-GV-001

FW-GV-002

FW-GV-003

FW-GV-011

FW-SV-004

AE TURB

FW-GV-013

FW-GV-014

FIT 001

PT 001A

FW-XV-002

FW-YS-001

FW-XV-001

FW-CHK-001

FW-P-003
BOOSTER PUMP

COMPRESSED AIR

FW-SV-001

ANTISCALANT

FW-XV-004

RAW WATER
LAKE 308
SEE DRAWING
CASN-A-310-IN-PID-0001

FW-SV-003

PT 002B

FW-GV-010

FW-XV-008

FW-GV-007

FW-GV-009

FW-GV-004

FW-GV-005

FW-GV-006

FIT 002

PT 002A

FW-XV-006

FW-XV-005

FW-YS-002

FW-CHK-002

CWPM-P-004
BOOSTER PUMP

ANTISCALANT

COMPRESSED AIR

FW-SV-002

FW-XV-007

PT 004B

FIT 004B

FW-GV-023

FW-GV-022

FW-GV-024

FW-CHK-005

PT 004A

PT 004C

FW-CHK-006

FW-P-006
BOOSTER PUMP

FIT 004A

FW-GV-020

FW-GV-021

FIT 005

FW-GV-027

UV

FW-GV-028

FW-CHK-007

FW-P-007
RECIRCULATION PUMP

FW-GV-027

HEATER

WASTE WATER TREATMENT
CASN-A-341-IN-PID-0001

FW-GV-029

FW-SV-005

AE CL2

AE PH

LT 007A

TT 007A

POTABLE WATER
RESERVOIR #1
HEATER

FW-XV-010

LT 007B

TT 007B

POTABLE WATER
RESERVOIR #2
HEATER

FW-XV-011

LT 007C

TT 007C

POTABLE WATER
RESERVOIR #3
HEATER

FW-XV-012

TREATED WATER DIST.

29 PSIG

PT 008

UF TRAINS

FW-GV-031

FW-RV-002

80 PSIG

SOLENOID PANEL

FW-GV-030

FW-RV-001

FW-GV-032

LEGEND

- PUMPED
- GRAVITY
- ALTERNATIVE
- FUTURE
- BACKUP

REV	DESCRIPTION	PAR BY	ING ENG	DATE
C	FINAL RELEASE FOR FEASIBILITY STUDY	D.K.	A.C.	25-09-15
B	INITIAL RELEASE ISSUED FOR CLIENT REVIEW	D.K.	A.C	25-09-03
A	INITIAL RELEASE ISSUED FOR INTERNAL REVIEW	R.D.	A.C	25-06-05

PATRIOT BATTERY METALS

AtkinsRéalis

702381-5300-4KDG10-001

Mining Services

CONCEPTEUR/DESIGN:	A. Cogulet	25-06-05
DESSINATEUR/DRAWN:	R. DIDIER	25-06-05
VÉRIFIÉ PAR/CHECKED:	AL Nguyen	25-06-05
INGÉNIEUR/ENGINEER:	A. Cogulet	25-06-05
ÉCHELLE/SCALE:	N.T.S.	DATE

INGÉNIEUR E
Antoine Cogulet
6028243
QUÉBEC
Ing. P.D.

PROJET/PROJECT:
SHAAKICHIUWAANAAN

PHASE:
ÉTUDE DE FAISABILITÉ
FEASIBILITY STUDY

TITRE:
USINE D'EAU POTABLE
SYSTÈME DE FILTRATION
DIAGRAMME DE FLUX DE PROCESSUS
DESSIN ET NOTES

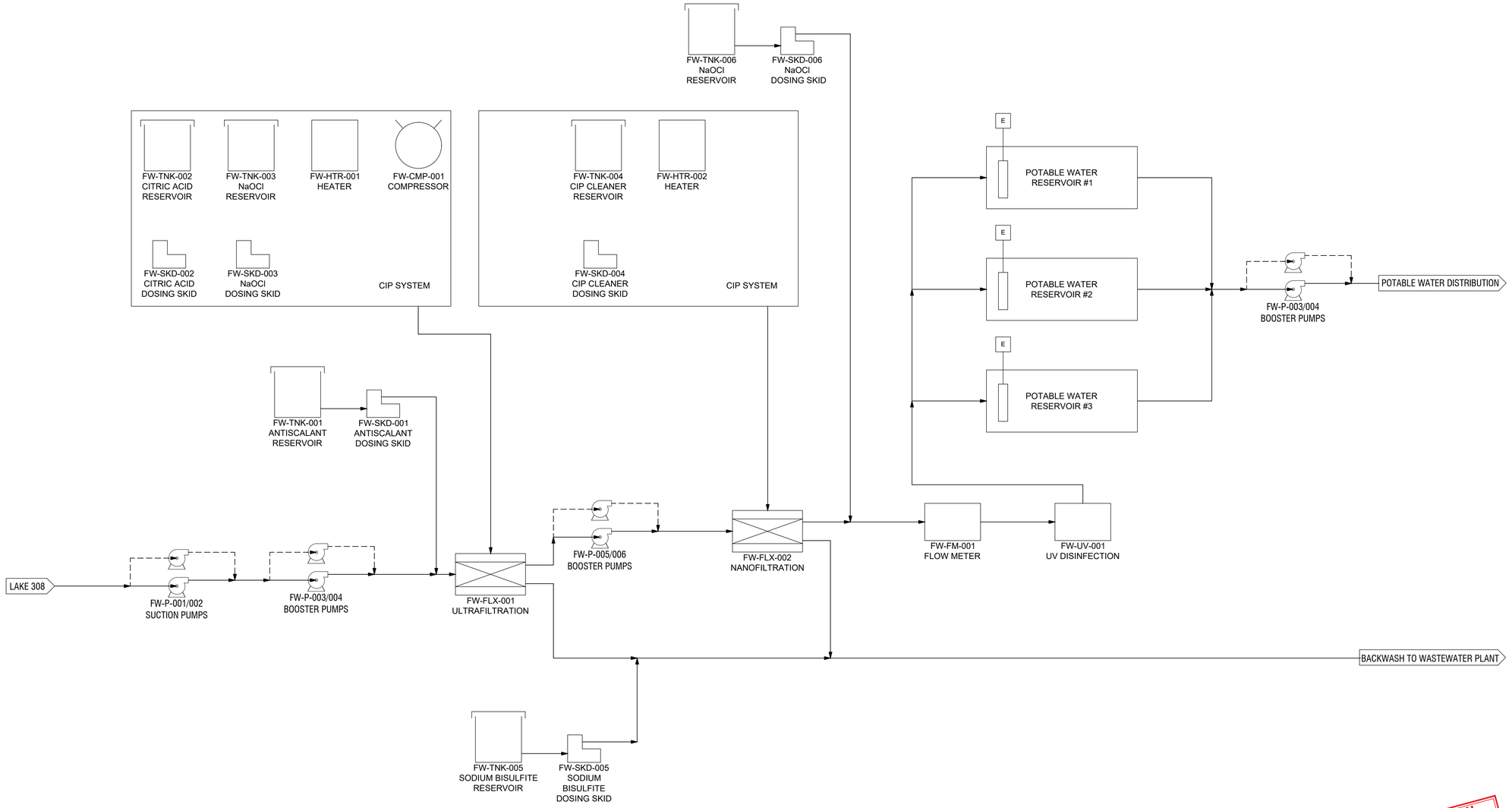
TITLE
POTABLE WATER TREATMENT PLANT
FILTRATION SYSTEM
PROCESS FLOW DIAGRAM
DRAWING AND NOTES

DESSIN NUM./DRAWING NO.: CASN – A 331 – IN – PID – 0001 – C
AREA – DISC. – TYPE – SEQ. – REV.

NOT FOR CONSTRUCTION
NE PAS UTILISER POUR CONSTRUCTION

SAVED ON: 25-06-16 9:37 AM BY Vicenzo Dinhli
PATH: C:\Users\KR6533\OneDrive - AtkinsRéalis\702381 PB Metals Shaakichiuwaanaan project - 8. Drawings\C\Water_treatment\PAID\CASN-A-331-IN-PID-0001.dwg

PAPER SIZE FORMAT - A1



LEGEND

- PUMPED
- GRAVITY
- ALTERNATIVE
- FUTURE
- BACKUP

REV	DESCRIPTION	PAR BY	ING ENG	DATE
C	FINAL RELEASE FOR FEASIBILITY STUDY	D.K.	A.C.	25-09-15
B	INITIAL RELEASE ISSUED FOR CLIENT REVIEW	D.K.	A.C	25-09-03
A	INITIAL RELEASE ISSUED FOR INTERNAL REVIEW	R.D.	A.C	25-05-13

PATRIOT BATTERY METALS

AtkinsRéalis

702381-5300-4KDG02-001

Mining Services

CONCEPTEUR/DESIGN:	A. COGULET	25-05-13
DESSINATEUR/DRAWN:	R. DIDIER	25-05-13
VÉRIFIÉ PAR/CHECKED:	AL NGUYEN	25-05-13
INGÉNIEUR/ENGINEER:	A. COGULET	25-05-13
ÉCHELLE/SCALE:	N.T.S.	DATE

PROJET/PROJECT:
SHAAKICHIUWAANAAN

PHASE:
ÉTUDE DE FAISABILITÉ
FEASIBILITY STUDY

TITRE:
STATION DE TRAITEMENT D'EAU POTABLE
DIAGRAMME DE FLUX DE PROCESSUS
DESSIN ET NOTES
FRANCAIS

TITLE
POTABLE WATER TREATMENT PLANT
PROCESS FLOW DIAGRAM
DRAWING AND NOTES
ENGLISH

DESSIN NUM./DRAWING NO.: CASN – A

331 – PR – PFD – 0001 – C
AREA | DISC. | TYPE | SEQ. | REV.

NOT FOR CONSTRUCTION
NE PAS UTILISER POUR CONSTRUCTION

INGÉNIEUR.E
Antoine Cogulet
6028243
QUÉBEC

Ing. PhD. #6028243.

SAVED ON: 25-09-15 9:50 AM BY Kiyanna Drehli
PATH: C:\Users\KRI6533\OneDrive - AtkinsRéalis\702381 PB Metals Shaakichiuwaanaan project - 8. Drawings\C\Water_treatment\PFD\CASN-A-331-PR-PFD-0001.dwg

PAPER SIZE FORMAT - A1

NOT FOR CONSTRUCTION
NE PAS UTILISER POUR CONSTRUCTION

PERMANENT CAMP KITCHEN WASTEWATER

GREASE TRAP

PERMANENT CAMP DOMESTIC WASTEWATER

DRY BUILDING DOMESTIC WASTEWATER

COLD SERVICE WATER

SWT-FLX-001
ROTARY
STRAINER

LIC 001
LI 001
HH H L LL
LAH 001
LAL 001
LT 001
LSL 001
LSH 001
PI 001
FIT 001
SWT-BV-003
SWT-BV-002
SWT-BV-001
SWT-CHK-001
SWT-CHK-002
M

SWT-PRS-001
CASN-A-341-IN-PID-0002

SWT-EQ-001
EQUALIZATION
TANK

SWT-P-001/002
SUBMERSIBLE
PUMPS

BAKING SODA

LIC 002
LI 002
HH H L LL
LAH 002
LAL 002
LT 002
LSL 002
LSH 002

SWT-BLW-001
BLOWER

SWT-BV-004
SWT-BV-005
SWT-BV-006

SWT-MBR-001
MOVING BED BIOFILM
REACTOR

SWT-BV-007

ANTIFOAM
COAGULANT
POLYMER
MCC
M

SWT-AGX-001
COAGULATION
CHAMBER

SWT-AGX-002
FLOCULATION
CHAMBER

MCC
M

SWT-DAF-001
DISSOLVED AIR
FLOATATION TANK

SWT-BV-022
SWT-BV-008
SWT-BV-021
SWT-BV-011

SWT-XV-002
LSH 003
LAH 003
SWT-XV-001
LSL 003
LAL 003

COLD SERVICE WATER

SWT-TNK-006
EFFLUENT HOLDING
TANK

SWT-CHK-005
SWT-CHK-004

POLISHING POND
CASN-A-360-PR-PFD-0008

SWT-MBR-002
CASN-A-341-IN-PID-0002

SWT-BV-020
SWT-BV-019
SWT-BV-018
SWT-BV-017
SWT-CHK-003

PI 004
SWT-GV-011
SWT-GV-012
VFD
SWT-BV-010
SWT-BV-009
SWT-P-007
DAF RECIRCULATION
PUMP

PI 005
SWT-GV-015
SWT-GV-016
SWT-BV-014
SWT-BV-013
SWT-P-008
DAF RECIRCULATION
PUMP

SWT-BLW-002
BLOWER

LEGEND

- PUMPED
- GRAVITY
- ALTERNATIVE
- FUTURE
- BACKUP

REV	DESCRIPTION	PAR BY	ING ENG	DATE
C	FINAL RELEASE FOR FEASIBILITY STUDY	D.K.	A.C.	25-09-15
B	INITIAL RELEASE ISSUED FOR CLIENT REVIEW	D.K.	A.C	25-09-03
A	INITIAL RELEASE ISSUED FOR INTERNAL REVIEW	R.D.	A.C	25-06-10

PATRIOT BATTERY METALS

AtkinsRéalis

702381-5300-4KDG10-002

Mining Services

CONCEPTEUR/DESIGN:	A. COGULET	25-06-10
DESSINATEUR/DRAWN:	R. DIDIER	25-06-10
VÉRIFIÉ PAR/CHECKED:	AL. NGUYEN	25-06-10
INGÉNIEUR/ENGINEER:	A. COGULET	25-06-10
ÉCHELLE/SCALE:	N.T.S.	DATE

PROJET/PROJECT:
SHAAKICHIUWAANAAN

PHASE:
ÉTUDE DE FAISABILITÉ
FEASIBILITY STUDY

TITRE:
STATION DE TRAITEMENT DES EAUX USÉES
DIAGRAMME DE FLUX DE PROCESSUS
DESSIN ET NOTES
FRANCAIS

TITLE
SEWAGE WATER TREATMENT PLANT
PROCESS FLOW DIAGRAM
DRAWING AND NOTES
ENGLISH

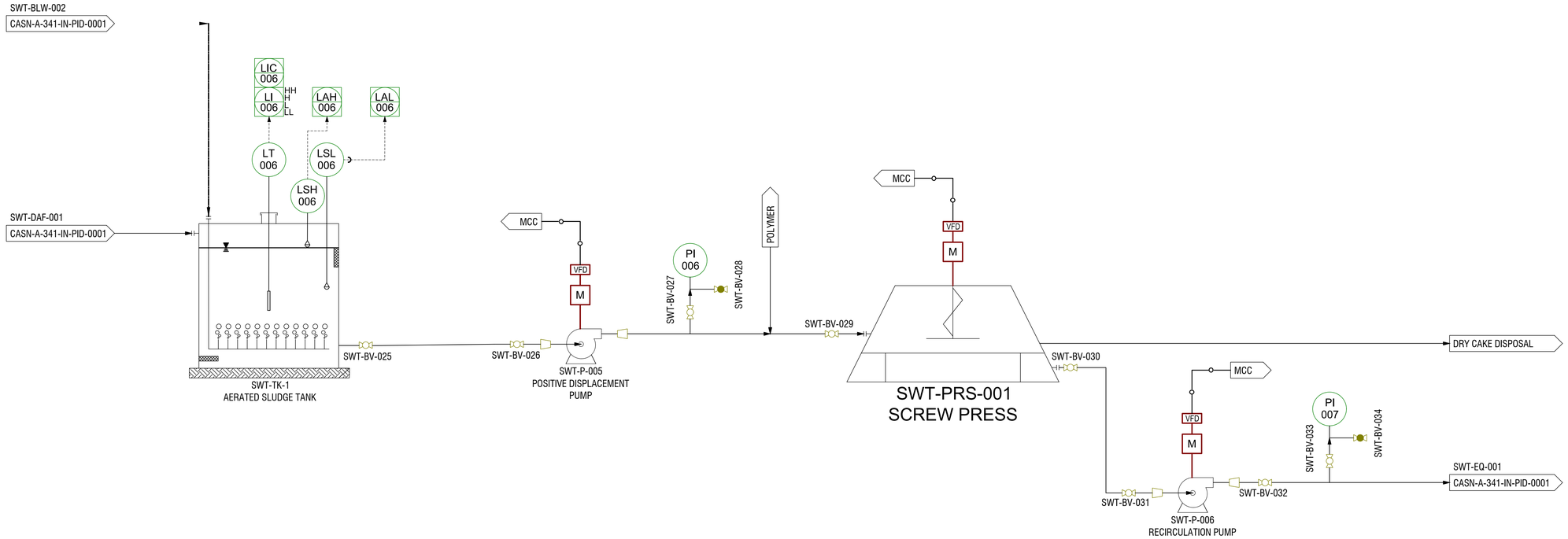
DESSIN NUM./DRAWING NO.: CASN – A

341	IN	PID	0001	C
AREA	DISC.	TYPE	SEQ.	REV.

INGÉNIEUR·E
Antoine Cogulet
6028243
QUÉBEC

SAVED ON: 25-09-15 9:36 AM BY Kronon, Dmitri
PATH: C:\Users\KRONSD\Downloads\Kronon • Akkineni\Rebid\702381 PB Metals Shaakichiuwaanaan project - 8. Drawings\Civil\Water_treatment\PKID\CASN-A-341-IN-PID-0001.dwg

PAPER SIZE FORMAT - A1



LEGEND

- PUMPED
- GRAVITY
- ALTERNATIVE
- FUTURE
- BACKUP

REV	DESCRIPTION	PAR BY	ING ENG	DATE
C	FINAL RELEASE FOR FEASIBILITY STUDY	D.K.	A.C.	25-09-15
B	INITIAL RELEASE ISSUED FOR CLIENT REVIEW	D.K.	A.C	25-09-03
A	INITIAL RELEASE ISSUED FOR INTERNAL REVIEW	R.D.	A.C	25-06-10

PATRIOT BATTERY METALS

AtkinsRéalis

702381-5300-4KDG10-003

Mining Services

CONCEPTEUR/DESIGN:	A. COGULET	25-06-10
DESSINATEUR/DRAWN:	R. DIDIER	25-06-10
VÉRIFIÉ PAR/CHECKED:	AL. NGUYEN	25-06-10
INGÉNIEUR/ENGINEER:	A. COGULET	25-06-10
ÉCHELLE/SCALE:	N.T.S.	DATE

PROJET/PROJECT:
SHAAKICHIUWAANAAN

PHASE:
ÉTUDE DE FAISABILITÉ
FEASIBILITY STUDY

TITRE:
STATION DE TRAITEMENT DES EAUX USÉES
DIAGRAMME DE FLUX DE PROCESSUS
DESSIN ET NOTES
FRANCAIS

TITLE
SEWAGE WATER TREATMENT PLANT
PROCESS FLOW DIAGRAM
DRAWING AND NOTES
ENGLISH

DESSIN NUM./DRAWING NO.: CASN - A

341	IN	PID	0002	C
AREA	DISC.	TYPE	SEQ.	REV.

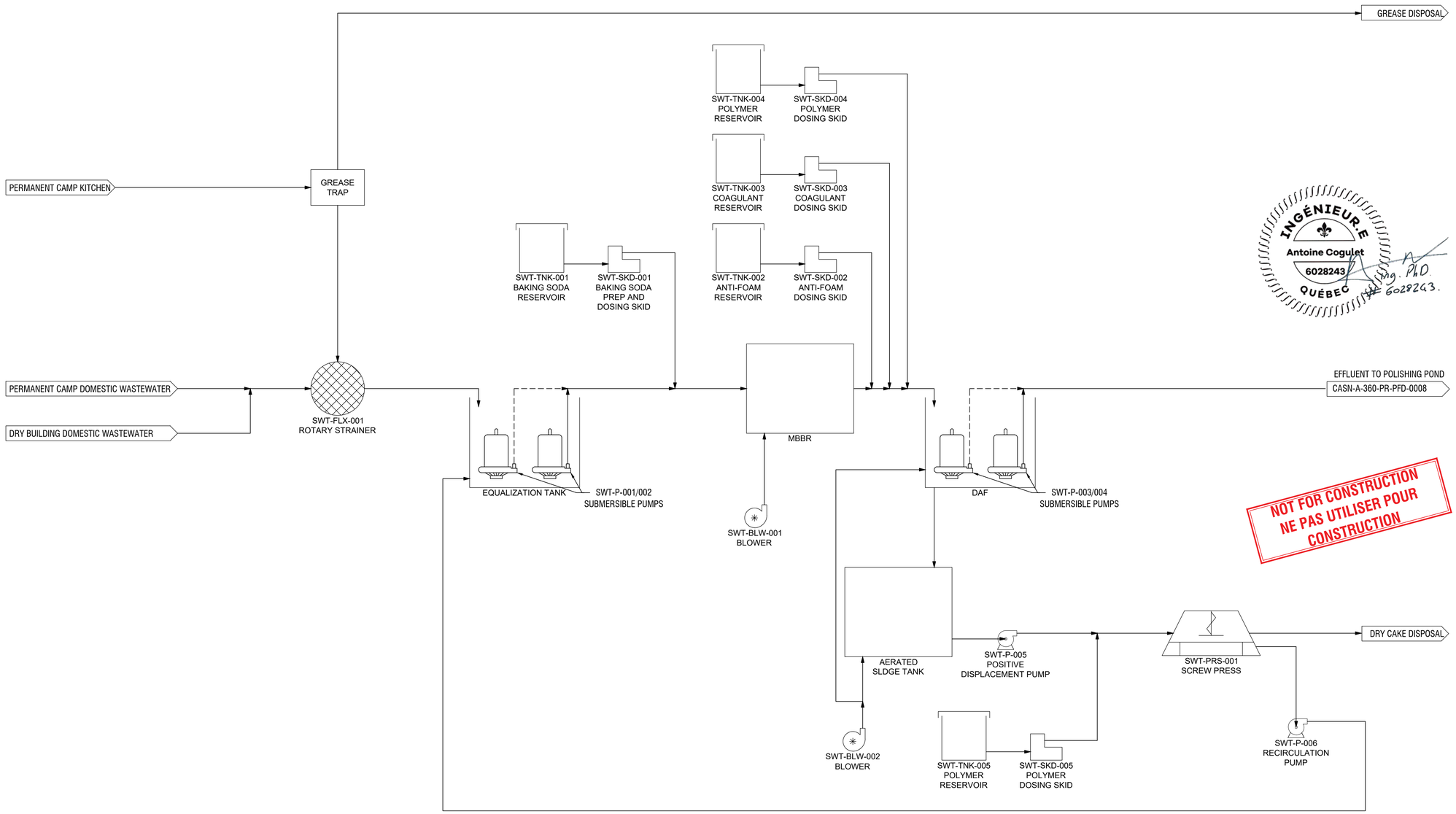
INGÉNIEUR.E
Antoine Cogulet
6028243
QUÉBEC

Ing. PhD. # 6028243.

NOT FOR CONSTRUCTION
NE PAS UTILISER POUR CONSTRUCTION

SAVED ON: 25-09-15 8:36 AM BY Kristine, Pimbili
PATH: C:\Users\KRISBS\OneDrive - AtkinsRéalis\702381 PB Metals Shaakichiuwaanaan project - 8. Drawings\Civ\Water_treatment\PA\DC\CASN-A-341-IN-PID-0002.dwg

PAPER SIZE FORMAT - A1



LEGEND

- PUMPED
- GRAVITY
- ALTERNATIVE
- FUTURE
- BACKUP

INGÉNIEUR.E
Antoine Cogulet
6028243
QUÉBEC
Ing. PhD
#6028243

REV	DESCRIPTION	PAR BY	ING ENG	DATE
C	FINAL RELEASE FOR FEASIBILITY STUDY	D.K.	A.C.	25-09-15
B	INITIAL RELEASE ISSUED FOR CLIENT REVIEW	D.K.	A.C	25-09-03
A	INITIAL RELEASE ISSUED FOR INTERNAL REVIEW	R.D.	A.C	25-05-13

PATRIOT BATTERY METALS

AtkinsRéalis

702381-5300-4KDG02-002

Mining Services

CONCEPTEUR/DESIGN:	A. COGULET	25-05-13
DESSINATEUR/DRAWN:	R. DIDIER	25-05-13
VÉRIFIÉ PAR/CHECKED:	AL NGUYEN	25-05-13
INGÉNIEUR/ENGINEER:	A. COGULET	25-05-13
ÉCHELLE/SCALE:	N.T.S.	DATE

PROJET/PROJECT:
SHAAKICHIUWAANAAN

PHASE:
ÉTUDE DE FAISABILITÉ
FEASIBILITY STUDY

TITRE:
STATION DE TRAITEMENT DES EAUX USÉES
DIAGRAMME DE FLUX DE PROCESSUS
DESSIN ET NOTES
FRANCAIS

TITLE
SEWAGE WATER TREATMENT PLANT
PROCESS FLOW DIAGRAM
DRAWING AND NOTES
ENGLISH

DESSIN NUM./DRAWING NO.: CASN - A

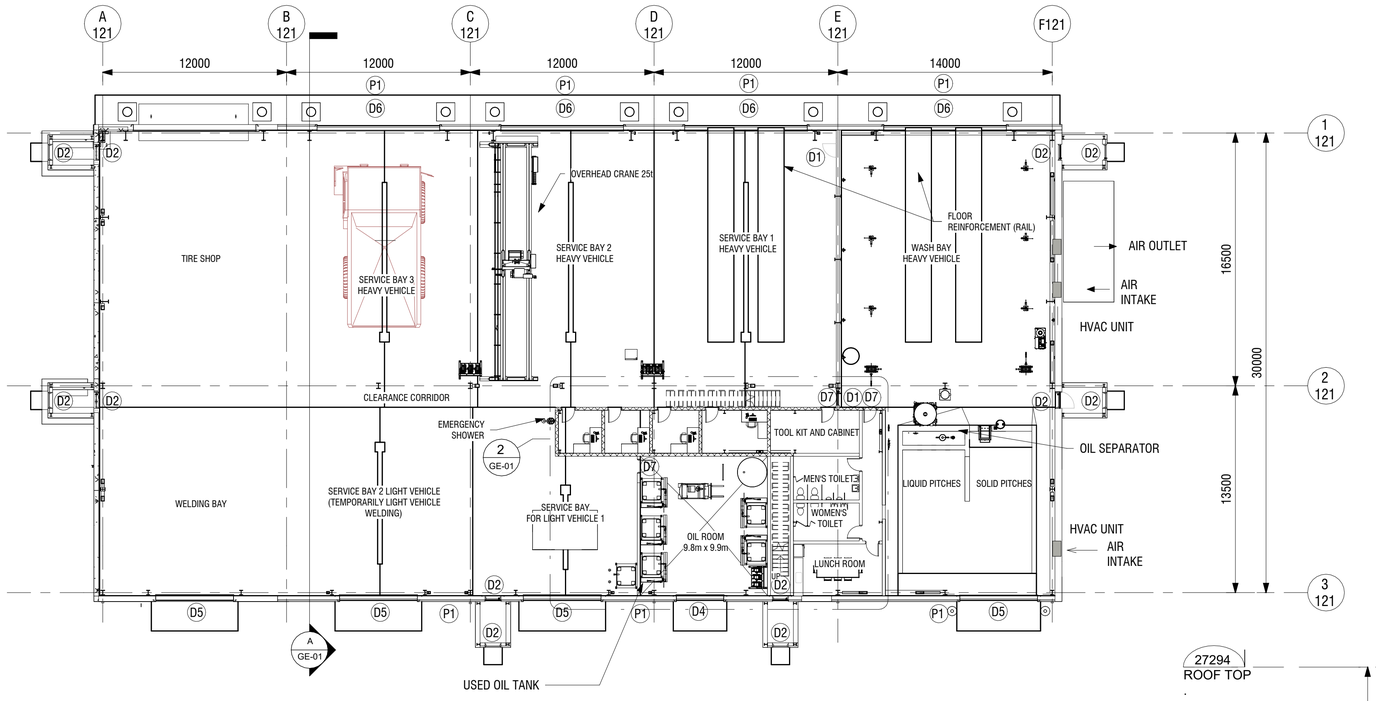
341	PR	PFD	0001	C
AREA	DISC.	TYPE	SEQ.	REV.

SAVED ON: 25-09-15 9:47 AM BY Vicenzo Dinelli
PATH: C:\Users\XR4S830.DinelliVin_Atkins\Patriot\702381 PB Metals Shaakichiuwaanaan project - 8. Drawings\C\Water_treatment\PFD\CASN-A-341-PR-PFD-0001.dwg

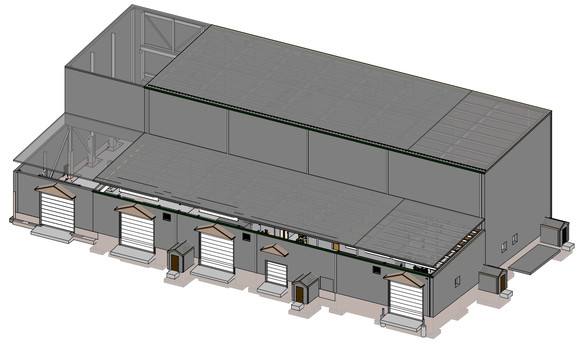
GCM ENVIRO SYNERGIES

B6. Plans – Bâtiments

PAPER SIZE FORMAT - A1



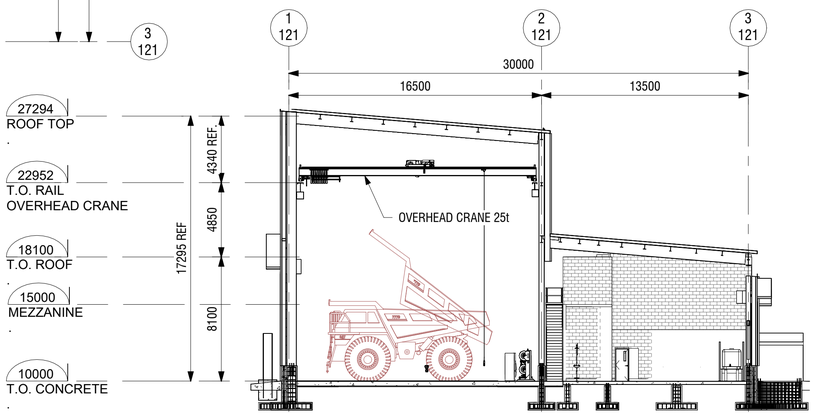
1 PLAN VIEW
1 : 200



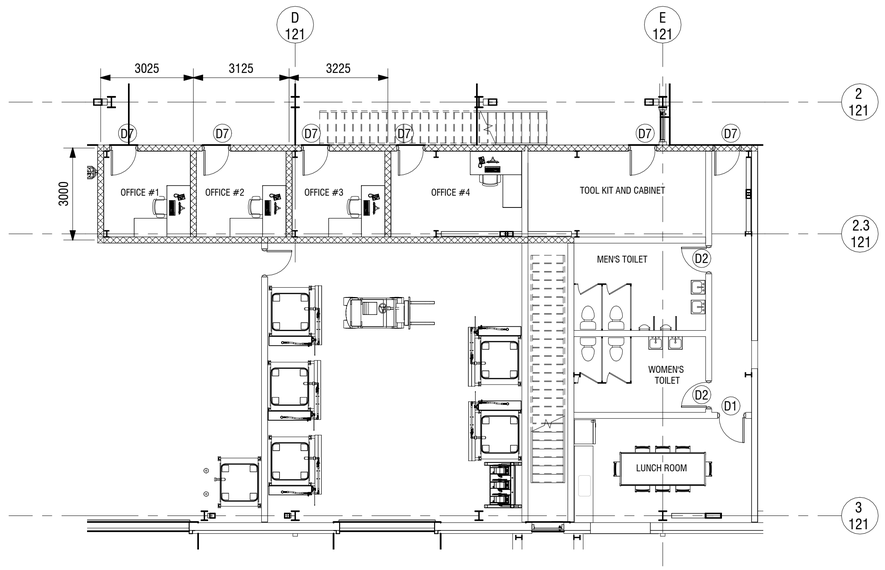
4 3D VIEW

NE PAS UTILISER POUR CONSTRUCTION

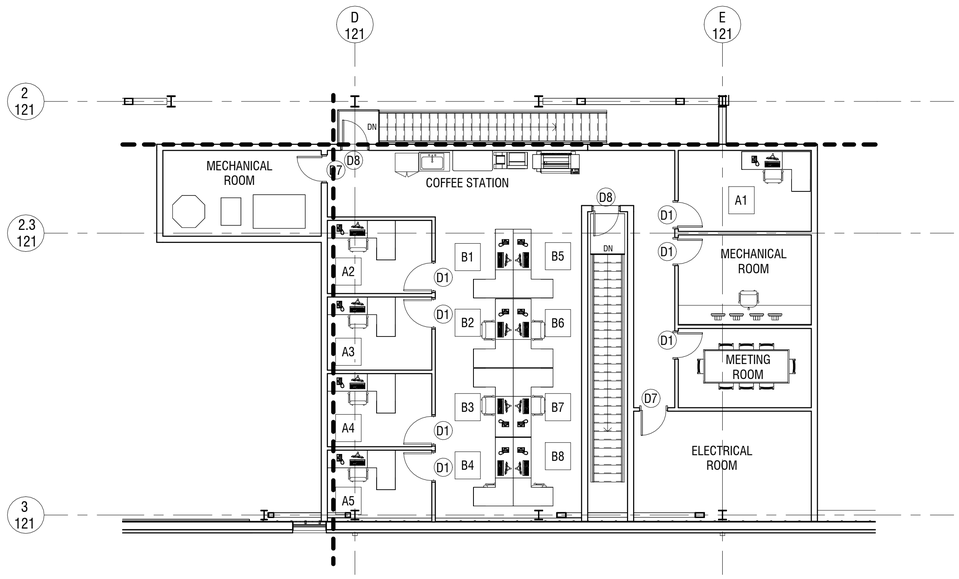
NOT FOR CONSTRUCTION



A SECTION
1 : 200



2 PLAN VIEW - OFFICES
1 : 100



3 MEZZANINE
1 : 100

REV	DESCRIPTION	PAR BY	ING ENG	DATE
B	ISSUED FOR PROJECT REVIEW	T.M.	L.A.	24-11-18
A	INTERNAL REVIEW	Y.B.	L.A.	24-10-24

CONCEPTEUR/DESIGN:	L. ALEMAN	24-10-24
DESSINATEUR/DRAWN:	Y. BERGER	24-10-24
VÉRIFIÉ PAR/CHECKED:	M. GALAN	24-10-24
INGÉNIEUR/ENGINEER:	L. ALEMAN	24-10-24
ÉCHELLE/SCALE:	As indicated	DATE

PROJET/PROJECT :
SHAAKICHIUWAANAAN

PHASE :
ÉTUDE DE FAISABILITÉ
FEASIBILITY STUDY

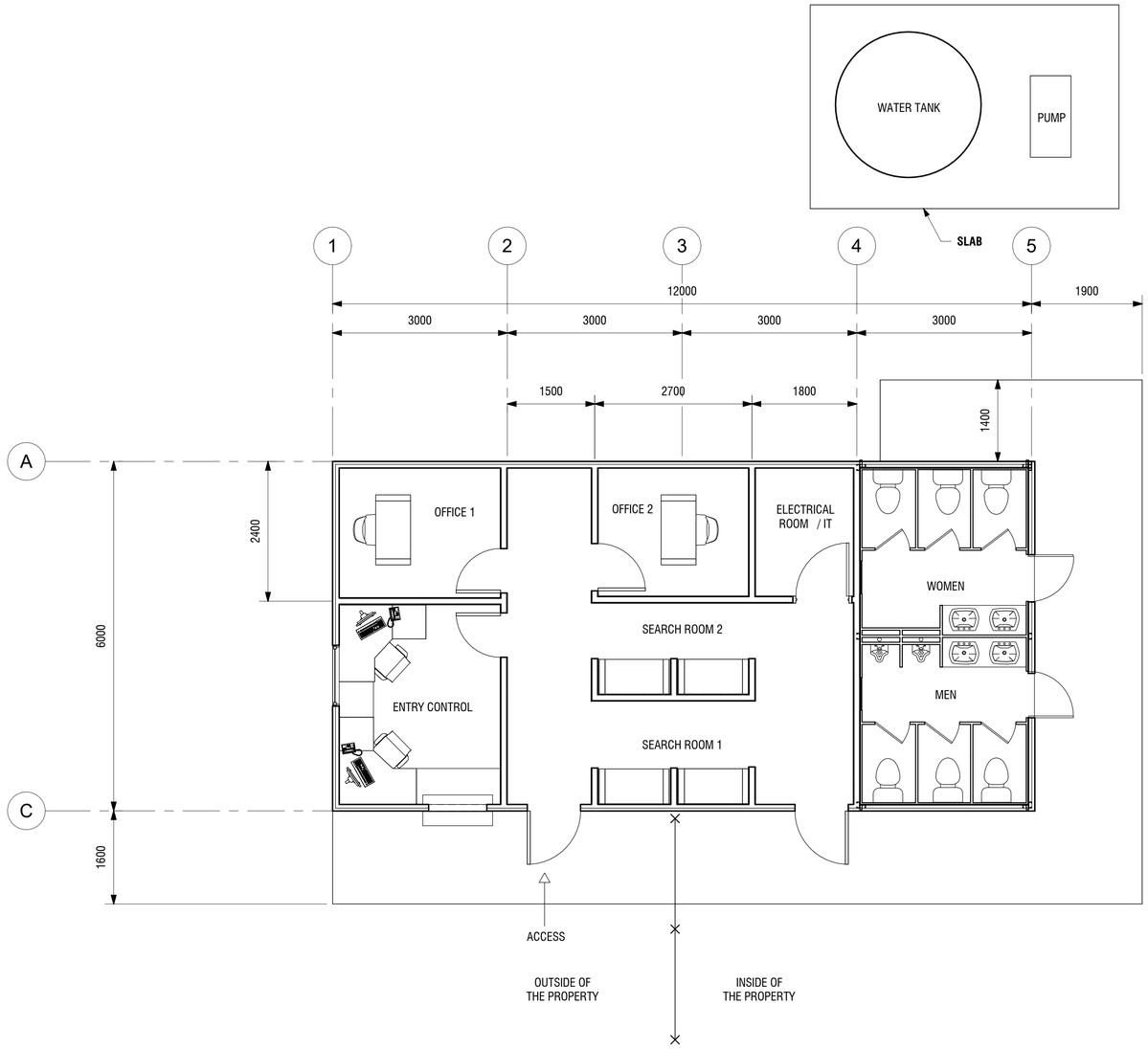
TITRE :
GARAGE
ARRANGEMENT GÉNÉRAL
VUE DE PLAN, SECTIONS & 3D

TITLE :
TRUCK SHOP
GENERAL ARRANGEMENT
PLAN VIEW, SECTIONS & 3D

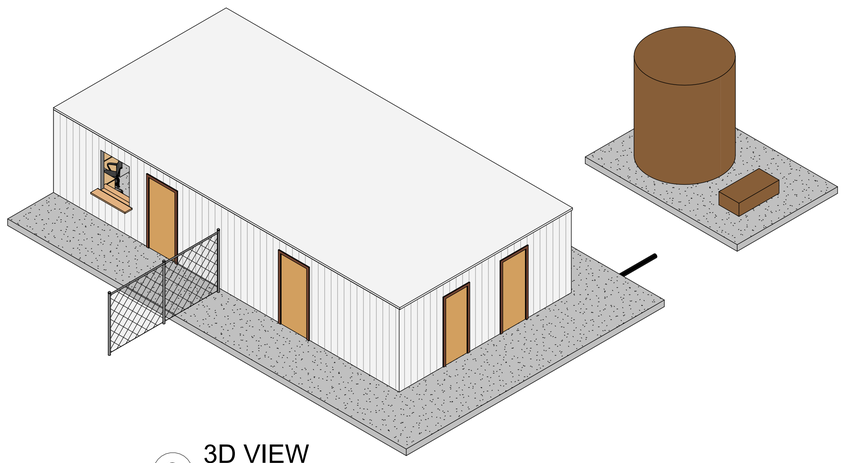
DESSIN NUM. / DRAWING NO. :
CASN-A
121-GE-GA-0001 B
AREA - DISC. - TYPE - SEQ. NO. REV.

SAVED ON: 2024-11-25 1:58:46 PM
Path: Z:\ACTIVE_PROJECTS\PATRIOT BATTERY METAL\SHAAKICHIUWAANAAN (CASN-A) Feasibility Study\03-Drawing\121 Truckshop\GE General\CASN-A-121-GE-3DM-0001.rvt

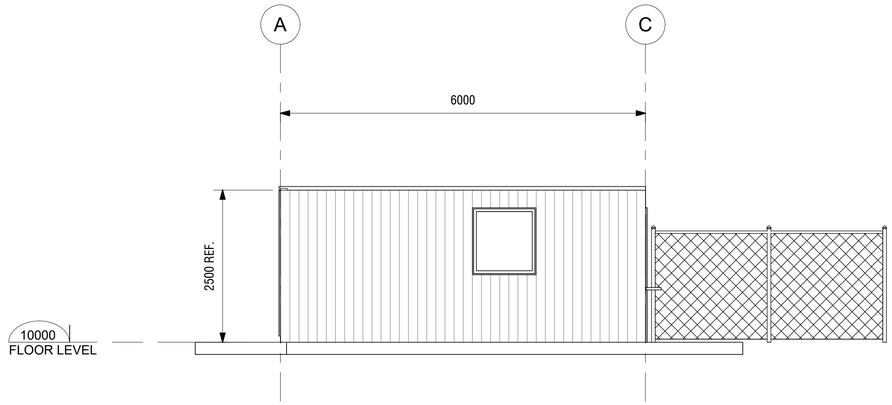
PAPER SIZE FORMAT - A1



1 PLAN VIEW
1 : 50



2 3D VIEW



3 ELEVATION VIEW
1 : 50

NOT FOR CONSTRUCTION

REV	DESCRIPTION	PAR BY	ING ENG	DATE
B	ISSUED FOR PROJECT REVIEW	T.M.	L.A.	24-11-01
A	INTERNAL REVIEW	T.M.	L.A.	24-10-31

PATRIOT BATTERY METALS

Mining Services

CONCEPTEUR/DESIGN: L. ALEMAN	24-10-28
DESSINATEUR/DRAWN: T. MANSUR	24-10-28
VÉRIFIÉ PAR/CHECKED: M. GALAN	24-10-28
INGÉNIEUR/ENGINEER: E. SHAMMA	24-10-28
ÉCHELLE/SCALE: 1 : 50	DATE

PROJET/PROJECT :
SHAAKICHIUWAANAAN

PHASE :
ÉTUDE DE FAISABILITÉ
FEASIBILITY STUDY

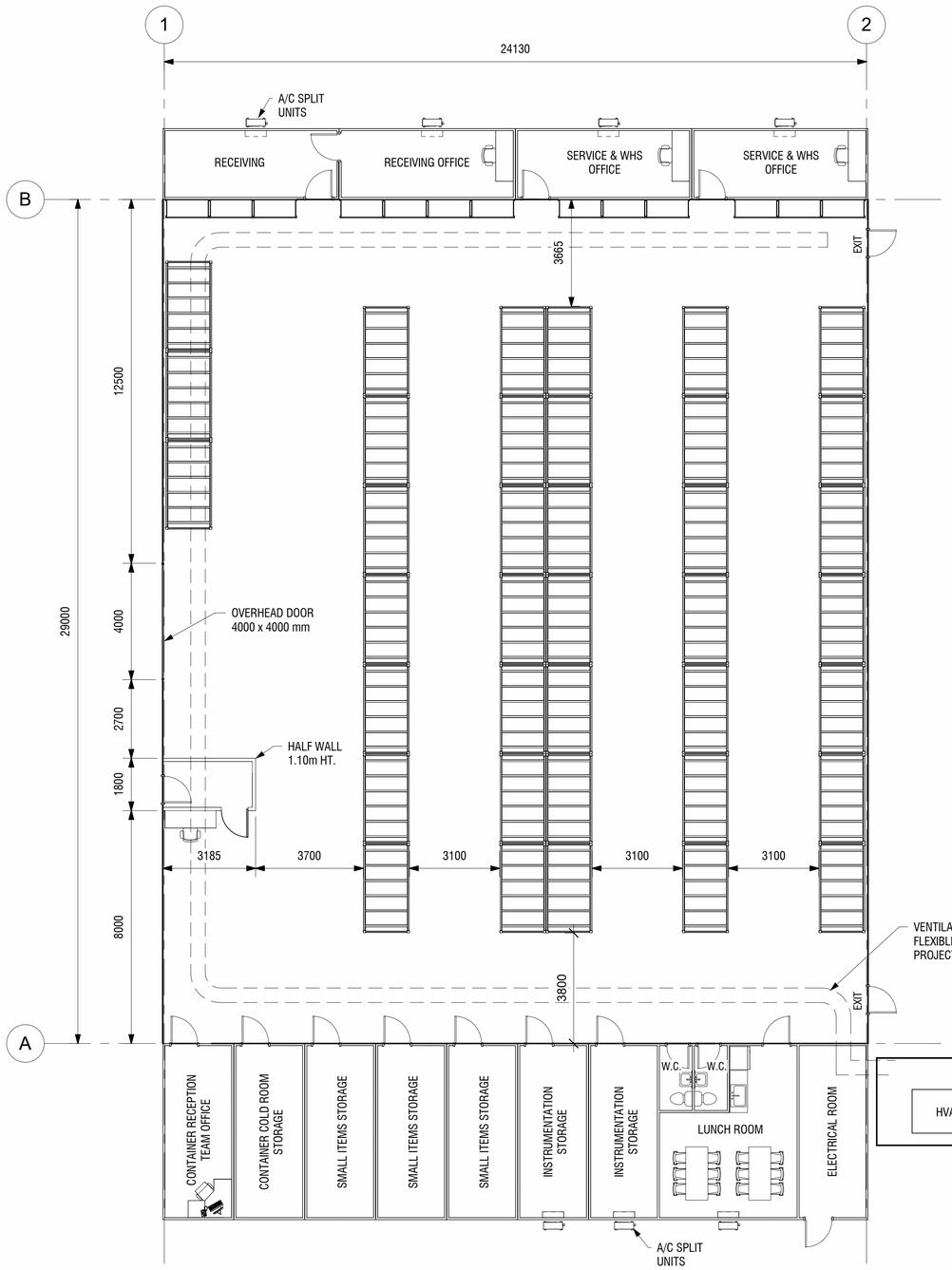
TITRE :
GUÉRITE DE CHANTIER
ARRANGEMENT GÉNÉRAL
VUE EN PLAN, ÉLÉVATION
VUE 3D

TITLE :
SITE GUARD HOUSE
GENERAL ARRANGEMENT
PLAN VIEW AND 3D

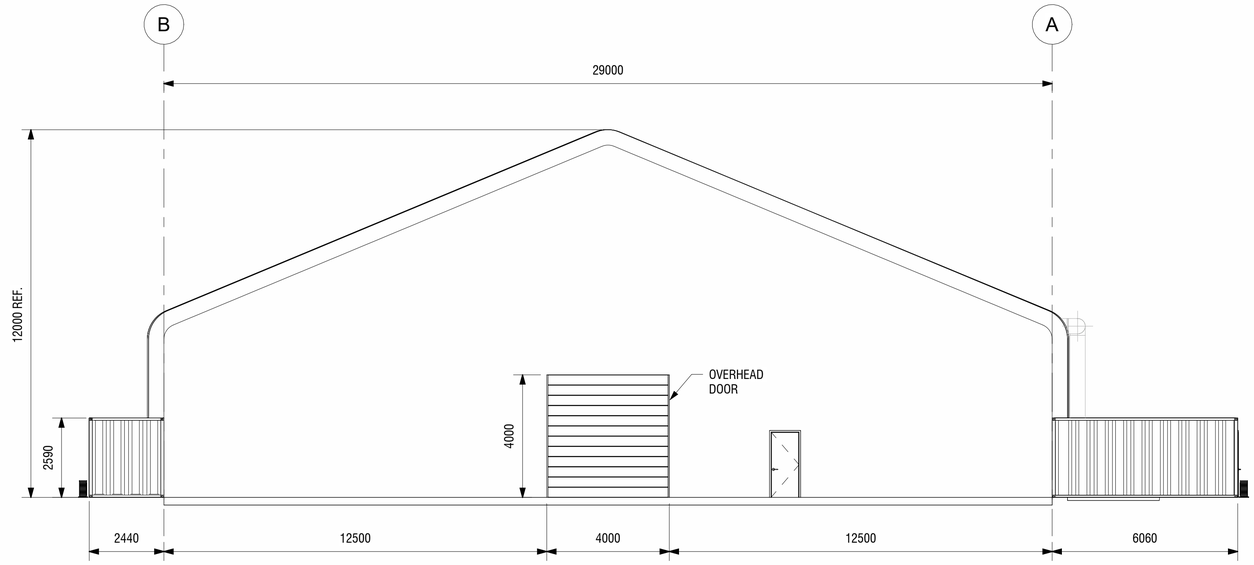
DESSIN NUM. / DRAWING NO. :
CASN-A
132-GE-GA-0001 B
AREA - DISC. - TYPE - SEQ. NO. REV.

SAVED ON: 11/1/2024 3:18:32 PM
PATH: Z:\ACTIVE_PROJECTS\PATRIOT BATTERY METALS\SHAAKICHIUWAANAAN (CASN-A) Feasibility Study\03-Drawing\001 General\GE General\CASN-A-132-GE-3DM-0001.rvt

PAPER SIZE FORMAT - A1



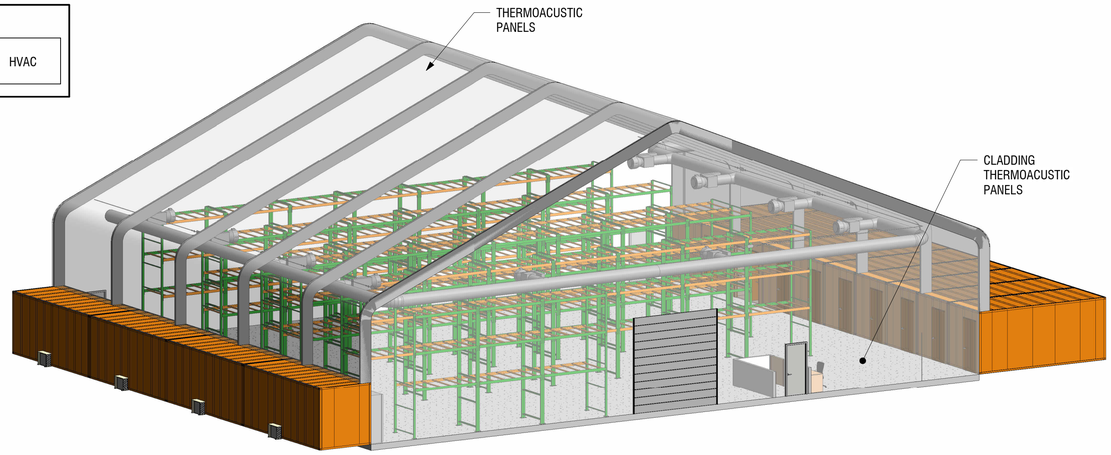
1 PLAN VIEW
1 : 100



2 ELEVATION VIEW
1 : 100

NE PAS UTILISER POUR CONSTRUCTION

NOT FOR CONSTRUCTION



3 OUTSIDE 3D VIEW

REV	DESCRIPTION	PAR BY	ING ENG	DATE
B	ISSUED FOR PROJECT REVIEW	T.M.	L.A.	24-11-20
A	INTERNAL REVIEW	T.M.	L.A.	24-10-31

PATRIOT BATTERY METALS

Mining Services

CONCEPTEUR/DESIGN: L. ALEMAN	24-10-28
DESSINATEUR/DRAWN: T. MANSUR	24-10-28
VÉRIFIÉ PAR/CHECKED: M. GALAN	24-10-28
INGÉNIEUR/ENGINEER: E. SHAMMA	24-10-28
ÉCHELLE/SCALE: 1 : 100	DATE

PROJET/PROJECT :
SHAAKICHIUWAANAAN

PHASE :
ÉTUDE DE FAISABILITÉ
FEASIBILITY STUDY

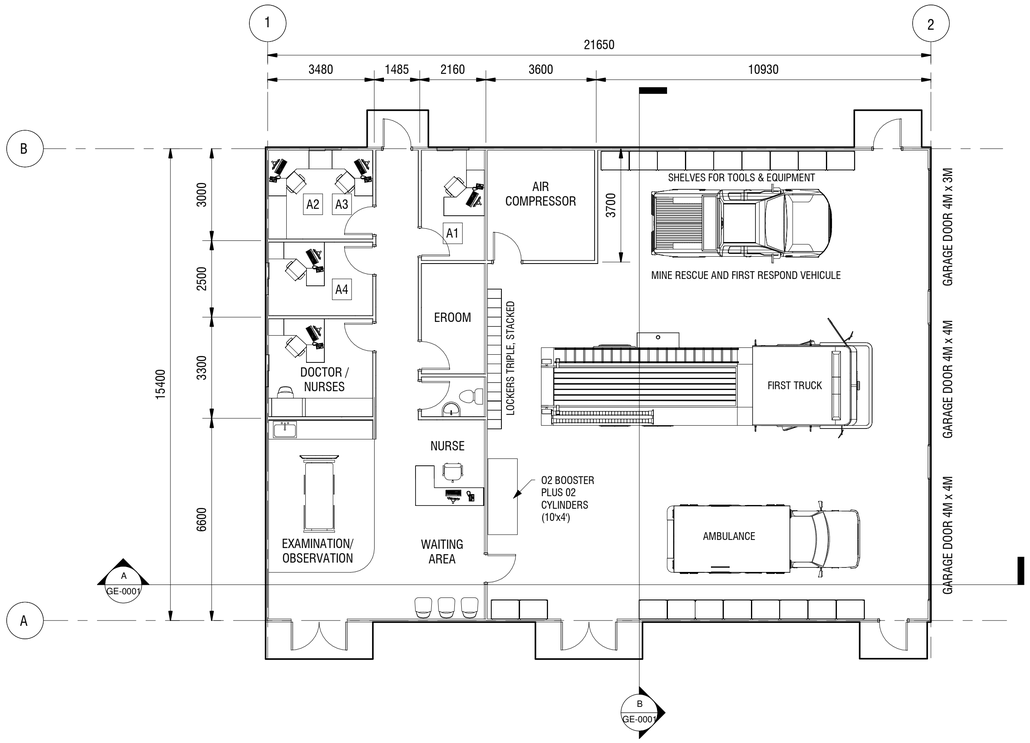
TITRE :
ENTREPOT
ARRANGEMENT GÉNÉRAL
VUE EN PLAN, ÉLÉVATION
VUE EN 3D

TITLE :
WAREHOUSE
GENERAL ARRANGEMENT
PLAN VIEW, ELEVATION
3D VIEW

DESSIN NUM. / DRAWING NO. :
CASN-A
134-GE-GA-0001 B
AREA - DISC. - TYPE - SEQ. NO. REV.

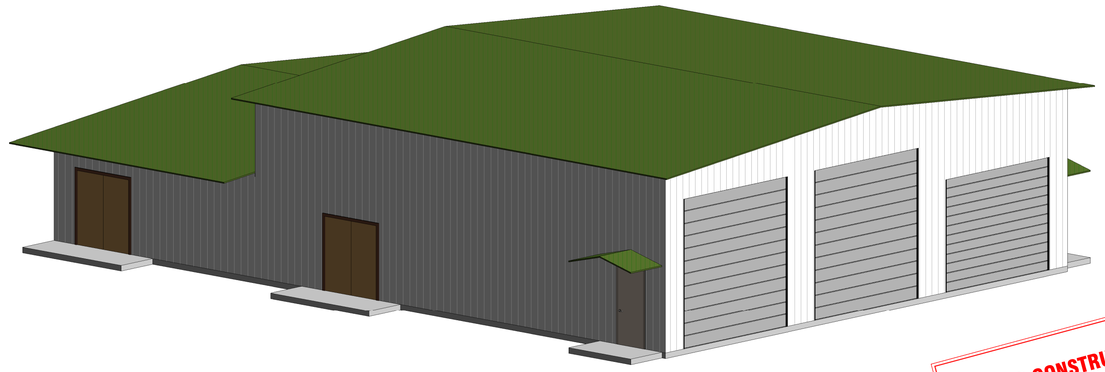
SAVED ON: 2024-11-20 3:11:34 PM
PATH: \\CORP.GMINING.COM\corporate_data\ACTIVE_PROJECTS\PATRIOT BATTERY METALS\SHAAKICHIUWAANAAN (CASN-A)\ Feasibility Study\03-Drawing\001 General\GE General\CASN-A-134-GE-3DM-0001.rvt

PAPER SIZE FORMAT : A1



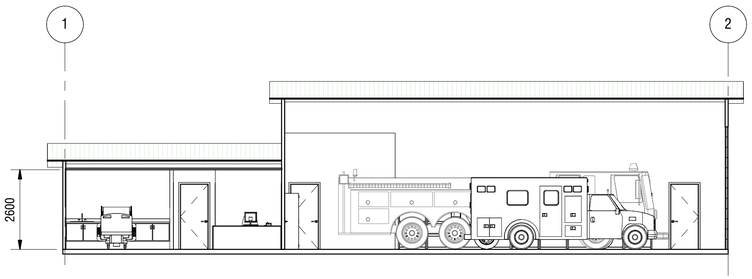
1 PLAN VIEW
1 : 100

WORKERS - CLOSED OFFICE	
ID	**DESCRIPTION**
A1	H&S MANAGER
A2	H&S CORDINATOR
A3	H&S CORDINATOR
A4	H&S SUPERVISOR

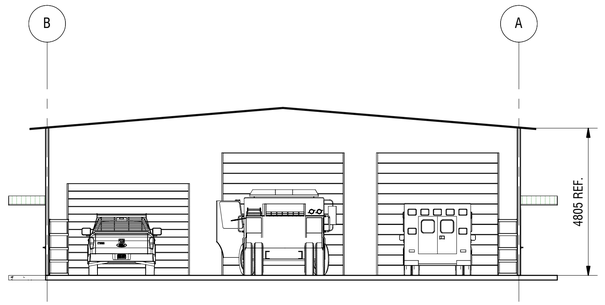


2 3D VIEW

NOT FOR CONSTRUCTION



A SECTION VIEW A
1 : 100



B SECTION VIEW B
1 : 100

REV	DESCRIPTION	PAR BY	ING ENG	DATE
B1	ISSUED FOR PROJECT REVIEW	Y.B.	L.A.	24-12-19
B	ISSUED FOR PROJECT REVIEW	T.M.	L.A.	24-11-01
A	INTERNAL REVIEW	T.M.	L.A.	24-10-31

CONCEPTEUR/DESIGN: L. ALEMAN		24-10-31
DESSINATEUR/DRAWN: T. MANSUR		24-10-31
VÉRIFIÉ PAR/CHECKED: M. GALAN		24-10-31
INGÉNIEUR/ENGINEER: E. SHAMMA		24-10-31
ÉCHELLE/SCALE: As indicated		DATE

PROJET/PROJECT :
SHAAKICHIUWAANAAN

PHASE :
ÉTUDE DE FAISABILITÉ
FEASIBILITY STUDY

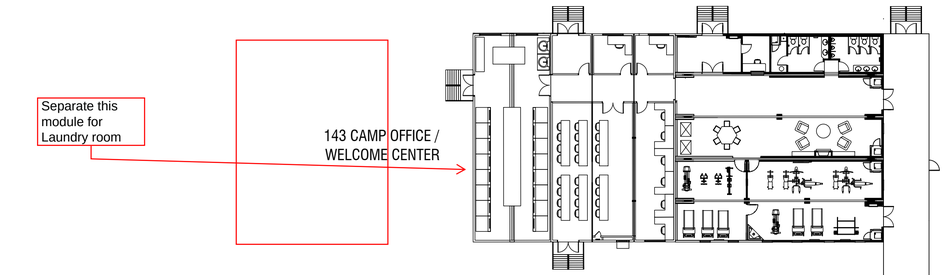
TITRE :
CASERNE DE POMPIERS
ARRANGEMENT GÉNÉRAL
BÂTIMENT PRÉFABRIQUÉ
VUE EN PLAN, EN COUPE ET 3D

TITLE :
FIRE HALL
GENERAL ARRANGEMENT
PREFAB BUILDINGS
PLAN VIEW / SECTION & 3D VIEW

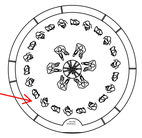
DESSIN NUM. / DRAWING NO. :
CASN-A
139-GE-GA-0001 B1
AREA - DISC. - TYPE - SEQ. NO. REV.

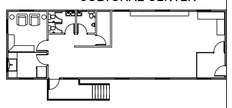
SAVED ON: 2024-12-19 13:42:09
PATH: Z:\ACTIVE_PROJECTS\PATRIOT BATTERY METALS\SHAAKICHIUWAANAAN (CASN-A) Feasibility Study\03-Drawing\139 Fire Hall\CASN-A 139-GE-3DM-0001.rvt

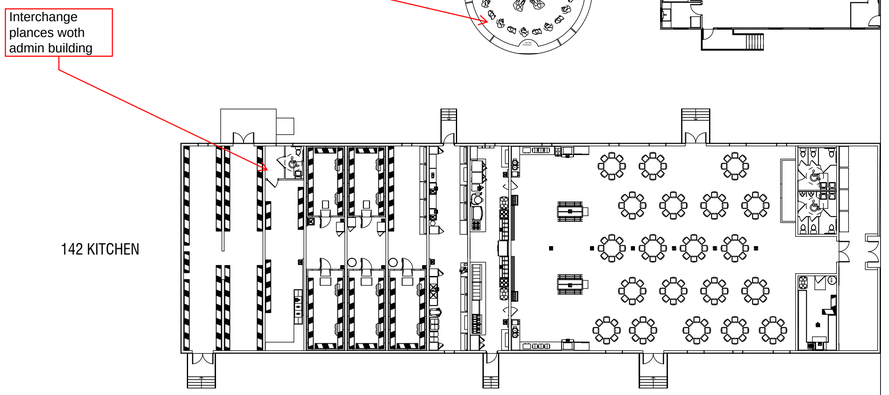
PAPER SIZE FORMAT - A1



Try to put buildings each side in orther to reduce the cost of the artic corridor







We need to add a e-room for this area. Ideally it should be placed as centrally as possible.

This will be confirmed, but we can plan an electrical room of 12 meters x 5 meters.

NOT FOR CONSTRUCTION

REV	DESCRIPTION	PAR BY	ING ENG	DATE
B	ISSUED FOR PROJECT REVIEW	Y.B.	L.A.	24-11-28
A	INTERNAL REVIEW	L.A	P.D.	24-11-21

CONCEPTEUR/DESIGN: L. ALEMAN	24-11-21
DESSINATEUR/DRAWN:Y. BERGER	24-11-21
VÉRIFIÉ PAR/CHECKED:M. GALAN	24-11-21
INGÉNIEUR/ENGINEER: L. ALEMAN	24-11-21
ÉCHELLE/SCALE: NO SCALE	DATE

PROJET/PROJECT :
SHAAKICHIUWAANAAN

PHASE :
ÉTUDE DE FAISABILITÉ
FEASIBILITY STUDY

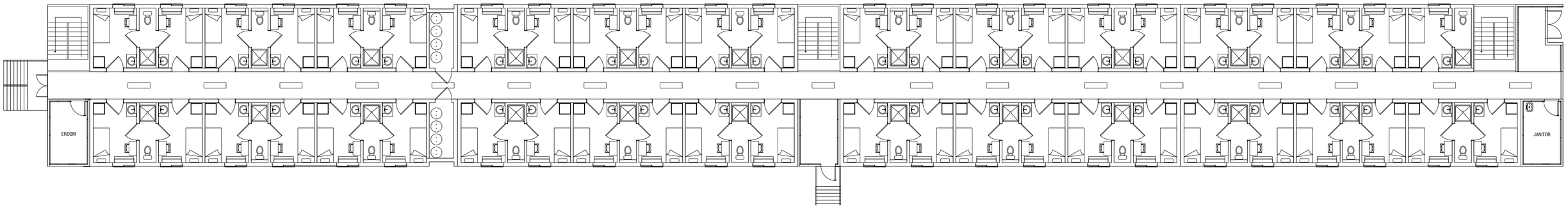
TITRE :
INSTALLATIONS DU CAMP
ARRANGEMENT GÉNÉRAL
VUE EN PLAN

TITLE :
CAMP FACILITIES
GENERAL ARRANGEMENT
PLAN VIEW

DESSIN NUM./DRAWING NO.:
CASN – A
140-GE-GA-0001 B
AREA - DISC. - TYPE - SEQ. NO. REV.

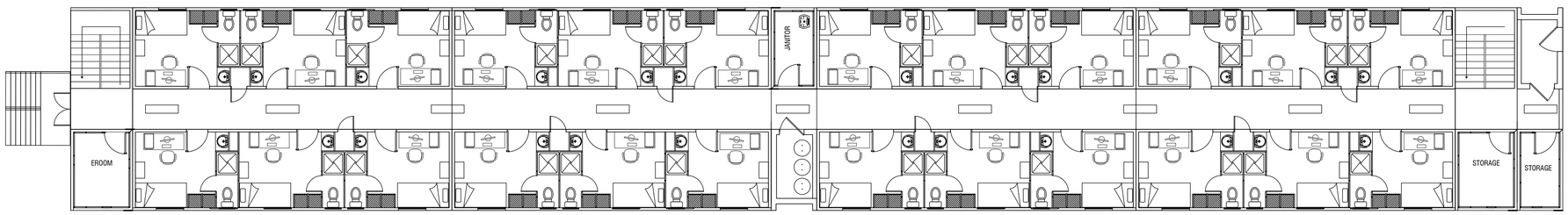
SAVED ON: 24-11-28 8:08 BY Yannick Berger
PATH: E:\ACTIVE_PROJECTS\PATRIOT BATTERY METALS\SHAAKICHIUWAANAAN (CASN-A) Feasibility Study\03-Drawing\140 Camp Facilities\GE General\CASN-A-140-GE-GA-0001.dwg

PAPER SIZE FORMAT - A1



B PLAN VIEW - CAMP TYPE B

EACH BLOCK HAS 2 STORIES
47 PERSON PER STORY
TOTAL PER BLOCK 94 PERSON



A PLAN VIEW - CAMP TYPE A

EACH BLOCK HAS 1 STORY
48 PERSON PER STORY
TOTAL PER BLOCK 48 PERSON

NOT FOR CONSTRUCTION

REV	DESCRIPTION	PAR BY	ING ENG	DATE
B1	ISSUED FOR PROJECT REVIEW	Y.B.	E.S.	24-12-19
B	ISSUED FOR PROJECT REVIEW	Y.B.	E.S.	24-11-28
A	INTERNAL REVIEW	L.A.	P.D.	24-10-30

PATRIOT BATTERY METALS

Mining Services

CONCEPTEUR/DESIGN: L. ALEMAN	24-11-28
DESSINATEUR/DRAWN:Y. BERGER	24-11-28
VÉRIFIÉ PAR/CHECKED:M. GALAN	24-11-28
INGÉNIEUR/ENGINEER: E. SHAMMA	24-11-28
ÉCHELLE/SCALE: NO SCALE	DATE

PROJET/PROJECT :
SHAAKICHIUWAANAAN

PHASE :
ÉTUDE DE FAISABILITÉ
FEASIBILITY STUDY

TITRE :
DORTOIR (CAMP)
ARRANGEMENT GÉNÉRAL
VUE EN PLAN ET
ÉLÉVATION

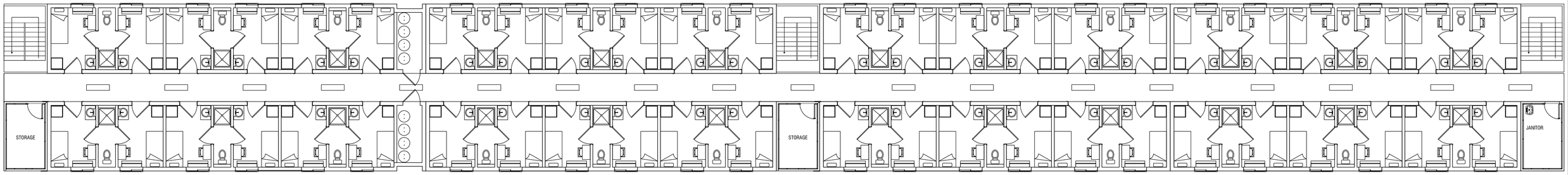
TITLE :
CAMP DORMITORIES
GENERAL ARRANGEMENT
PLAN VIEW &
ELEVATIONS

DESSIN NUM./DRAWING NO.:
CASN - A
141-GE-GA-0001 B1
AREA - DISC. - TYPE - SEQ. NO. REV.

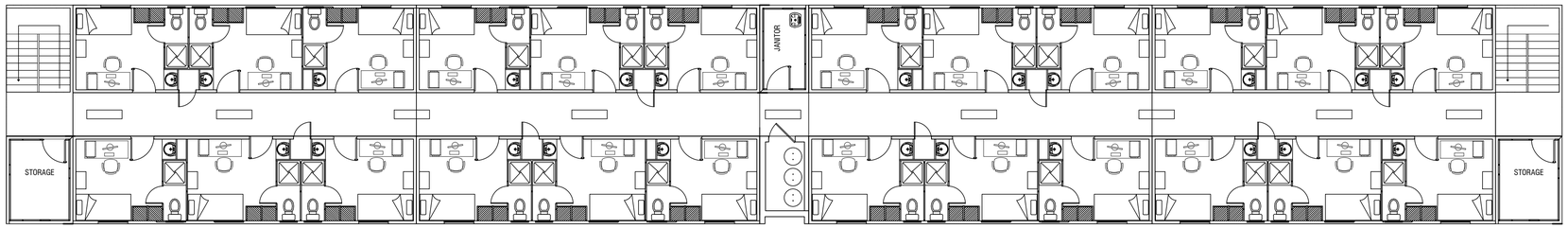
SAVED ON: 24-11-28 8:44 BY Yannick Berger
PATH: Z:\ACTIVE_PROJECTS\PATRIOT BATTERY METAL\SHAAKICHIUWAANAAN (CASN-A)\Feasibility Study\03-Drawing\141 Camp Dorm\GE General\CASN-A-141-GE-DWG-0001-A.dwg

PAPER SIZE FORMAT - A1

EACH BLOCK HAS 2 STORIES
48 PERSON PER STORY
TOTAL PER BLOCK 96 PERSON



EACH BLOCK HAS 1 STORY
48 PERSON PER STORY
TOTAL PER BLOCK 48 PERSON



PRELIMINARY

NOT FOR CONSTRUCTION

REV	DESCRIPTION	PAR BY	ING ENG	DATE
B	PROJECT REVIEW	L.A	P.D.	24-10-30
A	INTERNAL REVIEW	L.A.	P.D.	24-10-30

CONCEPTEUR/DESIGN: L. ALEMAN	24-10-30
DESSINATEUR/DRAWN:L. ALEMAN	24-10-30
VÉRIFIÉ PAR/CHECKED:M. GALAN	24-10-30
INGÉNIEUR/ENGINEER: P. DROZ	24-10-30
ÉCHELLE/SCALE: NO SCALE	DATE

PROJET/PROJECT :
SHAAKICHIUWAANAAN

PHASE :
ÉTUDE DE FAISABILITÉ
FEASIBILITY STUDY

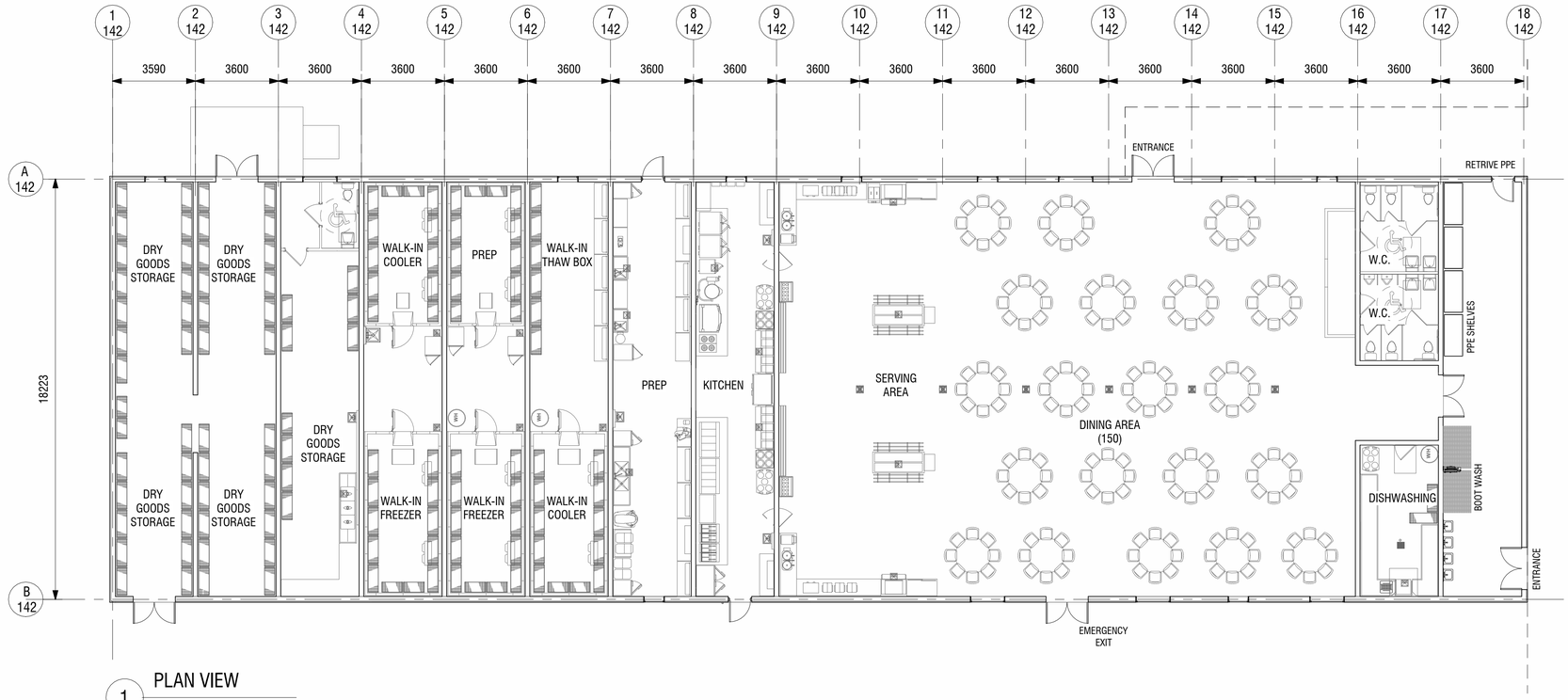
TITRE :
DORTOIR (CAMP)
ARRANGEMENT GÉNÉRAL
VUE EN PLAN ET
ÉLÉVATION

TITLE :
CAMP DORMITORIES
GENERAL ARRANGEMENT
PLAN VIEW &
ELEVATIONS

DESSIN NUM./DRAWING NO.:
CASN – A
141-GE-DWG-0002 B
AREA - DISC. - TYPE - SEQ. NO. REV.

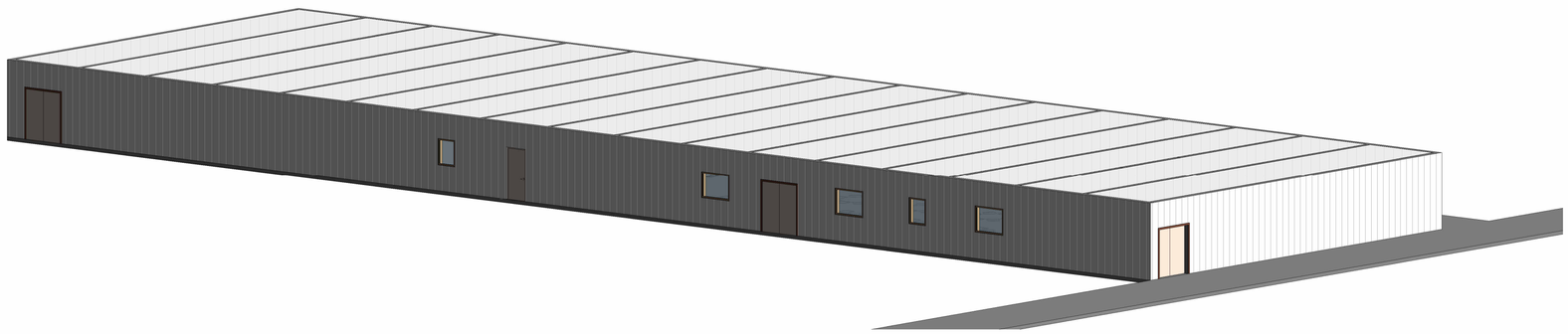
SAVED ON: 24-11-13 4:17 PM BY Luis Aleman
PATH: Z:\ACTIVE_PROJECTS\PATRIOT BATTERY METALS\SHAAKICHIUWAANAAN (CASN-A) Feasibility Study\03-Drawing\141 Camp Dorm\GE Element\CASN-A-141-GE-DWG-0001-A.dwg

PAPER SIZE FORMAT - A1



1 PLAN VIEW

1 : 125



2 3D VIEW

NE PAS UTILISER POUR CONSTRUCTION

NOT FOR CONSTRUCTION

REV	DESCRIPTION	PAR BY	ING ENG	DATE
B	ISSUED FOR PROJECT REVIEW	T.M.	L.A.	24-11-20
A	INTERNAL REVIEW	T.M.	L.A.	24-10-31

PATRIOT BATTERY METALS

Mining Services

CONCEPTEUR/DESIGN: L. ALEMAN	24-10-08
DESSINATEUR/DRAWN: T. MANSUR	24-10-08
VÉRIFIÉ PAR/CHECKED: M. GALAN	24-10-08
INGÉNIEUR/ENGINEER: E. SHAMMA	24-10-08
ÉCHELLE/SCALE: 1 : 125	DATE

PROJET/PROJECT :

SHAAKICHIUWAANAAN

PHASE :

ÉTUDE DE FAISABILITÉ
FEASIBILITY STUDY

TITRE :

CUISINE
ARRANGEMENT GÉNÉRAL
BÂTIMENT PREFABRIQUÉ
VUE EN PLAN ET 3D

TITLE :

KITCHEN & DINING
GENERAL ARRANGEMENT
PREFAB BUILDING
PLAN VIEW & 3D VIEW

DESSIN NUM. / DRAWING NO. :

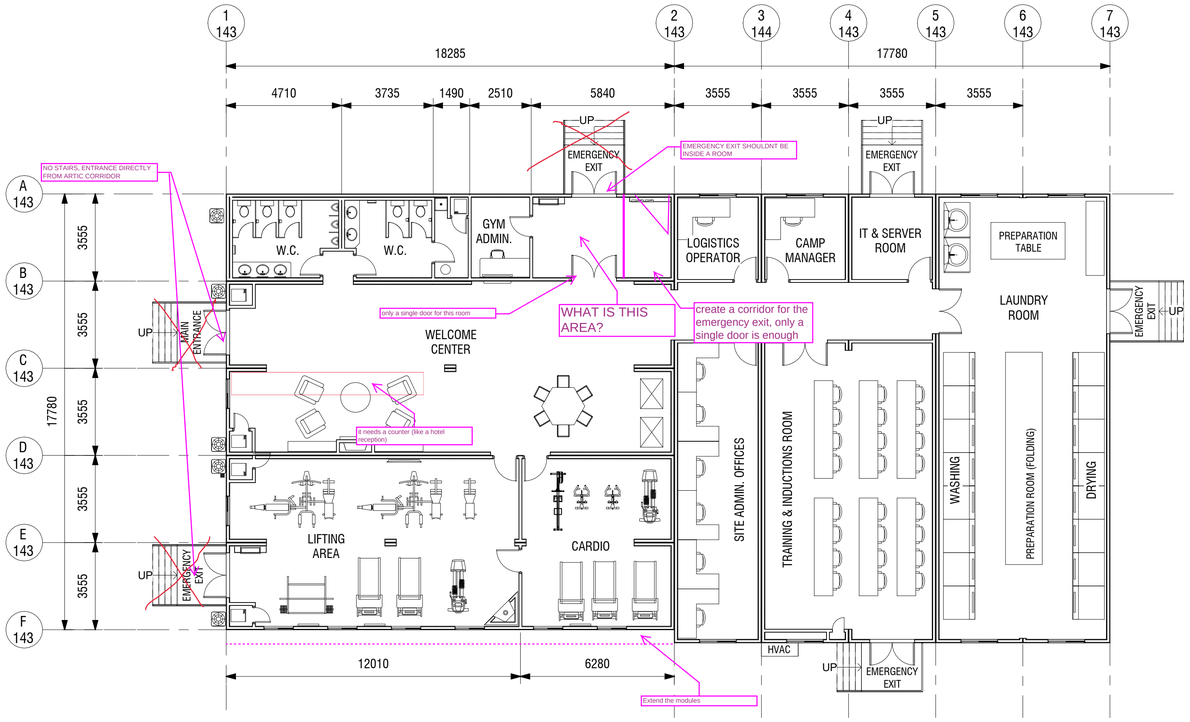
GYOW-B

142-GE-GA-0001 B

AREA - DISC. - TYPE - SEQ. NO. REV.

SAVED ON: 2024-11-20 3:05:09 PM
PATH: Z:\ACTIVE_PROJECTS\PATRIOT BATTERY METALS\SHAAKICHIUWAANAAN (CASN-A) Feasibility Study\03-Drawing\001 General\GE General\CASN-A-142-GE-3DM-0001.rvt

PAPER SIZE FORMAT - A1

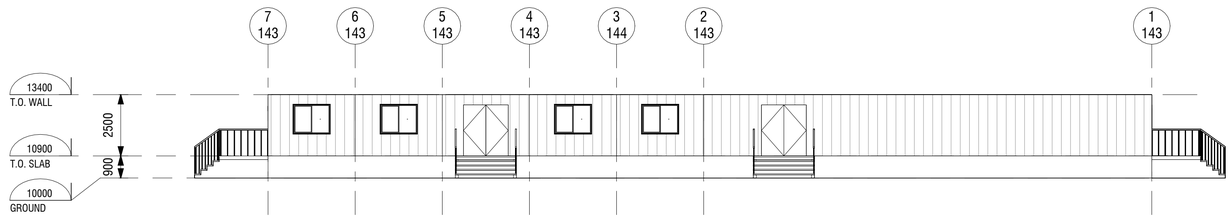


2 PLAN VIEW
1 : 125

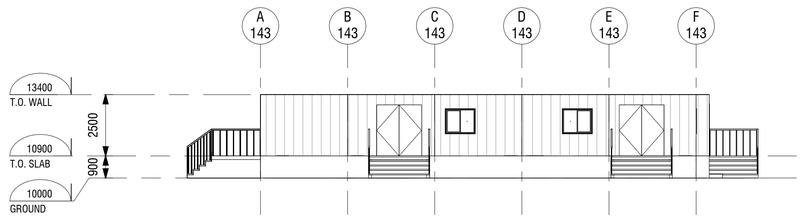
3 3D VIEW

NE PAS UTILISER POUR CONSTRUCTION

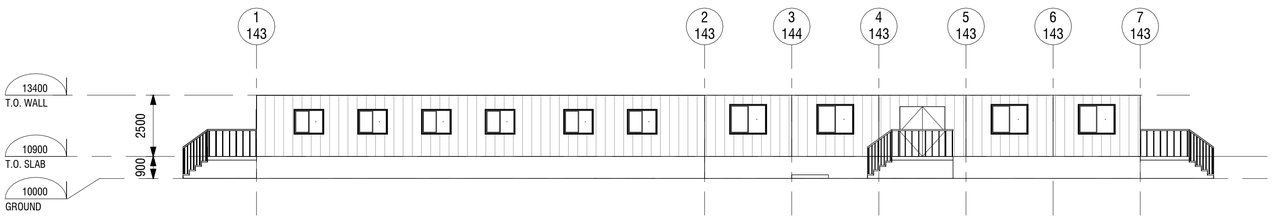
NOT FOR CONSTRUCTION



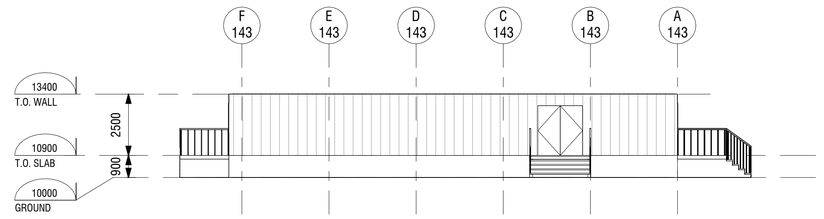
A AXIS
1 : 125



1 AXIS
1 : 125



F AXIS
1 : 125



7 AXIS
1 : 125

REV	DESCRIPTION	PAR BY	ING ENG	DATE
B	ISSUED FOR PROJECT REVIEW	T.M.	L.A.	24-11-25
A	INTERNAL REVIEW	T.M.	L.A.	24-11-22

PATRIOT BATTERY METALS

Mining Services

CONCEPTEUR/DESIGN:	L. ALEMAN	24-11-22
DESSINATEUR/DRAWN:	T. MANSUR	24-11-22
VÉRIFIÉ PAR/CHECKED:	M. GALAN	24-11-22
INGÉNIEUR/ENGINEER:	E. SHAMMA	24-11-22
ÉCHELLE/SCALE:	1 : 125	DATE

PROJET/PROJECT :
SHAAKICHIUWAANAAN

PHASE :
ÉTUDE DE FAISABILITÉ
FEASIBILITY STUDY

TITRE :
BUREAU DU CAMPS / RÉCEPTION
ARRANGEMENT GÉNÉRAL
BÂTIMENT PRÉFABRIQUÉ
VUE EN PLAN ET 3D

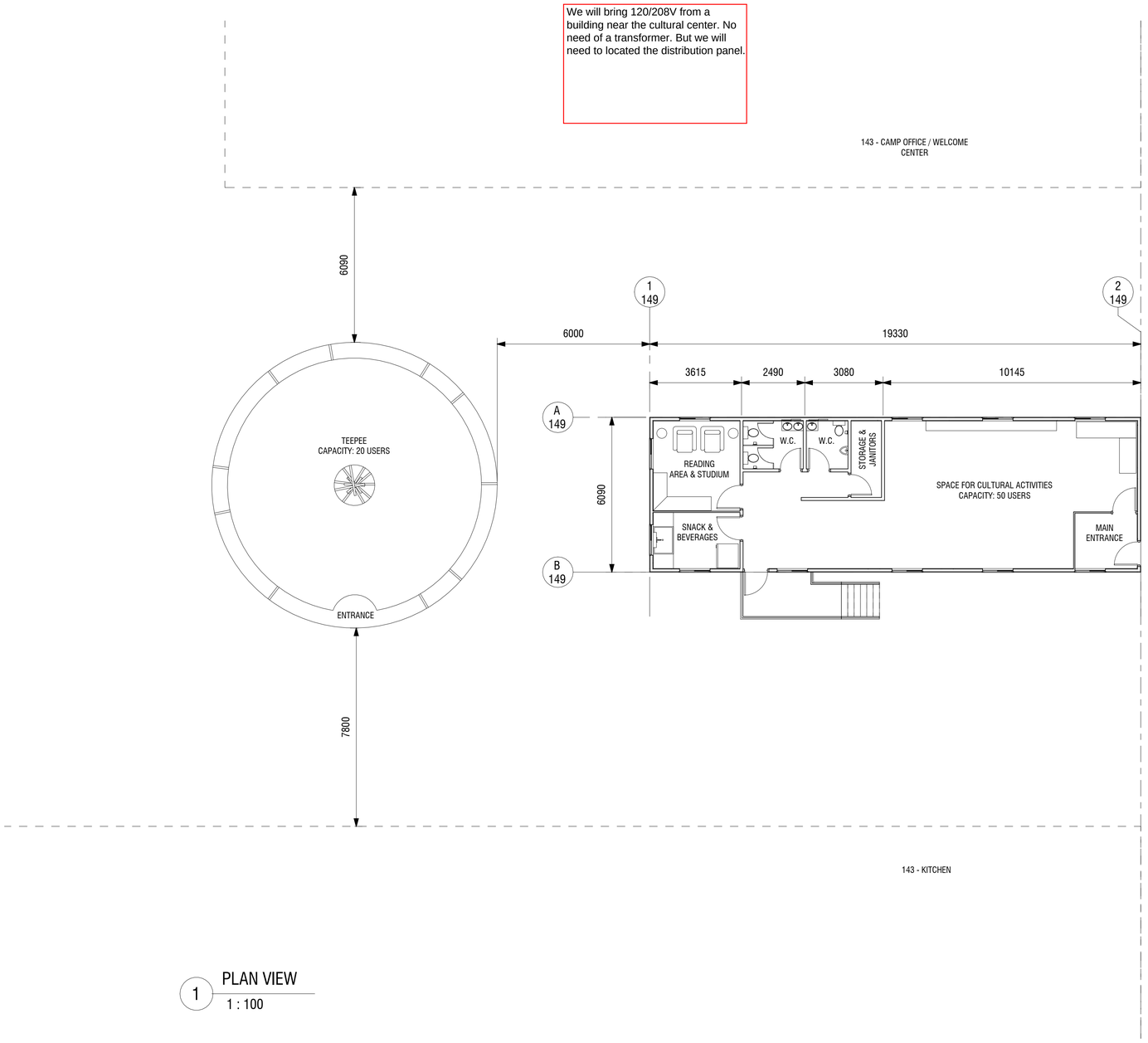
TITLE :
CAMP OFFICEL / WELCOME CENTER
GENERAL ARRANGEMENT
PREFAB BUILDING
PLAN VIEW

DESSIN NUM. / DRAWING NO. :
GYOW-B
143-GE-GA-0001 B
AREA - DISC. - TYPE - SEQ. NO. REV.

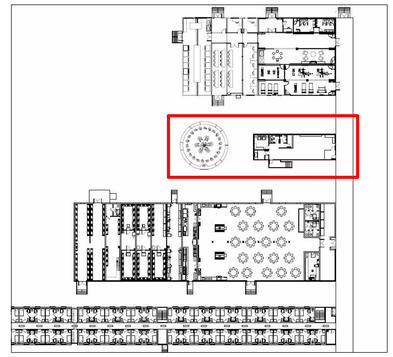
SAVED:ON: 2024-11-25 4:53:14 PM
PATH: Z:\ACTIVE_PROJECTS\PATRIOT BATTERY METALS\HAAKICHIUWAANAAN (CASN-A) Feasibility Study\03-Drawing\140 Camp Facilities\GE General\CASN-A-143-GE-3DM-0001.rvt

PAPER SIZE FORMAT - A1

We will bring 120/208V from a building near the cultural center. No need of a transformer. But we will need to located the distribution panel.



1 PLAN VIEW
1 : 100



KEY PLAN

NE PAS UTILISER POUR CONSTRUCTION

NOT FOR CONSTRUCTION

REV	DESCRIPTION	PAR BY	ING ENG	DATE
B	ISSUED FOR PROJECT REVIEW	T.M.	E.S.	24-11-27
A	INTERNAL REVIEW	T.M.	E.S.	24-11-26

PATRIOT BATTERY METALS

Mining Services

CONCEPTEUR/DESIGN: L. ALEMAN	24-11-26
DESSINATEUR/DRAWN: T. MANSUR	24-11-26
VÉRIFIÉ PAR/CHECKED: M. GALAN	24-11-26
INGÉNIEUR/ENGINEER: E. SHAMMA	24-11-26
ÉCHELLE/SCALE: 1 : 100	DATE

PROJET/PROJECT :

SHAAKICHIUWAANAAN

PHASE :

ÉTUDE DE FAISABILITÉ
FEASIBILITY STUDY

TITRE :

CENTRE CULTUREL
PREMIÈRES NATIONS
ARRANGEMENT GÉNÉRAL
VUE EN PLAN

TITLE :

FIRST NATIONS
CULTURAL CENTER
GENERAL ARRANGEMENT
PLAN VIEW

DESSIN NUM. / DRAWING NO. :

CASN-A

149-GE-GA-0001 B

AREA - DISC. - TYPE - SEQ. NO. REV.

SAVED ON: 2024-11-27 2:56:30 PM
PATH: Z:\ACTIVE_PROJECTS\PATRIOT BATTERY METALS\SHAAKICHIUWAANAAN (CASN-A) Feasibility Study\03-Drawing\149 First Nations Cultural Center\CASN-A-149-GE-3DM-0001.rvt

Annexe C

Grille de validation du MRNF

B. Projet d'exploitation minière

Projet d'exploitation minière	✓*	S.O.**	Renseignements disponibles (référence)***
Renseignements généraux			
Résumé du plan de restauration : ▪ brève description des activités minières, travaux de restauration envisagés, échéancier, total des coûts.	X		Section 'Résumé du plan de restauration'
Sommaire exécutif du plan de restauration (en annexe).	X		Annexe A
Identification du requérant.	X		Section 2.1
Résolution du conseil d'administration (en annexe).	X		Annexe D
Lettre identifiant la firme externe mandatée pour la rédaction du plan de restauration (en annexe).	X		Annexe E
Emplacement du terrain avec plans annexés.	X		Section 2.3, annexe B
Géologie et minéralogie : ▪ tableaux synthèses des résultats et conclusions des différents essais géochimiques réalisés.	X		Section 2.6 et 2.7, annexe G
Historique du site visé par le plan de restauration.	X		Section 2.5
Autorisations diverses.	X		Section 2.9
Description des activités minières			
Description des activités d'exploitation actuelles et futures, notamment :	X		Section 3.1
▪ taux moyens d'extraction et de traitement de minerai ;	X		Section 3.1
▪ durée de vie estimée de la mine ;	X		Section 3.1
▪ taux de production des résidus ;	X		Section 3.1
▪ superficie et capacité des aires d'accumulation ;	X		Section 3.1
▪ quantités (tonnage et volume) de résidus miniers, de stériles miniers, de mort-terrain et de sol végétal.	X		Section 3.1
Nature des activités minières d'exploitation.	X		Section 3.2
Description et emplacement des bâtiments et des infrastructures de surface avec plans annexés, notamment :	X		Section 3.4
▪ bâtiments et infrastructures d'extraction ;	X		Section 3.4.1
▪ usine de traitement de minerai et bâtiments connexes ;	X		Section 3.4.2
▪ infrastructures électriques, de transport et de soutien ;	X		Section 3.4.3
▪ autres bâtiments (bâtiments administratifs et d'hébergement, cafétéria, etc.).	X		Section 3.4.4

Projet d'exploitation minière	✓*	S.O.**	Renseignements disponibles (référence)***
Aires d'accumulation, notamment :			Section 3.5, Annexe H
■ plan de la topographie actuelle du site montrant l'emplacement et la géométrie détaillée des différentes aires d'accumulation ;	X		Annexe B5
■ géologie des dépôts de surface et de l'assise rocheuse ;	X		Section 3.5, Annexe H
■ description des haldes à stériles ;	X		Section 3.5.1 et 3.5.2, Annexe H
■ description du parc à résidus miniers ;	X		Section 3.5.2, Annexe H
■ description des haldes de minerais, de concentrés et de mort-terrain.	X		Section 3.5.3 et 3.5.4, Annexe H
Description de la gestion de l'eau sur le site, notamment :	X		Section 3.6 et 3.7, Annexe H et I
■ système hydrologique et bassins versants ;	X		Annexe I1 (section 2)
■ carte hydrogéologique ;	X		Annexe I2 (figure 18)
■ emplacement des installations de gestion des eaux avec plans annexés ;	X		Section 3.6, Annexe B5, H et I
■ évaluation de la qualité des eaux souterraines et emplacements des puits d'observation ;	X		Section 3.6, Annexe H et I
■ ouvrages de captage pour la gestion des eaux autour des aires d'accumulation ;	X		Section 3.6, Annexe H et I
■ bilan hydrique du site minier (incluant aires d'accumulation et usine de traitement du minerai) ;	X		Section 3.6, Annexe H et I
■ schéma de gestion des eaux et emplacement de l'effluent final ;	X		Section 3.6, Annexe B5, H et I
■ station d'échantillonnage et mesures de contrôle à l'effluent final.	X		Section 3.6, Annexe B5, H et I
Description du site de traitement des eaux usées, notamment :	X		Section 3.6, annexe H
■ procédés de traitement, besoins en matière d'entretien et d'opération, capacité de l'usine de traitement des eaux et période d'utilisation ;	X		Section 3.6, annexe H
■ boues produites (volume et caractéristiques physiques et chimiques) ;	X		Section 3.6, annexe H
■ traitement passif (le cas échéant) ;	X		Section 3.6, annexe H
■ description des bassins de sédimentation.	X		Section 3.6, annexe H
Lieux d'entreposage et d'élimination :	X		Section 3.8
■ produits chimiques, pétroliers et explosifs ;	X		Section 3.8.1 et 3.8.2
■ matières résiduelles non dangereuses ;	X		Section 3.8.3
■ matières résiduelles dangereuses.	X		Section 3.8.4

Projet d'exploitation minière	✓*	S.O.**	Renseignements disponibles (référence)***
Mesures de protection, de réaménagement et de restauration			
Sécurité des aires de travail, des ouvertures au jour et des piliers de surface :	X		Section 4.1
■ description des mesures de sécurisation des ouvertures au jour ;	X		Section 4.1
■ étude de stabilité des ouvrages de surface (fosse à ciel ouvert) ou souterrains (piliers de surface).	X		Annexe J
Démantèlement des bâtiments et des infrastructures de surface, notamment :	X		Section 4.2
■ bâtiments et infrastructures d'extraction ;	X		Section 4.2
■ usine de traitement de minerai et bâtiments connexes ;	X		Section 4.2
■ infrastructures électriques, de transport et de soutien ;	X		Section 4.2
■ autres bâtiments (bâtiments administratifs et d'hébergement, cafétéria, etc.).	X		Section 4.2
Disposition des équipements et de la machinerie lourde.	X		Section 4.3
Aires d'accumulation, notamment :	X		Section 4.4 et 4.5
■ analyse comparative des scénarios de restauration ;	X		Section 4.4, annexe L
■ scénario de restauration choisi :	X		
• type de recouvrement : épaisseur et caractéristiques physiques et chimiques des matériaux employés ;	X		Section 4.5
• évaluation de la performance anticipée du scénario de restauration à court, à moyen et à long terme ;	X		Section 4.5, annexe H
• études de stabilité physique et structurale des ouvrages ;	X		Section 4.5, annexe H
• plans et devis du scénario de restauration ;		X	
• description du système de gestion des eaux de crue ;	X		Annexe H
• évaluation des besoins en entretien pour tous les ouvrages ;	X		Annexe H
• échéancier et description de toute activité de restauration progressive (le cas échéant).		X	
Infrastructures de gestion des eaux :	X		
■ travaux de restauration des infrastructures qui ne seront plus nécessaires après la cessation définitive des activités ;	X		Section 4.6

Projet d'exploitation minière	✓*	S.O.**	Renseignements disponibles (référence)***
■ infrastructures demeurant sur le site après la cessation définitive des activités ;	X		Section 4.6
■ mode de restauration des infrastructures sanitaires.	X		
Plan de végétalisation, notamment :	X		Section 4.10, Annexe M
■ planification ;	X		Section 4.10, Annexe M
■ conception et mise en œuvre ;	X		Section 4.10, Annexe M
■ entretien, suivi et correctifs.	X		Section 4.10, Annexe M
Changements climatiques, notamment :	X		Section 4.8
■ identification des aléas climatiques ;	X		Section 4.8
■ identification des composantes du projet de restauration susceptibles d'être touchées par les aléas identifiés et conséquences ;	X		Section 4.8
■ évaluation des impacts et des risques pour le projet de restauration;	X		Section 4.8
■ identification de mesures d'adaptation aux changements climatiques.	X		Section 4.8
Réhabilitation du terrain (terrains contaminés).	X		Section 4.9
Mode de gestion des produits chimiques, pétroliers et explosifs.	X		Section 4.7.1 à 4.7.3
Mode de gestion de matières résiduelles dangereuses et non dangereuses.	X		Section 4.7.4 et 4.7.5
Programme de suivi et d'entretien postexploitation et postrestauration			
Suivi environnemental.	X		Section 5.1
Suivi de la performance des techniques de restauration.	X		Section 5.2
Suivi et entretien de l'intégrité des ouvrages.	X		Section 5.3
Suivi et entretien après la végétalisation.	X		Section 5.4
Plan d'urgence	X		Section 6, Annexe N
Considérations économiques et temporelles	X		
Évaluation détaillée des coûts des travaux de restauration.	X		Section 8.1 à 8.3, Annexe O
Calendrier de réalisation des travaux de restauration.	X		Section 8.5
Mesures applicables en cas de cessation temporaire des activités d'exploitation	X		Section 7, annexe B4

* Élément inclus.

** Sans objet.

*** Si les renseignements ne sont pas inclus dans la révision du plan de restauration soumis, indiquer l'endroit où ils peuvent être trouvés (référence et page).

C. Exigences normatives du document

Exigences normatives	✓
Trois copies papier et une copie numérique du document.	X
Format papier	✓
Présentation du document sur papier de dimensions standard de 216 mm sur 279 mm (8,5 po sur 11 po) sans les annexes volumineuses.	X
Présentation des plans sur un support papier de 216 mm sur 356 mm (8,5 po sur 14 po) ou de 279 mm sur 432 mm (11 po sur 17 po), ou sur papier plus grand, si annexé.	X
Présentation des annexes volumineuses sur un support numérique.	X
Le document papier doit être relié.	X
Format numérique	
Présentation sur un support numérique en format PDF.	X
Volet navigation activé.	X
Table des matières liée.	X
Présentation en plusieurs fichiers si la taille du document est trop volumineuse.	X
Simplifier les noms donnés aux fichiers.	X
Unité de mesure et échelle	
Unités de mesure des plans exprimées selon le Système international d'unités (SI).	X
Présentations graphiques qui respectent les critères d'échelle assurant leur clarté.	X
Contenu du plan	✓
Plans certifiés, datés et signés par un ingénieur.	X
Nom et coordonnées de l'entreprise, et noms, professions et fonctions des personnes ayant réalisé le document.	X
Signatures des rédacteurs et des réviseurs.	X

GCM
ENVIRO
SYNERGIES

Annexe D

Résolution du conseil d'administration

Docusign Envelope ID: EB69838F-5B49-43E1-8C10-CF2237E3137A

RÉSOLUTION ÉCRITE DES ADMINISTRATEURS
LITHIUM INNOVA INC. (la « Société »)

WRITTEN RESOLUTION OF THE DIRECTORS OF
INNOVA LITHIUM INC. (the"Corporation")

DEMANDE D'AUTORISATION MINISTÉRIELLE OU DE TOUT AUTRE TYPE DE BAIL, PERMIS OU AUTORISATION AUPRÈS DU MINISTÈRE DES RESSOURCES NATURELLES ET FORÊTS, ET/OU AUPRÈS DU MINISTÈRE DE L'ENVIRONNEMENT, DE LA LUTTE CONTRE LES CHANGEMENTS CLIMATIQUES, DE LA FAUNE ET DES PARCS

REQUEST OF A MINISTERIAL AUTHORIZATION OR ANY TYPE OF LEASE, PERMIT OR AUTHORIZATION FROM THE MINISTÈRE DES RESSOURCES NATURELLES ET FORÊTS AND/OR FROM THE MININSTÈRE DE L'ENVIRONNEMENT, DE LA LUTTE CONTRE LES CHANGEMENTS CLIMATIQUES, DE LA FAUNE ET DES PARCS

ATTENDU QUE la Société a besoin de baux, permis et autorisations pour accomplir ses activités.

WHEREAS the Corporation needs leases, permits and authorizations to carry out its activities.

PAR CONSÉQUENT IL EST RÉSOLU d'autoriser l'un de Cathryn Moffett, Darren Smith ou Kenneth Brinsden à agir au nom de la Société et de signer toute demande d'autorisation ministérielle ou toute autre demande de bail, permis ou autorisation auprès du Ministère des Ressources naturelles et Forêts, et/ou auprès du Ministère de l'Environnement, de la Lutte contre les changements climatiques, de la Faune et des Parcs.

one of Cathryn M or Kenneth Brinsden be authorized to act on behalf of the Corporation to sign any request for ministerial authorization or any request for leases, permits or authorizations from the Ministère des Ressources naturelles et Forêts, et/ou auprès du Ministère de l'Environnement, de la Lutte contre les changements climatiques, de la Faune et des Parcs.

VALIDITÉ
Cette résolution écrite, effective le 12 mars 2025, est signée par tous les administrateurs habiles à voter sur cette résolution conformément à l'article 140 de la *Loi sur les sociétés par actions* (Québec).

VALIDITY
This written resolution, effective March 12, 2025, is signed by all the directors entitled to vote on that resolution as provided in Section 140 of the *Business Corporations Act* (Québec).

DocuSigned by:
Blair Way AE6F27FCA851489...

DocuSigned by:
Ken Brinsden
Ken Brinsden BE687389284C457...

Signed by:
Brian Jennings
Brian Jennings 879FB97494...

DocuSigned by:
Pierre Boivin
Pierre Boivin 7B7C4D647B3491...

Signé par :
Mélissa Desrochers C4114AC...

Annexe E

Lettre mandat de Ressources PMET inc. à GCM Enviro

Le 11 mars 2026

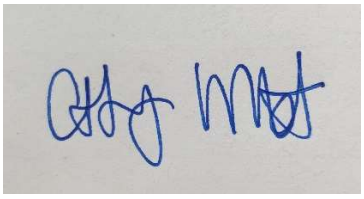
Direction de la restauration des sites miniers
Ministère des Ressources naturelles et des Forêts
400, boul. Lamaque, local 1.02
Val d'Or (Québec) J9P 3L4

Objet : Lettre mandat – Plan de restauration du projet minier Shaakichiuwaanaan

Madame,

J'atteste que Ressources PMET Inc., par l'entremise de sa filiale Innova Lithium Inc., a mandaté la firme GCM Enviro Synergies le 10 janvier 2025 pour la réalisation du plan de restauration conceptuel de la propriété Shaakichiuwaanaan.

Veuillez agréer, Madame, Monsieur, nos salutations distinguées.



Cathryn Moffett
Vice-Présidente – Environnement et autorisations
cmoffett@pmet.ca

Annexe F

Liste des claims constituant la propriété Shaakichiuwaanaan

Property	Block	FEU_NO	TER_CODE	TIT_NO
Shaakichiuwaanaan	FCI-West	33G09	CDC	58090
Shaakichiuwaanaan	FCI-West	33G09	CDC	58091
Shaakichiuwaanaan	FCI-West	33G09	CDC	58092
Shaakichiuwaanaan	FCI-West	33G09	CDC	58093
Shaakichiuwaanaan	FCI-West	33G09	CDC	58094
Shaakichiuwaanaan	FCI-West	33G09	CDC	58098
Shaakichiuwaanaan	FCI-West	33G09	CDC	58099
Shaakichiuwaanaan	FCI-West	33G09	CDC	58100
Shaakichiuwaanaan	FCI-West	33G09	CDC	58101
Shaakichiuwaanaan	FCI-West	33G09	CDC	58102
Shaakichiuwaanaan	FCI-West	33G09	CDC	58103
Shaakichiuwaanaan	FCI-East	33H12	CDC	58108
Shaakichiuwaanaan	FCI-East	33H12	CDC	58109
Shaakichiuwaanaan	FCI-East	33H12	CDC	58110
Shaakichiuwaanaan	FCI-East	33H12	CDC	58111
Shaakichiuwaanaan	FCI-East	33H12	CDC	58166
Shaakichiuwaanaan	FCI-East	33H12	CDC	58171
Shaakichiuwaanaan	FCI-East	33H12	CDC	58175
Shaakichiuwaanaan	FCI-East	33H12	CDC	58176
Shaakichiuwaanaan	FCI-East	33H12	CDC	58177
Shaakichiuwaanaan	FCI-East	33H12	CDC	58178
Shaakichiuwaanaan	FCI-East	33H12	CDC	58179
Shaakichiuwaanaan	FCI-East	33H12	CDC	58181
Shaakichiuwaanaan	FCI-East	33H12	CDC	58182
Shaakichiuwaanaan	FCI-West	33G09	CDC	58231
Shaakichiuwaanaan	FCI-West	33G09	CDC	58232
Shaakichiuwaanaan	FCI-West	33G09	CDC	58233
Shaakichiuwaanaan	FCI-West	33G09	CDC	58234
Shaakichiuwaanaan	FCI-West	33G09	CDC	58235
Shaakichiuwaanaan	FCI-West	33G09	CDC	58236
Shaakichiuwaanaan	FCI-West	33G09	CDC	58237
Shaakichiuwaanaan	FCI-West	33G09	CDC	2021045
Shaakichiuwaanaan	FCI-West	33G09	CDC	2021046
Shaakichiuwaanaan	FCI-West	33G09	CDC	2021047
Shaakichiuwaanaan	FCI-West	33G09	CDC	2021048
Shaakichiuwaanaan	FCI-West	33G09	CDC	2021049
Shaakichiuwaanaan	FCI-West	33G09	CDC	2021050
Shaakichiuwaanaan	FCI-West	33G09	CDC	2021051
Shaakichiuwaanaan	FCI-West	33G09	CDC	2021052
Shaakichiuwaanaan	FCI-West	33G09	CDC	2021053
Shaakichiuwaanaan	FCI-West	33G09	CDC	2021054
Shaakichiuwaanaan	FCI-West	33G09	CDC	2021055
Shaakichiuwaanaan	FCI-West	33G09	CDC	2021056
Shaakichiuwaanaan	FCI-West	33G09	CDC	2021057
Shaakichiuwaanaan	FCI-West	33G09	CDC	2021058

Property	Block	FEU_NO	TER_CODE	TIT_NO
Shaakichiuwaanaan	FCI-West	33G09	CDC	2021059
Shaakichiuwaanaan	FCI-West	33G09	CDC	2021060
Shaakichiuwaanaan	FCI-West	33G09	CDC	2021061
Shaakichiuwaanaan	FCI-West	33G09	CDC	2021062
Shaakichiuwaanaan	FCI-West	33G09	CDC	2024264
Shaakichiuwaanaan	FCI-West	33G09	CDC	2024265
Shaakichiuwaanaan	FCI-West	33G08	CDC	2099380
Shaakichiuwaanaan	FCI-West	33G08	CDC	2099382
Shaakichiuwaanaan	FCI-West	33G08	CDC	2099384
Shaakichiuwaanaan	FCI-West	33G08	CDC	2099386
Shaakichiuwaanaan	FCI-West	33G08	CDC	2099388
Shaakichiuwaanaan	FCI-West	33G08	CDC	2099390
Shaakichiuwaanaan	FCI-West	33G08	CDC	2099392
Shaakichiuwaanaan	FCI-West	33G08	CDC	2099393
Shaakichiuwaanaan	FCI-West	33G08	CDC	2099395
Shaakichiuwaanaan	FCI-West	33G08	CDC	2099398
Shaakichiuwaanaan	FCI-West	33G08	CDC	2099399
Shaakichiuwaanaan	FCI-West	33G08	CDC	2099401
Shaakichiuwaanaan	FCI-West	33G08	CDC	2120677
Shaakichiuwaanaan	FCI-West	33G08	CDC	2120678
Shaakichiuwaanaan	FCI-West	33G08	CDC	2120679
Shaakichiuwaanaan	FCI-West	33G08	CDC	2120680
Shaakichiuwaanaan	FCI-West	33G09	CDC	2120681
Shaakichiuwaanaan	FCI-West	33G09	CDC	2120682
Shaakichiuwaanaan	FCI-West	33G09	CDC	2120683
Shaakichiuwaanaan	FCI-West	33G09	CDC	2120684
Shaakichiuwaanaan	FCI-West	33G09	CDC	2120685
Shaakichiuwaanaan	FCI-West	33G09	CDC	2120686
Shaakichiuwaanaan	FCI-West	33G09	CDC	2120687
Shaakichiuwaanaan	FCI-West	33G09	CDC	2120688
Shaakichiuwaanaan	FCI-West	33G09	CDC	2120689
Shaakichiuwaanaan	FCI-West	33G09	CDC	2120690
Shaakichiuwaanaan	FCI-West	33G09	CDC	2120691
Shaakichiuwaanaan	FCI-West	33G09	CDC	2120692
Shaakichiuwaanaan	FCI-West	33G09	CDC	2120694
Shaakichiuwaanaan	FCI-West	33G09	CDC	2120696
Shaakichiuwaanaan	FCI-West	33G09	CDC	2120697
Shaakichiuwaanaan	FCI-West	33G09	CDC	2120698
Shaakichiuwaanaan	FCI-West	33G09	CDC	2120699
Shaakichiuwaanaan	FCI-West	33G09	CDC	2120700
Shaakichiuwaanaan	FCI-West	33G09	CDC	2120701
Shaakichiuwaanaan	FCI-West	33G09	CDC	2120702
Shaakichiuwaanaan	FCI-West	33G09	CDC	2120703
Shaakichiuwaanaan	FCI-West	33G09	CDC	2120704
Shaakichiuwaanaan	FCI-West	33G09	CDC	2120705

Property	Block	FEU_NO	TER_CODE	TIT_NO
Shaakichiuwaanaan	FCI-West	33G08	CDC	2120711
Shaakichiuwaanaan	FCI-West	33G08	CDC	2120712
Shaakichiuwaanaan	FCI-West	33G08	CDC	2120713
Shaakichiuwaanaan	FCI-West	33G08	CDC	2120714
Shaakichiuwaanaan	FCI-West	33G09	CDC	2120717
Shaakichiuwaanaan	FCI-West	33G09	CDC	2120719
Shaakichiuwaanaan	FCI-East	33H12	CDC	2125067
Shaakichiuwaanaan	FCI-East	33H12	CDC	2125068
Shaakichiuwaanaan	FCI-East	33H12	CDC	2125069
Shaakichiuwaanaan	FCI-East	33H12	CDC	2125070
Shaakichiuwaanaan	FCI-East	33H12	CDC	2125073
Shaakichiuwaanaan	FCI-East	33H12	CDC	2125075
Shaakichiuwaanaan	FCI-East	33H12	CDC	2125076
Shaakichiuwaanaan	FCI-East	33H12	CDC	2125079
Shaakichiuwaanaan	FCI-East	33H12	CDC	2125080
Shaakichiuwaanaan	FCI-East	33H12	CDC	2125081
Shaakichiuwaanaan	FCI-East	33H12	CDC	2125091
Shaakichiuwaanaan	FCI-East	33H12	CDC	2125092
Shaakichiuwaanaan	FCI-East	33H12	CDC	2125093
Shaakichiuwaanaan	FCI-East	33H12	CDC	2125094
Shaakichiuwaanaan	FCI-East	33H12	CDC	2125095
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2461438
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2461439
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2461440
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2461441
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2461442
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2461443
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2461444
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2461445
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2461446
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2461447
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2461448
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2461449
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2461450
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2461451
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2461452
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2461453
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2461454
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2461455
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2461456
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2461457
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2461458
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2461459
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2461460
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2461461

Property	Block	FEU_NO	TER_CODE	TIT_NO
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2461462
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2461463
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2468204
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2468205
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2468206
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2468207
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2468208
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2468209
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2468210
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2468211
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2468212
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2468213
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2468214
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2468215
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2468216
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2468217
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2468218
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2468219
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2468220
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2468221
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2468222
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2468223
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2468224
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2468225
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2468226
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2468227
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2468228
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2468229
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2468230
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2468231
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2468232
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2468233
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2468234
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2468235
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2468236
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2468237
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2468238
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2468239
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2468240
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2468241
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2468242
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2468243
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2468244
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2468245
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2468246

Property	Block	FEU_NO	TER_CODE	TIT_NO
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2468247
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2468248
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2497825
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2497826
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2497827
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2497828
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2497829
Shaakichiuwaanaan	Deca-Goose	33G09	CDC	2510220
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520593
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520594
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520595
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520596
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520597
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520598
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520599
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520600
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520601
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520602
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520603
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520604
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520605
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520606
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520607
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520608
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520609
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520610
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520611
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520612
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520613
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520614
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520615
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520616
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520617
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520618
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520619
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520620
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520621
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520622
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520623
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520624
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520625
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520626
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520627
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520628
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520629

Property	Block	FEU_NO	TER_CODE	TIT_NO
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520630
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520631
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520632
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520633
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520634
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520635
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520636
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520637
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520638
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520639
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520640
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520641
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520642
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520643
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520644
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520645
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520646
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520647
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520648
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520649
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520650
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520651
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520652
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520653
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520654
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520655
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520656
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520657
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520658
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520659
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520660
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520661
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520662
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520663
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520664
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520665
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520666
Shaakichiuwaanaan	Corvette-Main	33H12	CDC	2520667
Shaakichiuwaanaan	Corvette-Main	33G08	CDC	2520668
Shaakichiuwaanaan	Corvette-Main	33G08	CDC	2520669
Shaakichiuwaanaan	Corvette-Main	33G08	CDC	2520670
Shaakichiuwaanaan	Corvette-Main	33G08	CDC	2520671
Shaakichiuwaanaan	Corvette-Main	33G08	CDC	2520672
Shaakichiuwaanaan	Corvette-Main	33G08	CDC	2520673
Shaakichiuwaanaan	Corvette-Main	33G08	CDC	2520674

Property	Block	FEU_NO	TER_CODE	TIT_NO
Shaakichiuwaanaan	Corvette-Main	33G08	CDC	2520675
Shaakichiuwaanaan	Corvette-Main	33G08	CDC	2520676
Shaakichiuwaanaan	Corvette-Main	33G08	CDC	2520677
Shaakichiuwaanaan	Corvette-Main	33G08	CDC	2520678
Shaakichiuwaanaan	Corvette-Main	33G08	CDC	2520679
Shaakichiuwaanaan	Corvette-Main	33G08	CDC	2520680
Shaakichiuwaanaan	Corvette-Main	33G08	CDC	2520681
Shaakichiuwaanaan	Corvette-Main	33G08	CDC	2520682
Shaakichiuwaanaan	Corvette-Main	33G08	CDC	2520683
Shaakichiuwaanaan	Corvette-Main	33G08	CDC	2520684
Shaakichiuwaanaan	Corvette-Main	33G08	CDC	2520685
Shaakichiuwaanaan	Corvette-Main	33H05	CDC	2520686
Shaakichiuwaanaan	Corvette-Main	33H05	CDC	2520687
Shaakichiuwaanaan	Corvette-Main	33H05	CDC	2520688
Shaakichiuwaanaan	Felix	33G09	CDC	2531732
Shaakichiuwaanaan	Felix	33G09	CDC	2531733
Shaakichiuwaanaan	Felix	33G09	CDC	2531734
Shaakichiuwaanaan	Felix	33G09	CDC	2531735
Shaakichiuwaanaan	Felix	33G09	CDC	2531736
Shaakichiuwaanaan	Felix	33G09	CDC	2531737
Shaakichiuwaanaan	Felix	33G09	CDC	2531738
Shaakichiuwaanaan	Felix	33G09	CDC	2531739
Shaakichiuwaanaan	Felix	33G09	CDC	2531740
Shaakichiuwaanaan	Felix	33G09	CDC	2531741
Shaakichiuwaanaan	Felix	33G09	CDC	2531742
Shaakichiuwaanaan	Felix	33G09	CDC	2531743
Shaakichiuwaanaan	Felix	33G09	CDC	2531744
Shaakichiuwaanaan	Felix	33G09	CDC	2531745
Shaakichiuwaanaan	Felix	33G09	CDC	2531746
Shaakichiuwaanaan	Felix	33G09	CDC	2531747
Shaakichiuwaanaan	Felix	33G09	CDC	2531748
Shaakichiuwaanaan	Felix	33G09	CDC	2531749
Shaakichiuwaanaan	Felix	33G09	CDC	2531750
Shaakichiuwaanaan	Felix	33G09	CDC	2531751
Shaakichiuwaanaan	Deca-Goose	33G09	CDC	2536272
Shaakichiuwaanaan	Deca-Goose	33G09	CDC	2536273
Shaakichiuwaanaan	Deca-Goose	33H12	CDC	2536274
Shaakichiuwaanaan	Deca-Goose	33H12	CDC	2536275
Shaakichiuwaanaan	Deca-Goose	33G09	CDC	2536296
Shaakichiuwaanaan	Deca-Goose	33G09	CDC	2536297
Shaakichiuwaanaan	Deca-Goose	33G09	CDC	2536298
Shaakichiuwaanaan	Deca-Goose	33G08	CDC	2536477
Shaakichiuwaanaan	Deca-Goose	33G09	CDC	2574882
Shaakichiuwaanaan	Deca-Goose	33G09	CDC	2574883
Shaakichiuwaanaan	Deca-Goose	33G09	CDC	2574884

Property	Block	FEU_NO	TER_CODE	TIT_NO
Shaakichiuwaanaan	Deca-Goose	33G09	CDC	2574885
Shaakichiuwaanaan	Deca-Goose	33G09	CDC	2574886
Shaakichiuwaanaan	Corvette East	33H12	CDC	2621215
Shaakichiuwaanaan	Corvette East	33H12	CDC	2621216
Shaakichiuwaanaan	Corvette East	33H12	CDC	2621217
Shaakichiuwaanaan	Corvette East	33H12	CDC	2621218
Shaakichiuwaanaan	Corvette East	33H12	CDC	2621219
Shaakichiuwaanaan	Corvette East	33H12	CDC	2623807
Shaakichiuwaanaan	Corvette East	33H12	CDC	2623808
Shaakichiuwaanaan	Corvette East	33H12	CDC	2623809
Shaakichiuwaanaan	Corvette East	33H12	CDC	2623810
Shaakichiuwaanaan	Corvette East	33H12	CDC	2623811
Shaakichiuwaanaan	Corvette East	33H12	CDC	2623812
Shaakichiuwaanaan	Corvette East	33H12	CDC	2623813
Shaakichiuwaanaan	Corvette East	33H12	CDC	2623814
Shaakichiuwaanaan	Corvette East	33H12	CDC	2623815
Shaakichiuwaanaan	Corvette East	33H12	CDC	2623816
Shaakichiuwaanaan	Corvette East	33H12	CDC	2623817
Shaakichiuwaanaan	Deca-Goose	33G09	CDC	2626748
Shaakichiuwaanaan	Deca-Goose	33G09	CDC	2626749
Shaakichiuwaanaan	Deca-Goose	33G09	CDC	2626750
Shaakichiuwaanaan	Deca-Goose	33G09	CDC	2626751
Shaakichiuwaanaan	Deca-Goose	33G09	CDC	2626752
Shaakichiuwaanaan	Deca-Goose	33G09	CDC	2626753
Shaakichiuwaanaan	Deca-Goose	33G09	CDC	2626754
Shaakichiuwaanaan	Deca-Goose	33G09	CDC	2626755
Shaakichiuwaanaan	Deca-Goose	33G09	CDC	2626756
Shaakichiuwaanaan	Deca-Goose	33G09	CDC	2626757
Shaakichiuwaanaan	Deca-Goose	33G09	CDC	2626758
Shaakichiuwaanaan	Deca-Goose	33G09	CDC	2626759
Shaakichiuwaanaan	Deca-Goose	33H12	CDC	2626760
Shaakichiuwaanaan	Deca-Goose	33H12	CDC	2626761
Shaakichiuwaanaan	Deca-Goose	33H12	CDC	2626762
Shaakichiuwaanaan	Deca-Goose	33H12	CDC	2626763
Shaakichiuwaanaan	Deca-Goose	33H12	CDC	2626764
Shaakichiuwaanaan	JBN57	33H12	CDC	2627351
Shaakichiuwaanaan	JBN57	33H12	CDC	2627352
Shaakichiuwaanaan	JBN57	33H12	CDC	2627353
Shaakichiuwaanaan	JBN57	33H12	CDC	2627354
Shaakichiuwaanaan	JBN57	33H12	CDC	2627355
Shaakichiuwaanaan	JBN57	33H12	CDC	2627356
Shaakichiuwaanaan	JBN57	33H12	CDC	2627357
Shaakichiuwaanaan	JBN57	33H12	CDC	2627358
Shaakichiuwaanaan	JBN57	33H12	CDC	2627359
Shaakichiuwaanaan	JBN57	33H12	CDC	2627360

Property	Block	FEU_NO	TER_CODE	TIT_NO
Shaakichiuwaanaan	JBN57	33H12	CDC	2627361
Shaakichiuwaanaan	JBN57	33H12	CDC	2627362
Shaakichiuwaanaan	JBN57	33H12	CDC	2627363
Shaakichiuwaanaan	JBN57	33H12	CDC	2627364
Shaakichiuwaanaan	JBN57	33H12	CDC	2627365
Shaakichiuwaanaan	JBN57	33H12	CDC	2627366
Shaakichiuwaanaan	JBN57	33H12	CDC	2627367
Shaakichiuwaanaan	JBN57	33H12	CDC	2627368
Shaakichiuwaanaan	JBN57	33H12	CDC	2627369
Shaakichiuwaanaan	JBN57	33H12	CDC	2627370
Shaakichiuwaanaan	JBN57	33H12	CDC	2627371
Shaakichiuwaanaan	JBN57	33H12	CDC	2627372
Shaakichiuwaanaan	JBN57	33H12	CDC	2627373
Shaakichiuwaanaan	JBN57	33H12	CDC	2627374
Shaakichiuwaanaan	JBN57	33H12	CDC	2627375
Shaakichiuwaanaan	JBN57	33H12	CDC	2627376
Shaakichiuwaanaan	JBN57	33H12	CDC	2627377
Shaakichiuwaanaan	JBN57	33H12	CDC	2627378
Shaakichiuwaanaan	JBN57	33H12	CDC	2627379
Shaakichiuwaanaan	JBN57	33H12	CDC	2627380
Shaakichiuwaanaan	JBN57	33H12	CDC	2627381
Shaakichiuwaanaan	JBN57	33H12	CDC	2627382
Shaakichiuwaanaan	JBN57	33H12	CDC	2627383
Shaakichiuwaanaan	JBN57	33H12	CDC	2627384
Shaakichiuwaanaan	JBN57	33H12	CDC	2627385
Shaakichiuwaanaan	JBN57	33H12	CDC	2627386
Shaakichiuwaanaan	JBN57	33H12	CDC	2627387
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628013
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628014
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628015
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628016
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628017
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628018
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628019
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628020
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628021
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628022
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628023
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628024
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628025
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628026
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628027
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628028
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628029
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628030

Property	Block	FEU_NO	TER_CODE	TIT_NO
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628031
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628032
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628033
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628034
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628035
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628036
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628037
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628038
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628039
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628040
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628041
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628042
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628043
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628044
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628045
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628046
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628047
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628048
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628049
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628050
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628051
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628052
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628053
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628054
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628055
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628056
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628057
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628058
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628059
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628060
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628061
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628062
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628063
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628064
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628065
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628066
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628067
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628068
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628069
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628070
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628071
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628072
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628073
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628074
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628075

Property	Block	FEU_NO	TER_CODE	TIT_NO
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628076
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628077
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628078
Shaakichiuwaanaan	Corvette East	33H12	CDC	2628079
Shaakichiuwaanaan	KCG	33H12	CDC	2636839
Shaakichiuwaanaan	KCG	33H12	CDC	2636840
Shaakichiuwaanaan	KCG	33H12	CDC	2636841
Shaakichiuwaanaan	KCG	33H12	CDC	2636843
Shaakichiuwaanaan	KCG	33H12	CDC	2636844
Shaakichiuwaanaan	KCG	33H12	CDC	2636845
Shaakichiuwaanaan	KCG	33H12	CDC	2636846
Shaakichiuwaanaan	JBN57	33H12	CDC	2655998
Shaakichiuwaanaan	JBN57	33H12	CDC	2655999

Annexe G

Études de caractérisation géochimique

G1. Caractérisation géochimique et modélisation des matériaux de résidus miniers pour le projet Shaakichiuwaanaan (Vision Geochemistry, 2025)

G2. Note technique portant sur la caractérisation géochimique (Atkins, 2026a)

G1. Caractérisation géochimique et modélisation des matériaux de résidus miniers pour le projet Shaakichiuwaanaan (Vision Geochemistry, 2025)

VISION GEOCHEMISTRY

Caractérisation géochimique et modélisation des matériaux de résidus miniers pour le projet Shaakichiuwaanaan (pegmatite CV5) : mise à jour de l'étude de faisabilité

Rapport technique

Ressources PMET Inc.

ID du projet : VGL-24-05-007

Référence : 2405007-TR1-FR

3 décembre 2025

Préparé par :

Nicolas Rey, Ph.D., EurGeol

Chargé des aspects modélisation hydrogéochimique

Vision Geochemistry Ltd.

Révisé par :

Neal Sullivan, Ph.D., géo.

OGQ#: 2399

Président et géochimiste principal

Vision Geochemistry Ltd.

Déclaration de limites

Ce rapport a été préparé par Vision Geochemistry Ltd. pour PMET Resources Inc. dans le cadre de l'Étude de faisabilité du projet Shaakichiuwaanaan (pegmatite CV5) et fournit une caractérisation géochimique ainsi qu'une modélisation des rejets miniers.

Lors de la préparation de ce rapport, Vision Geochemistry Ltd. s'est appuyé sur des informations provenant de tiers et n'a pas vérifié l'exactitude de celles-ci de manière indépendante. Les résultats, interprétations et conclusions présentés dans ce rapport sont destinés uniquement à une évaluation de niveau faisabilité et ne constituent pas une prédiction définitive des conditions futures. Les interprétations et conclusions relatives à la caractérisation géochimique et à la modélisation des rejets miniers doivent être mises à jour au fur et à mesure de la disponibilité de nouvelles données ou informations.

Bien qu'une attention raisonnable ait été portée à la préparation du rapport, aucune garantie n'est donnée quant à l'exactitude ou l'exhaustivité des données ou des conclusions. Ce rapport doit être utilisé uniquement par PMET Resources Inc. et ses conseillers, en tenant compte et en intégrant pleinement les limites énoncées.

Résumé exécutif

Vision Geochemistry Ltd. (« Vision ») a été mandaté par PMET Resources Inc. (« PMET ») pour réaliser une évaluation géochimique dans le cadre de l'Étude de faisabilité (FS) et de l'Étude d'impact environnemental et social (ESIA) du projet de lithium Shaakichiuwaanaan, situé dans la région administrative du Nord-du-Québec, à environ 345 km à l'est de la baie James. L'objectif principal de cette étude est de caractériser le comportement géochimique des différents matériaux miniers devant être gérés sur le site, d'évaluer les risques environnementaux associés et de soutenir la conception environnementale du site. Au stade de la faisabilité, l'accent a été mis sur l'évaluation des risques liés aux matériaux destinés à être disposés dans les haldes Stockpile-001 (stériles), Stockpile-002 (stériles et résidus) et au parc à minerai.

Un total de 350 échantillons environnementaux, incluant 316 échantillons de stériles provenant de quatre lithologies — amphibolite (n=128), métasédiment (n=101), pegmatite stérile (n=33) et ultramafique (n=54) — ainsi que du minerai (pegmatite à spodumène ; n=25) et des résidus (n=15), ont été soumis à des essais statiques afin d'évaluer leur potentiel de génération d'acide et leur potentiel de lixiviation des métaux.

Les résultats de du bilan acide-base (acid-base accounting, ABA) ont indiqué que 28,2 % des stériles, 88,0 % du minerai (pegmatite à spodumène) et 77,8 % des résidus pouvaient être classés Non-PAG. Globalement, 26,7 % des échantillons de stériles ont été classés PAG, incluant 12,5 % de l'amphibolite (n=16), 35,6 % des métasédiment (n=36), 3,0 % de la pegmatite stérile (n=1) et 5,6 % de l'ultramafique (n=3). En comparaison, le minerai (pegmatite à spodumène) et les résidus ne comptaient que 4,0 % d'échantillons PAG. Tous les échantillons de résidus ont été classés Non-PAG.

Sur la base de l'analyse des données ABA, il a été recommandé d'envisager une ségrégation des matériaux présentant une teneur totale en soufre supérieure à 0,3 % et de les placer dans la halde Stockpile-002 afin de constituer la halde Non-PAG, Stockpile-001.

L'analyse des teneurs extractibles par eau régale a révélé une large gamme d'éléments enrichis par rapport aux concentrations de fond du Province géologique du Supérieur, l'arsenic étant l'élément le plus fréquemment enrichi, avec 79,4 % des échantillons dépassant dix fois la concentration de fond. Les autres éléments enrichis identifiés comprennent le cuivre (40,8 % de dépassements) et le nickel (30,9 % de dépassements).

Les essais de lixiviation SPLP et CTEU-9 ont partiellement reflété les enrichissements observés lors des extractions à l'eau régale, mettant en évidence des éléments similaires. Ces procédures ont permis d'identifier des risques potentiels de lixiviation associés à l'aluminium, l'antimoine, l'arsenic, le cuivre, le nickel, le lithium et l'uranium dans les stériles, le minerai et les résidus. Toutefois, aucun des 350 échantillons testés ne présentait de caractéristiques de « risque élevé » selon la directive 019 (D019).

Les essais cinétiques comprenaient la poursuite de 16 essais en cellules d'humidité (HCT, incluant un doublon) sur les stériles et le minerai, ainsi que le lancement de 5 essais en colonnes sur les résidus. Les données issues des essais cinétiques ont été utilisées pour affiner le criblage des COPC, permettant de confirmer ou d'écarter les risques potentiels de lixiviation. Notamment, les

résultats indiquent que si des conditions acides venaient à se développer dans le Stockpile-002, des métaux de base tels que l'aluminium, le cuivre et le nickel seraient susceptibles d'être lixiviés. De plus, les essais en colonnes sur les résidus ont montré que des dépassements en arsenic, antimoine et, dans une moindre mesure, lithium, pourraient être anticipés dans le Stockpile-002.

Le modèle géochimique des haldes a été élaboré à partir des données cinétiques extrapolées aux conditions de terrain et couplées à une distribution aléatoire des caractéristiques des stériles provenant de la base de données de forage (drillhole database, DHDB ; 4 678 échantillons de stériles). Les modèles visaient à prédire les concentrations en COPC dans les eaux de contact des stériles et des résidus au Stockpile-001 et au Stockpile-002, à soutenir la conception de la halde Stockpile-001 (Non-PAG/Non-ML ; classification D019 – Faible risque), et à éclairer la conception de la halde Stockpile-002 (PAG/ML ; classification D019 – Acidogène/Lessivable) ainsi que du système de traitement des eaux associé.

Les résultats de modélisation indiquent que la mise en place d'un protocole de ségrégation — notamment la séparation de la lithologie ultramafique et de tout matériau présentant une concentration en arsenic supérieure à 30 ppm — devrait prévenir la lixiviation à partir du Stockpile-001, maintenant les concentrations d'arsenic sous le Critère de la Vie Aquatique, Aigu (CVAA) du MELCCFP, ainsi qu'au-dessous des critères du Règlement sur les effluents des mines de métaux et de diamants (MDMER) et de la D019. À l'inverse, des conditions de lixiviation ont été identifiées dans le Stockpile-002, avec des concentrations d'arsenic dépassant les critères MDMER/D019 de jusqu'à deux ordres de grandeur, principalement en raison de la contribution des résidus. De même, l'antimoine et, dans une moindre mesure, le lithium devraient être lixiviés du Stockpile-002, en grande partie en raison des résidus.

Les prédictions de la qualité de l'eau à la halde Stockpile-002 indiquent que l'infiltration des eaux de percolation vers le système d'eau souterraine pourrait se produire si aucune mesure d'atténuation n'est mise en œuvre. Pour prévenir un éventuel retour des contaminants vers les eaux de surface, des mesures de contrôle de l'infiltration seront nécessaires. Par ailleurs, les eaux de drainage provenant de la halde devraient nécessiter une collecte et un traitement avant leur rejet afin de minimiser tout impact environnemental potentiel. Des mesures d'ingénierie et des contrôles opérationnels appropriés seront conçus conformément aux réglementations environnementales applicables et aux meilleures pratiques.

Résumé exécutif ..... **i**
1.0 Introduction **1**
2.0 Matériel et méthode **2**
2.1 Conception du programme 2
2.2 Méthodologie d'échantillonnage 2
2.3 Inventaire des échantillons 3
2.4 Bilan acide-base 5
2.5 Composition chimique globale 6
2.6 Essais de lixiviation 6
2.7 Critères de classification 7
2.7.1 Classification par bilan acide-base 7
2.7.2 Potentiel de lixiviation 7
2.8 Essais cinétiques 8
2.8.1 Essais en cellules humides 8
2.8.2 Essais en colonne 9
2.9 Modélisation géochimique 10
2.9.1 Modèle conceptuel et hypothèses 11
2.9.2 Développement des termes sources 12
2.9.3 Facteurs d'échelle 15
2.9.4 Autres mécanismes à l'échelle du terrain influençant la mobilisation de l'arsenic 18
2.9.5 Conception technique 19
2.9.6 Simulations de modèles 24
3.0 Résultats de la caractérisation géochimique **26**
3.1 Bilan acide-base 26
3.1.1 Analyse de la spéciation du carbone 26
3.1.2 Analyse de la spéciation du soufre 27
3.1.3 Évaluation du potentiel de neutralisation et d'acidification 28
3.1.4 Résumé et interprétation 31
3.2 Constituants extractibles et potentiel de lixiviation 35
3.2.1 Constituants extractibles 36
3.2.2 Essais SPLP 42

3.2.3 essais de lixiviation CTEU-9 45
3.2.4 Essais de lixiviation TCLP 49
3.2.5 Résumé et interprétation 49
3.3 Essais cinétiques 51
3.3.1 Essais en cellules humides 51
3.3.2 Essai sur colonne 67
3.3.3 Résumé et interprétation 77
3.4 Résultats de la modélisation géochimique 81
3.4.1 Charge en arsenic des stériles 81
3.4.2 Tendances modélisées de la concentration en arsenic dans le Stockpile-001 82
3.4.3 Tendances modélisées de la concentration des COPC dans le Stockpile-002 83
3.5 Limites du modèle 85
3.6 Criblage des COPC 86
3.6.1 Criblage des COPC par essais statiques 86
3.6.2 Criblage des COPC par essais cinétiques 89
3.6.3 Sélection finale 93
4.0 Conclusion 95
4.1 Recommandations et poursuite des essais géochimiques 96
4.1.1 Essais en barils de terrain 96
4.1.2 Essais en colonne confirmatoires sur les matériaux de Stockpile-001 97
4.1.3 Remblayage de la fosse avec les matériaux PAG de Stockpile-002 97
4.1.4 Analyse comparative entre HCT et les essais en colonnes de l'UQAT 97
4.1.5 Essais sur les matériaux de remblayage des résidus miniers 98
4.1.6 Modèle cinétique de qualité de l'eau dans les fosses 98
5.0 Bibliographie 99

1.0 Introduction

Le projet Shaakichiuwaanaan, mené par PMET Resources Inc. (PMET) et situé dans la région administrative du Nord-du-Québec, à environ 345 km à l'est de la baie James, constitue le plus important projet de développement du lithium en Amérique. Il comprend un gisement principal (CV5) de 77 Mt de pegmatite à spodumène présentant une teneur de 1,44 % Li_2O. Une partie de l'extraction sera réalisée à ciel ouvert, générant un volume substantiel de stériles estimé à 155 Mt, répartis en quatre grands types lithologiques : amphibolites, métasédiment, pegmatites stériles et roches ultramafiques. La gestion adéquate de ces matériaux nécessite de prendre en compte les risques géochimiques liés à la lixiviation de constituants d'intérêt environnemental (constituents of potential concern, COPC), comme l'arsenic en conditions de pH neutre, c'est-à-dire dans le cadre d'un drainage neutre contaminé (neutral rock drainage, NRD), ainsi que la génération de drainage rocheux acide (DRA) résultant de l'oxydation des minéraux sulfurés.

L'objectif principal de cette étude est de caractériser le comportement géochimique des différents matériaux miniers qui seront gérés sur le site, d'évaluer les risques environnementaux associés et de soutenir la conception environnementale du projet. À l'étape de faisabilité, une attention particulière a été portée sur l'évaluation des risques liés aux matériaux destinés à être entreposés dans le Stockpile-001 (stériles), le Stockpile-002 (stériles et résidus), ainsi que dans la halde à minerai.

Ce rapport s'inscrit dans la continuité du programme préliminaire de caractérisation géochimique BBA/Vision (2024a), basé sur un jeu de données limité (n = 84 échantillons). Il intègre également les travaux exploratoires de modélisation réalisés par BBA/Vision (2024b), qui visaient à simuler le comportement géochimique de haldes de stériles présentant diverses géométries et compositions. La présente étude affine ces travaux en fournissant des prédictions géochimiques cinétiques fondées sur la conception ingénierique actuelle et en soutenant les stratégies de gestion de l'eau, des stériles, du minerai et des résidus, ainsi que les estimations correspondantes des coûts en capital (CAPEX), d'exploitation (OPEX) et de restauration.

Le programme de caractérisation géochimique présenté ici a été élaboré pour répondre aux exigences des instances provinciales et fédérales. Plus spécifiquement, l'étude est alignée sur les lignes directrices relatives à la lixiviation des métaux et drainage rocheux acide (ML/DRA) définies dans le Guide de caractérisation des résidus miniers et du minerai (MELCC, 2020), désormais MELCCFP (Ministère de l'Environnement, de la Lutte contre les changements climatiques, de la Faune et des Parcs), tout en tenant compte du Prediction Manual for Drainage Chemistry from Sulphidic Geologic Materials – Report 1.20.1 (MEND, 2009).

2.0 Matériel et méthode

2.1 Conception du programme

La caractérisation géochimique a été menée selon un programme en trois phases. Cette approche séquentielle, itérative et adaptative a été conçue pour permettre d'ajuster chaque phase en fonction des résultats obtenus lors des phases précédentes.

- La phase 1 comprenait la caractérisation géochimique statique des principaux matériaux miniers (stériles, minerai, résidus DMS préliminaires) afin d'établir une première caractérisation, d'identifier les CIE et d'évaluer la variabilité géochimique.
- La phase 2 a été conçue à partir des résultats de la Phase 1, elle portait sur la caractérisation cinétique au moyen d'essais en cellules humides (HCT), afin de mieux comprendre la lixiviation des métaux, la génération de drainage rocheux acide (DRA) et la mobilité des éléments dans le temps. Ces résultats ont servi d'intrants pour les exercices de modélisation géochimique et de qualité de l'eau.
- La phase 3 comprenait la caractérisation statique sur une taille de population d'échantillons conforme aux lignes directrices réglementaires (MELCC, 2020 ; SRK, 1989) (Phase 3a), ainsi que la réalisation d'essais cinétiques d'échelle intermédiaire comprenant colonnes de laboratoire et des essais en barils sur le terrain (Phase 3b).

2.2 Méthodologie d'échantillonnage

La stratégie ayant guidé la sélection des échantillons de stériles miniers et de minerai visait à capturer à la fois la variabilité géochimique et spatiale en ciblant les aspects suivants :

- Un échantillonnage pondéré des unités de stériles en fonction des proportions lithologiques prévues dans le plan d'extraction ;
- La variabilité spatiale le long de la minéralisation ainsi qu'en profondeur ;
- La proximité avec la zone minéralisée ;
- La variabilité géochimique basée sur un premier examen des COPC, notamment l'arsenic, l'antimoine et le lithium ;
- La variabilité des teneurs en sulfures.

Les échantillons ont été sélectionnés dans la base de données DHDB pour constituer des échantillons composites regroupant de 2 à 8 carottes individuelles, représentant idéalement des intervalles continus de 10 m, bien que la longueur réelle des composites varie entre 2 et 12 m selon la disponibilité. Ce niveau de résolution est approprié pour la ségrégation des stériles, car il correspond généralement à la hauteur de banquette d'environ 10 m prévue dans la conception de la future fosse à ciel ouvert. Il contribue également à améliorer la représentativité spatiale en réduisant le poids des intervalles atypiques.

Les échantillons sélectionnés pour les essais statiques des phases 1 et 3 proviennent de rejets d'analyses déjà existants, conservés aux laboratoires SGS de Burnaby (C.-B.). Ces rejets ont été expédiés au laboratoire SGS de Lakefield (ON), où la préparation des échantillons composites a été réalisée. Les échantillons destinés aux essais cinétiques de la phase 2 ont été prélevés dans les archives de carottes, découpés en quarts de carottes, puis expédiés à SGS pour concassage et tamisage à 6,3 mm.

Les échantillons de résidus utilisés dans cette étude ont été fournis par Primero et sélectionnés afin de représenter les principaux flux de traitement attendus du concentrateur. L'approche d'échantillonnage visait à capturer la variabilité géochimique associée aux différents produits de résidus générés au cours du procédé. Des échantillons représentatifs ont ainsi été obtenus pour chacun des flux principaux :

- DMS Flottation ;
- DMS Middlings ;
- Magnétiques (fraction grossière) ;
- Magnétiques (fraction fine) ;
- Résidus de flottation (fraction grossière) ;
- Résidus de flottation (fraction fine) ;
- Bypass fins.

2.3 Inventaire des échantillons

Au total, 316 échantillons de stériles ont été sélectionnés pour les programmes d'essais statiques des phases 1 et 3. Ces échantillons représentaient quatre lithologies généralisées de stériles : amphibolite, métasédiment, pegmatite stérile et roche ultramafique. De plus, 25 échantillons de minerai provenant de la lithologie pegmatite spodumène et 15 échantillons de résidus provenant de divers flux de traitement ont été inclus dans le programme d'essais. Tous les échantillons ont été soumis aux laboratoires SGS pour des essais statiques. De plus, un sous-ensemble de ces échantillons a été soumis à des essais cinétiques.

Le résumé des échantillons par type de matériau, présenté dans le **Tableau 1**, indique que le nombre d'échantillons de stériles collectés représente environ la moitié de la quantité recommandée par les lignes directrices de la SRK (1989). Ce niveau d'échantillonnage est conforme aux pratiques courantes de l'industrie. De plus, la base de données DHDB exhaustive compilée pour ces matériaux dans toute la zone d'extraction pendant la phase d'exploration contribuera à réduire considérablement l'incertitude de l'évaluation.

Tableau 1. Résumé des échantillons prélevés par lithologie et types de matériaux associés

Lithologie	Masse[1] (Mt)	Nombre recommandé d'échantillons[2]	Échantillons de phase 1	Échantillons de phase 3	Total des échantillons
Amphibolite	61	203	30	98	128
Métasédiment	60,5	202	25	76	101
Pegmatite stérile	10,4	84	13	20	33
Ultramafique	23,1	125	6	48	54
Total des stériles	**155,0**	**614**	**74**	**242**	**316**
Minerai (pegmatite spodumène)	77,0	175	8	17	25
Résidus miniers	54,0	123	2	13	15
Total minerai et résidus[3]	**131,0**	**298**	**10**	**30**	**40**

[1]Estimation de l'étude de faisabilité ; [2]SRK (1989) et MELCC (2020) ; [3]Taille de l'échantillon calculée pour le minerai et les résidus combinés, car les deux produits proviennent de la même lithologie.

Le programme de caractérisation géochimique mené sur les échantillons sélectionnés comprenait des méthodes d'essai statiques telles que le bilan acide-base (acid-base accounting ABA) et l'analyse de la teneur en métaux extractibles par digestion partielle à l'eau régale. Il comprenait également des essais de lixiviation statiques, tels que la procédure de lixiviation par précipitation synthétique (SPLP), la CTEU-9 et la procédure de lixiviation caractéristique de la toxicité (TCLP) (**Tableau 2**).

De plus, des essais cinétiques ont été réalisés. Ceux-ci comprenaient des essais en cellules humide (humidity cell test, HCT) effectués sur une sélection d'échantillons énumérés ci-dessus, ainsi que des essais en colonne et des essais sur le terrain (FBT), qui ont été réalisés à partir d'échantillons composites provenant de la sélection et d'échantillons de carottes supplémentaires prélevés dans les archives du projet. Les certificats d'analyse de tous les essais réalisés dans le cadre du présent programme géochimique sont présentés à l'**Annexe A**.

Tableau 2. Résumé des échantillons soumis aux essais statiques

Lithologie	Total des échantillons	ABA	Eau régale	SPLP et CTEU-9	TCLP
Amphibolite	128	128	128	128	41
Métasédiment	101	101	101	101	50
Pegmatite stérile	33	33	33	33	13
Ultramafique	54	54	54	54	8
Total des stériles	**316**	**316**	**316**	**316**	**112**
Minerai (pegmatite spodumène)	25	25	25	25	8
Résidus miniers	9	9	9	9	9

2.4 Bilan acide-base

L'ABA comprend un ensemble de procédures d'essais en laboratoire et un cadre d'interprétation des données conçu pour déterminer si un matériau doit être qualifié de potentiellement générateur d'acide (potentially acid generating, PAG) ou non potentiellement générateur d'acide (non-potentially acid-generating, Non-PAG) en quantifiant et en comparant le potentiel de neutralisation (neutralization potential, NP) et le potentiel d'acidité (acidity potential, AP).

L'ABA a été réalisé conformément à la méthode CEAEQ MA.110 ACISOL1.0, comme recommandé par le Ministère de l'Environnement, de la Lutte contre le Changement Climatique, de la Faune et des Parcs (MELCCFP) dans le *Guide de caractérisation des résidus miniers et du minerai* (2020).

Le NP d'un matériau, exprimé en kg$CaCO_3$/tonne, dépend généralement de la teneur et de la disponibilité en calcite ($CaCO_3$) et en dolomite ($Ca,Mg(CO_3)_2$), car ces minéraux ont tendance à se dissoudre rapidement et à fournir du NP en libérant du CO_3^{2-} lorsqu'ils sont exposés à l'acidité, tout en maintenant un pH neutre dans l'eau de contact. En outre, certains minéraux silicatés peuvent également représenter une partie du NP, bien que leur participation ait tendance à être plus faible en raison de leur vitesse de dissolution plus lente.

La NP d'un matériau peut être mesuré soit directement à l'aide d'une procédure de laboratoire inspirée de la méthode Sobek (Sobek, 1978, appelée ici Sobek-NP), soit théoriquement, sur la base de la teneur en carbone carbonaté (CO_3-NP) de l'échantillon (MEND, 2009).

Le Sobek-NP est estimé en acidifiant un échantillon pulvérisé de matière solide à l'aide d'une solution d'HCl afin d'épuiser tout son potentiel de neutralisation, avant de le titrer à nouveau à un pH de 7 à l'aide d'une solution de Na(OH). La différence entre le HCl et le Na(OH) utilisés pendant l'essai peut être utilisée pour dériver le Sobek-NP du matériau, qui inclut la contribution des minéraux carbonatés et la partie la plus réactive des minéraux silicatés.

Le CO_3-NP est une estimation théorique basée sur l'hypothèse que le NP du matériau repose essentiellement sur la présence de minéraux carbonatés. Le CO_3-NP peut être calculé à partir de la teneur en carbonate ou de la teneur totale en carbone, si la teneur en carbone de l'échantillon s'avère représentative de la teneur en carbonate. L'équation utilisée pour calculer le CO_3-NP est la suivante :

$$CO_3\text{-}NP\ (kgCaCO_3/tonne) = \%C \times (M_{CaCO_3}/M_C) \times 10$$

Où $\%C$ est le pourcentage de carbone carbonaté ou de carbone total, M_{CaCO_3} est la masse molaire du carbonate (= 100,086 g/mol), et M_C est la masse molaire du carbone (= 12,011 g/mol).

Le potentiel d'acidification (PA) des échantillons peut être estimé par un calcul théorique à partir de la teneur en soufre sous forme de sulfure, ou de la teneur totale en soufre, en supposant qu'il est principalement présent sous forme de sulfures similaires à la pyrite. L'équation utilisée pour le calcul du PA est la suivante :

$$AP\ (kgCaCO_3/tonne) = \%S \times (M_{CaCO_3}/M_S) \times 10$$

Où $\%S$ est la teneur en soufre sous forme de sulfure ou la teneur totale en soufre, et M_S la masse molaire du soufre (= 32,065 g/mol).

2.5 Composition chimique globale

Les constituants extractibles (ou environnementalement disponibles) ont été mesurés conformément à la méthode MA du CEAEQ. 200 - Mét. 1.2. Les extraits d'eau régale (digestion partielle) ont été analysés par ICP-MS pour les éléments majeurs, mineurs et traces. Cette méthode d'extraction est conçue pour fournir une estimation des éléments qui peuvent être lessivés sur une longue période par des processus naturels tels que la dissolution et l'oxydation. Les teneurs des extraits d'eau régale ont été comparées aux concentrations moyennes de la croûte continentale.

Il convient de noter que la teneur moyenne de la croûte continentale fait référence à la teneur totale (digestion totale) et que la teneur extractible fait référence à la teneur partielle (digestion partielle). Par conséquent, les comparaisons directes doivent être considérées avec prudence.

Le contenu extractible peut être comparé aux critères A pour les sols présentés dans le « Guide d'intervention – Protection des sols et réhabilitation des terrains contaminés » du MELCCFP (2021).

De plus, des analyses élémentaires totales ont été effectuées sur tous les échantillons de carottes prélevés dans le pit shell via le fusion au peroxyde de sodium. Les données obtenues ont été compilées dans une base de données DHDB comprenant 4 678 échantillons. La DHDB a ensuite été utilisée pour extrapoler les résultats des échantillons environnementaux à l'ensemble de la zone d'extraction.

2.6 Essais de lixiviation

Conformément aux directives du MELCCFP, les échantillons ont été soumis à la méthode CEAEQ MA. 100 – Lix.Com. 1.1. Une partie de l'échantillon sélectionné a été soumise à une série de procédures de lixiviation afin d'évaluer si les matériaux testés sont susceptibles de libérer des COPC dans l'environnement récepteur. Tous les échantillons ont été soumis à la procédure de lixiviation SPLP EPA 1312 (SPLP) et CTEU-9, et une sélection d'échantillons a également été soumise à la procédure TCLP EPA 1311 (TCLP). Les échantillons sélectionnés pour les essais TCLP comprennent 84 échantillons de la phase 1 du programme de caractérisation géochimique, ainsi que les 38 échantillons de stériles classés comme PAG et 7 échantillons de résidus de la phase 3.

Les procédures SPLP, CTEU-9 et TCLP sont conçues pour évaluer la concentration des espèces susceptibles d'être lessivées lorsqu'un matériau est mis en contact avec de l'eau. La méthode SPLP utilise de l'eau acide à un pH de 4,2 afin de simuler des conditions environnementales légèrement acides telles que les pluies acides, tandis que la méthode CTEU-9 utilise simplement de l'eau déionisée et le matériau est broyé à une granulométrie plus fine, exposant ainsi une plus grande surface.

Tous les extraits des essais de lixiviation ont été soumis à une analyse ICP-MS des éléments majeurs, mineurs et traces. De plus, les lixiviats TCLP, SPLP et CTEU-9 ont été analysés pour

déterminer leur teneur en fluorure (F-), sulfate (SO42-), chlorure (Cl-), bromure (Br-), nitrite (NO2-) et nitrate (NO3-) par chromatographie ionique, ainsi que par titrage de l'acidité/alcalinité et par mesure du pH et de la conductivité électrique (CE).

2.7 Critères de classification

2.7.1 Classification par bilan acide-base

Les échantillons dont la teneur totale en soufre est supérieure à 5 % sont de facto qualifiés de PAG, tandis que les échantillons dont la teneur totale en soufre est inférieure à 0,04 % sont classés comme non-PAG. Tous les échantillons intermédiaires sont qualifiés de PAG si le potentiel de neutralisation net (NNP = NP-AP) est inférieur à 20 ou si le rapport de potentiel de neutralisation (NPR = NP/AP) est inférieur à 2. Cependant, les échantillons classés comme PAG sur la base d'essais statiques peuvent être requalifiés comme non-PAG sur la base des résultats d'essais cinétiques. Les critères de sélection pour l'ABA sont résumés dans **Tableau 3**.

Selon MEND (2009), les échantillons présentant un NPR compris entre 1 et 2 peuvent être qualifiés d'incertains en ce qui concerne leur potentiel de génération d'acide et des investigations supplémentaires, telles que des essais cinétiques, peuvent être menées afin d'affiner l'évaluation des risques liés à la génération d'acide.

Tableau 3. Résumé des échantillons soumis à des essais statiques

Paramètres	Valeur	Classification ABA	Procédure
Total S	Moins de 0,04 % en poids de S	Non-PAG	Aucun autre essai
Total S	0,04 % en poids de S	Des essais supplémentaires sont nécessaires.	Essais de prédiction ARD statiques
Total S	>5 % en poids de S	Des essais supplémentaires sont nécessaires.	PAG de facto ; ou essais cinétiques pour valider
NNP	Moins de 20 kg par tonne de CaCO3	PAG	Si l'une des valeurs NNP ou NPR est inférieure à la valeur de classification, l'échantillon est PAG.
NPR	<2	PAG	

2.7.2 Potentiel de lixiviation

Les résultats des essais de lixiviation effectués sur les échantillons sélectionnés ont été évalués conformément aux lignes directrices du MELCCFP.

Afin de mettre en évidence les enrichissements potentiels des matériaux en certains constituants, les résultats des essais de lixiviation à l'eau régale ont été comparés à la

concentration moyenne de la croûte continentale (Rudnick et Gao, 2014) ainsi qu'aux teneurs de fond de la province géologique du Supérieur fournies à l'annexe 1 du Guide d'intervention - protection des sols et réhabilitation des terrains contaminés du MELCCFP.

Les résultats des essais de lixiviation SPLP et CTEU-9 ont été comparés au critère de qualité pour la protection de la vie aquatique – effet aigu (CVAA) du critère de qualité des eaux de surface fourni par le MELCCFP. Les valeurs réglementaires pour certains éléments (par exemple, le cadmium (Cd), le manganèse (Mn)) dépendent de la dureté du réseau hydrographique récepteur, tandis que pour l'aluminium (Al), elles dépendent également de la concentration en carbone organique dissous (dissolved organic carbon, DOC) et du pH. Les valeurs réglementaires ont été calculées en supposant une concentration en DOC de 5 mg/L, un pH de 6 et une dureté de 10 mg/L.

Les résultats du essais de lixiviation TCLP ont été comparés à la directive 019 – Annexe 2 sur les caractéristiques des résidus miniers (à haut risque).

2.8 Essais cinétiques

Différentes approches de essais cinétiques ont été entreprises dans le cadre de ces travaux afin d'étudier la mobilité du COPC au fil du temps. Trois types de essais ont été réalisés, notamment les HCT, les essais en colonne et les FBT, dans le but d'évaluer le comportement géochimique des matériaux dans différentes conditions de taille des particules, de rapport liquide/solide et de température.

Les échantillons d'eau prélevés dans le cadre des essais cinétiques ont été soumis à une série d'analyses, notamment la récupération du volume, le pH et conductivité électrique, titrage de l'acidité/alcalinité, analyse ICP-MS des éléments majeurs, mineurs et traces, ainsi que la caractérisation du fluorure (F^-), du sulfate (SO_4^{2-}), du chlorure (Cl^-), bromure (Br^-), nitrite (NO_2^-) et nitrate (NO_3^-) à l'aide de la chromatographie ionique.

2.8.1 Essais en cellules humides

Les échantillons HCT ont été sélectionnés sur la base des données des essais statiques afin de couvrir tous les types de lithologie et de matériaux, tout en tenant compte de la variabilité des concentrations en arsenic et en soufre documentée dans la DHDB (**Tableau 4**).

La procédure d'essai (ASTM D5744-18) a été réalisée par SGS. Elle consistait à placer 1 kg de matière sèche, broyée à une granulométrie de 6,3 mm, dans une cellule humide, puis à effectuer des cycles hebdomadaires consistant à rincer avec 1 litre d'eau déionisée et à exposer alternativement à de l'air humide et à de l'air sec.

Le rapport liquide/solide de 1 utilisé dans le HCT favorise la lixiviation de tous les composés dissous, permettant ainsi une quantification précise des taux de charge.

Ce rapport présente les résultats des 108 premières semaines du programme HCT, mais les essais devraient se poursuivre jusqu'en octobre 2025.

Le **Tableau 4** présente la liste des quinze HCT (et un doublon), lancés le 27 avril 2023, ainsi que leurs identifiants (ID) correspondants, leurs types lithologiques et leurs caractéristiques en termes d'arsenic et de soufre total.

Table 4. Inventaire des HCT réalisés et lithologie ou types de matériaux correspondants

# HCT	Lithologie
CV5-WR-HCT-2	Amphibolite
CV5-WR-HCT-5	Amphibolite
CV5-WR-HCT-5 (DUP)	Amphibolite
CV5-WR-HCT-14	Amphibolite
CV5-WR-HCT-22	Amphibolite
CV5-WR-HCT-33	Amphibolite
CV5-WR-HCT-36	Ultramafique
CV5-WR-HCT-39	Métasédiment
CV5-WR-HCT-50	Métasédiment
CV5-WR-HCT-56	Métasédiment
CV5-WR-HCT-59	Ultramafique
CV5-WR-HCT-62	Ultramafique
CV5-WR-HCT-64	Pegmatite stérile
CV5-WR-HCT-69	Pegmatite stérile
CV5-WR-HCT-74	Minerai (pegmatite spodumène)
CV5-WR-HCT-76	Minerai (pegmatite spodumène)

2.8.2 Essais en colonne

Cinq essais en colonne (plus un essai en duplicata) utilisant des résidus ont été mis en place le 7 mai 2025 dans le cadre de ce programme de caractérisation géochimique.

Les colonnes de résidus ont été construites de manière à obtenir une couche de 30 cm de matériau, conformément aux directives de l'UQAT (UQAT, 2015), ce qui correspond à environ 8,5 kg de matériau par colonne. En revanche, les colonnes de stériles ont été constituées de 15 kg de matériau. Les colonnes de résidus ont été assemblées à partir de résidus provenant de différents flux de traitement, ainsi que d'un composite maître représentant la composition globale prévue des résidus sortant de l'usine. Les colonnes de stériles ont été construites à partir de diverses lithologies et de matériaux composites correspondants qui devraient être placés dans le Stockpile-001 non lixiviable.

Les six colonnes de résidus sont utilisées comme colonnes de lixiviation, ce qui signifie qu'elles sont rincées toutes les deux semaines en ajoutant 2 L d'eau par le haut. Les colonnes sont ensuite laissées à s'égoutter complètement pendant la nuit par l'orifice inférieur, à partir duquel des échantillons de lixiviat sont prélevés.

Les différents identifiants (#) des essais en colonnes et les configurations expérimentales correspondantes sont résumés dans **Tableau 5**.

Tableau 5. Inventaire des essais sur colonne et configuration expérimentale correspondante

# Essai en colonne	Description des colonnes
CV5-CL-1	Colonne non-saturée installée avec 30 cm de résidus flottants
CV5-CL-2	Colonne non-saturée équipée de 30 cm de résidus moyens
CV5-CL-3	Colonne non-saturée équipée de 30 cm de résidus magnétiques
CV5-CL-4	Colonne non-saturée configurée avec 30 cm de résidus de dérivation
CV5-CL-5	Colonne non-saturée équipée de 30 cm de résidus composites
CV5-CL-6	Colonne non-saturée configurée avec 30 cm de résidus composites

Une modélisation a été réalisée afin de fournir des prévisions des concentrations de COPC dans les eaux d'infiltration et d'exsudation des stériles et des résidus miniers entreposés dans les zones Stockpile-001 et Stockpile-002.

Les modèles géochimiques ont été élaborés à partir des données géochimiques présentées à la section 3.0 ainsi que des données produites dans le cadre d'un programme exhaustif d'analyse de la composition chimique des stériles mené pendant la phase de forage d'exploration du projet. Ce programme visait à créer une base de données géochimiques DHDB afin de faciliter les travaux géométallurgiques et environnementaux futurs. Cette base de données contenant 4 968 analyses d'échantillons de stériles a été utilisée pour soutenir le programme de caractérisation environnementale et les efforts de modélisation présentés dans cette section.

2.9 Modélisation géochimique

La caractérisation géochimique des matériaux présentés dans les sections 3.2 et 3.3 ci-après a permis d'identifier les COPC associés aux matériaux testés (par exemple, l'antimoine, l'arsenic et le lithium), et un effort de modélisation géochimique a été entrepris pour évaluer les risques associés et soutenir une conception technique visant à les atténuer. Plus précisément, la conception du modèle avait trois objectifs principaux qui peuvent être résumés comme suit :

1. Prévision des concentrations d'arsenic dans les eaux de drainage provenant du Stockpile-001 afin d'étayer l'option de séparation des stériles visant à atténuer les risques de lixiviation de l'arsenic associés à la construction du Stockpile-001.
2. Aidez à définir la valeur limite d'arsenic qui permettra de séparer efficacement les matériaux lixiviables des matériaux non lixiviables.
3. Évaluer le potentiel de lixiviation de l'antimoine, de l'arsenic et du lithium des matériaux du Stockpile-002 (roches stériles et résidus miniers) au fil du temps afin d'appuyer la conception technique et le traitement de manière à atténuer efficacement les effets négatifs potentiels sur l'environnement récepteur.

L'approche choisie et développée dans le cadre de l'effort de modélisation peut être résumée selon la séquence en trois étapes suivante :

1. Déterminer l'évolution cinétique des taux de lixiviation du COPC dans les stériles et les résidus miniers et, dans le cas des stériles, établir une corrélation cinétique entre les taux de

lixiviation de l'arsenic mesurés à partir des essais cinétiques et la teneur totale en solides fournie par la DHDB afin d'élaborer des termes sources d'arsenic pour tous les échantillons de la DHDB.

2. Développer et appliquer des facteurs d'échelle pour ajuster les taux de lixiviation calculés à partir des essais cinétiques à l'échelle du terrain.
3. Construire un modèle géochimique temporel simulant la construction progressive des haldes avec, dans le cas des rejets miniers, une distribution aléatoire des lithologies et des teneurs en arsenic, et tester le seuil de coupure de l'arsenic afin d'étudier les taux de lixiviation correspondants.

2.9.1 Modèle conceptuel et hypothèses

Le modèle correspond à une étude préliminaire visant à caractériser le comportement des tas de stériles en matière de lixiviation de l'arsenic. Certaines hypothèses devront être affinées à mesure que la compréhension des caractéristiques physicochimiques du matériau et des conditions sur le terrain progressera avec les développements futurs. La conception du modèle repose sur quatre (4) hypothèses principales :

1. On suppose un état stable. L'effet de la saisonnalité sur le transport réactif géochimique est négligé dans le modèle actuel. Cette hypothèse repose sur le fait que la grande taille du tas et le mouvement relativement lent de l'eau dans la matrice de stériles tendent à compenser l'influence des fluctuations climatiques telles que l'alternance des périodes humides et sèches et les variations interannuelles. De plus, on suppose que les vitesses de réaction sont réparties uniformément dans tout le tas et restent stables tout au long de l'année. Cette hypothèse est étayée par le fait que l'épaisseur des roches stériles formant le tas atténue les variations saisonnières de température à moins de ±1 °C au-delà de 5 m dans le tas.
2. Toutes les précipitations – 591 mm/an, selon le modèle climatique fourni par AtkinsRéalis (AtkinsRéalis, 2025) – sont supposées s'infiltrer dans le tas, et l'évaporation est considérée comme négligeable. Ces hypothèses sont étayées par le fait que des ouvrages d'art seront construits pour limiter les ruissellements, et que la conductivité hydraulique élevée du matériau favorisera une infiltration rapide et une remontée capillaire minimale.
3. Les propriétés physiques telles que la distribution granulométrique, la température et la conductivité hydraulique sont considérées comme homogènes dans l'ensemble du tas, et les lithologies et les taux de lixiviation de l'arsenic associés sont répartis de manière aléatoire dans le modèle. En plus d'être une hypothèse simplificatrice, la répartition aléatoire des propriétés géochimiques permet une analyse statistique de l'influence de l'emplacement des matériaux de stériles de différentes lithologies à l'intérieur du tas sur la concentration des lixiviats d'arsenic.
4. Le modèle ne prend en compte que le transport vertical 1D et ignore les flux latéraux. Cette hypothèse simplifie la modélisation et est étayée par le fait que la conductivité hydraulique des stériles est relativement élevée, ce qui permet au matériau de se drainer rapidement.

2.9.2 *Développement des termes sources*

Les données cinétiques présentées dans la **Section 3.3** du présent rapport ont été utilisées pour élaborer les termes sources cinétiques pour les stériles et les résidus miniers.

Des équations exponentielles de Weibull ont été utilisées pour ajuster les résultats des essais cinétiques et calculer l'évolution des termes sources des COPC au fil du temps.

Où $R_{(t)}$ est le taux de lixiviation à un moment donné t après le début de l'altération du matériau, k est la constante de vitesse et n est un paramètre de forme contrôlant la courbure de la fonction.

Le modèle de type Monte Carlo a été développé uniquement pour le modèle de stériles et a été appliqué spécifiquement à l'arsenic, qui s'est révélé être le COPC le plus problématique identifié dans ce projet en raison de sa forte lixiviabilité à pH neutre. Le modèle de type Monte Carlo a été conçu pour simuler le placement de types de matériaux de lithologie différente et de teneur totale en arsenic différente.

Une équation exponentielle de type Weibull a été utilisée pour calculer l'évolution du rapport entre le taux de lixiviation de l'arsenic HCT et la teneur en arsenic (totale) obtenue par fusion au peroxyde de sodium à partir du DHDB. Ce rapport, appelé ici paramètre cinétique $K_{(t)}$ et exprimé en semaine^{-1} diminue au fil du temps à mesure que les rejets miniers s'altèrent, suivant la tendance décrite dans l'**Équation 1** :

$$K_{(t)} = K_0 \exp\left(-|k \cdot t|^n\right) \qquad \textbf{Équation 1}$$

Dans lequel K_0 est la valeur du facteur cinétique à $t = 0$, k est la constante de vitesse et n est un paramètre de forme contrôlant la courbure de la fonction. Les paramètres k et n être ajusté manuellement jusqu'à ce que l'ajustement approprié de la mesure expérimentale soit obtenu.

Le graphique présenté dans la **Figure 1** illustre l'équation de Weibull utilisée pour ajuster la décroissance mesurée du rapport entre le taux de lixiviation HCT et la teneur totale en arsenic des stériles.

Le taux de lixiviation de l'arsenic $R_{(t)}$ (mg/kg/semaine) est ensuite calculé pour une période t (semaine) en utilisant le paramètre cinétique (semaine^{-1}) une teneur totale initiale en arsenic C_0 comme décrit dans l'**Équation 2** :

$$R_{(t)} = C_0 \times K_{(t)} \qquad \textbf{Équation 2}$$

Les équations exponentielles de Weibull ont également été utilisées pour ajuster les résultats des essais cinétiques sur les colonnes de résidus et pour calculer l'évolution des termes sources COPC (c'est-à-dire l'antimoine, l'arsenic et le lithium) au fil du temps. Comme un seul type de matériau a été simulé, l'**Équation 3** a été directement appliquée aux tendances de charge en COPC pour calculer le taux de lixiviation $R_{(t)}$ au fil du temps t.

$$R_{(t)} = R_0 \exp\left(-|k \cdot t|^n\right)$$ **Équation 3**

Tableau 6 résume les constantes de vitesse (k) et les paramètres de forme (n) utilisés pour ajuster les courbes du modèle aux données expérimentales, avec les ajustements obtenus pour les charges d'arsenic (**a**), d'antimoine (**b**) et de lithium (**c**) indiqués dans la **Figure 2**.

Tableau 6. Résumé des valeurs des paramètres d'ajustement des courbes de modélisation

Type de matériau	COPC	K_0/C_0[1]	k	n
Roche stérile	Arsenic	$1{,}2\times10^{-2}$	0,08	0,40
Résidus miniers	Arsenic	0,53	0,15	0,35
	Antimoine	0,16	0,30	0,30
	Lithium	0,16	0,25	0,40

[1]Facteur cinétique à $t_0(K_0)$ pour les stériles/Concentration à $t_0(C_0)$ pour les résidus miniers

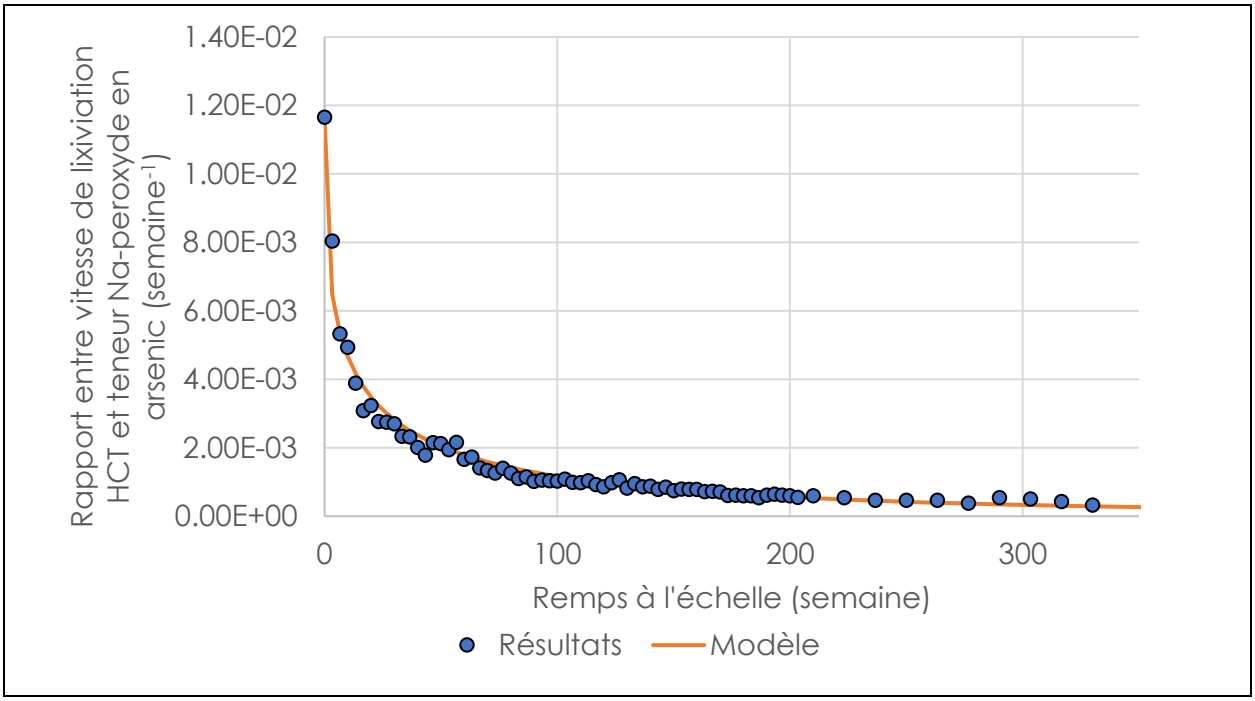


Figure 1. Diminution du taux de lixiviation de l'arsenic dans les stériles au fil du temps

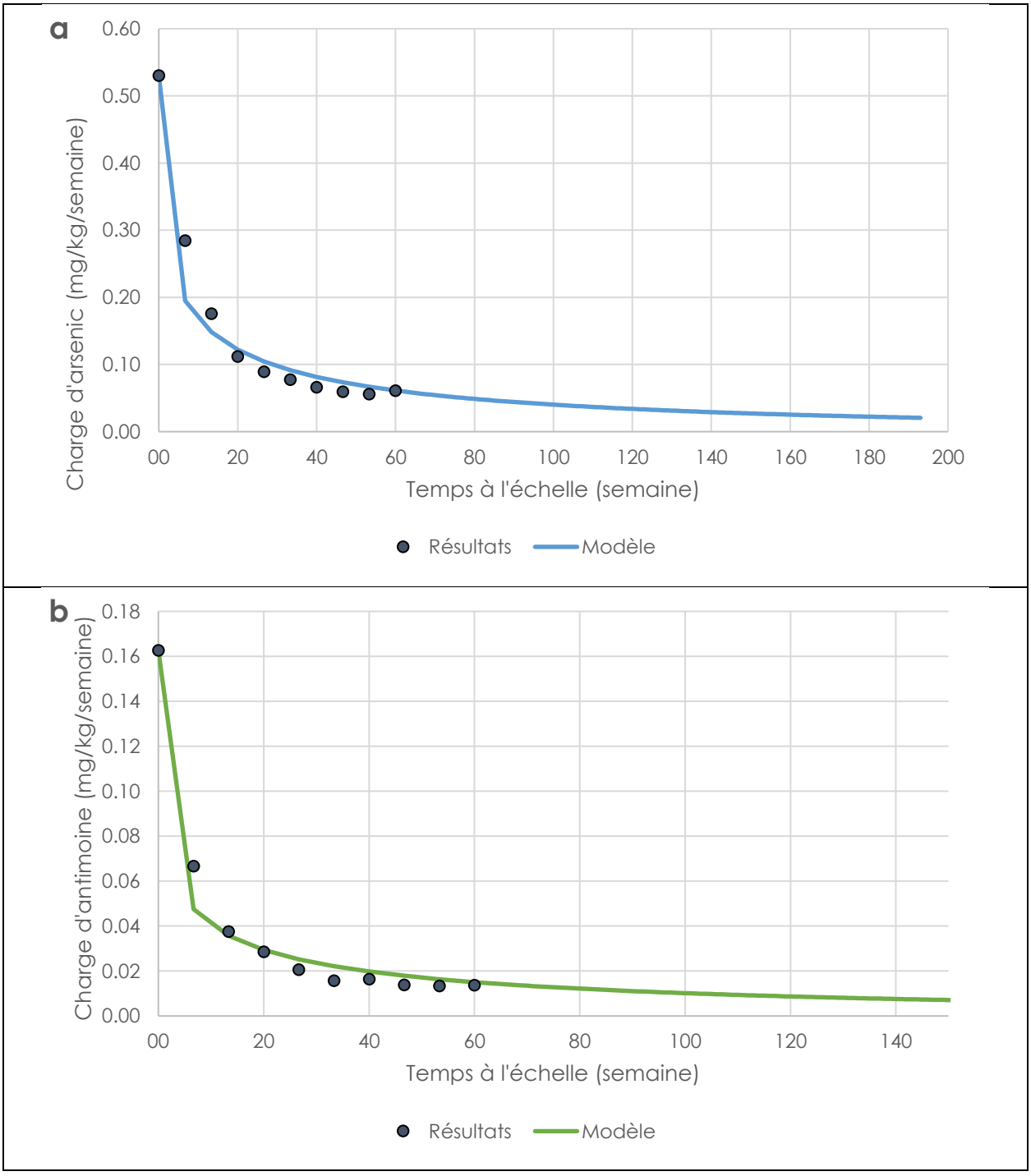


Figure 2. Diminution du taux de lixiviation des résidus miniers COPC au fil du temps (1 sur 2)

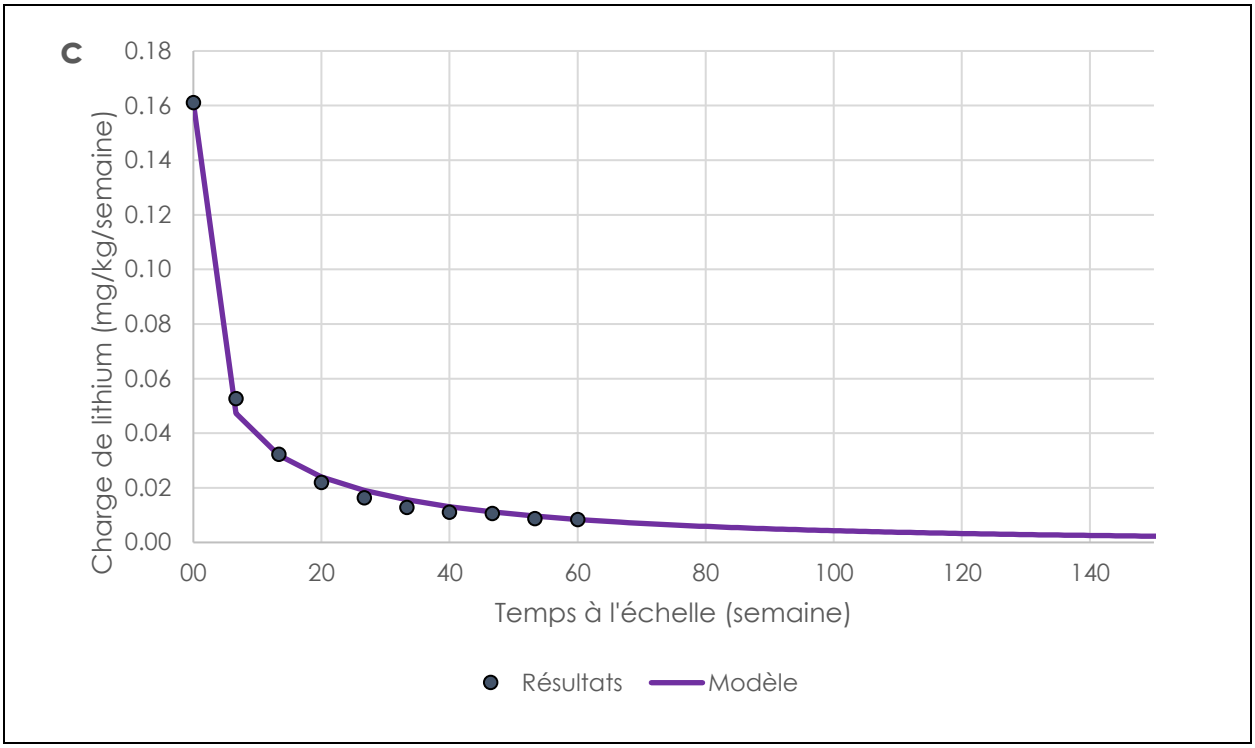


Figure 2. Diminution du taux de lixiviation des résidus miniers COPC au fil du temps (2 de 2)

2.9.3 Facteurs d'échelle

Les conditions d'essai dans lesquelles les taux de lixiviation HCT sont mesurés en laboratoire ne sont pas représentatives du terrain. Trois (3) phénomènes principaux sont généralement reconnus comme expliquant les écarts entre le comportement géochimique dans une halde à stériles et les HCT. Il s'agit de la distribution granulométrique (particle size distribution, PSD), de la température et de l'isolation hydraulique. Des facteurs d'échelle sont généralement utilisés pour ajuster le taux de lixiviation mesuré en laboratoire et dériver des termes sources qui seront plus représentatifs des conditions sur le terrain.

Pour le modèle utilisé dans cette étude, le taux de lixiviation des tas de stériles a été calculé à l'aide de l'**équation 4** suivante. (Kempton, 2012):

$$R_{WRP} = R_{HCT} \times S_{PSD} \times S_{Temp.} \times S_{Salut}$$ **Équation 4**

Tel que :

R_{WRP} est le taux de lixiviation dans le tas de stériles (mg/kg/semaine)

R_{HCT} est le taux de lixiviation dans le HCT (mg/kg/semaine)

S_{PSD} est le facteur d'échelle PSD (sans unité)

$S_{Temp.}$ est le facteur d'échelle de température (sans unité)

S_{Salut} est le facteur d'échelle d'isolation hydraulique (sans unité)

2.9.3.1 *Granulométrie des matériaux*

Sur un site minier, la distribution granulométrique des stériles varie généralement entre l'échelle micrométrique et l'échelle métrique. Cependant, à des fins de normalisation et pour des raisons pratiques, ces matériaux doivent être tamisés avant d'être testés en laboratoire. Les particules plus petites ayant un rapport surface/volume plus élevé que les particules plus grosses, la lixiviabilité dépend fortement de la surface spécifique. Par conséquent, afin de garantir la représentativité, le taux de chargement des stériles dans les conditions de laboratoire doit être adapté pour refléter les conditions sur le terrain. Dans les essais en cellule humide (HCT), les particules sont généralement tamisées et/ou broyées jusqu'à un diamètre maximal de 6,4 mm.

Une analyse documentaire menée par Stockwell et al. (2006) a conclu que plus de 80 % de l'altération géochimique provient de particules de moins de 25 mm, une fraction qui ne représente elle-même que 10–40 % du total des stériles, selon les méthodes de dynamitage et le type de roche. La fraction inférieure à 6,4 mm en représente une part encore plus faible. De plus, les roches ignées et les sédiments fortement métamorphisés—tels que ceux que l'on trouve dans le projet Corvette Lithium—sont connus pour générer moins de fines lorsqu'ils sont dynamités (Dawson, 1994). Par exemple, le projet Goliath, où les stériles sont principalement composés de granit, de métasédiments et de schistes, rapporte qu'environ 5 % des particules sont inférieures à 2,5 mm (Ecometrix, 2014).

L'équipe d'ingénieurs miniers de G Mining Services Inc., chargée de la conception des opérations, y compris le dynamitage, a fourni à Vision la courbe caractéristique de la taille des particules attendue (G Mining, 2025) pour les différentes lithologies extraites sur le site (**Figure 3**).

En supposant une sphéricité homogène et une densité spécifique constante pour toute la distribution granulométrique, il est possible d'estimer le rapport surface/volume des matériaux en fonction de leur granulométrie. En comparant le rapport surface/volume des stériles in situ prévus avec celui du matériau HCT à l'échelle du laboratoire, on peut dériver un facteur d'échelle granulométrique. En suivant cette approche, un facteur d'échelle de 0,05 a été appliqué dans le cadre de la modélisation.

Étant donné que la distribution granulométrique des résidus soumis à des essais en colonne n'a pas été modifiée et qu'elle est représentative du matériau qui sera placé dans le Stockpile-002, aucun facteur d'échelle granulométrique n'a été appliqué dans le cadre de la modélisation des résidus.

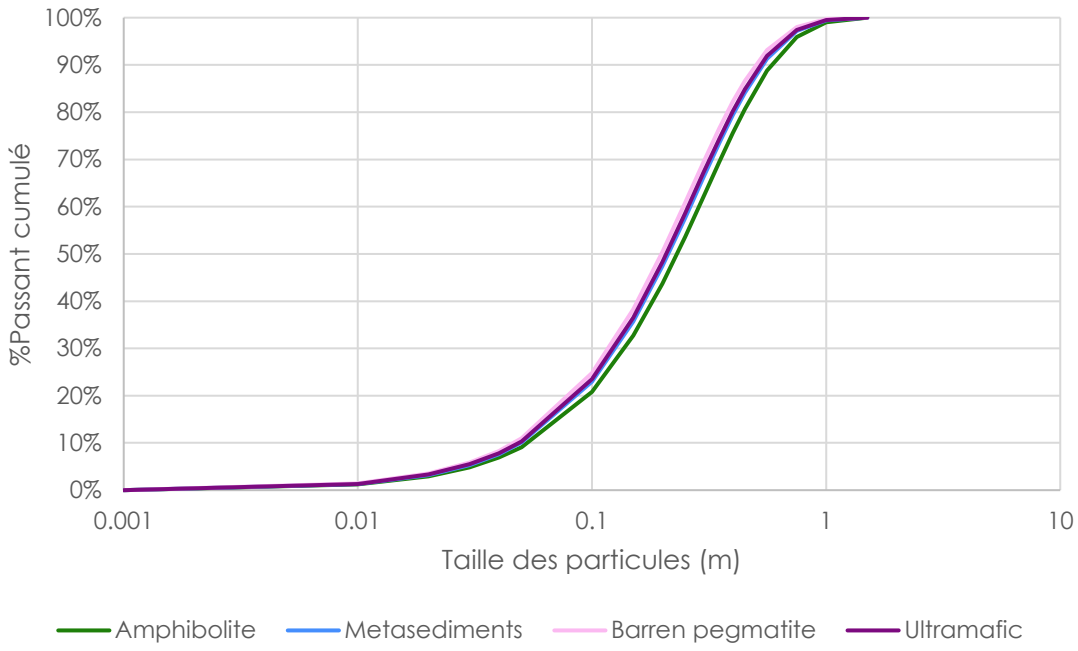


Figure 3. Granulométrie anticipée des stériles

2.9.3.2 *Température*

L'analyse minéralogique effectuée sur des échantillons de stériles a montré que l'arsenic est associé à des minéraux contenant de l'arsénopyrite, tels que la nickeline, la gersdorffite et l'arsénopyrite. La lixiviation de l'arsenic à partir de ces minéraux peut se produire par divers processus dépendants de la température, notamment l'altération oxydative et la dissolution minérale. Ainsi, les vitesses de réaction devraient varier en fonction de la température et peuvent être décrites à l'aide de la loi d'Arrhenius. L'**équation 5**, dérivée de la loi d'Arrhenius, a été utilisée pour déterminer le facteur d'échelle de température pour les vitesses de lixiviation modélisées :

$$SF_{Temp} = \mathrm{Exp}\left(\frac{E_a(T_{terrain} - T_{Laboratoire})}{RT_{Terrain}T_{Laboratoire}}\right)$$ **Équation 5**

Telle que :

- E_a est l'énergie d'activation de la réaction d'oxydation de la pyrite susceptible d'être responsable de la libération des métaux (42 kJ/mol ; (Nicholson, et al. 1988))
- $T_{Terrain}$ et $T_{Laboratoire}$ sont respectivement la température moyenne sur le terrain et en laboratoire (K)
- R est la constante universelle des gaz (8,314 J/mol/K)

L'énergie d'activation apparente de 40 kJ/mol qui a été utilisée dans le modèle cinétique pour décrire la dépendance à la température de la libération d'arsenic à partir de minéraux contenant de l'arsenic, en particulier l'arsénopyrite (FeAsS), la nickeline (NiAs) et la gersdorffite (NiAsS). Cette valeur se situe dans la partie inférieure de la fourchette généralement rapportée pour la mobilisation de l'arsenic dans des conditions acides à quasi neutres (Neil et al. 2015).

Une température moyenne de l'air de -2 °C a été appliquée sur la base de méthodes de télédétection (Wang et al., 2013) reflétant les conditions du site. Cette valeur a été ajustée de manière conservatrice à 2 °C afin de tenir compte de la différence naturelle entre les températures de l'air et du sol, et une température de 22,5 °C a été utilisée pour les vitesses de réaction HCT en laboratoire. Ces valeurs ont donné lieu à un facteur d'échelle de température de 0,30. Cette valeur est corroborée par MEND (2006). Elle a été appliquée à la modélisation des stériles et des résidus miniers.

2.9.3.3 *Isolation hydraulique*

Le facteur d'isolation hydraulique est lié à la structure interne des haldes, qui présentent une grande variabilité en termes de conductivité hydraulique non saturée. Le facteur de contact explique une réduction de la lixiviation, car certaines parties des piles devraient devenir hydrauliquement isolées en raison du développement de voies d'écoulement préférentielles, ce qui se traduit par un rinçage partiel ou moins fréquent par l'eau interstitielle par rapport aux conditions HCT.

Ce facteur est influencé par la faible proportion de particules fines, car l'eau dans les milieux hétérogènes a tendance à s'écouler préférentiellement à travers les zones à grains plus fins. Compte tenu de la rareté prévue des fines dans les stériles de ce projet, l'isolation hydraulique de nombreux amas de matériaux est probable.

Une analyse documentaire des études de modélisation géochimique a permis d'identifier un large éventail de facteurs d'isolation hydraulique, allant de 0,03 à 0,77, les valeurs les plus couramment rapportées se situant entre 0,05 et 0,20 (Rescan, 2013 ; Lorax, 2014 ; Stantec, 2017).

En raison de la faible proportion prévue de fines dans les stériles et du risque associé de formation de grappes isolées de fines, une valeur de 0,10 a été choisie pour cette étude de modélisation.

Étant donné que les résidus miniers sont de taille plus homogène, un facteur d'échelle hydraulique de 0,30 a été appliqué à la modélisation géochimique du tas de résidus Stockpile-002.

2.9.4 *Autres mécanismes à l'échelle du terrain influençant la mobilisation de l'arsenic*

Au-delà de la température, de la taille des grains et de l'isolation hydraulique, plusieurs mécanismes géochimiques peuvent exercer un contrôle sur la mobilisation de l'arsenic dans des conditions réelles. L'un des processus clés est la reprécipitation de l'arsenic dans des phases minérales secondaires, telles que les arsénates de fer (par exemple, la scorodite), ou son incorporation dans des oxyhydroxydes de fer nouvellement précipités, qui peuvent réduire considérablement les concentrations d'arsenic dissous. De plus, la sorption de l'arsenic sur les minéraux ferreux (par exemple la ferrihydrite, la goethite, l'hématite et la magnétite) joue un rôle

essentiel dans l'atténuation de l'arsenic ; ces minéraux forment des complexes solides avec l'As(III) et l'As(V), immobilisant efficacement l'arsenic dans de nombreuses conditions environnementales.

Il est important de noter que le rapport liquide/solide de 1:1 (1 l/kg/semaine) du HCT qui a servi de base à cette évaluation est généralement supérieur de plusieurs ordres de grandeur à celui observé dans les conditions réelles, où les rapports sont généralement de l'ordre de 10^{-3}l/kg/semaine. Ce rapport artificiellement élevé est conçu pour évaluer le taux maximal d'altération des minéraux primaires contenant de l'arsenic et conduit à des estimations très conservatrices des taux de charge en arsenic, car les mécanismes contrôlés par la solubilité (par exemple, la précipitation secondaire ou la libération limitée par sorption) sont submergés. À ce stade des travaux de modélisation, ces mécanismes n'ont pas encore été pris en compte et l'approche reste conservatrice à cet égard. L'affinement de l'évaluation de l'impact environnemental et social (EIES) intégrera les résultats des essais en colonne et sur le terrain, qui utilisent des rapports liquide/solide plus réalistes, permettant une modélisation explicite de la formation de la phase secondaire et des processus de sorption afin de mieux limiter les prévisions de libération d'arsenic.

2.9.5 Conception technique

Un protocole de séparation a été élaboré afin de séparer les stériles PAG/ML des stériles non PAG/non ML dans le but de concevoir une halde à stériles non PAG/non ML (classification D019 : faible risque).

Comme déterminé précédemment, la lithologie ultramafique a été identifiée comme étant plus susceptible de présenter une teneur en arsenic plus élevée associée à une lixiviation de l'arsenic, et une corrélation entre la teneur en arsenic et le taux de lixiviation de l'arsenic a pu être établie. En outre, l'analyse ABA a permis d'identifier une valeur seuil pour la teneur totale en soufre à partir de laquelle les matériaux peuvent être classés comme non PAG, à condition que la concentration totale en soufre soit inférieure à la valeur seuil. Sur la base de ces observations, un processus de modélisation itératif a été engagé entre les équipes d'ingénierie de Vision, Atkins et G Mining afin de proposer une conception répondant à la fois aux réglementations environnementales et à la faisabilité économique. Ce processus itératif a finalement conduit à l'élaboration d'un protocole de ségrégation visant à réduire la dépendance à l'égard de mesures telles que la mise en place d'une membrane géomembrane à grande échelle pour toutes les haldes à stériles.

2.9.5.1 Approche de ségrégation et efficacité

Tous les matériaux ultramafiques feront l'objet d'une séparation. Cependant, une efficacité de séparation conservatrice de 94 % a été supposée pour la lithologie ultramafique, sur la base des informations fournies par G Mining, la société responsable du modèle géologique en blocs. Cette valeur reflète la précision spatiale avec laquelle cette lithologie peut être délimitée dans la zone d'excavation modélisée. Dans le modèle de blocs, les matériaux ultramafiques sont enfermés dans une enveloppe géologique distincte qui capture environ 94 % de leur volume total. En raison de sa continuité, de ses limites bien définies et de ses caractéristiques visuelles distinctives, la lithologie ultramafique se prête à une identification visuelle et à une manipulation

sélective sur le terrain. Ces attributs confirment la faisabilité d'une séparation opérationnelle pendant l'excavation et le placement, permettant ainsi d'exclure la plupart des matériaux ultramafiques des haldes non lixiviables. Les 6 % restants sont supposés représenter soit des matériaux mal classés, soit un mélange aux marges lithologiques, et sont explicitement pris en compte dans le modèle.

En plus de la séparation des matériaux ultramafiques, il a été recommandé de mettre en œuvre un traitement sélectif basé sur une concentration limite d'arsenic de 30 ppm. Des travaux supplémentaires sont nécessaires pour affiner la manutention sélective, mais la séparation peut être effectuée pendant le processus de dynamitage en mesurant les concentrations d'arsenic à l'aide d'un analyseur portable à fluorescence X (pXRF) sur les déblais de forage générés pendant le forage des trous de mine. Cette méthode permet un criblage géochimique en temps réel de la roche dans la fosse avant l'excavation. Sur la base de la distribution spatiale prévue de l'arsenic dans le gisement et de la résolution offerte par l'échantillonnage des trous de mine, cette approche devrait permettre d'exclure environ 90 % des matériaux dépassant le seuil de 30 ppm. Un taux d'erreur de classification d'environ 10 % est supposé, en raison de l'hétérogénéité inhérente à la roche et des limites de la représentativité des échantillons à l'échelle du dynamitage. Cette incertitude sera intégrée dans le modèle et évaluée plus en détail grâce à une validation continue pendant les opérations.

Enfin, il est recommandé de mesurer la teneur totale en soufre des déblais de forage générés lors du forage de trous de mine à l'aide d'une analyse par combustion LECO, une méthode de pyrolyse à haute température. Sur la base de cette analyse, les stériles dont la teneur totale en soufre dépasse 0,30 % doivent être séparés afin d'éviter l'inclusion de matériaux PAG dans le haldes non lixiviable. Ce seuil a été sélectionné sur la base de l'analyse ABA.

2.9.5.2 Conceptions de haldes

Au-delà de la température, de la taille des grains et de l'isolation hydraulique, plusieurs mécanismes géochimiques peuvent exercer un contrôle sur la mobilisation de l'arsenic.

Deux stockages ont été conçus par Atkins (AtkinsRéalis, 2025) sur la base de la stratégie proposée pour la gestion des stériles, des données provenant de la DHDB, du plan d'extraction pour la durée de vie de la mine (life of mine, LOM) et des contraintes liées à la superficie du site. Le premier, appelé Stockpile-001, accueillera les matériaux classés comme non lixiviables, tandis que le second, appelé Stockpile-002, recevra les matériaux classés comme lixiviables. En outre, le Stockpile-002 sera utilisé pour accumuler environ 54 Mt de résidus qui seront déposés sous forme de piles sèches à la périphérie du tas. Une fois le Stockpile-001 terminé, les matériaux non lixiviables restants seront envoyés au Stockpile-002 jusqu'à ce que le tas soit complet.

La **Figure 4** présente la fréquence cumulative des teneurs en arsenic (**a**) et en soufre total (**b**).

a. Le premier graphique confirme la prédominance des matériaux ultramafiques dont la teneur en arsenic est supérieure à 30 ppm (76 %), tandis que l'amphibolite, les métasédiments et la pegmatite stérile présentent 20 % ou moins de matériaux dont la teneur en arsenic est de 30 ppm.

b. Le deuxième graphique montre que les métasédiments présentent la plus forte proportion d'échantillons dépassant le seuil de 0,30 % de soufre total (29 %), suivis par les amphibolites et les matériaux ultramafiques avec respectivement 14 % et 11 %, et enfin la pegmatite stérile, qui présente moins de 0,2 % de matériaux dépassant le seuil de 0,30 %.

La proportion des dépassements des seuils d'arsenic et de soufre total par lithologie est résumée dans le **Tableau 7** et la composition des haldes est présentée dans le **Tableau 8**.

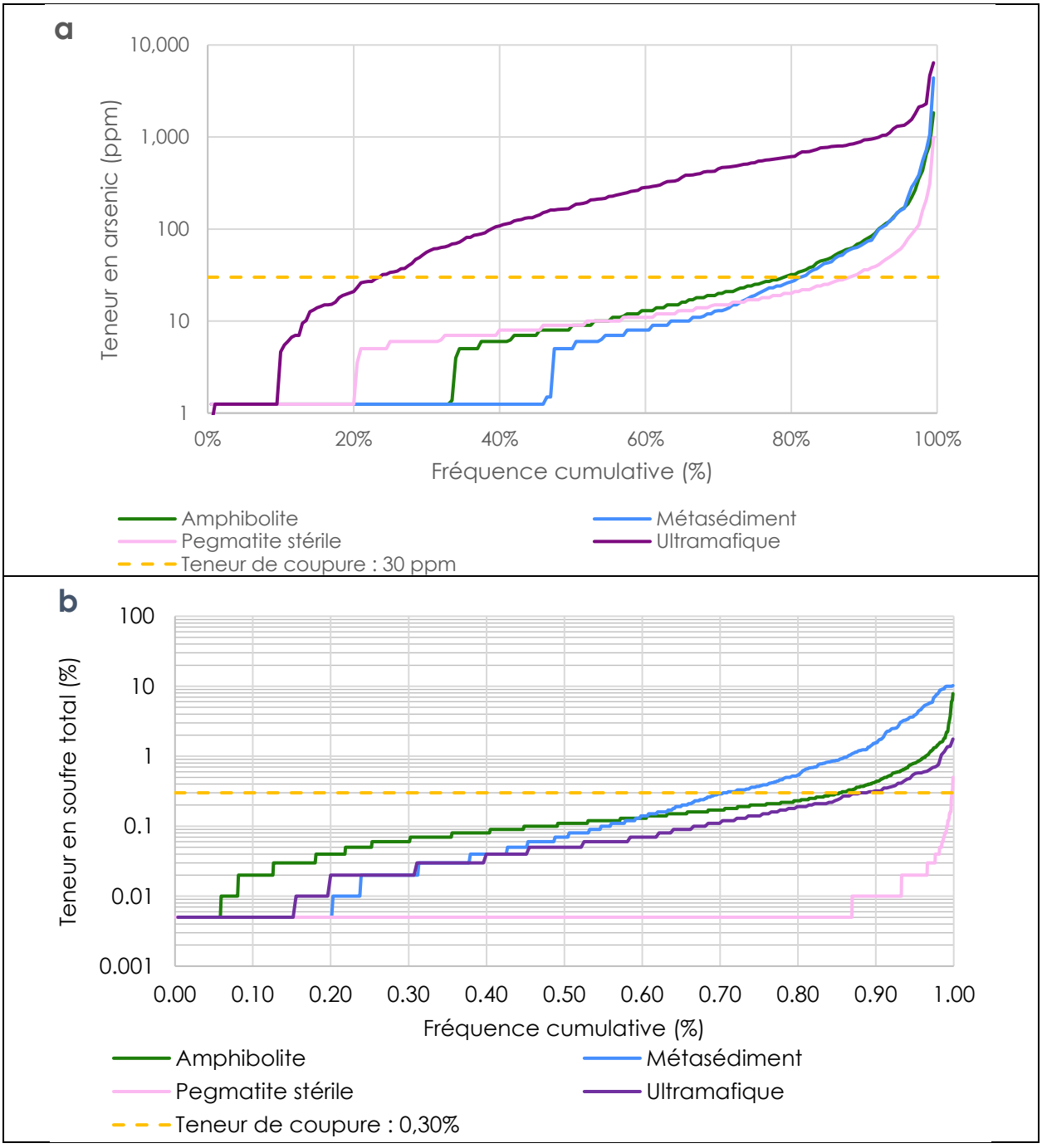


Figure 4. Fréquence cumulative des teneurs en arsenic et en soufre total des roches stériles dans la base de données des trous de forage

Tableau 7. Résumé des matériaux dépassant les seuils limites pour l'arsenic et le soufre total

Lithologie	Total des stériles (Mt)[1]	Dépassement du seuil limite d'arsenic		Dépassement de la limite totale de soufre	
		Masse (Mt)	%	Masse (Mt)	%
Amphibolite	61,0	12,8	21 %	8,8	14 %
Métasédiments	60,5	11,2	19 %	17,6	29 %
Pegmatite stérile	10,4	1,25	12 %	0,02	0 %
Ultramafique	23,1	17,6	77 %	2,6	11 %
Total	**155**	**42,9**	**28 %**	**29,0**	**19 %**

[1]Les quantités de stériles par lithologie ont été extraites du plan d'extraction LOM fourni par G Mining (G Mining, 2025).

Tableau 8. Résumé des caractéristiques de Stockpile-001 et Stockpile-002

Composition des haldes[1]		Stockpile-001	Stockpile-002
Masse (Mt)	**Amphibolite**	21,2	27,4
	Métasédiments	19,5	25,4
	Pegmatite stérile	3,32	5,12
	Ultramafique	0,214	22,6
	Résidus miniers	-	54
	Masse totale	**44,2**	**80,6**
Bassin versant (ha)		**80**	**218**

[1]Les capacités de stockage des haldes ont été fournies par Atkins, et les quantités par lithologie ont été déterminées sur la base du calendrier d'exploitation fourni par G Mining (G Mining, 2025).

2.9.6 *Simulations de modèles*

Des modèles géochimiques ont été développés pour prédire les concentrations de COPC dans les Stockpile-001 et -002 au fil du temps. Comme décrit dans la section précédente, le Stockpile-001 est composé uniquement de stériles, tandis que le Stockpile-002 contiendra un mélange de stériles et de résidus. Le comportement géochimique des deux types de matériaux a été simulé. Le modèle géochimique a été simulé à l'aide des paramètres des facteurs d'ajustement supposés résumés dans **Tableau 9**.

Table 9. Résumé des valeurs des paramètres d'ajustement du modèle, justification et références

Paramètre (symbole ; unités)	Stériles	Résidus	Justification/Référence
Taux de percolation (q_p; l/m²/an)	591		Hypothèse technique tirée de la conception d'Atkins (AtkinsRéalis, 2025) : toutes les précipitations incidentes sont supposées s'infiltrer à travers le matériau et être entièrement récupérées dans le bassin de collecte.
Densité apparente (Gs ; kg/m³)	2000		Conforme aux estimations d'Atkins (AtkinsRéalis, 2025)
Facteur d'échelle de taille des particules (S_{PSD}; sans unité)	0,05	1	Calculé sur la base des estimations de G Mining concernant la taille des particules des matériaux dynamités (G Mining, 2025) ; conforme à la littérature (Stockwell et al., 2006 ; Dawson, 1994 ; Ecometrix, 2014).
Facteur d'échelle de température ($S_{Temp.}$; sans unité)	0,3	0,3	Calculé selon la loi d'Arrhenius (**équation 5**), à partir d'estimations conservatrices de la température, conformément aux recommandations du MEND.
Facteur d'échelle d'isolation hydraulique (S_{HI}; sans unité)	0,1	0,3	Estimations basées sur la littérature (Rescan, 2013 ; Lorax, 2014 ; Stantec, 2017)

2.9.6.1 *Modélisation des stériles*

Un modèle basé sur Monte Carlo intégrant les hypothèses et les facteurs d'échelle décrits dans la section 4.3 ci-dessus a été développé à partir de la conception de la halde, du modèle de ressources dans la fosse et du calendrier fournis par Atkins et G Mining (AtkinsRéalis, 2025 ; G Mining, 2025), ainsi que par la DHDB contenant 4 678 échantillons de carottes de roches stériles.

Cette approche a permis une distribution spatiale aléatoire des lithologies et des caractéristiques de lixiviation de l'arsenic associées, d'une manière qui reflète la variabilité et les proportions observées dans le modèle de ressources dans la fosse. En conséquence, le modèle capture la gamme probabiliste et la distribution des paramètres géochimiques. La méthode Monte Carlo s'appuie sur l'ensemble complet des données de la DHDB et pondère chaque valeur en fonction de sa fréquence et de son occurrence lithologique telles qu'observées sur le terrain.

Le modèle a simulé le placement progressif des stériles dans les haldes conformément au calendrier d'extraction de la durée de vie de la mine (LOM) fourni par G Mining, en supposant une distribution aléatoire des teneurs totales en arsenic et en soufre dans le modèle de bloc d'extraction, avec une ségrégation appliquée selon le seuil précédemment défini.

Le modèle a été exécuté dans 1 000 simulations, ce qui a permis d'évaluer la variabilité probabiliste des résultats en fonction de la distribution hétérogène des types lithologiques et des caractéristiques de lixiviation.

2.9.6.2 *Modélisation des résidus miniers*

La modélisation des résidus miniers est appliquée un seul type de matériau, par conséquent, une simulation de type Monte Carlo n'était pas nécessaire.

Les caractéristiques de résidus simulées ont été obtenues en combinant les charges COPC provenant de CV5-CL-1 (flottants), CV5-CL-2 (moyens) et CV5-CL-4 (dérivation), avec des proportions pondérées de 52 %, 26 % et 22 %, respectivement.

La quantité de matériaux simulée a été progressivement augmentée entre 2030 et 2049 afin de reproduire le calendrier de production minière sur la durée de vie de la mine (LOM) élaboré par G Mining, pour atteindre une capacité maximale de 54 Mt.

Les trois constituants simulés – l'antimoine, l'arsenic et le lithium – correspondent aux COPC les plus mobiles identifiés lors de la phase de criblage, c'est à dire ceux qui sont non soumis à des contrôles de solubilité liés au pH ou à l'alcalinité. L'absence de contrôle de la solubilité est une hypothèse conservatrice du modèle, car d'autres contrôles, tels que le mécanisme de sorption, peuvent avoir lieu sur le terrain.

3.0 Résultats de la caractérisation géochimique

3.1 Bilan acide-base

Des essais ABA ont été effectués sur les 350 échantillons collectés afin de déterminer leur AP et leur NP et d'identifier les matériaux pouvant être identifiés comme PAG. Les tableaux résumant les résultats ABA sont fournis dans l'**Annexe B**.

3.1.1 Analyse de la spéciation du carbone

Figure 5 montre que la relation entre le carbone CO_3 et le carbone total est bien corrélée (R^2 = 0,97) et généralement bien en dessous de la ligne de référence 1:1 (en pointillés), avec une pente de la ligne de régression de 0,90, ce qui suggère que la majeure partie du carbone se présente sous forme de carbonate qui participe probablement au NP. Deux échantillons de métasédiments se distinguent comme des valeurs aberrantes avec des rapports CO_3/carbone total de 60 % ou moins, ce qui suggère la présence d'espèces de carbone autres que les carbonates et qui ne participeront pas efficacement au NP. Dans l'ensemble, la teneur totale en carbone des échantillons constitue un prédicteur valable de la teneur en carbonate et pourrait être utilisée pour la caractérisation ABA des échantillons.

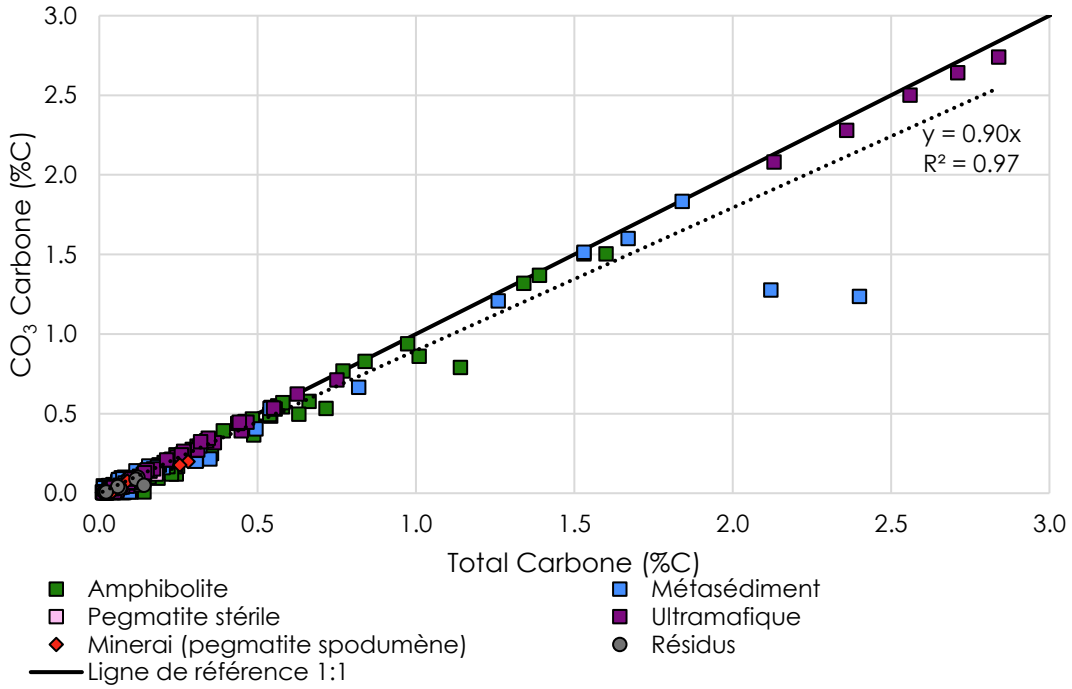


Figure 5: Relation entre le carbone carbonaté et le carbone total

L'analyse des carbonates a montré que 81 échantillons se situaient à la limite inférieure ou en dessous de la limite de détection de l'instrument (0,025 % ou 0,04 % en CO_3, selon la mesure). Les matériaux dont la teneur en carbone était inférieure à la limite de détection comprenaient 9 échantillons d'amphibolite (7,0 %), 17 échantillons de métasédiments (16,8 %), 22 échantillons de

pegmatite stérile (66,7 %), 8 échantillons d'ultramafique (14,8 %), 21 échantillons de minerai de pegmatite spodumène (84,0 %) et 4 échantillons de résidus (30,8 %). Pour ces échantillons, les valeurs de carbone total , qui ont une limite de détection plus faible, ont été utilisées à des fins de classification.

3.1.2 Analyse de la spéciation du soufre

Figure 6 montre la corrélation entre la concentration totale en soufre et le soufre sous forme de sulfure. L'analyse de régression entre le soufre total et le soufre sous forme de sulfure a un R^2 = 0,99 et une pente de 0,89, ce qui indique une bonne concordance entre les teneurs en soufre sous forme de sulfure et en soufre total. Ce résultat suggère que la majeure partie du soufre présent dans les échantillons se trouve probablement sous forme de sulfure et, par conséquent, que les teneurs totales en soufre constituent une approximation appropriée du soufre sous forme de sulfure.

Bien que la teneur totale en soufre varie considérablement, allant d'une limite de détection de 0,005 % à un maximum de 7,39 %, elle reste généralement faible, avec une moyenne de 0,35 %. Cela correspond à une teneur moyenne en soufre sous forme de sulfure de 0,29 %, allant d'une valeur inférieure à la limite de détection de 0,01 % à un maximum de 7,15 %.

Le type lithologique pegmatite, à savoir les stériles pegmatitiques, le minerai et les résidus, présente une forte proportion d'échantillons dont la teneur totale en soufre est inférieure à 0,04 %, avec respectivement 87,9 %, 88,0 % et 76,9 % des échantillons. Ces matériaux sont donc classés par défaut comme non PAG (non potentiellement générateurs d'acide). En revanche, les autres lithologies de stériles, à savoir l'amphibolite, le métasédiment et les matériaux ultramafiques, présentent des proportions nettement inférieures d'échantillons dont la teneur totale en soufre est inférieure à 0,04 %, avec respectivement 8,6 %, 32,7 % et 29,6 % (**Tableau 10**).

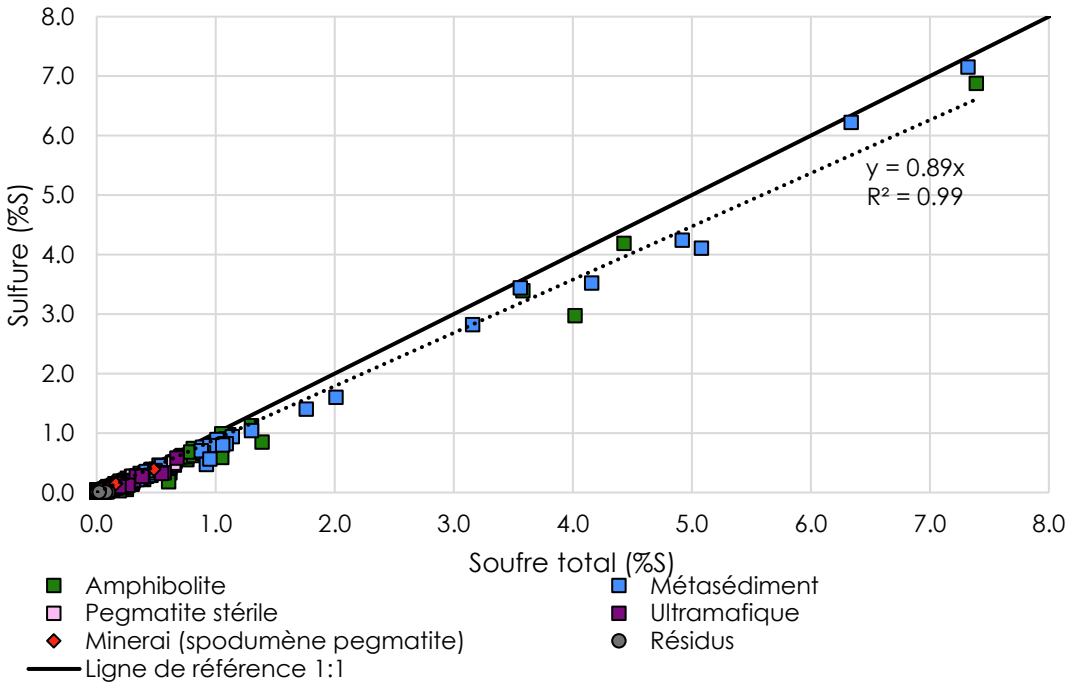


Figure 6. Relation entre soufre sulfure et soufre total

Table 10. Résumé des échantillons présentant une concentration totale en soufre inférieure à 0,04 % par type de matériau

Type de matériau	Total des échantillons	<0,04 % de soufre total (%)	
		n	%
Amphibolite	128	11	8,6 %
Métasédiment	101	33	32,7 %
Pegmatite stérile	33	29	87,9 %
Ultramafique	54	16	29,6 %
Total des stériles	**316**	**89**	**28,2 %**
Minerai (pegmatite spodumène)	25	22	88,0 %
Résidus miniers	9	7	77,8 %

3.1.3 Évaluation du potentiel de neutralisation et d'acidification

Figure 7 montre que, malgré une corrélation relativement bonne entre Sobek-NP et CO_3-NP (R^2=0,78), la plupart des points de données se situent en dessous de la ligne de référence 1:1 (en pointillés), avec une pente de la ligne de régression de 0,80. Le rapport CO_3-NP/Sobek-NP pour les échantillons de la plupart des types de matériaux est bien inférieur à ce coefficient de pente : 0,55 pour l'amphibolite, 0,60 pour les métasédiments, 0,27 pour la pegmatite stérile et le minerai de pegmatite spodumène, et 0,36 pour les résidus miniers.

Ces résultats suggèrent qu'une partie importante du potentiel de neutralisation des échantillons est due à des phases minérales autres que les carbonates. En revanche, les échantillons ultramafiques se distinguent par un rapport CO_3-NP/Sobek-NP moyen de 0,88, ce qui indique que les carbonates jouent un rôle plus important dans le potentiel de neutralisation de cette lithologie.

De plus, deux échantillons ultramafiques et un échantillon métasédimentaire présentent des valeurs de CO_3-NP nettement supérieures à leurs valeurs Sobek-NP respectives. Cette observation suggère la présence, dans ces échantillons particuliers, d'espèces carbonatées (par exemple, sidérite, ankérite ou calcite ou dolomite encapsulée) qui ne fournissent pas de NP efficace.

Compte tenu des rapports CO_3-NP/Sobek-NP généralement plus faibles observés dans la plupart des types de matériaux, ainsi que de la présence d'espèces carbonatées qui ne contribuent pas efficacement à la neutralisation de l'acide, Sobek-NP a été retenu comme indicateur privilégié du potentiel de neutralisation pour la présente analyse géochimique.

Représentation graphique de Sobek-NNP en fonction de Sobek-NPR (**Figure 8**) montre que tous les échantillons sauf un dépassant le critère NNP (NNP < 20 $kgCaCO_3/t$; ligne verte) dépassent également le critère NPR (NPR < 2 ; ligne orange). Cependant, une grande partie des échantillons qui satisfont au critère NPR (83,7 % de tous les échantillons) ne satisfont pas au critère NNP (27,4 % de tous les échantillons). Cette divergence s'explique par le fait que de nombreux échantillons présentent à la fois des valeurs NP et AP inférieures à 20, ce qui les classe comme PAG selon le critère NNP, à moins que leur teneur totale en soufre ne soit inférieure à 0,04 %.

Contrairement au NNP, qui tend à classer par défaut les matériaux présentant à la fois un faible NP et un faible AP comme PAG, le NPR fournit une mesure relative de la capacité de neutralisation acide qui reste significative même à des valeurs absolues faibles. Compte tenu de cette divergence, le NPR a été retenu comme mesure privilégiée pour la classification ABA, car il fournit des informations à la fois sur le NP et l'AP des échantillons, contrairement au NNP, qui ne fournit que des informations sur le NP.

Représentation graphique de Sobek-NPR en fonction du soufre total (**Figure 9**) révèle une tendance générale à la baisse des valeurs NPR avec l'augmentation de la teneur en soufre. Tous les échantillons dont la teneur totale en soufre est inférieure à 0,04 % (n = 118 ; 33,7 %) présentent des valeurs Sobek-NPR bien supérieures au seuil critique de 2. En outre, 99,7 % des échantillons dont la teneur en soufre est inférieure à 0,30 % présentent également des valeurs NPR supérieures à 2 et peuvent donc être classés comme non PAG. Au total, 57 échantillons (16,3 %) entrent dans la catégorie PAG, c'est-à-dire qu'ils se situent en dessous du seuil NPR de 2 et sont mis en évidence dans l'encadré orange.

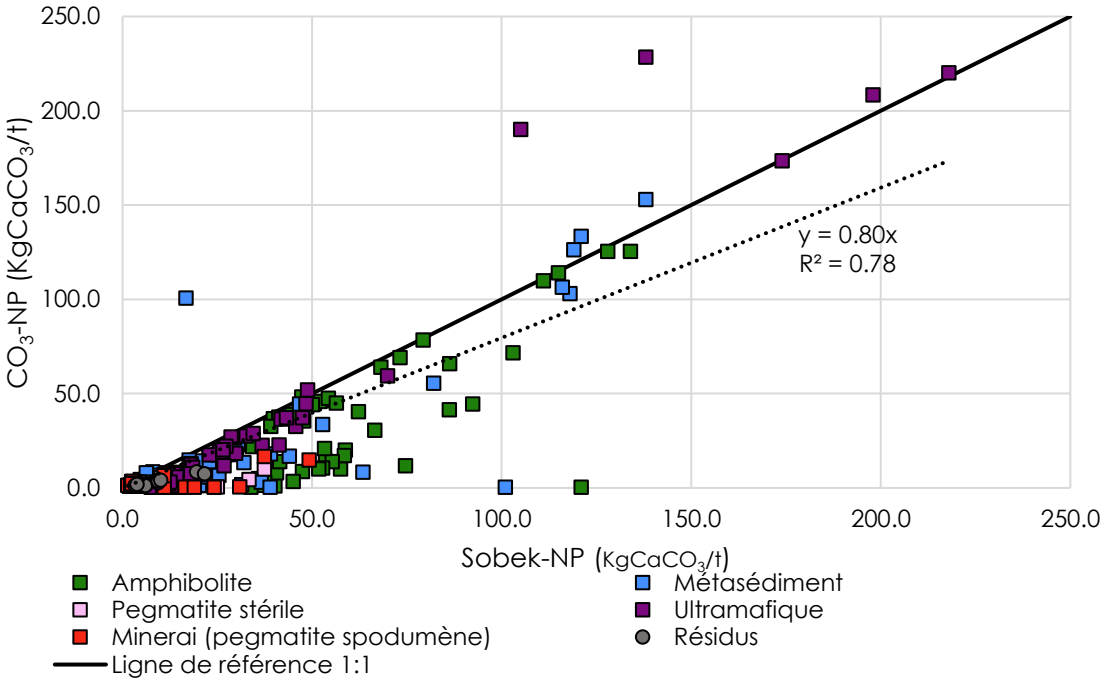


Figure 7: Relation entre Sobek-NP et CO3-NP

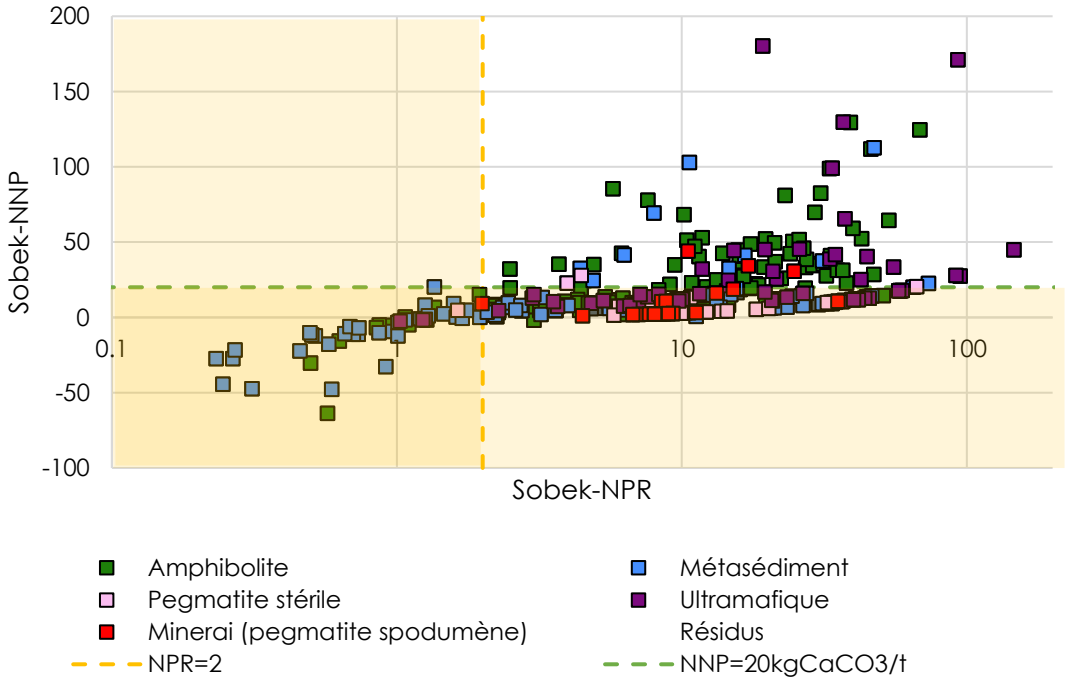


Figure 8: Relation entre Sobek-NNP et Sobek-NRP

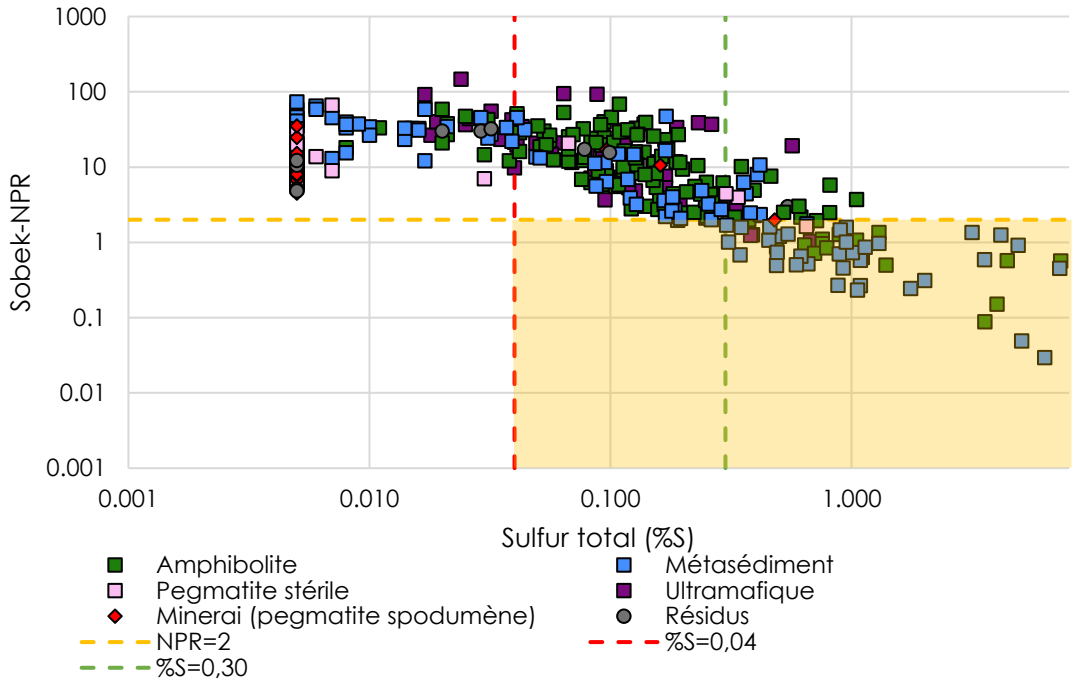


Figure 9: Relation entre NPR et soufre total

3.1.4 Résumé et interprétation

Afin d'étayer l'interprétation ABA des résultats des essais statiques, un tableau récapitulatif complet a été établi, compilant les paramètres clés pour tous les types de matériaux (**Tableau 11**). Ce tableau comprend une distribution statistique des valeurs totales de soufre, de soufre sulfuré, de carbone total, de teneur en carbonate, Sobek-NP, Sulfide-AP et Sobek-NPR.

L'analyse ABA a montré que le carbone total était fortement corrélé à la teneur en carbonate (R^2 = 0,97), ce qui suggère qu'il pourrait servir de bon indicateur du CO_3-NP. Cependant, le CO_3-NP n'était pas systématiquement corrélé au Sobek-NP (R^2 = 0,78 ; pente de régression = 0,80), les rapports CO_3-NP/Sobek-NP variant de 0,27 à 0,88 selon la lithologie. Cela indique qu'une partie importante des NP est probablement associée à des minéraux non carbonatés, tels que les silicates (par exemple, l'olivine, le feldspath, le pyroxène, l'amphibole) (Lawrence et Scheske, 1997 ; Jambor et al., 2002). Par conséquent, le carbone total et le carbone carbonaté semblent être de mauvais prédicteurs du NP. Dans les futurs essais statiques, le Sobek-NP devrait rester la méthode privilégiée pour la caractérisation du NP.

À l'inverse, le soufre total s'est révélé être un indicateur fiable, bien que légèrement prudent, du soufre sulfuré (R^2 = 0,99 ; pente de régression = 0,89), avec une moyenne de 83 % du soufre présent sous forme de sulfures. Les concentrations totales en soufre étaient généralement faibles, avec une moyenne de 0,35 % pour tous les types de matériaux. De plus, 28,2 % des échantillons de stériles, 88,0 % des échantillons de minerai et 77,8 % des échantillons de résidus miniers présentaient une teneur totale en soufre inférieure au seuil de 0,04 %.

De plus, une grande partie des échantillons qui répondaient au critère NPR (83,7 % de tous les échantillons) ne répondaient pas au critère NNP (seulement 27,4 % de tous les échantillons). Cette divergence s'explique par le fait que de nombreux échantillons avaient des valeurs NP inférieures à 20, ce qui les classait automatiquement comme PAG selon le critère NNP. Compte tenu de cette incohérence, le NPR a été retenu comme mesure privilégiée pour la classification ABA. Cette approche est considérée comme plus appropriée pour l'ensemble de données actuel, dans lequel de nombreux échantillons présentent une faible teneur en soufre et un potentiel de neutralisation modéré.

Parmi les 350 échantillons prélevés, 57 (16,3 %) ont été classés comme PAG. Les lithologies de roches stériles amphibolites (n = 16 ; 12,5 %) et métasédimentaires (n = 36 ; 35,6 %) présentaient les proportions les plus élevées d'échantillons PAG, tandis que les roches stériles pegmatitiques et ultramafiques ne présentaient respectivement qu'un (3,0 %) et trois (5,6 %) échantillons PAG. De plus, tous les échantillons de résidus ont été classés comme non PAG en raison de leur teneur totale en soufre négligeable (0,04 %), et un seul échantillon de minerai (4,0 %) a été classé comme PAG. **Tableau 12** résume le nombre d'échantillons PAG par type de lithologie.

L'interprétation des résultats a montré que les échantillons de stériles contenant moins de 0,30 % de soufre total étaient à 99,7 % exempts de PAG. Une valeur seuil de 0,30 % de soufre total pourrait donc être envisagée pour la séparation des matériaux contenant des PAG.

Table 11. Résumé des principales caractéristiques ABA des matériaux Shaakichiuwaanaan

Type de matériau	Paramètre statistique	Soufre total (%)	Sulfure (%)	Carbone total (%)	Carbonate (en %C)	Sobek-NP (kgCaCO3/t)	Sulfure-AP (kgCaCO3/t)	Sobek-NPR
Amphibolite	Moyenne	0,46	0,38	0,25	0,22	34,51	11,83	14 h 30
	Maximum	7,39	7,15	1,60	1,50	134,00	223,18	68,35
	0,75 centile	0,28	0,20	0,29	0,25	47,35	6,24	22,52
	Médiane	0,14	0,09	0,12	0,10	23,25	2,81	9,25
	0,25 centile	0,09	0,04	0,07	0,04	14,98	1,25	2,97
	Minimum	0,01	0,01	0,02	0,01	8,60	0,31	0,09
Métasédiments	Moyenne	0,53	0,43	0,19	0,16	20,93	13,35	14,64
	Maximum	6,34	6,22	2,40	1,84	138,00	194,15	73,37
	0,75 centile	0,50	0,39	0,12	0,10	18,95	12,02	26,99
	Médiane	0,17	0,10	0,06	0,05	12,70	3,12	4,88
	0,25 centile	0,02	0,01	0,03	0,02	8,60	0,31	1,27
	Minimum	0,01	0,01	0,01	0,01	3,50	0,31	0,03
Pegmatite stérile	Moyenne	0,04	0,05	0,05	0,03	10,36	1,47	12,60
	Maximum	0,65	0,49	0,28	0,20	49,20	15,29	66,64
	0,75 centile	0,01	0,04	0,04	0,02	11,65	1,25	12,98
	Médiane	0,01	0,01	0,03	0,01	6,30	0,31	9,93
	0,25 centile	0,01	0,01	0,02	0,01	3,15	0,31	7,29
	Minimum	0,01	0,01	0,01	0,01	1,80	0,31	1,63
Ultramafique	Moyenne	0,12	0,08	0,31	0,29	32,25	2,59	24,39
	Maximum	0,68	0,58	2,71	2,64	218,00	18,10	146,41
	0,75 centile	0,13	0,09	0,33	0,30	33,55	2,81	34,80
	Médiane	0,06	0,04	0,11	0,07	16,60	1,25	15,62
	0,25 centile	0,03	0,02	0,05	0,02	12,50	0,62	6,81
	Minimum	0,01	0,01	0,01	0,01	3,30	0,31	1,03

Type de matériau	Paramètre statistique	Soufre total (%)	Sulfure (%)	Carbone total (%)	Carbonate (en %C)	Sobek-NP (kgCaCO3/t)	Sulfure-AP (kgCaCO3/t)	Sobek-NPR
Minerai (pegmatite spodumène)	Moyenne	0,12	0,08	0,31	0,29	32,25	2,59	24,39
	Maximum	0,68	0,58	2,71	2,64	218,00	18,10	146,41
	0,75 centile	0,13	0,09	0,33	0,30	33,55	2,81	34,80
	Médiane	0,06	0,04	0,11	0,07	16,60	1,25	15,62
	0,25 centile	0,03	0,02	0,05	0,02	12,50	0,62	6,81
	Minimum	0,01	0,01	0,01	0,01	3,30	0,31	1,03
Résidus miniers	Moyenne	0,03	0,02	0,06	0,04	9,93	0.73	17,57
	Maximum	0,10	0,04	0,14	0,10	21,60	1,25	32,36
	0,75 centile	0,06	0,04	0,12	0,07	14,80	1,25	30,11
	Médias	0,02	0,01	0,06	0,03	9,40	0,31	15,62
	0,25 centile	0,01	0,01	0,02	0,01	4,90	0,31	7,81
	Minimum	0,01	0,01	0,02	0,01	3,30	0,31	4,81

Table 12: Classification des échantillons PAG par type de matériau et de lithologie

Type de matériau	n	Nombre d'échantillons PAG	Proportion d'échantillons PAG (%)
Amphibolite	128	16	12,5 %
Métasédiment	101	36	35,6 %
Pegmatite stérile	33	1	3,0 %
Ultramafique	54	3	5,6 %
Total des stériles	**316**	**56**	**17,7 %**
Minerai (pegmatite spodumène)	25	1	4,0 %
Résidus miniers	9	0	0,0 %

3.2 Constituants extractibles et potentiel de lixiviation

Les résultats des essais de lixiviation effectués sur les échantillons sélectionnés ont été évalués conformément aux lignes directrices du MELCCFP.

Afin de mettre en évidence les enrichissements potentiels en COPC des matériaux, les résultats du essais de lixiviation à l'eau régale ont été comparés à la concentration moyenne de la croûte continentale. (Rudnick et Gao, 2014) ainsi qu'aux informations générales sur la province géologique supérieure fournies à l'annexe 1 du *Guide d'intervention – protection des sols et réhabilitation des terrains contaminés* (MELCCFP, 2021).

Comme indiqué précédemment, il convient de noter que les teneurs moyennes de la croûte terrestre se réfèrent à la teneur totale (digestion totale) et que les teneurs extractibles se réfèrent à la teneur partielle (digestion partielle). Par conséquent, les comparaisons doivent être effectuées avec prudence. Cependant, les teneurs extractibles peuvent être comparées aux critères A présentés dans le guide MELCCFP (2021).

Les résultats des essais de lixiviation SPLP et CTEU-9 ont été comparés aux *Critères de qualité pour la protection de la vie aquatique – effet aigu* (CVAA) tirés des Critères de qualité des eaux de surface (CQES) fournis par le MELCCFP. Les valeurs réglementaires pour certains éléments (par exemple, le cadmium, le manganèse) dépendent de la dureté du système aquatique récepteur, tandis que pour l'aluminium (Al), elles dépendent également du carbone organique dissous (concentration en COD) et du pH. Les valeurs réglementaires ont été calculées en supposant une concentration en COD de 5 mg/L, un pH de 6 et une dureté de 5 mg/L.

Les résultats des essais de lixiviation TCLP ont été comparés à la directive 019 – annexe 2 sur les caractéristiques des résidus miniers (à haut risque).

Les tableaux récapitulatifs des résultats des essais de lixiviation et des réglementations figurent à l'**Annexe C**.

3.2.1 Constituants extractibles

Une comparaison des éléments enrichis par rapport à 10 fois la teneur moyenne de la croûte continentale est fournie dans **Tableau 13** pour mettre en évidence les enrichissements en métaux et métalloïdes supérieurs aux niveaux naturels.

L'arsenic était l'élément le plus enrichi, avec 59 % des échantillons de stériles dépassant 10 fois l'abondance crustale. Un enrichissement élevé en arsenic a été particulièrement observé dans les stériles ultramafiques (n = 54 ; 100 %), les amphibolites (n = 73 ; 57 %) et les métasédiments (n = 11 ; 33 %).

L'antimoine et le lithium étaient également très enrichis, les échantillons enrichis correspondant respectivement à 50 % et 40 % du total des échantillons de stériles. L'enrichissement en antimoine était particulièrement notable dans les roches ultramafiques (n = 48 ; 89 %), les amphibolites (n = 65 ; 51 %) et les stériles pegmatitiques (n = 33 ; 33 %). Le lithium était le plus abondant dans les roches stériles pegmatitiques (n = 69 ; 68 %), suivies des roches stériles ultramafiques (n = 17 ; 31 %) et amphibolites (n = 38 ; 30 %).

D'autres éléments ont dépassé 10 fois leur abondance dans la croûte terrestre uniquement dans un nombre limité d'échantillons. Le bismuth a atteint 45 % des métasédiments (n = 15), le nickel a dépassé le seuil dans 22 % des stériles ultramafiques (n = 12) et le bore l'a dépassé dans 6 % des échantillons ultramafiques (n = 3 ; 6 %). Les autres éléments, notamment le cadmium, le cuivre, le plomb, le mercure, le molybdène, l'étain, l'uranium et le zinc, ont montré un enrichissement limité dans l'ensemble des stériles.

Le minerai de pegmatite spodumène et les résidus miniers présentent généralement moins d'échantillons dépassant 10 % d'abondance crustale, à l'exception notable de l'arsenic (n = 13 ; 52 % dans le minerai ; n = 5 ; 56 % dans les résidus miniers) et de l'antimoine (n = 13 ; 52 % dans le minerai ; n=8 ; 89 % dans les résidus), et pour le bore à la fois dans le minerai (n=13 ; 52 %) et dans les résidus (n=4 ; 44 %).

Il convient de noter que les résultats de la digestion à l'eau régale ne représentent qu'une partie du contenu total, les dépassements de la teneur moyenne de la croûte terrestre sont susceptibles d'être plus importants et présents dans un plus grand nombre d'échantillons.

Une comparaison des concentrations en métaux et métalloïdes obtenues par extraction à l'eau régale par rapport aux critères A de la province géologique supérieure est fournie dans **Tableau 14** pour mettre en évidence les contenus extractibles au-dessus des niveaux naturels de fond.

L'arsenic était l'élément le plus enrichi, avec 78 % des échantillons de stériles dépassant le critère A. Un enrichissement élevé en arsenic a été particulièrement observé dans les stériles ultramafiques (n=54 ; 100 %), les stériles de pegmatite (n=25 ; 76 %), les amphibolites (n=98 ; 77 %) et les métasédiments (n=70 ; 69 %).

Le cuivre et le nickel étaient également fréquemment enrichis, observés respectivement dans 45 % et 32 % des échantillons de stériles totaux. L'enrichissement en cuivre était particulièrement notable dans l'amphibolite (n = 98 ; 77 %), l'ultramafique (n = 24 ; 44 %) et les métasédiments (n =

18 ; 18 %). Le nickel dépassait le critère A principalement dans les roches ultramafiques (n = 53 ; 98 %), suivies par l'amphibolite (n = 36 ; 28 %) et les métasédiments (n = 12 ; 12 %).

Le chrome et le cobalt ont montré un enrichissement significatif dans les stériles ultramafiques, 98 % des échantillons ultramafiques dépassant le critère A pour le chrome (n = 53) et 65 % pour le cobalt (n = 35).

D'autres éléments n'ont dépassé les critères A que dans un nombre limité d'échantillons. Mis à part l'arsenic, le cuivre, le nickel et le chrome, des éléments tels que l'étain, le baryum, le cadmium, le plomb, le manganèse, le mercure, le molybdène, l'argent et le zinc ont montré un enrichissement plus limité dans l'ensemble des stériles. L'étain était particulièrement enrichi dans les métasédiments (n = 12 ; 12 %) et l'amphibolite (n = 7 ; 5 %).

Le minerai de pegmatite spodumène et les résidus miniers présentaient généralement peu d'échantillons dépassant les critères A, à l'exception de l'arsenic (n = 22 ; 88 % dans le minerai ; n = 9 ; 100 % dans les résidus miniers), du chrome (n = 3 ; 12 % dans le minerai ; n = 5 ; 56 % dans les résidus miniers) et du nickel dans les résidus miniers (n = 3 ; 33 %).

Table 13Résumé des résultats obtenus avec l'eau régale dépassant 10 fois la teneur moyenne de la croûte continentale par lithologie

Paramètres	Abondance crustale 10X (ppm)[1]	Amphibolite	Pegmatite stérile	Métasédiments	Ultramafique	Total des stériles	Minerai (pegmatite spodumène)	Résidus
		n = 128	n = 101	n = 33	n = 54	n = 316	n = 25	n=9
Antimoine	**2 ppm**	65	33	12	48	158	13	8
		51 %	33 %	36 %	89 %	50 %	52 %	89 %
Arsenic	**13 ppm**	73	50	11	54	188	13	5
		57 %	50 %	33 %	100 %	59 %	52 %	56 %
Bismuth	**1,8 ppm**	2	2	15	1	20	12	8
		2 %	2 %	45 %	2 %	6 %	48 %	89 %
Bore	**110 ppm**	0	1	0	3	4	13	4
		0 %	1 %	0 %	6 %	1 %	52 %	44 %
Cadmium	**0,8 ppm**	2	6	0	1	9	0	0
		2 %	6 %	0 %	2 %	3 %	0 %	0 %
Cuivre	**370 ppm**	1	1	0	0	2	0	0
		1 %	1 %	0 %	0 %	1 %	0 %	0 %
Plomb	**110 ppm**	0	2	0	0	2	0	0
		0 %	2 %	0 %	0 %	1 %	0 %	0 %
Lithium	**160 ppm**	38	69	2	17	126	2	0
		30 %	68 %	6 %	31 %	40 %	8 %	0 %
Mercure	**0,3 ppm**	1	1	0	0	2	0	0
		1 %	1 %	0 %	0 %	1 %	0 %	0 %
Molybdène	**8 ppm**	0	0	0	1	1	0	0
		0 %	0 %	0 %	2 %	0 %	0 %	0 %
nickel	**590 ppm**	0	0	0	12	12	0	0
		0 %	0 %	0 %	22 %	4 %	0 %	0 %
Étain	**17 ppm**	2	3	0	1	6	0	0

Paramètres	Abondance crustale 10X (ppm)[1]	Amphibolite	Pegmatite stérile	Métasédiments	Ultramafique	Total des stériles	Minerai (pegmatite spodumène)	Résidus
		n = 128	n = 101	n = 33	n = 54	n = 316	n = 25	n=9
		2 %	3 %	0 %	2 %	2 %	0 %	0 %
Uranium	**13 ppm**	0	0	2	0	2	0	0
		0 %	0 %	6 %	0 %	1 %	0 %	0 %
Zinc	**710 ppm**	2	2	0	0	4	0	0
		2 %	2 %	0 %	0 %	1 %	0 %	0 %

[1]Abondances de la croûte continentale obtenues à partir de Rudnick et Gao, 2014

Table 14. Résumé des résultats d'analyses à l'eau régale dépassant les seuils réglementaires

Paramètres	Critères A[1]	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Total des stériles	Minerai (pegmatite spodumène)	Résidus
		n = 128	n = 101	n = 33	n = 54	n = 316	n = 25	n=9
Arsenic	**5 ppm**	98	70	25	54	**247**	22	9
		77 %	69 %	76 %	100 %	**78 %**	88 %	100 %
Baryum	**240 ppm**	1	1	0	0	**2**	0	0
		1 %	1 %	0 %	0 %	**1 %**	0 %	0 %
Cadmium	**0,9 ppm**	2	5	0	1	**8**	0	0
		2 %	5 %	0 %	2 %	**3 %**	0 %	0 %
Chrome	**100 ppm**	9	8	4	53	**74**	3	5
		7 %	8 %	12 %	98 %	**23 %**	12 %	56 %
Cobalt	**30 ppm**	3	2	0	35	**40**	0	0
		2 %	2 %	0 %	65 %	**13 %**	0 %	0 %
Cuivre	**65 ppm**	98	18	3	24	**143**	0	0
		77 %	18 %	9 %	44 %	**45 %**	0 %	0 %
Plomb	**40 ppm**	2	3	1	1	**7**	0	0
		2 %	3 %	3 %	2 %	**2 %**	0 %	0 %
Manganèse	**1000 ppm**	0	2	0	0	**2**	0	0
		0 %	2 %	0 %	0 %	**1 %**	0 %	0 %
Mercure	**0,3 ppm**	1	1	0	0	**2**	0	0
		1 %	1 %	0 %	0 %	**1 %**	0 %	0 %
Molybdène	**8 ppm**	0	0	0	1	**1**	0	0
		0 %	0 %	0 %	2 %	**0 %**	0 %	0 %
nickel	**50 ppm**	36	12	1	53	**102**	0	3
		28 %	12 %	3 %	98 %	**32 %**	0 %	33 %
Argent	**0,5 ppm**	1	3	0	1	**5**	1	0
		1 %	3 %	0 %	2 %	**2 %**	4 %	0 %

Paramètres	Critères A[1]	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Total des stériles	Minerai (pegmatite spodumène)	Résidus
		n = 128	n = 101	n = 33	n = 54	n = 316	n = 25	n=9
Étain	**5 ppm**	7	12	3	5	**27**	4	0
		5 %	12 %	9 %	9 %	**9 %**	16 %	0 %
Zinc	**150 ppm**	2	6	0	1	**9**	0	0
		2 %	6 %	0 %	2 %	**3 %**	0 %	0 %

[1]Annexe 1 – Critères génériques A (niveaux de fond) pour les métaux et métalloïdes dans les sols de la province géologique du Supérieur (MELCC, 2021)

3.2.2 Essais SPLP

Les résultats du pH obtenus lors des essais de lixiviation SPLP ont présenté une valeur finale moyenne de 8,10 et sont restés conformes aux directives sur la qualité des eaux de surface pour les effluents miniers (6,0 à 9,5) en cas d'exposition chronique du CQES pour tous les échantillons, à l'exception d'un échantillon de métasédiments (CV5-MS-202) présentant une valeur de 5,72.

Une comparaison des résultats des essais de lixiviation SPLP avec les critères CVAA est fournie dans **Tableau 16** pour mettre en évidence les éléments dépassant les seuils réglementaires spécifiques au site.

L'aluminium était l'élément qui dépassait le plus souvent le critère de la CVAA, avec 79 % des échantillons de stériles totales dépassant 0,18 ppm. Des dépassements élevés de la teneur en aluminium ont été observés dans tous les types de stériles, y compris l'amphibolite (n = 121 ; 95 %), les métasédiments (n = 89 ; 88 %), la pegmatite stérile (n = 28 ; 85 %) et les roches ultramafiques (n = 12 ; 22 %).

L'arsenic a dépassé le critère de la CVAA dans une petite partie des échantillons (6 % du total des stériles), principalement dans les stériles ultramafiques (n = 17 ; 31 %), avec des dépassements très limités dans l'amphibolite (n = 2 ; 2 %) et la stérile pegmatitique (n = 1 ; 1 %).

Les autres éléments dépassant les critères CVAA dans un nombre limité d'échantillons comprennent l'antimoine, le cuivre, le béryllium, le plomb, l'uranium et le zinc. L'antimoine dépassait le critère dans les échantillons de métasédiments (n = 1 ; 1 %) et d'ultramafiques (n = 1 ; 2 %), tandis que le cuivre dépassait le critère dans 3 % des échantillons de roches stériles, notamment dans les amphibolites (n = 3 ; 2 %), les métasédiments (n = 4 ; 4 %) et la pegmatite stérile (n = 4 ; 12 %). Les dépassements de béryllium ont été observés essentiellement dans la pegmatite stérile (n = 4 ; 12 %). Le plomb et le fer ont dépassé les critères dans très peu d'échantillons, avec seulement quelques occurrences isolées, l'uranium a dépassé le critère de la CVAA dans deux échantillons de pegmatite stérile (n=2; 6 %) et le zinc a dépassé le seuil de la CVAA dans 3 % des échantillons de stériles, principalement dans l'amphibolite (n=5; 4 %), la pegmatite stérile (n=3; 9 %) et les métasédiments (n=2; 2 %).

Le minerai et les résidus ont présenté globalement moins de dépassements, à l'exception notable de l'aluminium (n = 15 ; 60 % dans le minerai ; n = 8 ; 89 % dans les résidus) et du cuivre (n = 3 ; 12 % dans le minerai ; n = 3 ; 33 % dans les résidus), ainsi que du zinc dans les résidus (n = 2 ; 22 %).

Tableau 16 présente les résultats des essais SPLP comparés aux critères MDMER et D019. Des dépassements des critères MDMER/D019 ont été observés uniquement pour l'arsenic et le fer. L'arsenic (0,10 mg/L) a été dépassé dans 12 échantillons d'amphibolite (n = 128 ; 9 %), 5 métasédiments (n = 101 ; 5 %), 1 échantillon de pegmatite stérile (n = 33 ; 3 %) et 36 échantillons ultramafiques (n = 54 ; 67 %). Au total, 54 échantillons de stériles (n = 316 ; 17 %) dépassaient le critère, ainsi que 4 échantillons de minerai de pegmatite spodumène (n = 25 ; 16 %) et 3 échantillons de résidus (n = 9 ; 33 %). Le fer (3 mg/L) dépassait le critère dans un seul échantillon de métasédiment (n = 101 ; 1 %). Le fer, dont le critère est de 3 mg/L, n'a dépassé la limite que dans un seul échantillon de métasédiment (n = 101 ; 1 %). Aucun dépassement n'a été enregistré dans les autres types de matériaux.

Table 15. Résumé des échantillons présentant des résultats des essais de lixiviation SPLP dépassant les valeurs réglementaires de la CVAA

Paramètres	CVAA[3]	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Total des stériles	Minerai (pegmatite spodumène)	Résidus
		n = 128	n = 101	n = 33	n = 54	n = 316	n = 25	n=9
Aluminium[1, 2]	0,28 mg/l	121	89	28	12	250	12	5
		95 %	88 %	85 %	22 %	79 %	48 %	56 %
Antimoine	0,31 mg/l	0	1	0	1	2	0	0
		0 %	1 %	0 %	2 %	1 %	0 %	0 %
Arsenic	0,34 mg/l	2	1	0	17	20	0	0
		2 %	1 %	0 %	31 %	6 %	0 %	0 %
Béryllium[1]	0,0012 mg/l	0	0	4	0	4	2	0
		0 %	0 %	12 %	0 %	1 %	8 %	0 %
Cuivre[1]	0,0016 mg/l	3	4	4	0	11	3	3
		2 %	4 %	12 %	0 %	3 %	12 %	33 %
Fer	3,4 mg/l	0	1	0	0	1	0	0
		0 %	1 %	0 %	0 %	0 %	0 %	0 %
Plomb[1]	0,004 mg/l	0	0	1	0	1	0	0
		0 %	0 %	3 %	0 %	0 %	0 %	0 %
Uranium	0,017 mg/l	0	0	2	0	2	0	0
		0 %	0 %	6 %	0 %	1 %	0 %	0 %
Zinc	0,017 mg/l	5	2	3	0	10	2	2
		4 %	2 %	9 %	0 %	3 %	8 %	22 %

[1]Les valeurs des paramètres de qualité de l'eau de l'environnement récepteur utilisées pour déterminer les seuils réglementaires de la CVAA sont les suivantes : un pH de 6, une dureté de 5 mg/L, [2]et une concentration en carbone organique dissous (COD) de 5 mg/L. [3]Critère de qualité des eaux de surface – Protection de la vie aquatique (effet aigu).

Table 16. Résumé des échantillons présentant des résultats des essais de lixiviation SPLP dépassant les valeurs réglementaires MDMER et D019.

Paramètres	MDMER / Directive 019	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Total des stériles	Minerai (pegmatite spodumène)	Résidus miniers
		n = 128	n = 101	n = 33	n = 54	n = 316	n = 25	n=9
Arsenic	0,10 mg/l	12	5	1	36	54	4	3
		9 %	5 %	3 %	67 %	17 %	16 %	33 %
Fer	3 mg/l	0	1	0	0	1	0	0
		0 %	1 %	0 %	0 %	0 %	0 %	0 %

3.2.3 essais de lixiviation CTEU-9

Les résultats de pH obtenus à partir des essais de lixiviation CTEU-9 se situaient entre 4,67 et 9,77, avec 16 échantillons de stériles et un échantillon de minerai dépassant la limite supérieure de pH de 9,5, et deux échantillons, dont un amphibolite (VIS-CV5-AMP-106) et un métasédiment (VIS-CV5-MS-202), dépassant la limite inférieure avec des valeurs de pH respectives de 5,67 et 4,67.

Une comparaison des résultats des essais de lixiviation SPLP avec les critères CVAA est fournie dans **Tableau 17** pour mettre en évidence les éléments dépassant les seuils réglementaires spécifiques au site.

L'aluminium était l'élément qui dépassait le plus souvent le critère de la CVAA, avec 70 % des échantillons de stériles totales dépassant 0,28 ppm. Des dépassements élevés de la teneur en aluminium ont été observés dans tous les types de stériles, y compris les métasédiments (n = 84 ; 83 %), l'amphibolite (n = 97 ; 76 %), la pegmatite stérile/granite (n = 33 ; 100 %) et les roches ultramafiques (n = 8 ; 15 %). L'aluminium dépassait également le critère dans tous les échantillons de minerai de pegmatite spodumène (n = 25 ; 100 %) et dans la plupart des résidus (n = 8 ; 89 %).

L'arsenic dépassait le critère de la CVAA dans 37 % des échantillons de stériles, principalement dans les stériles ultramafiques (n = 50 ; 93 %) et les stériles pegmatitiques (n = 24 ; 73 %), avec des dépassements supplémentaires dans les amphibolites (n = 26 ; 20 %) et les métasédiments stériles (n = 16 ; 16 %). L'arsenic était présent dans tous les échantillons de résidus (n = 9 ; 100 %) et dans la plupart des échantillons de minerai (n = 19 ; 76 %).

D'autres éléments dépassant les critères CVAA dans une plus petite fraction des échantillons comprennent le cuivre, le béryllium, le lithium, l'antimoine, le fer, le cadmium et le plomb. Le cuivre dépassait le critère dans 33 % des échantillons de stériles, notamment dans les stériles pegmatitiques (n = 19 ; 58 %), les amphibolites (n = 37 ; 29 %), les stériles pegmatitiques/granitiques (n = 34 ; 34 %) et les roches ultramafiques (n = 13 ; 24 %). Le lithium dépassait le critère dans 51 % des échantillons de stériles, en particulier dans l'amphibolite (n = 69 ; 54 %), la pegmatite stérile (n = 63 ; 62 %) et les roches ultramafiques (n = 21 ; 39 %). L'antimoine dépassait le critère dans 21 % des échantillons de stériles, notamment dans les stériles ultramafiques (n = 36 ; 67 %), dans le minerai (n = 10 ; 40 %) et dans les résidus (n = 5 ; 86 %). Le béryllium dépassait le seuil principalement dans la pegmatite stérile (n = 13 ; 39 %), tandis que l'antimoine le dépassait principalement dans les roches ultramafiques (n = 21 ; 39 %). Le fer dépassait le critère dans 8 % des échantillons de roches stériles, principalement dans l'amphibolite (n = 7 ; 5 %) et la pegmatite stérile/granite (n = 12 ; 12 %). Le cadmium et le plomb dépassaient le critère CVAA dans très peu d'échantillons. Les dépassements pour le manganèse étaient négligeables.

Tableau 18 présente les résultats des essais CTEU-9 comparés aux critères MDMER/D019. Des dépassements ont été observés pour l'arsenic, le fer et le nickel. L'arsenic (0,10 ppm) a dépassé le critère dans 62 échantillons d'amphibolite (n = 128 ; 48 %), 37 échantillons de stériles pegmatitiques (n = 101 ; 37 %), 31 échantillons de stériles pegmatitiques (n = 33 ; 94 %) et 53 échantillons ultramafiques (n = 54 ; 98 %). Au total, 183 échantillons de stériles (n = 316 ; 58 %) dépassaient le critère, en plus de 25 échantillons de minerai de spodumène de

pegmatite (n = 25 ; 100 %) et 9 échantillons de résidus (n = 9 ; 100 %). Le fer (3 ppm) dépassait le critère dans 8 échantillons d'amphibolite (n = 128 ; 6 %), 15 échantillons de métasédiments (n = 101 ; 15 %), 3 échantillons de pegmatite stérile (n = 33 ; 9 %) et 6 échantillons ultramafiques (n = 54 ; 11 %). Cela représentait 32 échantillons de roches stériles (n = 316 ; 10 %) ainsi que 15 échantillons de minerai de pegmatite spodumène (n = 25 ; 60 %). Le nickel (0,25 ppm) dépassait le critère dans un seul échantillon ultramafique (n = 54 ; 2 %), sans dépassement dans les autres matériaux.

Table 17: Résumé des échantillons présentant des valeurs CTEU-9 dépassant les valeurs réglementaires CVAA

Paramètres	CVAA[3]	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Total des stériles	Minerai (pegmatite spodumène)	Résidus miniers
		n = 128	n = 101	n = 33	n = 54	n = 316	n = 25	n=9
Aluminium[1, 2]	0,28 mg/l	97	84	33	8	222	25	8
		76 %	83 %	100 %	15 %	70 %	100 %	89 %
Antimoine	0,31 mg/l	20	9	2	36	67	10	5
		16 %	9 %	6 %	67 %	21 %	40 %	56 %
Arsenic	0,34 mg/l	26	16	24	50	116	19	9
		20 %	16 %	73 %	93 %	37 %	76 %	100 %
Béryllium[1]	0,0012 mg/l	0	1	13	0	14	7	0
		0 %	1 %	39 %	0 %	4 %	28 %	0 %
Cadmium[1]	0,0002 mg/l	1	2	0	0	3	0	0
		1 %	2 %	0 %	0 %	1 %	0 %	0 %
Cuivre[1]	0,0016 mg/l	37	34	19	13	103	6	5
		29 %	34 %	58 %	24 %	33 %	24 %	56 %
Fer	3,4 mg/l	7	12	2	5	26	15	0
		5 %	12 %	6 %	9 %	8 %	60 %	0 %
Plomb[1]	0,004 mg/l	1	5	3	0	9	0	0
		1 %	5 %	9 %	0 %	3 %	0 %	0 %
Lithium	0,91 mg/l	69	63	8	21	161	25	5
		54 %	62 %	24 %	39 %	51 %	100 %	56 %
Manganèse	0,55 mg/l	0	1	0	0	1	0	0
		0 %	1 %	0 %	0 %	0 %	0 %	0 %
Nickel[1]	0,067 mg/l	0	0	0	8	8	0	0
		0 %	0 %	0 %	15 %	3 %	0 %	0 %
Uranium	0,32 mg/l	1	1	21	0	23	19	7

Paramètres	CVAA[3]	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Total des stériles	Minerai (pegmatite spodumène)	Résidus miniers
		n = 128	n = 101	n = 33	n = 54	n = 316	n = 25	n=9
		1 %	1 %	64 %	0 %	7 %	76 %	78 %
Vanadium	0,11 mg/l	1	2	1	0	4	0	0
		1 %	2 %	3 %	0 %	1 %	0 %	0 %
Zinc	0,017 mg/l	0	3	1	0	4	0	2
		0 %	3 %	3 %	0 %	1 %	0 %	22 %

[1]Les valeurs des paramètres de qualité de l'eau du milieu récepteur utilisées pour déterminer les seuils réglementaires de la CVAA sont les suivantes : un pH de 6, une dureté de 5 mg/L, [2]et une concentration en carbone organique dissous (COD) de 5 mg/L.
[3]Critère de qualité des eaux de surface – Protection de la vie aquatique (effet aigu)

Table 18: Résumé des échantillons présentant des résultats CTEU-9 dépassant les valeurs réglementaires MDMER et D019.

Paramètres	MDMER / Directive 019	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Total des stériles	Minerai (pegmatite spodumène)	Résidus miniers
		n = 128	n = 101	n = 33	n = 54	n = 316	n = 25	n=9
Arsenic	0,10 ppm	62	37	31	53	183	25	9
		48 %	37 %	94 %	98 %	58 %	100 %	100 %
Fer[1]	3 ppm	8	15	3	6	32	15	0
		6 %	15 %	9 %	11 %	10 %	60 %	0 %
Nickel[1]	0,25 ppm	0	0	0	1	1	0	0
		0 %	0 %	0 %	2 %	0 %	0 %	0 %

3.2.4 Essais de lixiviation TCLP

Des essais de lixiviation TCLP ont été réalisés selon les critères D019 pour les rejets miniers à haut risque, et les deux dépassements identifiés provenaient des stériles ultramafiques.

Deux échantillons ultramafiques, analysés au cours de la phase 1, ont affiché des résultats TCLP-arsenic supérieurs au critère D019 de 5 mg/L, avec des valeurs respectives de 5,80 et 7,58 mg/L. Cependant, comme ces échantillons ont été classés comme non PAG, ils ne sont pas soumis à la classification « à haut risque » selon les critères du Québec. Ces deux échantillons avaient été sélectionnés spécifiquement dans la DHDB en raison de leur teneur élevée en arsenic sous forme de peroxyde de sodium.

3.2.5 Résumé et interprétation

Un résumé des métaux (métalloïdes) enrichis et des COPC identifiés à partir des différents essais statiques réalisés dans le cadre de l'étude sur les essais statiques est présenté dans **Tableau 19**.

L'analyse des composants extractibles à l'eau régale a permis d'identifier un large éventail de composants enrichis par rapport à la teneur de la croûte continentale 10X et aux seuils de teneur extractible de la province géologique supérieure. Dans les deux cas, l'arsenic (As) a été identifié comme le composant le plus enrichi.

Les essais de lixiviation SPLP et CTEU-9 ont partiellement reflété les enrichissements observés dans les analyses extractibles à l'eau régale, avec des variations résumées dans **Tableau 19**. par exemple, le cobalt, l'étain, l'argent et le mercure ont été exclus de la liste des constituants mis en évidence par les essais de lixiviation SPLP et CTEU-9. L'aluminium a présenté le plus grand nombre de dépassements, avec respectivement 267 et 255 occurrences dans les essais SPLP et CTEU-9, suivi par l'arsenic dans les essais SPLP (20 occurrences) et le lithium (191 occurrences), puis l'arsenic (144 occurrences) dans les essais CTEU-9. Plusieurs autres métaux ont également été mis en évidence dans les deux essais, notamment le cuivre, le zinc et le béryllium, tandis que des dépassements supplémentaires n'ont été identifiés que dans les essais CTEU-9, notamment pour le fer, le cadmium, le manganèse et le nickel. Enfin, l'antimoine et l'uranium ont également été mis en évidence, ainsi qu'un seul dépassement pour le vanadium dans les essais CTEU-9.

Les résultats contrastés des essais SPLP et CTEU-9 en termes de dépassements et de constituants identifiés suggèrent que la taille des particules et le temps d'agitation ont été les principaux facteurs de mobilisation : le SPLP utilise des matériaux broyés à moins de 1 cm avec une agitation de 18 heures, tandis que le CTEU-9 utilise des matériaux broyés à 100 mesh (~150 µm) avec une agitation de 7 jours. En revanche, le pH plus faible du lixiviant SPLP (pH 4,2) par rapport au CTEU-9 (eau déionisée, pH 5,5-6) n'a pas amélioré de manière significative la mobilisation des constituants, ce qui indique que la plupart des échantillons ont conservé une capacité tampon suffisante pour limiter la lixiviation rapide des constituants sensibles au pH, tels que les métaux répertoriés.

Enfin, aucun échantillon ou composant « à haut risque » n'a été identifié sur la base de la classification ABA et des essais TCLP.

Table 19: Résumé des dépassements provenant des différents procédures d'essais statiques

Essai statique	Critère	paramètres
Eau régale	10 fois la teneur en croûte continentale	Arsenic (n=206), Antimoine (n=179), Lithium (n=128), Bismuth (n=40), Nickel (n=12), Cadmium (n=9), Argent (n=6), Zinc (n=4), Cuivre (n=2), Plomb (n=2), Mercure (n=2))
	Critères A	Arsenic (n=278), cuivre (n=143), nickel (n=105), cobalt (n=40), étain (n=31), zinc (n=9), cadmium (n=8), plomb (n=7), argent (n=6), mercure (n=2)
SPLP	CVAA	Aluminium (n=267), arsenic (n=20), cuivre (n=17), zinc (n=14), béryllium (n=6), antimoine (n=3), uranium (n=2), plomb (n=1)
	MDMER / D019	Arsenic (n=20), Fer (n=1)
CTEU-9	CVAA	Aluminium (n=255), Lithium (n=191), Arsenic (n=144), Cuivre (n=114), Zinc (n=102), Antimoine (n=82) ; Plomb (n=59), Uranium (n=49), Fer (n=26), Béryllium (n=21), Cadmium (n=3), Nickel (n=2), Manganèse (n=1), Vanadium (n=1)
	MDMER / D019	Arsenic (n=183), fer (n=32), nickel (n=1)
TCLP	D019 – Critères de risque élevé	Aucun[1]

[1]Deux échantillons de roches stériles ultramafiques non PAG sélectionnés dans le DHDB pour leur teneur élevée en arsenic sous forme de peroxyde de sodium présentaient des concentrations en arsenic TCLP supérieures au seuil D019 pour l'arsenic.

3.3 Essais cinétiques

Un programme d'essais cinétiques comprenant 15 HCT (plus un duplicata) et 5 colonnes de résidus (plus un duplicata) a été lancé à ce jour dans le cadre de ce programme de caractérisation géochimique. Les HCT ont été réalisés pendant plus de 100 semaines depuis avril 2023 et se poursuivent encore en juillet 2025. Les résultats présentés dans ce rapport s'appliquent aux 100 premières semaines. Le programme d'essais sur colonnes de résidus a été lancé en février 2025, et 20 semaines de données (11 rinçages) sont présentées dans le présent rapport.

Les échantillons soumis à l'essai HCT ont été sélectionnés sur la base des résultats des essais statiques afin d'inclure les différentes lithologies et types de matériaux et de couvrir un large éventail de potentiels de génération d'acide et de taux de lixiviation. Les paramètres chimiques présentés et interprétés dans cette section comprennent :

- Les critères physicochimiques tels que le pH et la conductivité électrique (conductivité) ;
- Les produits d'oxydation et de neutralisation, notamment le sulfate, le calcium et le magnésium – pour les HCT uniquement en tant que résidus miniers – ne présentaient aucun risque de génération d'acide ;
- Les COPC identifiés dans le cadre criblage via essais statiques et cinétiques.

Les tableaux récapitulant les résultats relatifs aux HCT et aux colonnes publicitaires sont présentés à l'**Annexe D**.

3.3.1 Essais en cellules humides

Figure 10 affiche la variation cinétique des paramètres physicochimiques, à savoir le pH (a) et la conductivité électrique (b).

a. Au départ, tous les HCT présentent des conditions alcalines modérées avec des valeurs de pH comprises entre 7,31 et 9,09. Au fil du temps, on observe une baisse générale du pH dans tous les HCT. À la semaine 100, les HCT CV5-WR-HCT-59, CV5-WR-HCT-39 et CV5-WR-HCT-36 tombent en dessous du seuil réglementaire de 6,0, avec des valeurs minimales atteignant 5,67 (CV5-WR-HCT-59) et 5,69 (CV5-WR-HCT-39). Les autres HCT se stabilisent dans une fourchette comprise entre 6,0 et 7,5.

b. La figure montre l'évolution de la conductivité (µS/cm) sur 100 semaines pour les 15 HCT. Au départ, les valeurs varient entre 27 (CV5-WR-HCT-59) et 154 µS/cm (CV5-WR-HCT-74), mais une forte baisse se produit au cours des 20 premières semaines, la conductivité tombant à 4-60 µS/cm selon la cellule. Au fil du temps, une stabilisation s'opère, mais à des niveaux variables : CV5-WR-HCT-50 (métasédiments) et CV5-WR-HCT-2 (amphibolite) se stabilisent à des valeurs plus élevées (~30-50 µS/cm), tandis que CV5-WR-HCT-64, CV5-WR-HCT-69 (pegmatite stérile) et CV5-WR-HCT-74, CV5-WR-HCT-76 (pegmatite spodumène, minerai) se stabilisent à des niveaux beaucoup plus bas (2-10 µS/cm). Une diminution de la conductivité indique généralement la libération de charges ioniques facilement disponibles à la surface des matériaux.

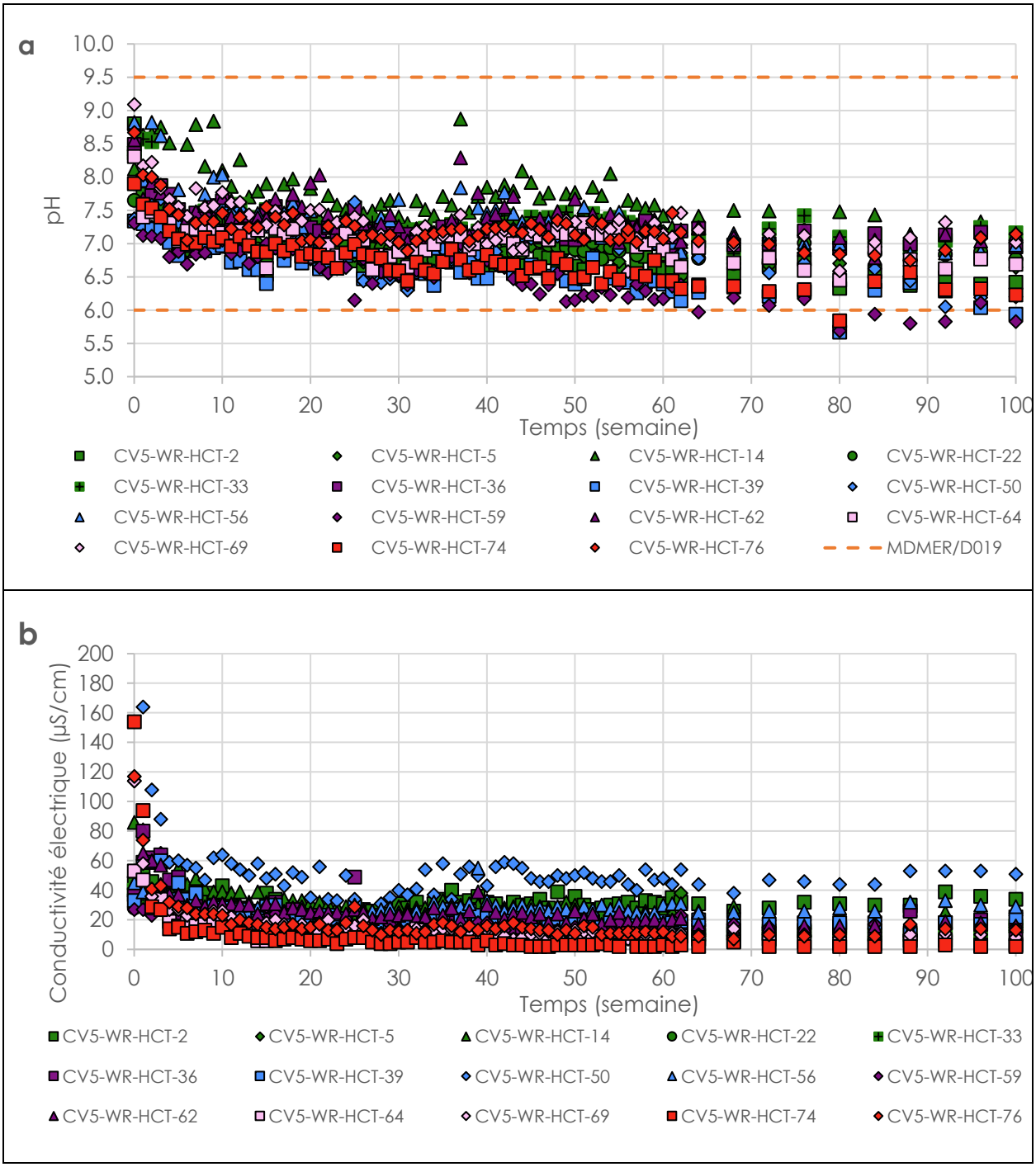


Figure 10. Tendances de la conductivité et du pH dans les essais en cellules humides

Les graphiques affichés dans **Figure 11** présenter les mesures d'alcalinité (a) et d'acidité (b) surveillées tout au long des 100 semaines d'essai.

a. Au départ, les valeurs d'alcalinité varient entre 27 (CV5-WR-HCT-59) et 164 mg $CaCO_3$/L (CV5-WR-HCT-50). Une baisse rapide se produit au cours des 20 premières semaines, les valeurs chutant à 4–60 mg $CaCO_3$/L selon la cellule. Au fil du temps, l'alcalinité se stabilise à différents niveaux : CV5-WR-HCT-50 (Métasédiments) reste plus élevé (~30–50 mg $CaCO_3$/L), tandis que CV5-WR-HCT-74 et CV5-WR-HCT-64 (pegmatite spodumène et pegmatite stérile, respectivement) se stabilisent à des niveaux beaucoup plus bas (2–10 mg $CaCO_3$/L). Une diminution de l'alcalinité indique une réduction du taux de tamponnage du matériau, reflétant une neutralisation acide continue.

b. L'acidité reste faible dans la plupart des HCT, avec des valeurs principalement égales ou inférieures à 2 mg $CaCO_3$/L pendant la majeure partie de la période de surveillance. Quelques cellules présentent de légères augmentations au fil du temps : CV5-WR-HCT-50 (Métasédiments) présente une augmentation progressive après la semaine 60, atteignant jusqu'à 17 mg $CaCO_3$/L à la semaine 100, tandis que CV5-WR-HCT-59 (Ultramafique) présente des fluctuations mineures, avec un pic à 9 mg $CaCO_3$/L. Ces augmentations suggèrent une génération d'acide dans des lithologies spécifiques, en particulier dans les HCT Métasédiments et Ultramafique.

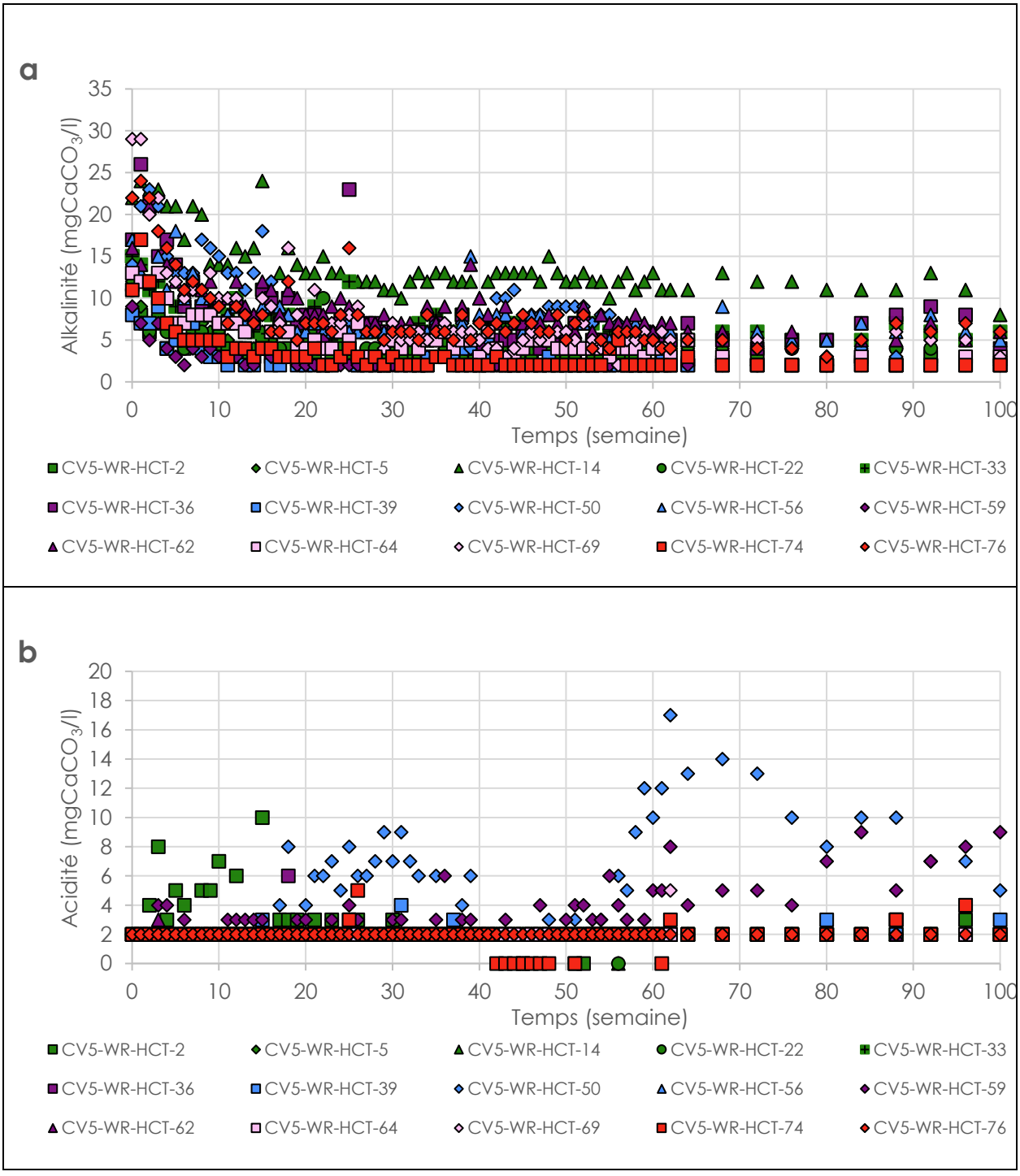


Figure 11. Tendances en matière d'alcalinité et d'acidité dans les essais en cellules humides

Les graphiques présentés dans la **Figure 12** illustrent le suivi des concentrations des produits de neutralisation et d'oxydation tout au long de l'expérience, à savoir le calcium (a) et le magnésium (b) d'une part, et le sulfate (c) d'autre part. Les tendances

de ces éléments étaient assez similaires d'un essai à l'autre et suivaient généralement une courbe descendante lente et régulière après un léger pic observé lors des premiers rinçages. Il convient de souligner que les résidus de DMS présentent des concentrations plus faibles pour tous ces éléments, ce qui suggère que les phénomènes d'oxydation et de neutralisation se produisent à un rythme plus lent dans ces matériaux.

a. Les concentrations en calcium présentent une variabilité initiale entre les HCT, avec des valeurs allant de 0,72 mg/L (CV5-WR-HCT-74) à 15,9 mg/L (CV5-WR-HCT-50). Au fil du temps, on observe une baisse générale, en particulier au cours des 20 premières semaines, car le calcium est libéré par la dissolution du carbonate due au tamponnage acide, soit par l'oxydation des minéraux sulfurés, soit par l'acidité inhérente à l'eau déionisée utilisée dans les HCT. À la semaine 100, le CV5-WR-HCT-50 (Métasédiments) garde des niveaux de calcium plus importants (~7-8 mg/L), reflétant des taux de neutralisation plus élevés, tandis que le CV5-WR-HCT-74 et le CV5-WR-HCT-64 (Pegmatite spodumène et Pegmatite stérile, respectivement) présentent des tendances à la baisse continue avec des valeurs comprises entre 0,2 et 0,8 mg/L. Les autres HCT se stabilisent généralement entre 2 et 5 mg/L, reflétant une dissolution continue mais diminuée des carbonates.

b. Les concentrations en magnésium suivent les mêmes tendances générales que celles du calcium, avec des valeurs comprises entre 5,73 mg/L et 0,05 mg/L, et semblent plus importantes dans les échantillons ultramafiques et plus faibles dans les résidus DMS.

c. Les concentrations en sulfate présentent une variabilité notable, allant de 2 mg/L dans plusieurs HCT à 53 mg/L dans le CV5-WR-HCT-50 (Métasédiments). Une baisse rapide est observée au cours des 20 premières semaines, en particulier pour le CV5-WR-HCT-50, qui passe de 53 mg/L à environ 10-15 mg/L, tandis que les autres HCT se stabilisent à des niveaux plus bas, généralement entre 2 et 10 mg/L. À la semaine 100, le CV5-WR-HCT-50 présente toujours les niveaux de sulfate les plus élevés (~19-21 mg/L), reflétant l'oxydation continue des minéraux sulfurés, tandis que le CV5-WR-HCT-2 (amphibolite) et le CV5-WR-HCT-59 (ultramafique) se stabilisent respectivement autour de 10 à 15 mg/L et 3 à 6 mg/L. La plupart des autres HCT, y compris CV5-WR-HCT-14, CV5-WR-HCT-22, CV5-WR-HCT-33, CV5-WR-HCT-64, CV5-WR-HCT-69, CV5-WR-HCT-74 et CV5-WR-HCT-76, maintiennent des concentrations de sulfate faibles (2 à 4 mg/L), ce qui indique une oxydation sulfureuse limitée.

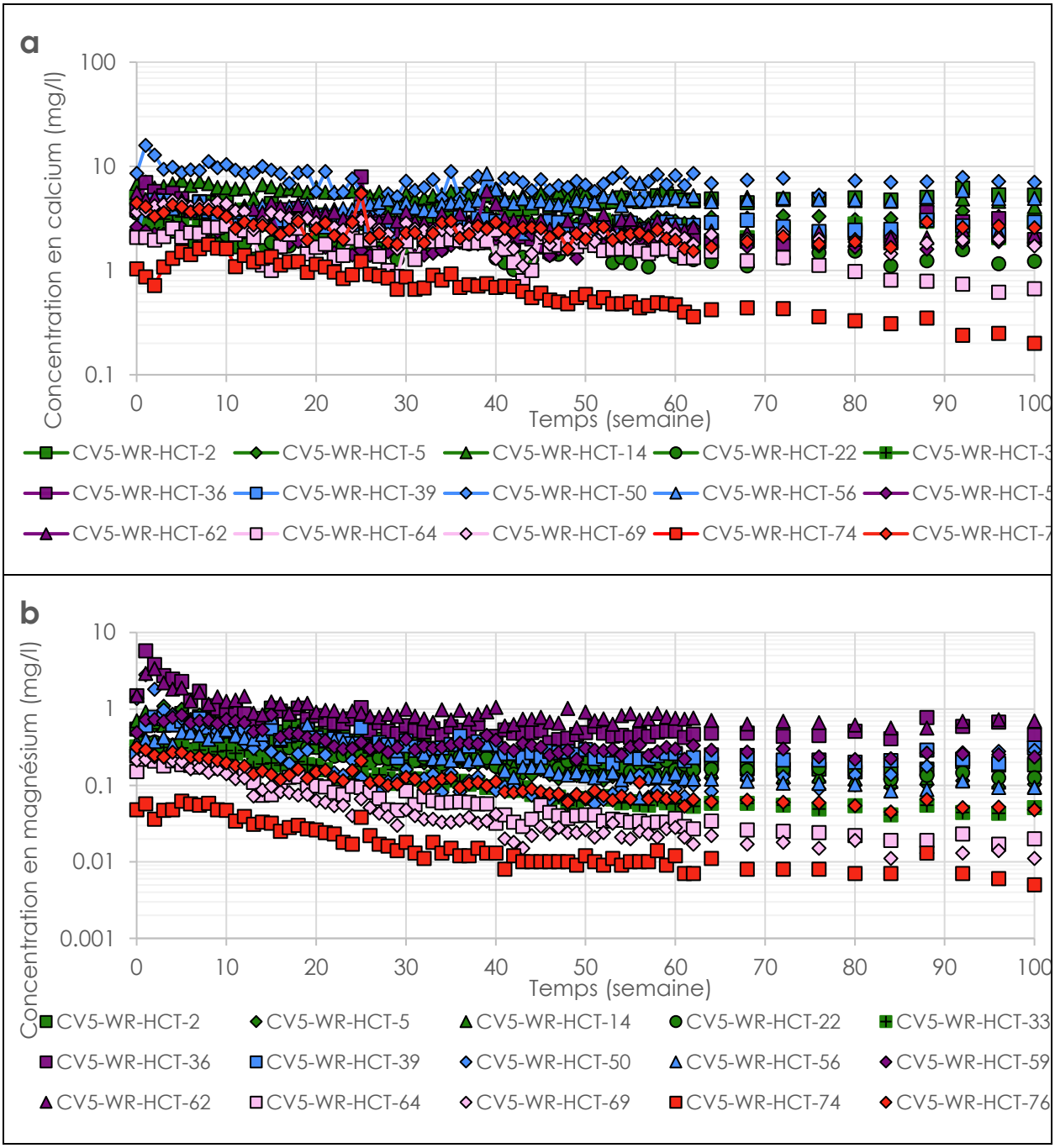


Figure 12. Tendances des produits d'oxydation et de neutralisation dans les essais en cellules humides (1 sur 2)

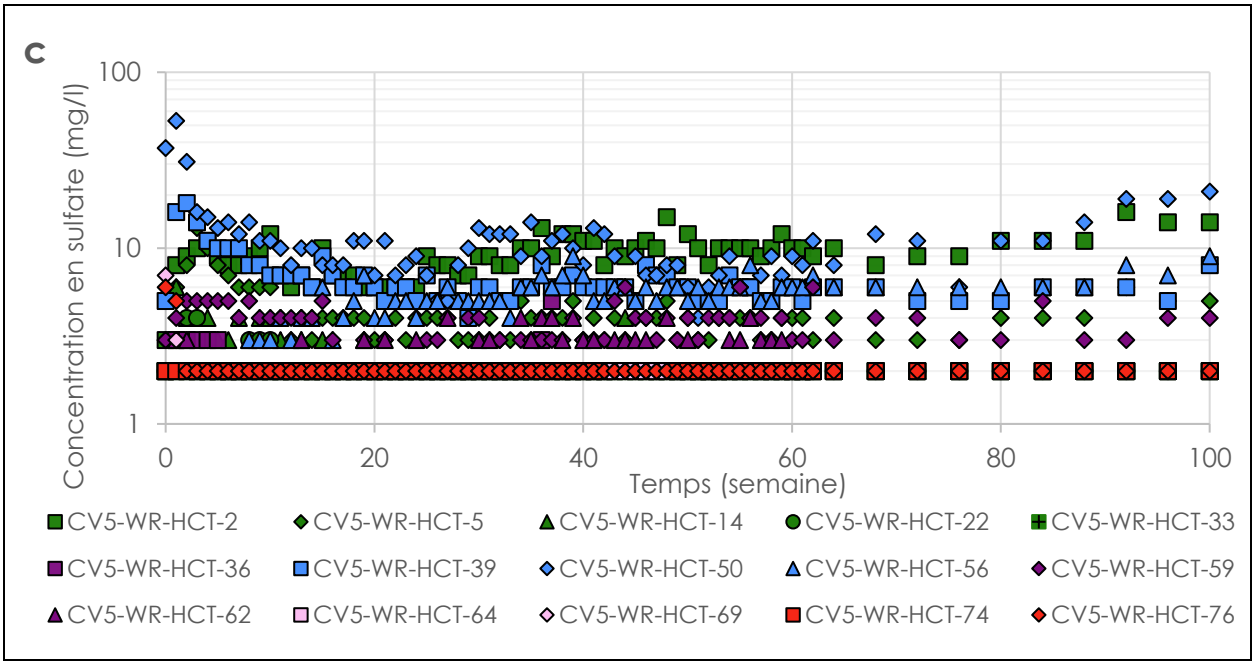


Figure 12. Tendances relatives aux produits d'oxydation et de neutralisation dans les essais en cellules humides (2 sur 2)

Les graphiques de la **Figure 13** présentent les résultats HCT du COPC qui ont été identifiés dans le cadre des essais de lixiviation.

a. Les concentrations d'aluminium commencent avec des valeurs initiales allant de 0,001 mg/L (CV5-WR-HCT-62) à 0,257 mg/L (CV5-WR-HCT-69), et diminuent rapidement au cours des 10 premières semaines dans tous les HCT. Au fil du temps, les concentrations se stabilisent à des niveaux faibles, généralement inférieurs à 0,05 mg/L pour la plupart des cellules. CV5-WR-HCT-14 (amphibolite) maintient des valeurs légèrement plus élevées (~0,08-0,1 mg/L), tandis que CV5-WR-HCT-36 (ultramafique) et CV5-WR-HCT-64 (pegmatite stérile) se stabilisent aux niveaux les plus bas, souvent inférieurs à 0,005 mg/L. CV5-WR-HCT-50 (métasédiments) et CV5-WR-HCT-69 (pegmatite stérile) présentent des fluctuations occasionnelles, mais restent inférieurs à 0,1 mg/L. La diminution de l'aluminium reflète une solubilité réduite à mesure que le pH se stabilise, limitant sa mobilité dans les cellules.

b. Les concentrations d'antimoine dans les échantillons de lixiviat variaient de 3,86 mg/L à la limite de détection (0,0009 mg/L). Les concentrations les plus élevées ont été observées dans les échantillons ultramafiques CV5-WR-HCT-36 (ultramafique) et CV5-WR-HCT-62 (ultramafique), avec des pics de 3,53 mg/L et 3,86 mg/L, respectivement, au cours des premières semaines. Les deux échantillons ultramafiques ont présenté des concentrations élevées constantes, CV5-WR-HCT-36 (ultramafique) dépassant 1,1 mg/L dans 47 occurrences et CV5-WR-HCT-62 (ultramafique) dans 52 occurrences au cours de la période de 100 semaines. Après les premiers rinçages, une tendance générale à la baisse a été observée pour ces échantillons, bien que les concentrations soient restées élevées pendant une période prolongée. L'échantillon de métasédiments CV5-WR-HCT-56 (métasédiments) a continué à présenter des concentrations égales ou proches de la limite de détection tout au long de l'essai. D'autres échantillons, tels que CV5-WR-HCT-5 (amphibolite) et CV5-WR-HCT-50 (métasédiments), ont présenté des concentrations élevées au début, mais celles-ci ont généralement diminué avec le temps, avec seulement quelques dépassements occasionnels de la limite de détection au cours des dernières semaines.

c. Les concentrations d'arsenic variaient entre 19,6 et 0,0024 mg/L dans tous les échantillons et toutes les chasses d'eau, affichant une tendance générale à la baisse depuis le début de l'essai. Dans les échantillons ultramafiques (CV5WR-HCT-36, CV5WR-HCT-59 et CV5WR-HCT-62), les concentrations étaient particulièrement élevées, atteignant 19,6 mg/L dans CV5WR-HCT-36 et 8,4 mg/L dans CV5WR-HCT-62 lors des premières chasses d'eau. Ces valeurs ont diminué de manière significative au cours des 20 premiers rinçages avant de se stabiliser progressivement entre 0,5 et 1,2 mg/L après la semaine 60. Les échantillons d'amphibolite présentaient des concentrations en arsenic beaucoup plus faibles que les stériles ultramafiques, avec une variabilité plus importante au début de l'essai, mais se stabilisant après la semaine 40 dans une fourchette d'environ 0,001 à 0,1 mg/L (par exemple, CV5WR-HCT-2). Les échantillons de stériles de pegmatite (CV5WR-HCT-64 et CV5WR-HCT-69) et l'échantillon de minerai de spodumène de pegmatite (CV5WRHCT-74) ont également présenté des concentrations élevées lors des premiers lavages (0,2 à 0,5 mg/L), qui ont rapidement diminué au cours des semaines

suivantes, pour atteindre de manière constante moins de 0,01 mg/L après la semaine 30 et rester stables par la suite.

d. Les concentrations de béryllium restent constamment faibles dans tous les HCT, avec des valeurs initiales généralement égales ou proches de la limite de détection de 0,000007 mg/L. CV5-WR-HCT-69 (pegmatite stérile) commence avec les concentrations les plus élevées, atteignant un pic de 0,000437 mg/L à la semaine 0, mais diminue rapidement pour se stabiliser en dessous de 0,0001 mg/L à la semaine 20. CV5-WR-HCT-64 (Pegmatite stérile) et CV5-WR-HCT-50 (Métasédiments) présentent des fluctuations mineures occasionnelles, CV5-WR-HCT-64 atteignant un maximum de 0,000365 mg/L à la semaine 68 et CV5-WR-HCT-50 atteignant un pic de 0,00012 mg/L à la semaine 100. Tous les autres HCT maintiennent des concentrations proches ou inférieures à la limite de détection (0,000007 mg/l) tout au long de la période de surveillance, ce qui indique une mobilité minimale du béryllium à partir de ces matériaux.

e. Les concentrations de cadmium restent faibles dans toutes les cellules HCT, avec des valeurs initiales généralement égales ou proches de la limite de détection de 0,000003 mg/L. La cellule CV5-WR-HCT-50 (métasédiments) présente des concentrations légèrement plus élevées que les autres cellules, avec un pic à 0,000132 mg/l à la semaine 100, tandis que les cellules CV5-WR-HCT-39 (Métasédiments) et CV5-WR-HCT-69 (Pegmatite stérile) présentent des fluctuations mineures occasionnelles, mais restent inférieures à 0,00006 mg/l. Tous les autres HCT maintiennent des concentrations proches ou inférieures à la limite de détection tout au long de la période de surveillance, ce qui indique une libération ou une mobilité minimale du cadmium dans ces cellules.

f. Les concentrations de cuivre sont restées très faibles tout au long des essais, fluctuant généralement près de la limite de détection analytique. Les valeurs ont montré une variabilité mineure sans tendance à la hausse soutenue. Il convient de noter que la limite de détection est passée de 0,0002 mg/L (jusqu'à la semaine 38) à 0,001 mg/L par la suite, ce qui explique en partie la stabilisation apparente des résultats dans les dernières phases.

g. Les concentrations en fer étaient initialement proches de la limite de détection (0,007 mg/L) dans la plupart des HCT, avec plusieurs augmentations transitoires observées entre les semaines 10 et 30, atteignant jusqu'à 0,15 mg/L. Après la semaine 40, les concentrations se sont généralement stabilisées près de la limite de détection, bien que l'échantillon de stériles métasédimentaires CV5-WR-HCT-50 ait montré une augmentation soutenue, dépassant 0,7 mg/L à la semaine 100, tandis que l'échantillon de stériles ultramafiques CV5-WR-HCT-59 a maintenu des pics récurrents modérés allant jusqu'à 0,03 mg/L. Dans l'ensemble, le comportement du fer a été caractérisé par des événements de mobilisation de courte durée suivis d'une stabilisation, seuls quelques cas isolés présentant des élévations persistantes.

h. Les concentrations de lithium dans les échantillons de lixiviat variaient entre 0,918 mg/L et la limite de détection (0,0002 mg/L), et toutes les lithologies ont suivi une tendance à la baisse au cours de la période de 100 semaines. Les échantillons de pegmatite spodumène (CV5-WR-HCT-74, CV5-WR-HCT-76), ainsi que l'échantillon de métasédiment CV5-WR-HCT-50, ont présenté les concentrations les plus élevées, en particulier au cours des premières semaines. Les échantillons de stériles de pegmatite (CV5-WR-HCT-64, CV5-WR-HCT-69) ont également présenté des concentrations élevées au début de l'essai, mais ont semblé diminuer plus rapidement que les autres lithologies. Les échantillons ultramafiques (CV5-WR-HCT-36, CV5-WR-HCT-62) sont restés parmi les plus faibles tout au long de l'essai.

i. Les concentrations en nickel étaient généralement faibles dans la plupart des HCT, avec des valeurs proches de la limite de détection (0,0001 mg/l) dans les échantillons d'amphibolite, de pegmatite stérile et de pegmatite spodumène. En revanche, les échantillons de stériles ultramafiques CV5-WR-HCT-36 et CV5-WR-HCT-62 ont présenté des concentrations élevées au début des essais, suivies d'une diminution progressive et d'une relative stabilisation, ce qui suggère un lavage initial des phases nickelifères facilement solubles. Les échantillons ultramafiques CV5-WR-HCT-59 et métasédimentaires CV5-WR-HCT-50 ont affiché une tendance différente, avec des concentrations augmentant régulièrement pour atteindre des valeurs proches de 0,1 mg/L à la semaine 100.

j. Les concentrations d'uranium variaient entre 0,000002 mg/L et 0,101 mg/L au cours de la période d'essai de 100 semaines. La plupart des échantillons, y compris les lithologies amphibolite, ultramafique, métasédimentaire et pegmatite, présentaient des concentrations d'uranium généralement égales ou proches de la limite de détection, avec des pics occasionnels. Il convient de noter que les échantillons CV5-WR-HCT-69 (pegmatite stérile) et CV5-WR-HCT-74 (pegmatite spodumène) ont présenté des concentrations plus élevées, avec des pics respectifs de 0,101 mg/L et 0,0539 mg/L au cours des premières semaines. CV5-WR-HCT-50 (métasédiment) et CV5-DMS-HCT-83 (métasédiment) ont également affiché des concentrations élevées, avec des pics de 0,0558 mg/L et 0,0166 mg/L, respectivement. Malgré ces augmentations occasionnelles, la lixiviation de l'uranium est restée relativement faible dans tous les échantillons, les concentrations revenant généralement à des niveaux proches de ceux du fond après les premières semaines.

k. Les concentrations de zinc sont restées très faibles dans presque tous les HCT, fluctuant généralement à la limite de détection (0,002 mg/L) ou juste au-dessus pendant toute la durée de l'essai. Ces variations reflètent probablement le bruit associé aux mesures proches de la limite de détection. L'échantillon de stériles Métasédiment CV5-WR-HCT-50 a été le seul à présenter une augmentation claire et soutenue, avec des concentrations augmentant régulièrement après la semaine 60 et dépassant 0,3 mg/L à la semaine 100.

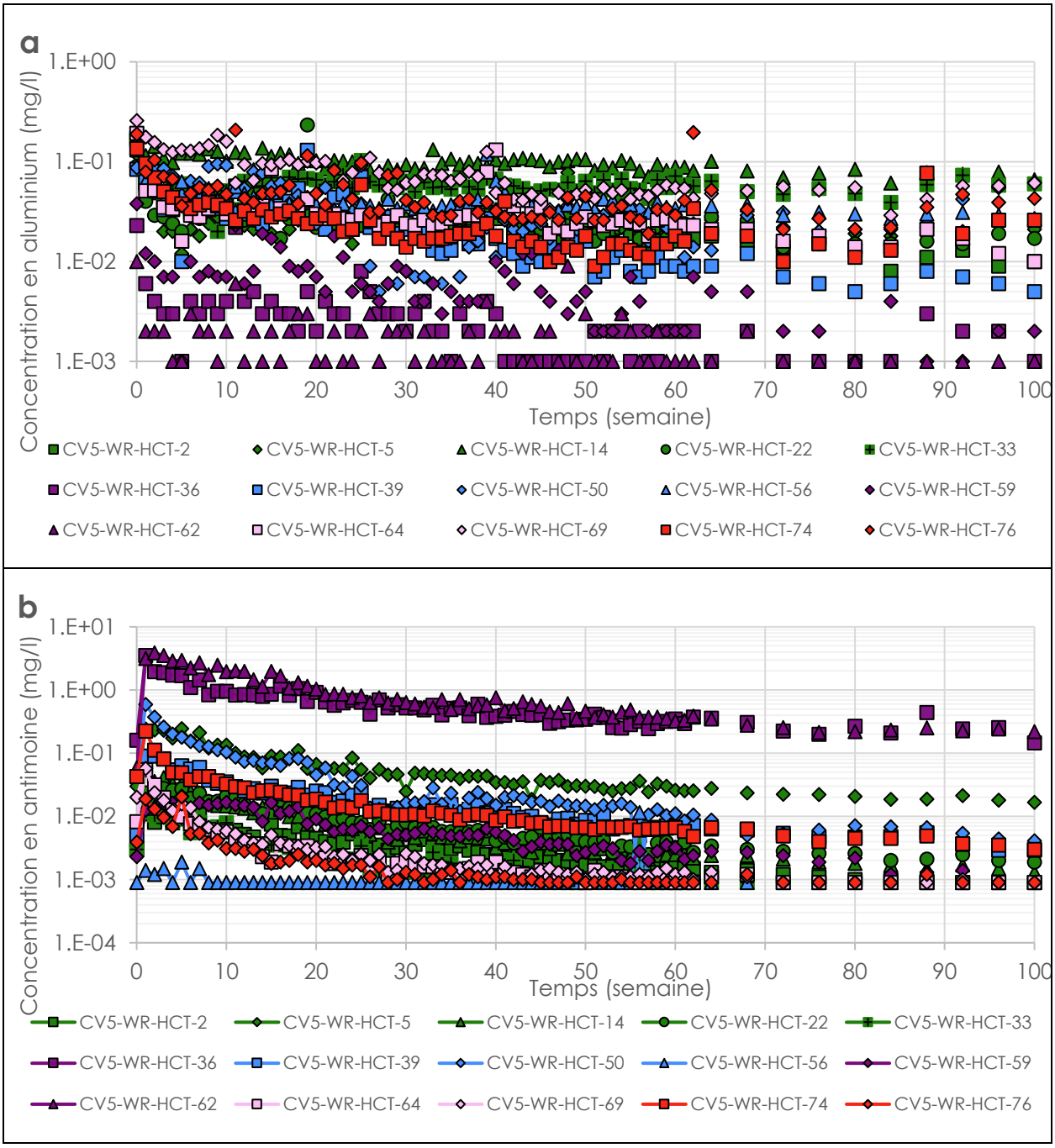


Figure 13. Tendances de concentration en COPC dans les essais en cellules humides (1 sur 6)

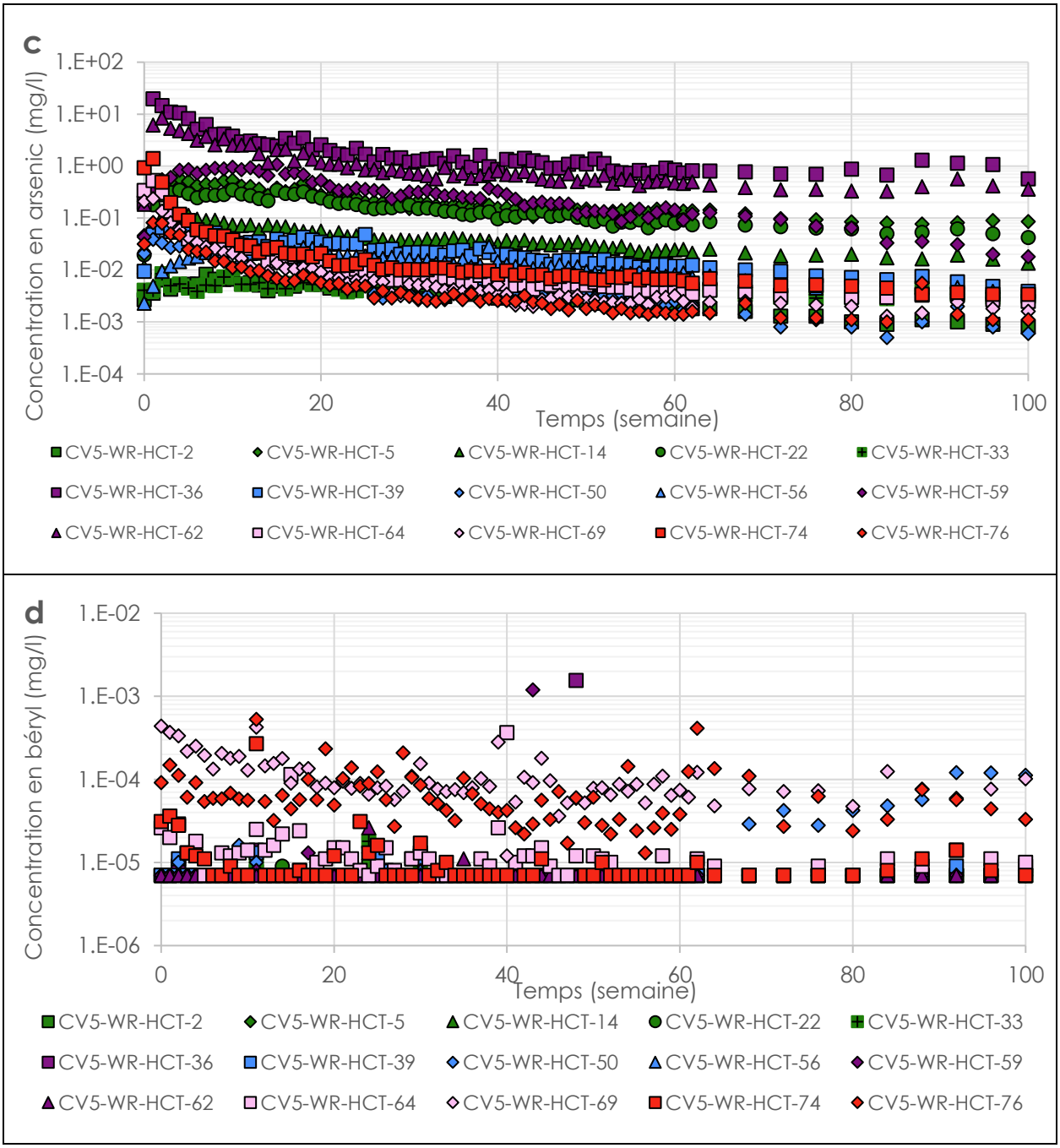


Figure 13. Tendances de concentration en COPC dans les essais en cellules humides (2 sur 6)

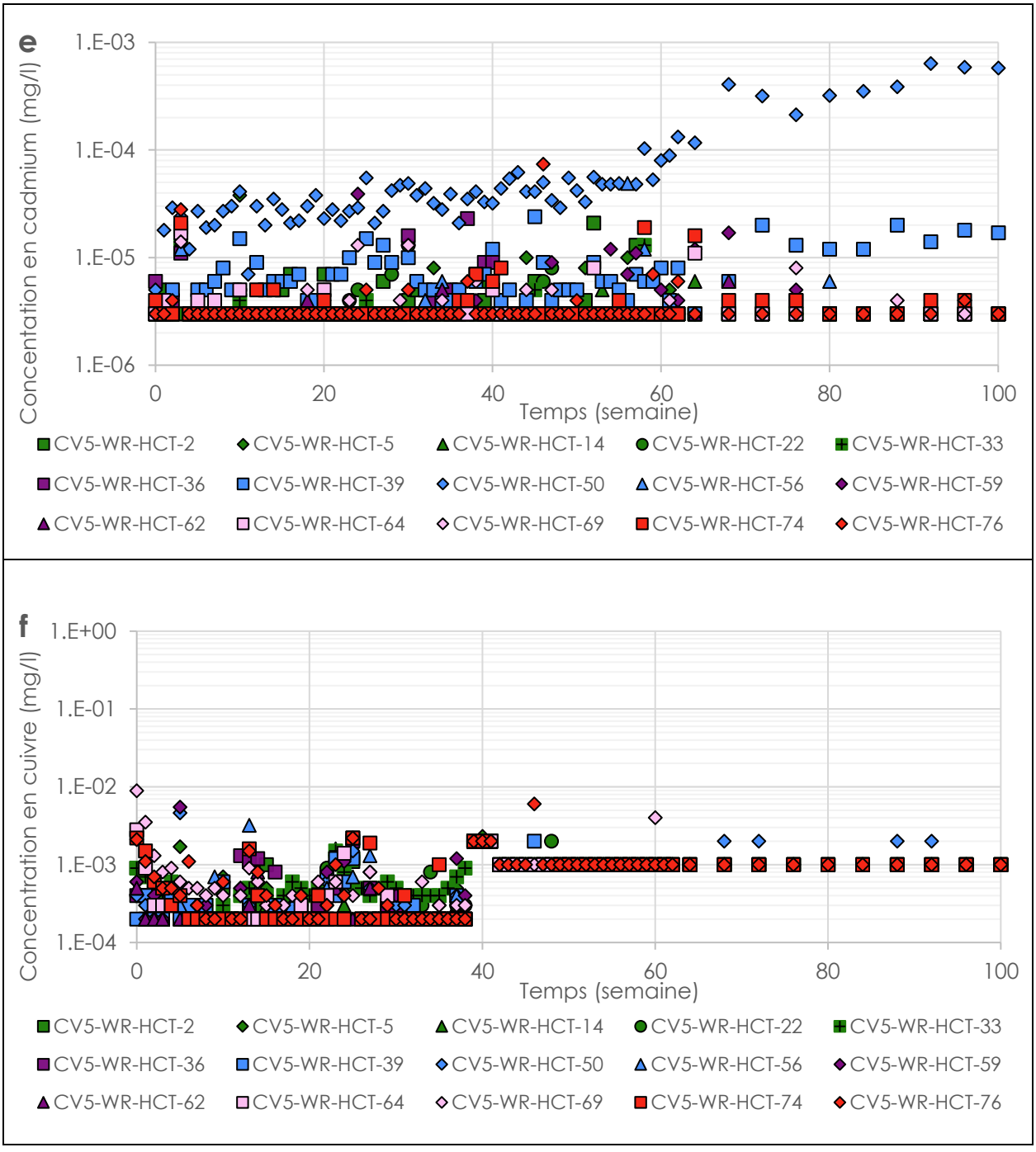


Figure 13. Tendances de concentration en COPC dans les essais en cellules humides (3 sur 6)

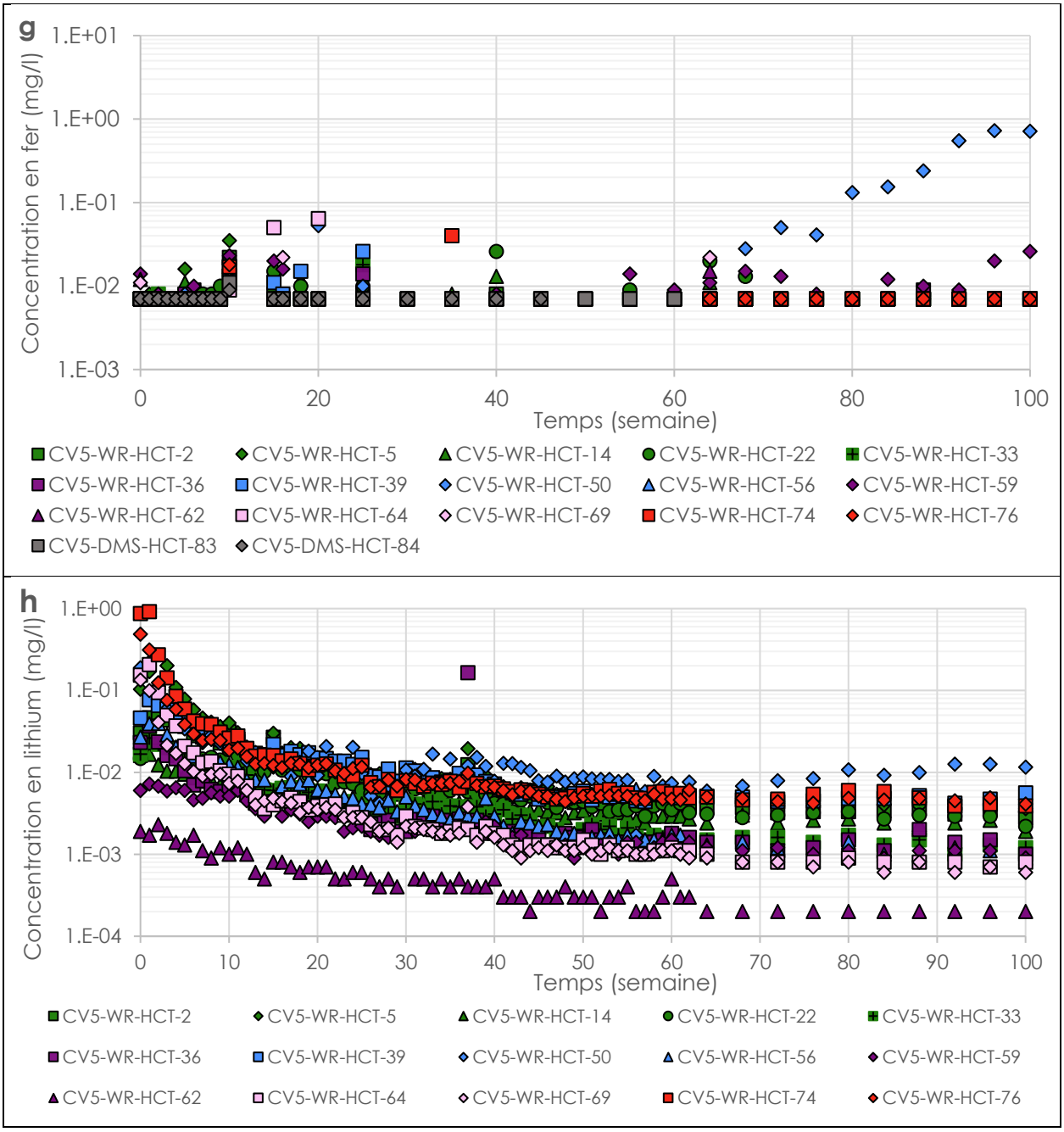


Figure 13. Tendances de concentration en COPC dans les essais en cellules humides (4 sur 6)

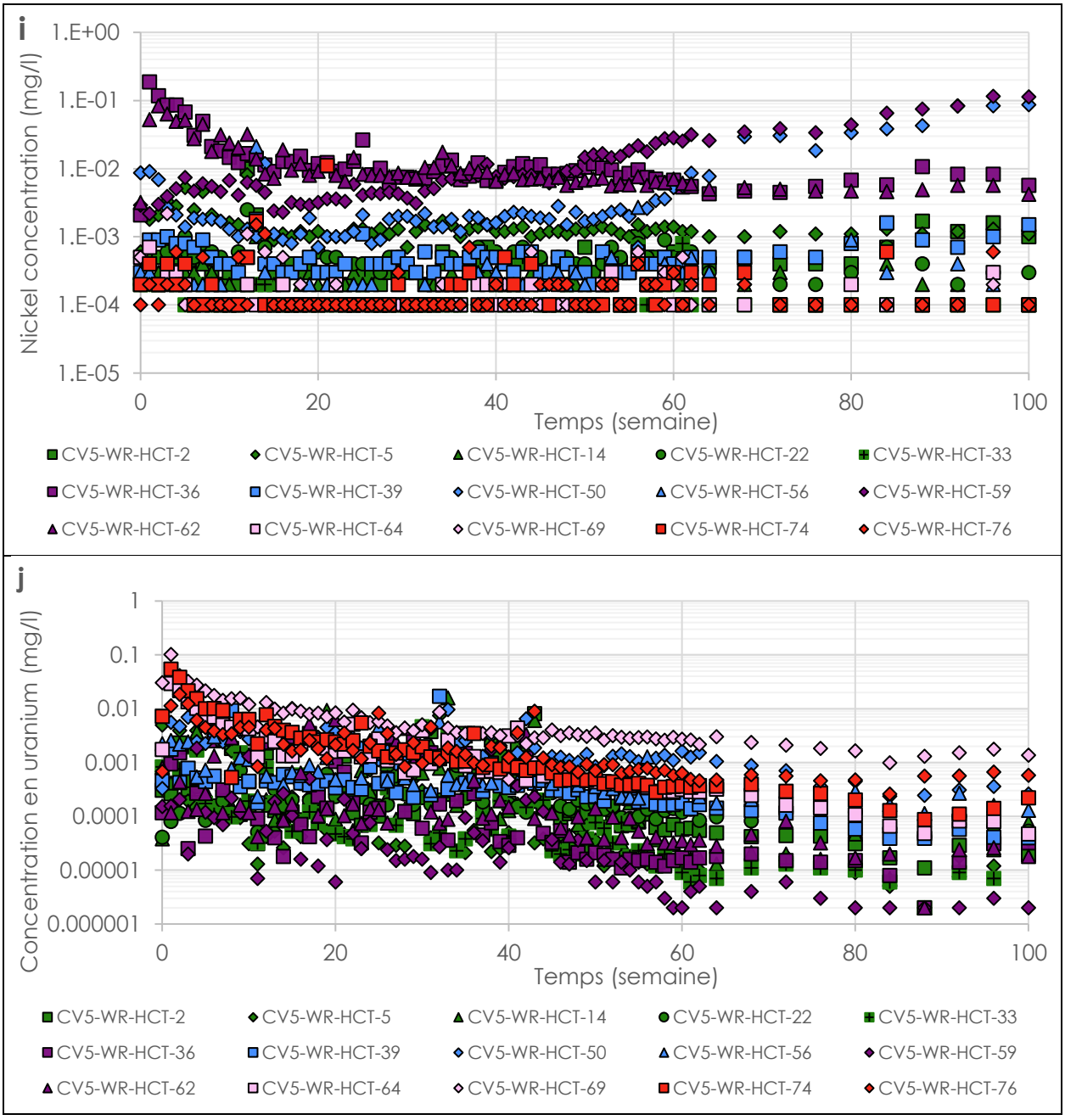


Figure 13. Tendances de concentration en COPC dans les essais en cellules humides (5 sur 6)

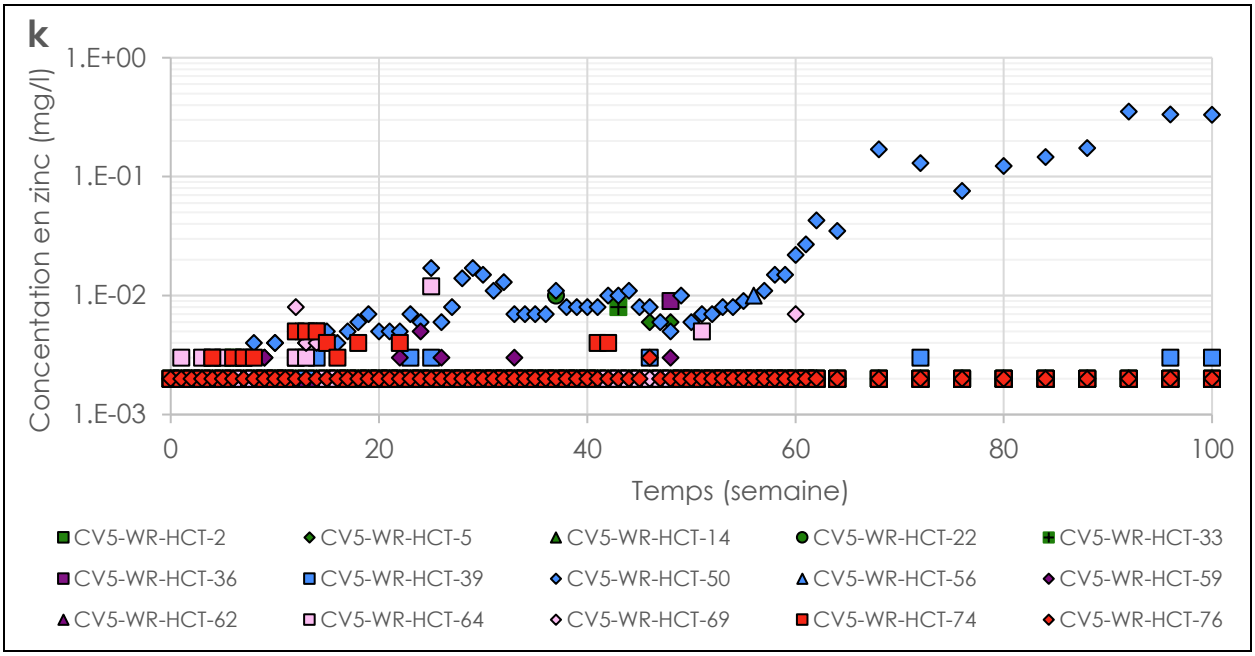


Figure 13. Tendances de concentration du COPC dans les essais en cellules humides (6 sur 6)

3.3.2 Essai sur colonne

Figure 14 affiche la variation cinétique des paramètres physicochimiques des essais sur colonne, à savoir le pH (a) et la conductivité électrique (b).

a. Les valeurs de pH pour tous les essais en colonne — Flottants (CV5-CL-1), Middlings (CV5-CL-2), Magnétiques (CV5-CL-3), Bypass (CV5-CL-4) et Composite maître (CV5-CL-5) — sont restées neutres à légèrement alcalines pendant la période de 20 semaines. Les valeurs initiales variaient entre 7,27 et 9,34, avec une tendance générale à la baisse dans toutes les colonnes. Les flottants et les middlings ont commencé avec les niveaux de pH les plus élevés (9,34 et 9,2) et ont progressivement diminué pour atteindre environ 7,5-8,0. Les résidus magnétiques ont commencé avec le pH initial le plus bas (7,27) et ont continué à baisser jusqu'à 6,93, tandis que les résidus de dérivation et les résidus composites ont affiché des baisses modérées, terminant respectivement à près de 7,5 et 7. Dans l'ensemble, les résultats reflètent une évolution progressive vers la neutralité pour tous les types de résidus.

b. Les valeurs de conductivité électrique dans les essais en colonne ont diminué de manière significative au cours de la période de 20 semaines pour tous les types de résidus. Les flottants (CV5-CL-1) ont commencé à 508 µS/cm et ont diminué à 30 µS/cm, tandis que les middlings (CV5-CL-2) ont chuté de 173 µS/cm à 34 µS/cm. Les résidus magnétiques (CV5-CL-3) ont affiché une réduction progressive de 223 µS/cm à 39 µS/cm. Les résidus de dérivation (CV5-CL-4) ont commencé avec la conductivité initiale la plus élevée, à 3490 µS/cm, mais ont connu une baisse substantielle, pour finir à 82 µS/cm. Le Master Composite (CV5-CL-5) a suivi une tendance à la baisse similaire, passant de 401 µS/cm à 46 µS/cm. Dans l'ensemble, les résultats indiquent une réduction constante de la conductivité dans toutes les colonnes, reflétant une diminution des taux de lixiviation au fil du temps, le Bypass présentant les valeurs initiales les plus significatives et la baisse la plus importante par la suite.

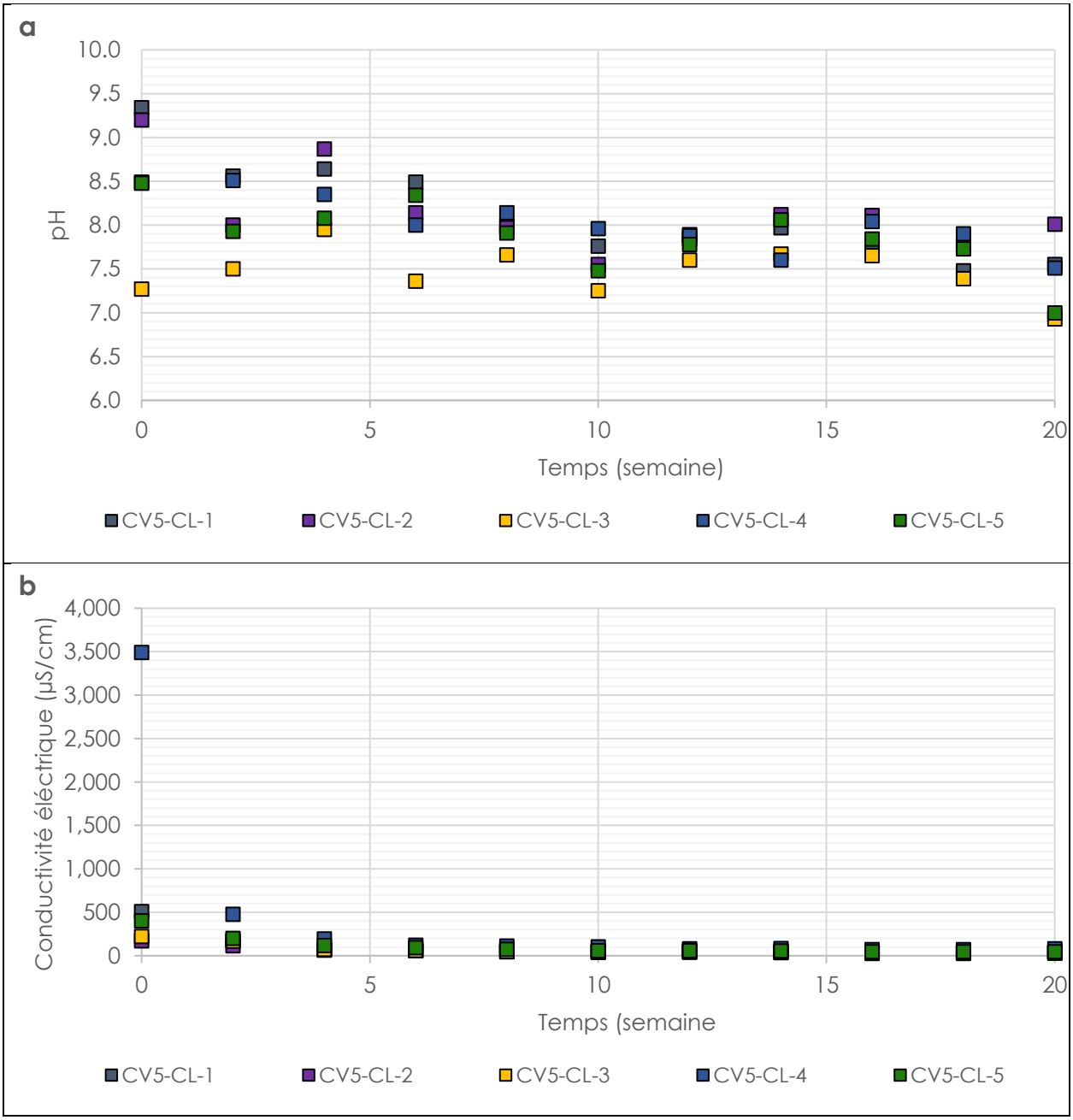


Figure 14. Évolution de la conductivité et du pH dans les essais en colonne

Les graphiques affichés dans **Figure 15** présenter les mesures d'alcalinité (a) et d'acidité (b) surveillées tout au long des 20 semaines d'essais sur colonne.

a. Les valeurs d'alcalinité dans les essais en colonne ont montré une tendance générale à la baisse sur la période de 20 semaines pour tous les types de résidus. Les flottants (CV5-CL-1) ont commencé à 75 mgCaCO3/ l et ont progressivement diminué pour atteindre 14 mgCaCO3/l, tandis que les middlings (CV5-CL-2) ont diminué de 59 mg/L à 20 mgCaCO3/l, avec quelques fluctuations au cours des dernières semaines. Le groupe Magnetics (CV5-CL-3) a présenté une alcalinité relativement faible et stable, comprise entre 11 mg/L et 26 mgCaCO3/l, pour finir à 13 mgCaCO3/l. Le Bypass (CV5-CL-4) présentait l'alcalinité initiale la plus élevée, à 448 mg/L, qui a considérablement diminué pour atteindre 37 mgCaCO3/l à la semaine 20. Le composite maître (CV5-CL-5) a suivi une tendance à la baisse similaire, passant de 53 mgCaCO3/l à 23 mgCaCO3/l. Dans l'ensemble, l'alcalinité a diminué dans toutes les colonnes, le by-pass présentant les valeurs initiales les plus prononcées et la réduction la plus importante.

b. Les valeurs d'acidité pour tous les types de résidus sont restées égales ou inférieures à la limite de détection de 2 mg$CaCO_3$/l tout au long de la période d'essai de 20 semaines, ce qui indique qu'aucune génération d'acide significative ne s'est produite dans aucune des colonnes. Cette cohérence confirme l'absence de potentiel de génération d'acide de ce matériau pendant cette période.

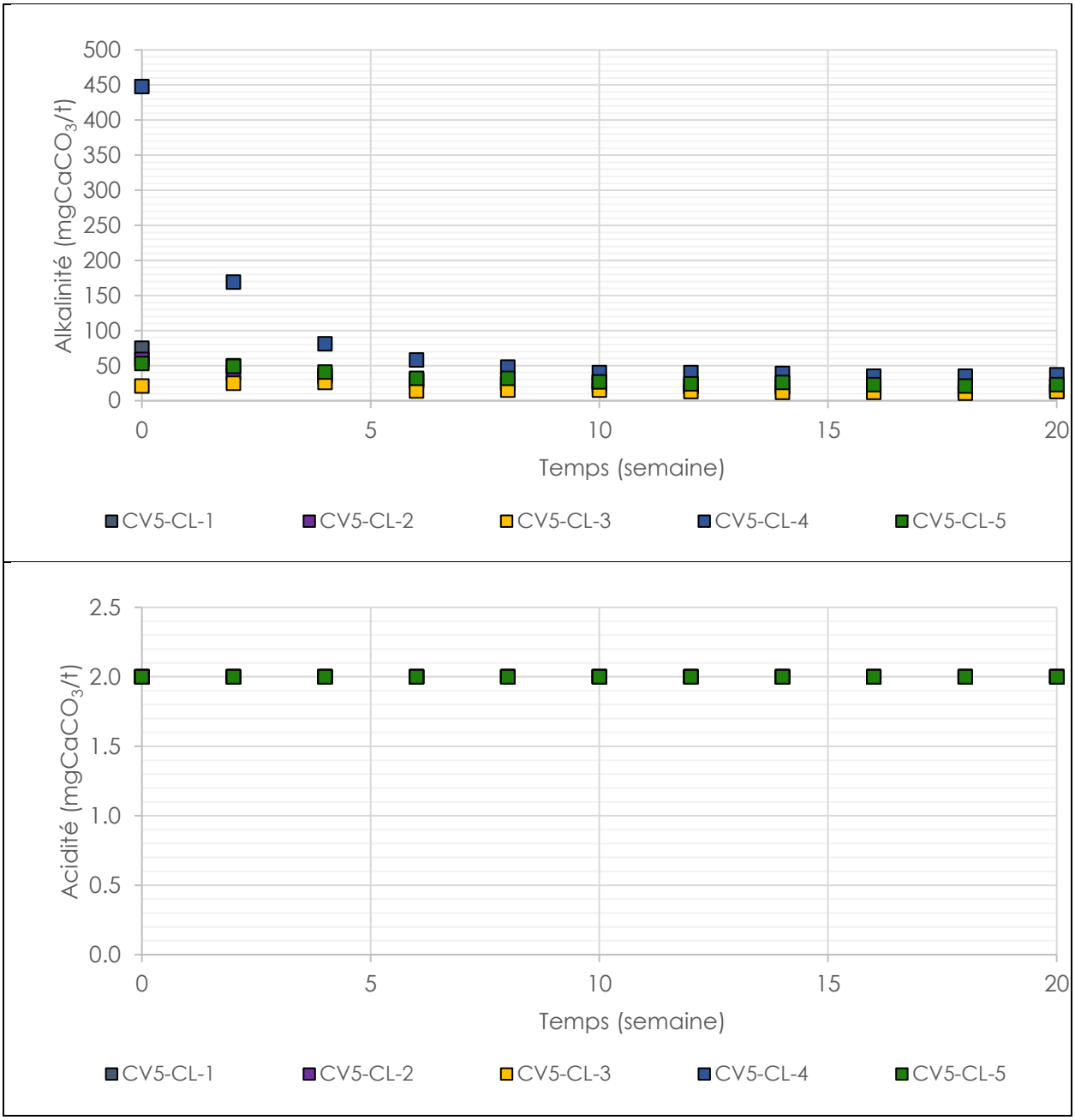


Figure 15. Évolution de l'alcalinité et de l'acidité dans les essais en colonne

Les graphiques de la **Figure 16** présentent les résultats des essais sur colonne des COPC identifiés dans le cadre des essais de lixiviation. Ceux-ci comprennent : l'aluminium (a), l'antimoine (b), l'arsenic (c), le cuivre (d), le lithium l et l'uranium (f).

a. Les concentrations d'aluminium dans les essais en colonne ont varié selon les types de résidus au cours de la période de 20 semaines. Les flottants (CV5-CL-1) ont montré une diminution progressive de 0,237 mg/l à 0,198 mg/l, maintenant des concentrations relativement stables après la baisse initiale. Les middlings (CV5-CL-2) ont commencé à 0,3 mg/l et ont diminué jusqu'à 0,168 mg/l, reflétant une réduction constante au fil du temps. Les résidus magnétiques (CV5-CL-3) ont constamment présenté les concentrations d'aluminium les plus faibles, commençant à 0,075 mg/l et se stabilisant autour de 0,04 mg/l. Les résidus de dérivation (CV5-CL-4) présentaient initialement de faibles concentrations à 0,024 mg/l, mais ont augmenté pour atteindre environ 0,142 mg/l, indiquant une légère tendance à la hausse. Le Master Composite (CV5-CL-5) a affiché une baisse de 0,206 mg/l à 0,114 mg/l, avec des fluctuations mineures. Dans l'ensemble, les concentrations d'aluminium ont eu tendance à se stabiliser à des niveaux plus bas à la fin de la période d'essai, Magnetics affichant systématiquement les valeurs les plus faibles.

b. Les concentrations d'antimoine dans les essais en colonne ont affiché des tendances variables selon les types de résidus au cours de la période de 20 semaines. Les flottants (CV5-CL-1) ont commencé à 0,0507 mg/l, ont atteint un pic de 0,302 mg/l à la deuxième semaine, puis ont diminué régulièrement pour atteindre 0,0607 mg/l. Les middlings (CV5-CL-2) ont suivi une tendance similaire, commençant à 0,0745 mg/l, atteignant un pic de 0,35 mg/l à la deuxième semaine, puis diminuant progressivement jusqu'à 0,12 mg/l. Les particules magnétiques (CV5-CL-3) ont affiché une augmentation constante, passant de 0,0845 mg/l à un pic de 0,778 mg/l à la semaine 6, suivi d'une légère baisse à 0,607 mg/l. Le Bypass (CV5-CL-4) a présenté la concentration initiale la plus élevée, à 1,68 mg/l, avec un pic à 5,47 mg/l à la deuxième semaine, avant de diminuer progressivement jusqu'à 0,247 mg/l. Le composite principal (CV5-CL-5) a commencé à 0,12 mg/l, a atteint un pic de 0,999 mg/l à la deuxième semaine, puis a diminué pour atteindre 0,226 mg/l. Dans l'ensemble, les niveaux d'antimoine ont généralement atteint leur pic au début de la période d'essai, puis ont diminué, Magnetics maintenant des concentrations relativement stables et Bypass affichant le pic initial le plus important.

c. Les concentrations d'arsenic dans les essais en colonne ont montré des tendances distinctes selon les types de résidus au cours de la période de 20 semaines. Pour les résidus flottants (CV5-CL-1), les niveaux d'arsenic ont commencé à 0,496 mg/l et ont diminué régulièrement jusqu'à 0,0864 mg/l, montrant une réduction constante au fil du temps. Les middlings (CV5-CL-2) ont commencé à 0,404 mg/l, ont atteint un pic de 1,51 mg/l à la deuxième semaine, puis ont progressivement diminué pour atteindre 0,458 mg/l. Les résidus magnétiques (CV5-CL-3) ont affiché les concentrations initiales les plus élevées, commençant à 0,561 mg/l et atteignant un pic de 5,08 mg/l à la quatrième semaine, avant de diminuer progressivement jusqu'à 2,6 mg/l. Le Bypass (CV5-CL-4) présentait les niveaux d'arsenic les plus élevés, commençant à 4,47 mg/l, atteignant un pic de 17,6 mg/l à la deuxième semaine, puis diminuant jusqu'à 1,67 mg/l à la vingtième

semaine. Le composite principal (CV5-CL-5) a présenté une tendance similaire, commençant à 0,548 mg/l, atteignant un pic de 4,47 mg/l à la deuxième semaine, puis diminuant jusqu'à 1,24 mg/l. Dans l'ensemble, les concentrations d'arsenic ont eu tendance à diminuer après les pics initiaux, le Bypass et les résidus magnétiques présentant les niveaux les plus élevés tout au long de la période d'essai.

d. Les concentrations de cuivre dans les essais en colonne sont restées faibles pour tous les types de résidus pendant toute la période de 20 semaines. Les résidus flottants (CV5-CL-1) ont commencé à 0,004 mg/l et ont rapidement chuté à 0,001 mg/l dès la deuxième semaine, maintenant ce niveau jusqu'à la fin de la période d'essai. Les middlings (CV5-CL-2), les magnétiques (CV5-CL-3) et le composite maître (CV5-CL-5) ont tous présenté des concentrations de cuivre stables, égales ou proches de la limite de détection de 0,001 mg/l pendant toute la durée de l'essai. Le Bypass (CV5-CL-4) a initialement présenté une concentration légèrement supérieure de 0,028 mg/l, mais celle-ci a rapidement diminué pour atteindre 0,001 mg/l à la quatrième semaine et est restée constante par la suite. Dans l'ensemble, la lixiviation du cuivre a été minime dans toutes les colonnes, les concentrations se stabilisant à 0,001 mg/l ou moins après les premières semaines.

e. Les concentrations de lithium dans les essais en colonne ont montré une baisse rapide et régulière pour tous les types de résidus miniers au cours de la période de 20 semaines. Les flottants (CV5-CL-1) ont commencé à 0,82 mg/l et ont fortement diminué pour atteindre 0,0174 mg/l à la semaine 20. Les middlings (CV5-CL-2) ont suivi une tendance similaire, commençant à 0,897 mg/l et diminuant jusqu'à 0,038 mg/l. Les résidus magnétiques (CV5-CL-3) ont affiché une tendance comparable, passant de 0,521 mg/l à 0,0335 mg/l. Les résidus de dérivation (CV5-CL-4) présentaient la concentration initiale la plus élevée, à 35,1 mg/l, qui a considérablement diminué pour atteindre 0,246 mg/l à la semaine 20. Le composite maître (CV5-CL-5) a également affiché une baisse constante, passant de 1,84 mg/l à 0,0887 mg/l. Dans l'ensemble, les concentrations de lithium dans toutes les colonnes ont suivi une tendance à la baisse parallèle, le Bypass présentant les concentrations initiales les plus élevées et la réduction la plus prononcée au fil du temps.

f. Les concentrations d'uranium dans les essais en colonne ont suivi des tendances à la baisse similaires pour tous les types de résidus au cours de la période de 20 semaines, mais à des niveaux d'amplitude différents. Les flottants (CV5-CL-1) ont commencé à 0,056 mg/l, ont atteint un pic de 1,27 mg/l à la deuxième semaine, puis ont progressivement diminué pour atteindre 0,131 mg/l. Les middlings (CV5-CL-2) ont commencé à 0,00115 mg/l, ont atteint un maximum de 0,383 mg/l à la quatrième semaine, puis ont diminué pour atteindre 0,136 mg/l. Les résidus magnétiques (CV5-CL-3) ont présenté des concentrations initiales plus faibles, commençant à 0,0165 mg/l, atteignant un pic de 0,109 mg/l à la deuxième semaine, puis diminuant jusqu'à 0,0286 mg/l. Le Bypass (CV5-CL-4) a présenté les concentrations les plus élevées, commençant à 0,0996 mg/l, atteignant un pic de 0,946 mg/l à la deuxième semaine, puis se stabilisant autour de 0,417 mg/l. Le composite principal (CV5-CL-5) a commencé à 0,00644 mg/l, a atteint un pic de 0,465 mg/l à la quatrième semaine, puis a diminué pour atteindre 0,259

mg/l. Dans l'ensemble, toutes les colonnes ont affiché des tendances parallèles à la baisse après les pics initiaux, le Bypass conservant les concentrations d'uranium les plus élevées tout au long de la période d'essai.

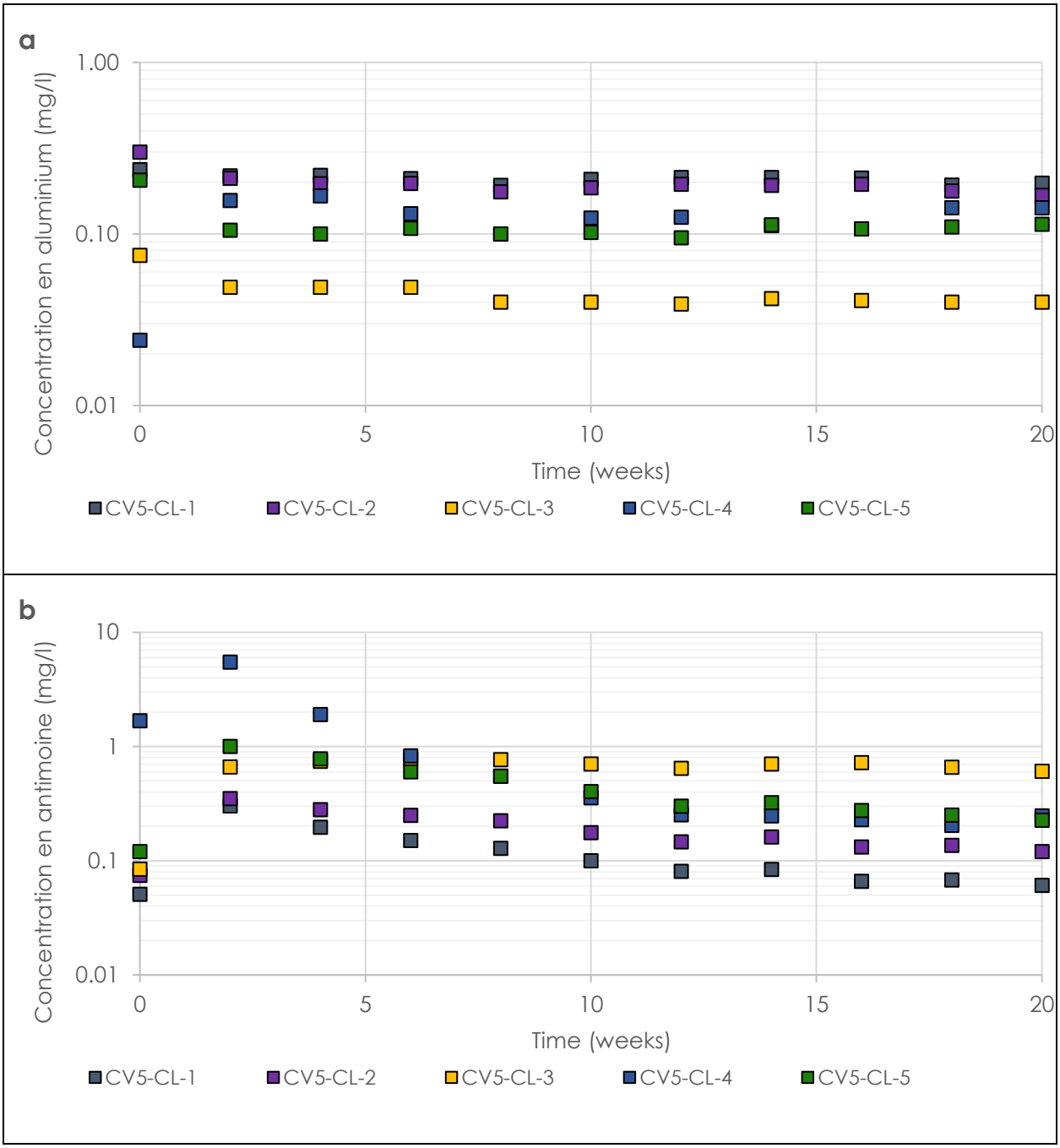


Figure 16. Représentation graphique de la concentration des COPC dans les essais en colonne (1 sur 3)

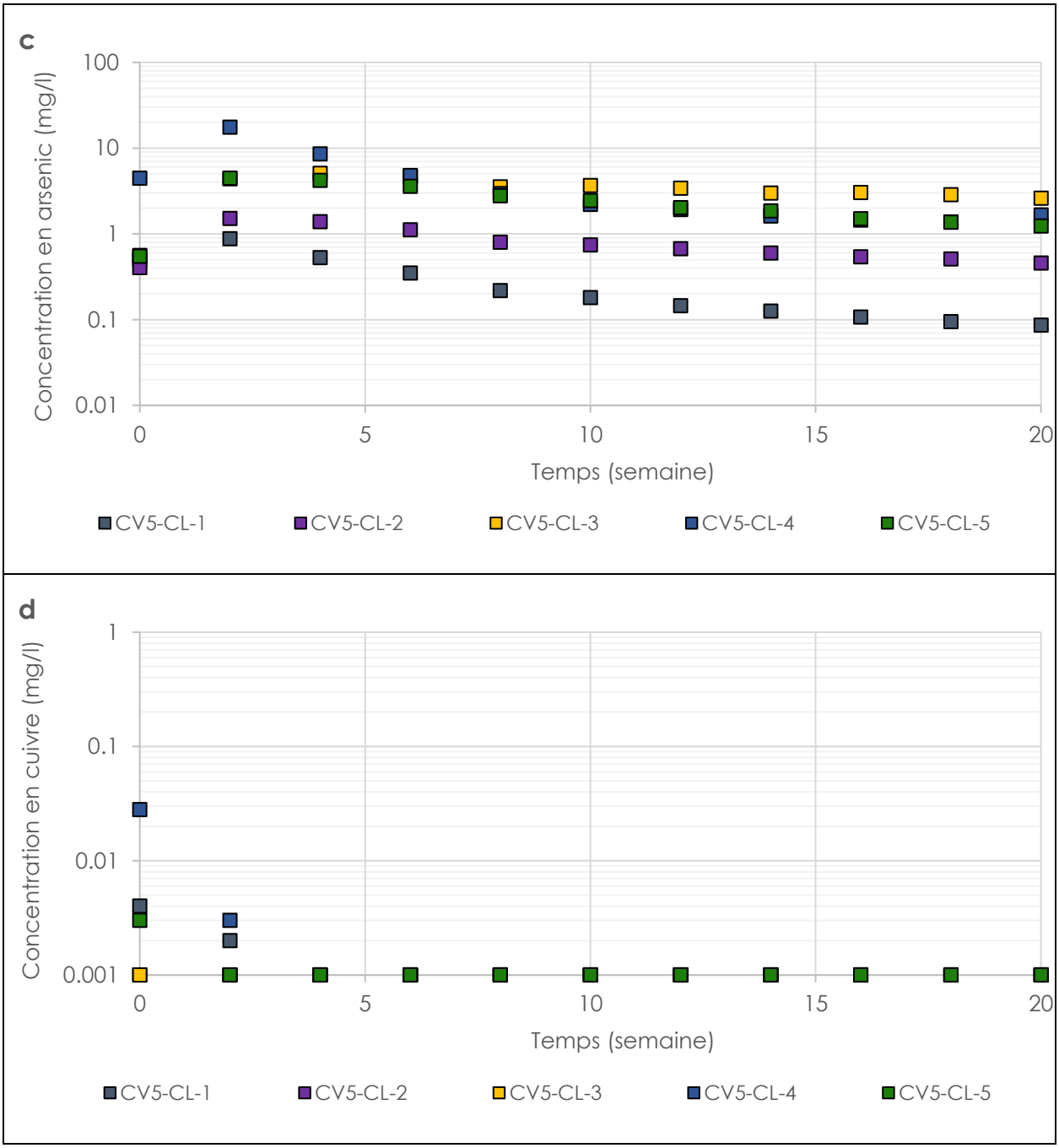


Figure 17. Représentation graphique de la concentration des COPC dans les essais en colonne (2 sur 3)

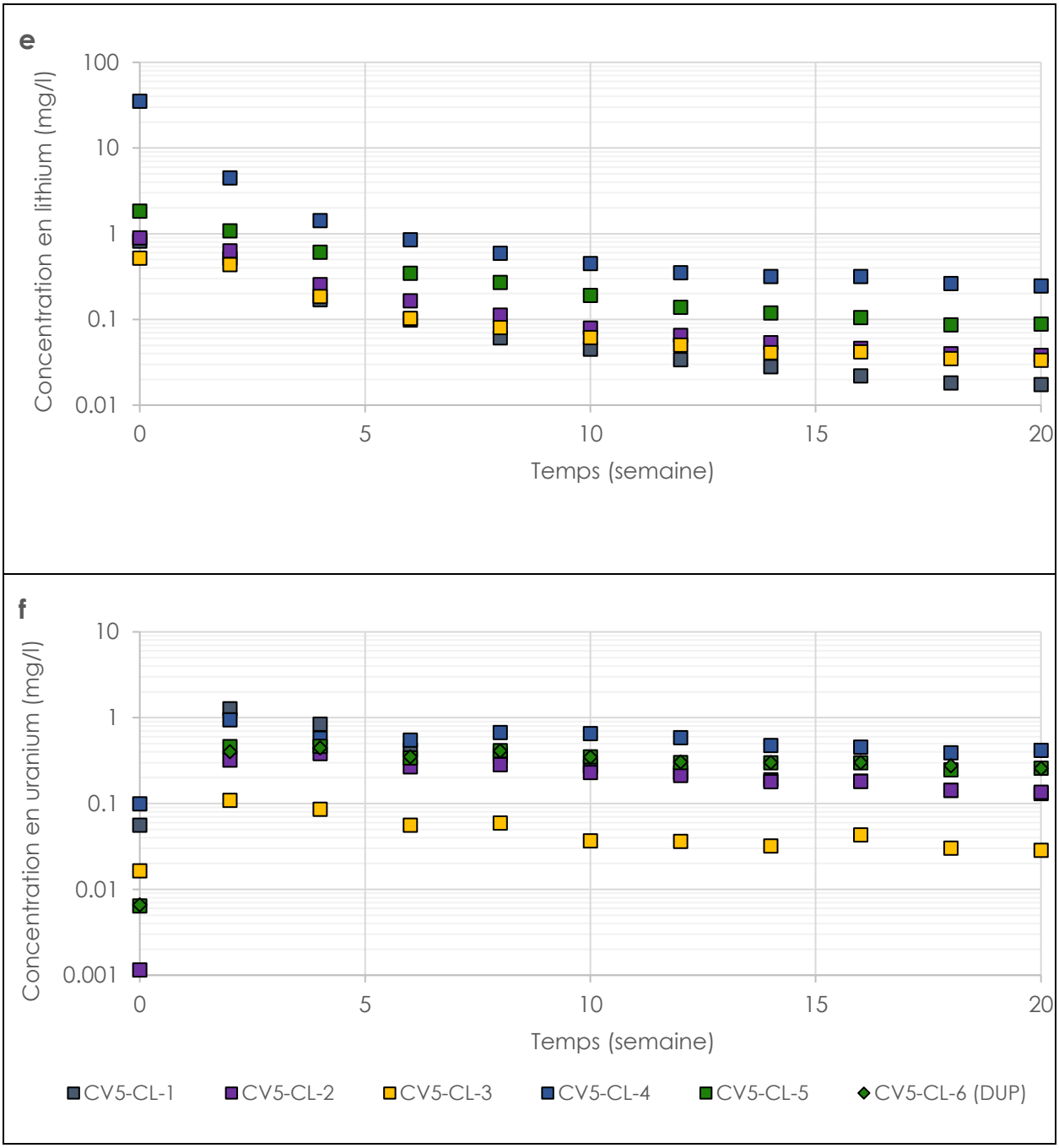


Figure 16. Représentation graphique de la concentration des COPC dans les essais en colonne (3 sur 3)

3.3.3 Résumé et interprétation

Des essais cinétiques en double ont été réalisés afin d'évaluer la reproductibilité et la fiabilité des essais HCT effectués sur des échantillons de stériles et de minerai (CV5-WR-HCT-5 (DUP)), ainsi que des essais en colonne effectués sur des résidus (CV5-CL-6). Dans les essais HCT en double, 69 % des paramètres testés ont présenté un écart relatif en pourcentage (RPD) inférieur à 20 % (indiquant une bonne reproductibilité), 27 % se situaient entre 20 % et 50 % (acceptable) et 4,4 % se situaient entre 50 % et 100 % (reflétant une plus grande incertitude). Pour les duplicatas des essais en colonne, 95 % des paramètres présentaient un RPD inférieur à 20 % et 5,3 % se situaient entre 20 % et 50 %. Dans l'ensemble, les essais cinétiques ont démontré une bonne reproductibilité. La variabilité légèrement plus élevée observée dans les duplicatas HCT est attribuée à la distribution granulométrique plus grossière et plus hétérogène des stériles par rapport aux résidus, ainsi qu'à la masse d'échantillon plus faible utilisée dans les HCT (environ 1 kg sec) par rapport aux essais sur colonne (8-9,5 kg sec), ce qui amplifie l'influence de l'hétérogénéité de l'échantillonnage.

Après 100 semaines, les essais HCT n'ont pas révélé de comportement acidogène net clair, bien qu'une diminution générale du pH ait été observée. Certains HCT ont affiché des valeurs légèrement inférieures à 6 vers la fin de la période d'essai (par exemple, CV5-WR-HCT-59 et CV5-WR-HCT-39), et des augmentations de certains métaux de base ont été notées, notamment le cadmium, le fer, le manganèse, le nickel et le zinc dans CV5-WR-HCT-50, ou le nickel dans CV5-WR-HCT-59. Il convient de souligner que la procédure HCT tend à favoriser le développement de conditions légèrement acides, quels que soient les résultats ABA d'un matériau, en raison du rapport liquide/solide élevé, de l'utilisation d'eau déionisée (pH 5,5-6) et du débit de rinçage rapide.

Parmi les COPC identifiés dans le cadre des essais de lixiviation (**Tableau 20**), l'arsenic s'est révélé être le plus susceptible de dépasser les critères CVAA et MDMER / D019, avec respectivement 14,1 % et 25,3 % de dépassements hebdomadaires, suivi par l'antimoine, avec 9,3 % de dépassements hebdomadaires du critère CVAA. À cet égard, il convient de souligner que l'arsenic et l'antimoine apparaissaient tous deux élevés dans les échantillons ultramafiques, qui représentaient respectivement plus de 98 % et 90 % des dépassements des critères CVAA pour l'antimoine et l'arsenic, bien que certains dépassements pour l'arsenic aient également été identifiés dans les amphibolites et les stériles de pegmatite, ainsi que dans les HCT de spodumène (minerai) de pegmatite.

Quelques dépassements ont également été observés pour certains métaux communs, en particulier dans les échantillons de métasédiments, notamment CV5-WR-HCT-50 qui a enregistré des dépassements pour le cadmium, le cuivre, le nickel et le zinc, bien que les HCT ultramafiques aient présenté quelques dépassements pour le nickel selon le critère CVAA, et que les HCT de pegmatite stérile et de pegmatite spodumène (minerai) aient présenté quelques dépassements pour le cuivre.

En ce qui concerne le cuivre, il convient toutefois de souligner que le critère CVAA (0,0016 mg/l) est inférieur à un ordre de grandeur au-dessus de la limite de détection (0,0002 mg/l jusqu'à la semaine 38 et 0,001 mg/l de la semaine 39 à la semaine 100), et que la limite de quantification de la méthode pourrait avoir influencé le nombre de dépassements enregistrés. Toutefois, étant

donné que la solubilité du cuivre est contrôlée par le pH, ce métal pourrait devenir une préoccupation plus importante si des conditions acides associées à l'oxydation des minéraux sulfurés apparaissaient.

Enfin, quelques dépassements de la teneur en uranium ont également été signalés dans les HCT de stériles pegmatitiques et de spodumène pegmatitique (minerai), notamment au début des essais sur colonne de résidus (**Tableau 21**) indiquent que l'arsenic a dépassé ses critères de criblage dans tous les types de matériaux : 4 dépassements dans les flottants (CV5-CL-1), 11 dans les middlings (CV5-CL-2), 11 dans les magnétiques (CV5-CL-3), 11 dans les bypass (CV5-CL-4) et 11 dans le composite maître (CV5-CL-5). Les dépassements pour l'antimoine étaient les plus prononcés dans les minéraux magnétiques (CV5-CL-3, 10), les minéraux de dérivation (CV5-CL-4, 6) et le composite maître (CV5-CL-5, 6), tandis que l'uranium ne dépassait ses critères que dans l'échantillon de dérivation (CV5-CL-4, 2). En comparaison, le cuivre, le nickel, le lithium et le zinc ont présenté peu de dépassements, avec des occurrences isolées telles que le cuivre dans les middlings (CV5-CL-2, 1), le nickel dans le Bypass (CV5-CL-4, 3) et le composite maître (CV5-CL-5, 2), le lithium dans les flottants (CV5-CL-1, 2) et le Bypass (CV5-CL-4, 2), et le zinc dans les flottants (CV5-CL-1, 4) et le Bypass (CV5-CL-4, 10). Ces résultats indiquent que l'arsenic, l'antimoine et l'uranium sont les principaux constituants potentiellement préoccupants dans les résidus testés.

Table 20: Compilation des paramètres présentant un dépassement des critères CVAA et MDMER / D019 en cellules humides

Identifiant HCT	Type de matériel	Antimoine	Arsenic		Cadmium	Cuivre	Lithium	nickel	Uranium	Zinc
		CVAA	CVAA	MDMER / D019	CVAA	CVAA	CVAA	CVAA	CVAA	CVAA
		0,31	0,34	0,1	0,00021	0,0016	0,91	0,067	0,017	0,017
CV5-WR-HCT-2	Amphibolite	0	0	0	0	0	0	0	0	0
CV5-WR-HCT-5	Amphibolite	0	15	64	0	1	0	0	0	0
CV5-WR-HCT-14	Amphibolite	0	0	4	0	0	0	0	0	0
CV5-WR-HCT-22	Amphibolite	0	3	48	0	1	0	0	0	0
CV5-WR-HCT-33	Amphibolite	0	0	0	0	0	0	0	0	0
CV5-WR-HCT-36	Ultramafique	57	72	73	0	1	0	5	0	0
CV5-WR-HCT-39	Métasédiment	0	0	0	0	0	0	0	0	0
CV5-WR-HCT-50	Métasédiment	2	0	0	11	1	0	3	0	13
CV5-WR-HCT-56	Métasédiment	0	0	0	0	1	0	0	0	0
CV5-WR-HCT-59	Ultramafique	0	24	62	0	1	0	4	0	0
CV5-WR-HCT-62	Ultramafique	63	70	73	0	0	0	1	0	0
CV5-WR-HCT-64	Pegmatite stérile	0	1	5	0	2	0	0	2	0
CV5-WR-HCT-69	Pegmatite stérile	0	0	3	0	2	0	0	7	0
	Total stériles	**9,3 %**	**14,1 %**	**25,3 %**	**0,8 %**	**0,8 %**	**0,0 %**	**1,0 %**	**0,7 %**	**1,0 %**
CV5-WR-HCT-74	Minerai	0	3	5	0	3	1	0	3	0
CV5-WR-HCT-76	Minerai	0	0	0	0	2	0	0	1	0
	Total minerai	**0,0 %**	**1,5 %**	**2,5 %**	**0,0 %**	**2,5 %**	**0,5 %**	**0,0 %**	**2,0 %**	**0,0 %**

Table 21. Résumé des dépassements hebdomadaires des critères COPC de la CVAA et du MDMER / D019 dans les essais sur colonnes de résidus miniers

Identifiant du test de colonne	Type de matériau	Antimoine	Arsenic		aluminium	Cuivre	Lithium	nickel	Uranium	Zinc
		CVAA	CVAA	MDMER / D019	CVAA	CVAA	CVAA	CVAA	CVAA	CVAA
		0,31	0,34	0,1	0,2800	0,0016	0,91	0,067	0,32	0,017
CV5-CL-1	Flottation	0	4	9	0	2	0	0	4	0
CV5-CL-2	Middlings	1	11	11	1	0	0	0	2	0
CV5-CL-3	Magnétique	10	11	11	0	0	0	0	0	0
CV5-CL-4	Bypass	6	11	11	0	2	3	2	10	1
CV5-CL-5	Composite maître	6	11	11	0	1	2	0	5	0

3.4 Résultats de la modélisation géochimique

Une modélisation géochimique a été réalisée afin d'évaluer les risques liés au potentiel de lixiviation de l'antimoine, de l'arsenic et du lithium présents dans les stériles et les résidus miniers du site Stockpile-002, et de soutenir les mesures de gestion des stériles visant à prévenir les risques de lixiviation de l'arsenic sur le site Stockpile_001.

Les résultats des simulations Monte Carlo à 1 000 itérations réalisées pour prédire les concentrations d'arsenic dans les eaux de percolation des stériles à la base des stockages 001 et 002 sont résumés à l'**Annexe E**, avec les résultats du modèle déterministe des résidus du Stockpile-002.

3.4.1 Charge en arsenic des stériles

Figure 18 présente les distributions des taux de lixiviation en spécifique des matériaux stériles (par kilogramme de matériel) avant et après la ségrégation. Les résultats des 1 000 itérations sont distribués symétriquement, la moyenne correspondant étroitement à la médiane, ce qui correspond à une distribution quasi normale des résultats simulés. La ségrégation devrait permettre d'obtenir un taux de lixiviation global de l'arsenic de $1{,}92\times10^{-5}$ mg/kg/semaine en moyenne pour les matériaux destinés au Stockpile-001, soit environ dix fois moins que pour les matériaux non séparés ($2{,}55\times10^{-4}$ mg/kg/semaine). Le sous-produit lixiviable issu de la ségrégation placé dans le Stockpile-002 présenterait un taux moyen de $8{,}73\times10^{-4}$ mg/kg/semaine, soit 3,4 fois plus élevé que le matériau d'origine et 45 fois plus élevé que la fraction non lixiviable. Il convient toutefois de noter que le Stockpile-002 devrait comprendre environ 53 % de matériaux lixiviables et 47 % de matériaux non lixiviables en arsenic.

Ces rapports de taux de lixiviation devraient être indépendants des variations des facteurs d'échelle et autres paramètres d'étalonnage, car ces ajustements sont appliqués uniformément à tous les types de matériaux et préservent donc les différences relatives.

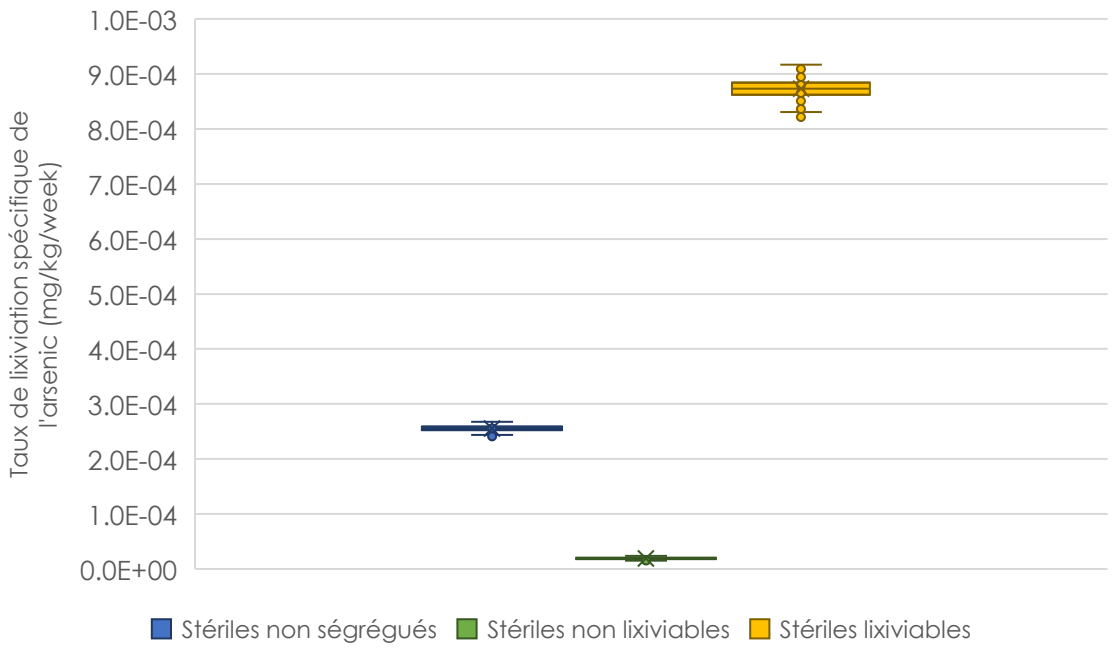


Figure 18. Distribution du taux de lixiviation en vrac de l'arsenic dans les stériles

3.4.2 Tendances modélisées de la concentration en arsenic dans le Stockpile-001

Figure 19 présente la tendance modélisée de la concentration en arsenic au fil du temps à l'emplacement du Stockpile-001. Les résultats de la modélisation de l'arsenic indiquent une augmentation des concentrations entre 2030 et 2036, atteignant un maximum de 0,068 mg/L en moyenne et de 0,085 mg/L dans le cas conservateur (90e centile de 1 000 itérations). La concentration maximale coïncide avec la date estimée d'achèvement de la construction de la halde. Le modèle montre que la concentration d'arsenic diminuera ensuite en dessous de 0,004 mg/l après 2050, tant dans le scénario optimiste que dans le scénario prudent. Selon le modèle, la concentration d'arsenic dans le Stockpile-001 ne devrait pas dépasser le critère MDMER / D019 de 0,10 mg/l pendant l'exploitation.

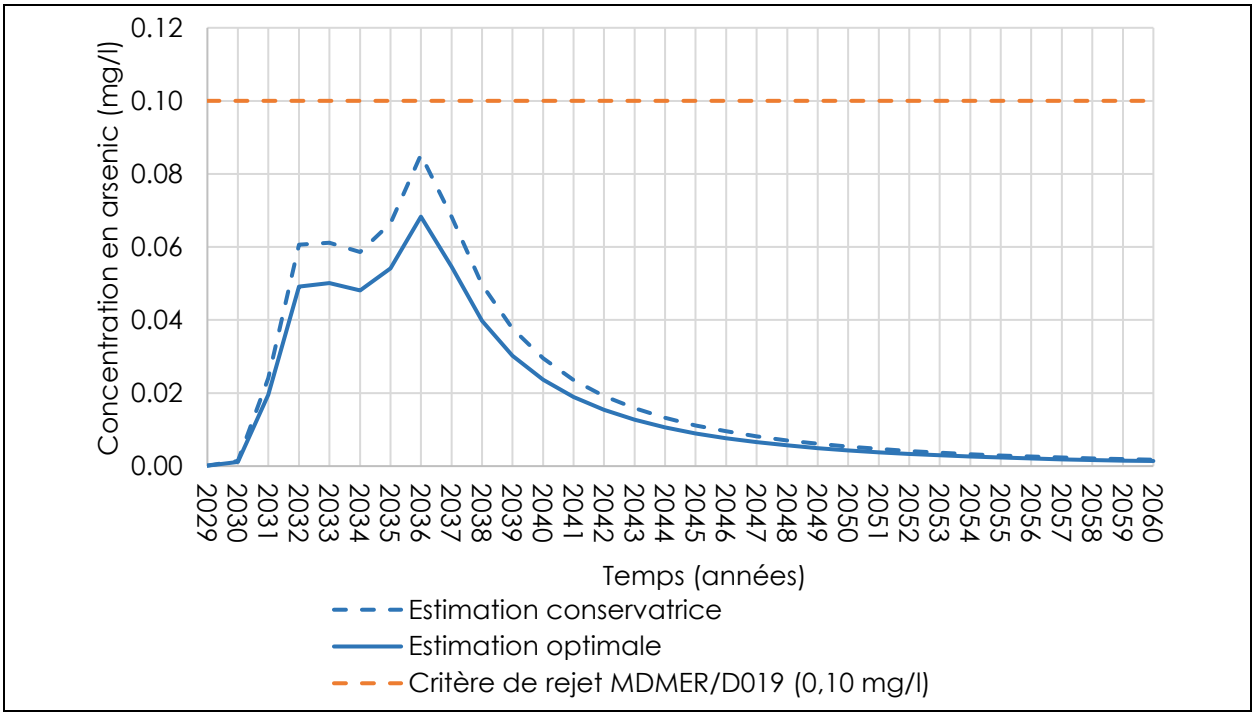


Figure 19. Tendances modélisées de la concentration en arsenic dans le Stockpile-001

3.4.3 Tendances modélisées de la concentration des COPC dans le Stockpile-002

Figure 20 présente les tendances modélisées des concentrations d'antimoine, d'arsenic et de lithium au fil du temps dans les eaux de drainage provenant du site Stockpile-002. Les concentrations d'arsenic (**a**) combinent les résultats des modèles de stériles et de résidus, tandis que pour l'antimoine (**b**) et le lithium (**c**), les résultats du modèle de résidus sont combinés avec des valeurs fixes issues de l'exercice de sélection.

Le graphique indique que les concentrations d'arsenic dans le Stockpile-002 devraient être dominées par la contribution des résidus, avec un maximum de 8,9 mg/L contre 1,8 mg/L pour les stériles. Les concentrations globales devraient augmenter pour atteindre 10,3 mg/L en 2040, ce qui coïncide avec l'achèvement de la partie de la halde dédiée aux stériles. Le modèle prévoit en outre une baisse marquée des concentrations d'arsenic à partir de 2047, avec des valeurs passant sous la barre des 1 mg/L après 2055.

Les concentrations d'antimoine dans le Stockpile-002 devraient être dominées par la contribution des résidus miniers, tandis que la contribution des stériles restera stable à 0,41 mg/L, comme défini lors de la procédure de sélection du COPC. Les concentrations globales augmentent progressivement de 2029 à 2047, pour atteindre un pic de 3,0 mg/L à la fin du placement des résidus. Le modèle prévoit ensuite une baisse marquée des concentrations à partir de 2048, avec des valeurs passant sous la barre des 0,70 mg/L après 2055.

Les concentrations de lithium dans le Stockpile-002 devraient être dominées par la contribution des résidus miniers, tandis que la contribution des stériles restera négligeable, à environ 0,08 mg/L, comme défini lors de la procédure de sélection du COPC. Les concentrations globales

augmentent régulièrement de 2029 à 2035, pour atteindre un maximum de 2,2 mg/L pendant la période de mise en place des résidus. Les concentrations restent ensuite relativement stables jusqu'en 2047, après quoi le modèle prévoit une baisse prononcée à partir de 2048 et une stabilisation autour de 0,10 mg/l après 2055.

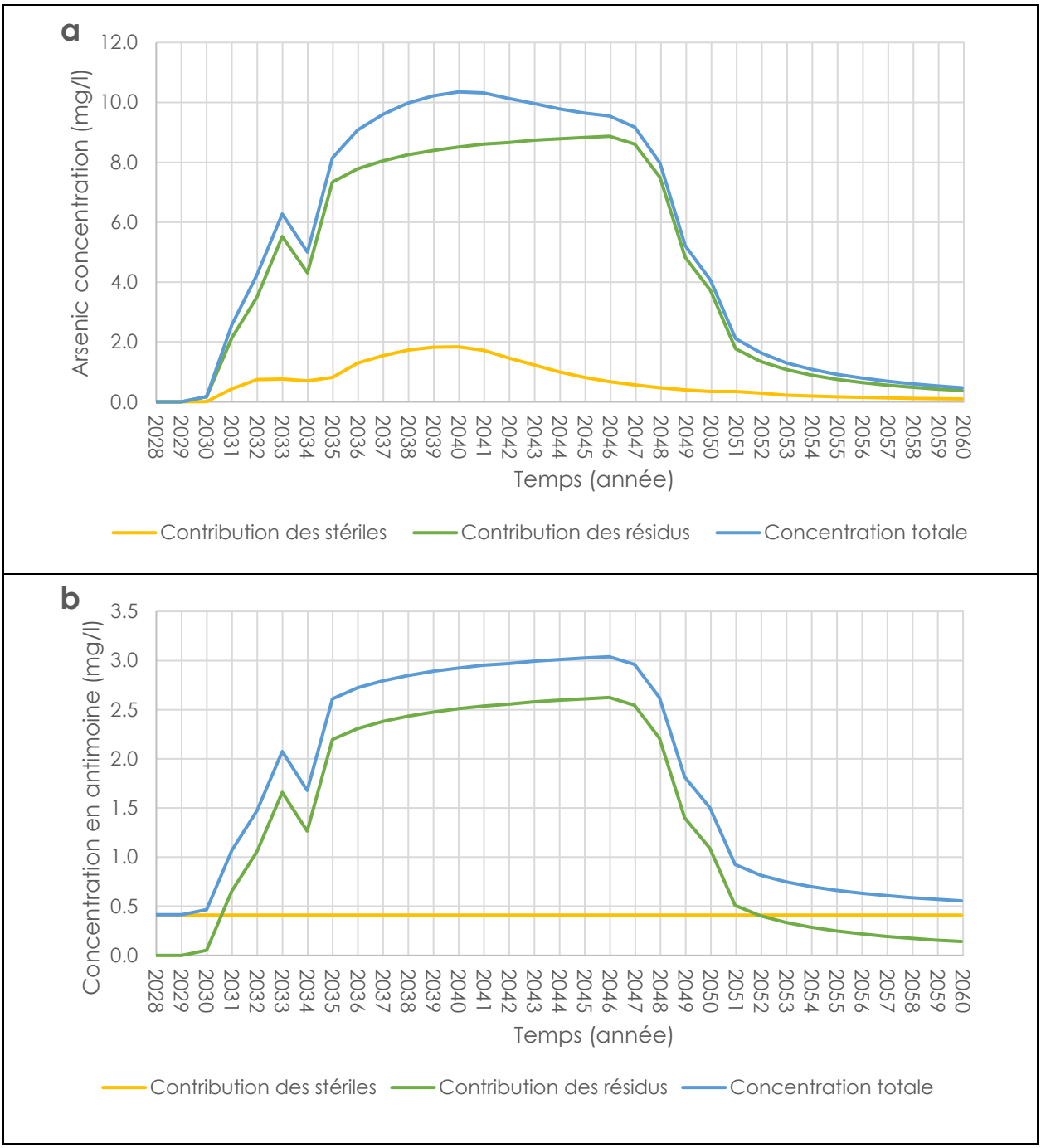


Figure 20. Modélisation des concentrations en COPC dans le Stockpile-002 (1 sur 2)

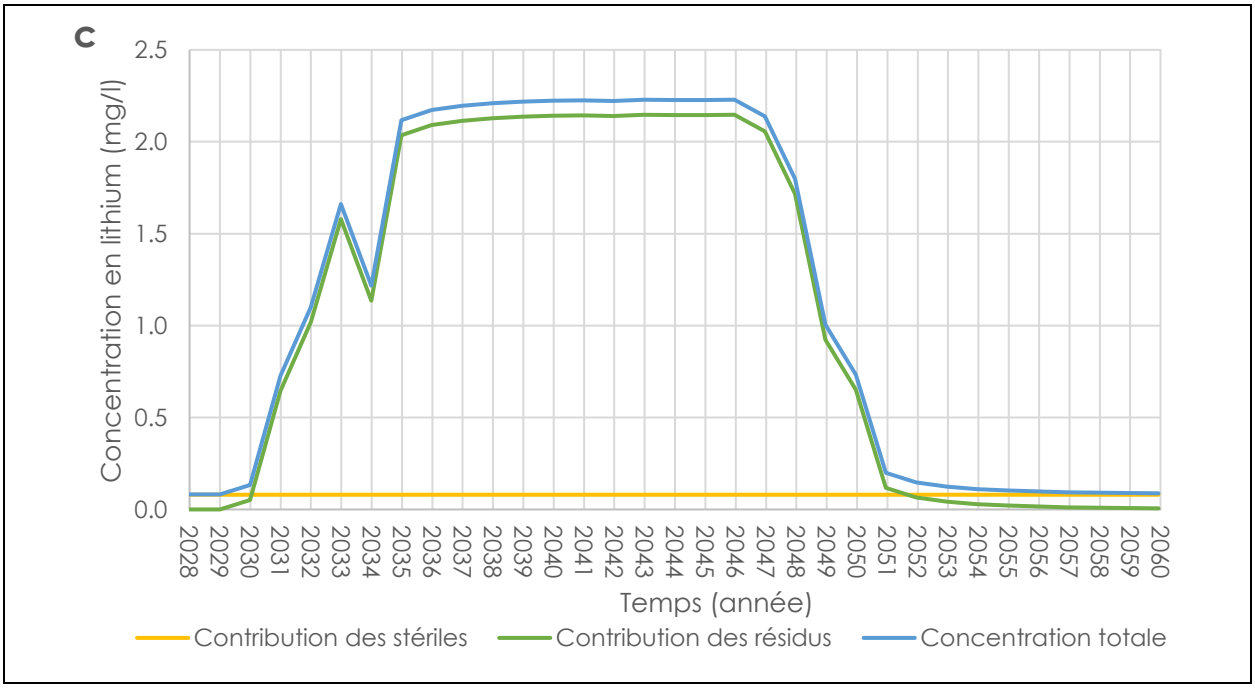


Figure 21. Modélisation des concentrations en COPC dans le Stockpile-002 (1 sur 2)

3.5 Limites du modèle

L'interprétation des résultats de la modélisation doit être considérée à la lumière des incertitudes et des hypothèses inhérentes à l'approche. La fiabilité des concentrations de COPC prévues dépend fortement de la qualité et de la représentativité des paramètres d'entrée utilisés. Comme pour tout modèle géochimique, la précision des résultats ne peut dépasser le niveau de confiance dans les données d'entrée.

L'une des sources d'incertitude les plus importantes réside dans l'utilisation des facteurs d'échelle. Les concentrations de COPC modélisées sont très sensibles à ces paramètres et réagissent de manière directement proportionnelle (**Équation 4**). Par exemple, une surestimation d'un facteur d'échelle donné d'un facteur deux entraînerait des concentrations prévues qui ne représenteraient que la moitié de celles observées dans les conditions réelles. Afin d'atténuer cette incertitude, les facteurs d'échelle ont été sélectionnés avec le plus grand soin et des valeurs prudentes ont été appliquées. Néanmoins, des essais cinétiques futurs, notamment des essais sur colonnes de stériles et des expériences sur le terrain avec des barils, seront réalisés afin d'affiner ces paramètres et de réduire l'incertitude.

Une autre limite des efforts de modélisation actuels réside dans l'omission des mécanismes de sorption potentiels qui peuvent influencer la solubilité et la mobilité de certains COPC. On sait que des éléments tels que l'arsenic et l'antimoine interagissent avec les phases de fer et d'aluminium, ce qui peut agir comme un processus d'atténuation naturel. Comme ces mécanismes n'ont pas été explicitement pris en compte, les résultats du modèle représentent un scénario prudent, dans lequel on suppose qu'aucun contrôle de ce type ne se produit. Une fois encore, des données expérimentales supplémentaires issues d'essais en colonne et sur le terrain

seront essentielles pour améliorer la compréhension de ces mécanismes et les intégrer dans les futures itérations du modèle.

Une autre simplification réside dans le traitement des processus hydrologiques. Le modèle actuel suppose que tous les constituants lessivés sont immédiatement exportés du système dès leur génération. En réalité, l'eau contenue dans la halde peut avoir des temps de séjour importants, ce qui entraîne le stockage, le mélange et la libération retardée des constituants dissous. Cela aurait pour effet d'atténuer les concentrations maximales tout en prolongeant le signal de libération sur une période plus longue, les quantités totales (c'est-à-dire l'aire sous la courbe concentration-temps) restant approximativement constantes. Un tel comportement pourrait influencer considérablement les concentrations maximales à court terme et les charges à long terme, et souligne l'importance de coupler les modèles géochimiques de terme source avec les modèles de transport hydrologique dans les travaux futurs. Cependant, comme elle atténue les concentrations maximales, l'approche de modélisation actuelle est considérée comme conservatrice.

3.6 Criblage des COPC

Une analyse COPC a été réalisée afin d'identifier les composants potentiellement préoccupants susceptibles de s'échapper de Stockpile-001, Stockpile-002 et de la halde de minerai. Le processus a intégré les résultats des essais statiques, des essais cinétiques et de la modélisation géochimique afin d'affiner progressivement la compréhension des rejets potentiels de contaminants.

La sélection s'est déroulée en trois étapes :

1. Les données d'essais statiques ont d'abord été utilisées pour établir une liste initiale de COPC en fonction des concentrations totales et lixiviables.
2. Cette liste préliminaire a ensuite été affinée à l'aide des résultats des essais cinétiques, qui ont permis de mieux comprendre l'évolution temporelle et les taux de libération des éléments dans des conditions contrôlées.
3. Enfin, des simulations de modélisation géochimique ont été réalisées pour les COPC restants afin de quantifier davantage et de limiter les concentrations prévues dans des conditions représentatives du site.

3.6.1 Criblage des COPC par essais statiques

Un effort de criblage COPC a été réalisé sur la base des résultats SPLP et CTEU-9, en utilisant le 90e centile de chacun des constituants identifiés par type lithologique, pondéré en fonction de leurs proportions respectives calculées dans Stockpile-001 et Stockpile-002 **Section 2.9.5**. En ce qui concerne la halde de minerai, les concentrations du 90e centile des constituants mesurées lors des essais de lixiviation effectués sur des échantillons de pegmatite spodumène ont été utilisées.

Le premier examen COPC, réalisé sur la base des résultats des essais statiques, a permis d'identifier l'aluminium, l'antimoine, l'arsenic et le cuivre comme pouvant dépasser le critère CVAA ou MDMER/D019 dans les haldes Stockpile-001, Stockpile-002 et la halde de minerai

(**Tableau 22**). En outre, le fer a également été identifié comme pouvant dépasser le critère dans le Stockpile-001 et la halde de minerai, tandis que le béryllium et le nickel ont été identifiés comme pouvant dépasser le critère uniquement dans la halde de minerai et le Stockpile-002, respectivement. Parmi les constituants mis en évidence dans le cadre des essais, le cadmium, le plomb, le mercure et le zinc sont exclus de la liste des COPC. Il convient de noter que le criblage CTEU-9 est nettement plus conservateur que le SPLP, qui n'a permis d'identifier que l'aluminium pour les trois haldes, en plus de l'arsenic pour le Sotckpile-002.

Certains des COPC identifiés, en particulier l'arsenic, le lithium et l'antimoine, sont connus pour leur grande solubilité, avec peu de limitations dans les conditions d'essai. Le pourcentage de libération dû à la fragmentation et le temps d'agitation sont donc des facteurs clés de leur mobilisation, et l'équilibre est difficile à atteindre. C'est pourquoi les procédures d'essai de lixiviation statique seront dans ce cas de mauvais prédicteurs des concentrations sur le terrain. Les facteurs qui contrôlent la concentration sur le terrain sont principalement influencés par la cinétique et la surface de l'interface de contact entre l'eau et les solides. Dans ce cas, les essais de lixiviation peuvent sous-estimer les concentrations qui seront mesurées sur le terrain.

La solubilité de l'aluminium, du fer, du nickel et du béryllium est principalement contrôlée par le pH, et l'équilibre est plus susceptible d'être atteint dans les essais de lixiviation. L'agitation peut toutefois augmenter artificiellement les concentrations de métaux mesurées en permettant aux colloïdes de passer à travers le filtre de 0,40 µm. Par exemple, l'échantillon VIS-CV5-MS-210 présentait des concentrations en fer CTEU-9 de 22,9 mg/L à un pH de 8,03, bien au-dessus de la solubilité attendue dans les conditions ambiantes (~0,05 mg/L ; $Ksp(Fe(OH)_2) \approx 4{,}87 \times 10^{-11}$ à 25 °C). Un comportement similaire peut se produire pour l'uranium, bien que sa solubilité soit davantage influencée par l'alcalinité et les concentrations de carbonate que par le pH. Dans une halde, la présence de colloïdes dans l'eau devrait être beaucoup moins prononcée, car l'eau se déplace plus lentement et est naturellement filtrée par les matériaux environnants. Les concentrations en métaux devraient toutefois augmenter de manière significative si des conditions de pH acide sont atteintes.

Le protocole d'essai cinétique a été conçu sur la base de ces résultats afin de déterminer si les dépassements identifiés peuvent être confirmés par une analyse cinétique et de dériver des termes sources à utiliser dans un exercice de modélisation.

Tablet. Concentrations de criblage des essais statiques dans Stockpile-001, Stockpile-002 et la halde de minerai

Paramètres	Unité	Critère		Stockpile-001		Stockpile-002		Stock de minerai	
		CVAA	MDMER / D019	SPLP	CTEU-9	SPLP	CTEU-9	SPLP	CTEU-9
aluminium	mg/l	0,28		0,90	2,27	0,54	1,62	0,97	7,04
Antimoine	mg/l	0,31		0,03	0,38	0,04	1,58	0,09	3,08
Arsenic	mg/l	0,34	0,1	0,08	0,93	0,21	9 h 30	0,13	3,40
Béryllium	mg/l	0,0012		0,0001	0,0007	0,0001	0,0007	0,0009	0,0034
Cadmium	mg/l	0,00021		0,00001	0,00004	0,00001	0,00003	0,00002	0,00005
Cuivre	mg/l	0,0016	0,1	0,0011	0,0031	0,0013	0,0070	0,0020	0,0021
Fer	mg/l	3,4	3,0	0,24	3,15	0,14	1,96	0,07	9,96
Plomb	mg/l	0,004	0,08	0,0003	0,0015	0,0002	0,0011	0,0006	0,0017
Lithium	mg/l	0,91		0,09	2,56	0,07	2,12	0,39	10,48
Mercure	mg/l	0,0016		0,00001	0,00001	0,00001	0,00001	0,00001	0,00003
nickel	mg/l	0,067	0,3	0,001	0,003	0,0009	0,0151	0,0007	0,0006
Uranium	mg/l	0,017		0,001	0,027	0,0011	0,0532	0,0025	0,1520
Zinc	mg/l	0,017	0,4	0,003	0,006	0,0024	0,0039	0,0116	0,0088

Les résultats mis en évidence indiquent des valeurs dépassant les critères CVAA ou MDMER / D019.

3.6.2 Criblage des COPC par essais cinétiques

Comme décrit dans la section précédente **Section 3.6.1,** l'antimoine, l'arsenic et le lithium sont des éléments hautement mobiles dont les concentrations dans l'eau en contact avec le matériau ne sont pas directement limitées par le pH ou l'alcalinité. Les résultats des essais statiques peuvent fournir des estimations inexactes qui pourraient conduire à une sous-estimation des concentrations sur le terrain.

La **Figure 22** montre une forte corrélation entre la teneur totale en solides de ces éléments, mesurée à l'aide de la méthode de fusion au peroxyde de sodium à partir de la DHDB développée lors des forages d'exploration, et le taux de lixiviation HCT des échantillons correspondants. En appliquant les coefficients des régressions linéaires (0,0020 pour l'antimoine, 0,0010 pour l'arsenic et 0,1183 pour le lithium) au 90e centile de la teneur en solides mobiles COPC correspondante de la DHDB, il est possible de dériver des taux de lixiviation conservateurs et de les adapter aux conditions sur le terrain à l'aide des facteurs décrits dans la section 2.9.3 « Conception du modèle » du présent rapport.

Les données cinétiques ont également été utilisées pour affiner le criblage COPC des constituants soumis à des mécanismes de contrôle de la solubilité, tels que les métaux de base (aluminium, béryllium, cadmium, cuivre, fer et nickel) et l'uranium. Les estimations de la solubilité de ces COPC ont été calculées pour des conditions neutres et pour des conditions acides dans le cas du Stockpile-002, où doivent être stockés des matériaux PAG dont la teneur en soufre est supérieure à 0,3 % :

Pour les conditions neutres, les concentrations en métaux de base ont été estimées à l'aide du 90e centile des résultats HCT pour chaque constituant identifié par lithologie, pondérés en fonction de leur abondance respective dans la halde correspondante.

Dans des conditions acides, les concentrations ont été calculées à partir des valeurs maximales de HCT, ajustées par un facteur de 20 (équivalent à une division par 0,05) afin de tenir compte du rapport liquide/solide, estimé à environ 5 % dans le Stockpile-002. Cette approche reflète les différents contrôles sur la libération des métaux : dans des conditions neutres, les concentrations sont principalement régies par le pH, largement indépendant du rapport liquide/solide, tandis que dans des conditions acides, la cinétique de la réaction et la surface de contact entre l'eau et les solides deviennent les facteurs limitants, justifiant l'ajustement appliqué.

Le **Tableau 23** résume les résultats de l'effort de criblage affiné mené à partir des données cinétiques et met en évidence les constituants dépassant les critères CVAA/MDMER pour chaque halde. Pour le Stockpile-001 dans des conditions neutres, l'arsenic (ratio 2,24) est le seul constituant dépassant clairement le critère, le cuivre, le cadmium et l'antimoine restant en dessous de leurs limites respectives. Dans le Stockpile-002 dans des conditions acides, l'arsenic (22,4), le cuivre (10), le nickel (4,3) et l'uranium (22) dépassent tous leurs critères, ce qui indique une mobilité potentielle plus élevée de ces éléments dans cette halde, tandis que l'aluminium, le béryllium, le cadmium, le fer, le lithium et l'antimoine restent en dessous de leurs seuils. Pour la halde de minerai, l'arsenic (30,8), l'antimoine (11,0) et le lithium (11,5) dépassent leurs critères respectifs dans des conditions neutres, tandis que les autres métaux se situent dans des limites acceptables. Ces résultats indiquent que l'arsenic dépasse systématiquement les critères de

sélection dans toutes les haldes, l'uranium, le cuivre, le nickel, l'antimoine et le lithium dépassant les limites dans certaines haldes et pour des conditions spécifiques.

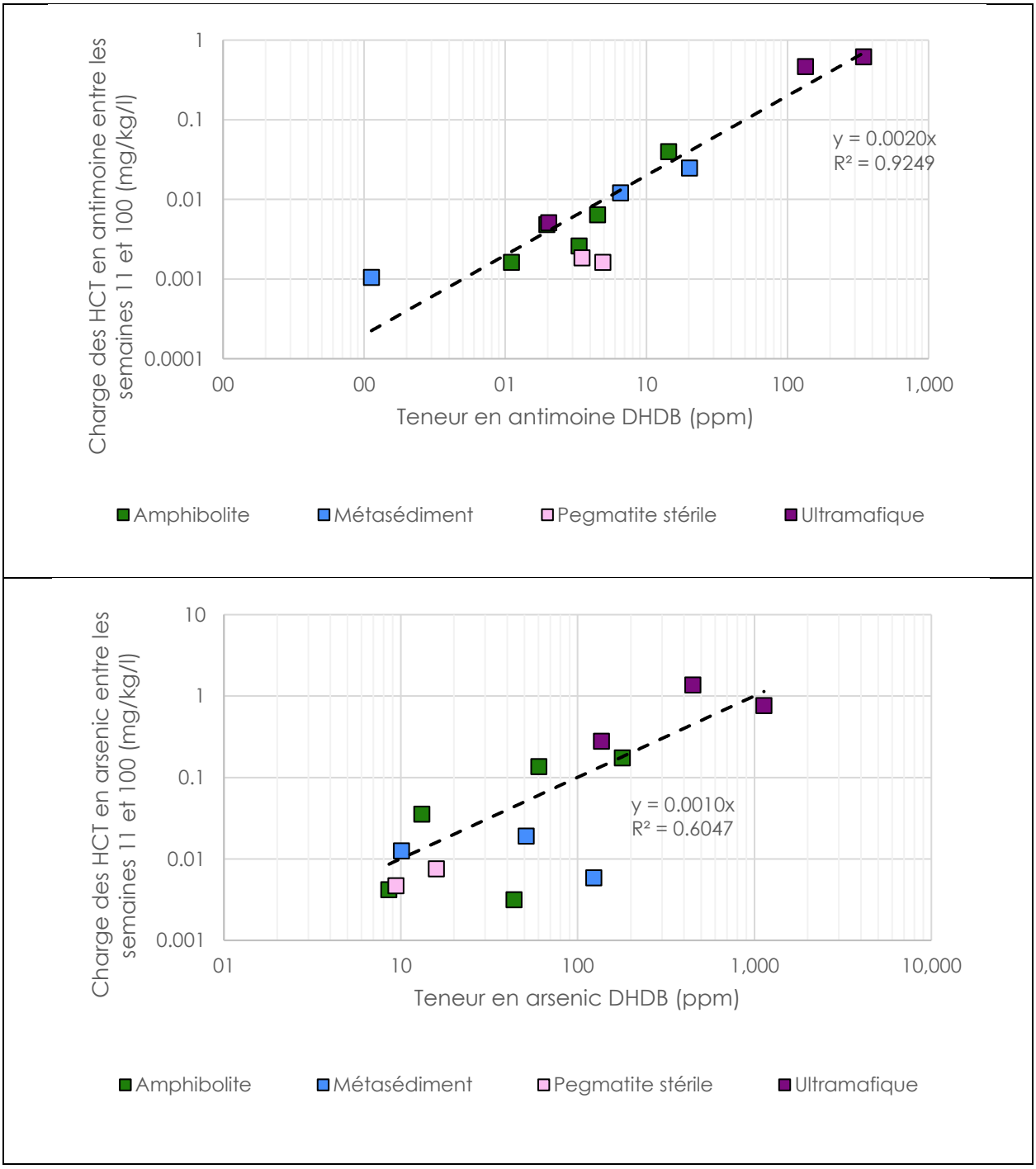


Figure 22. Relation entre le taux de lixiviation HCT et la teneur en peroxyde de sodium dans les stériles pour les COPC mobiles (antimoine, arsenic et lithium ; 1 sur 2)

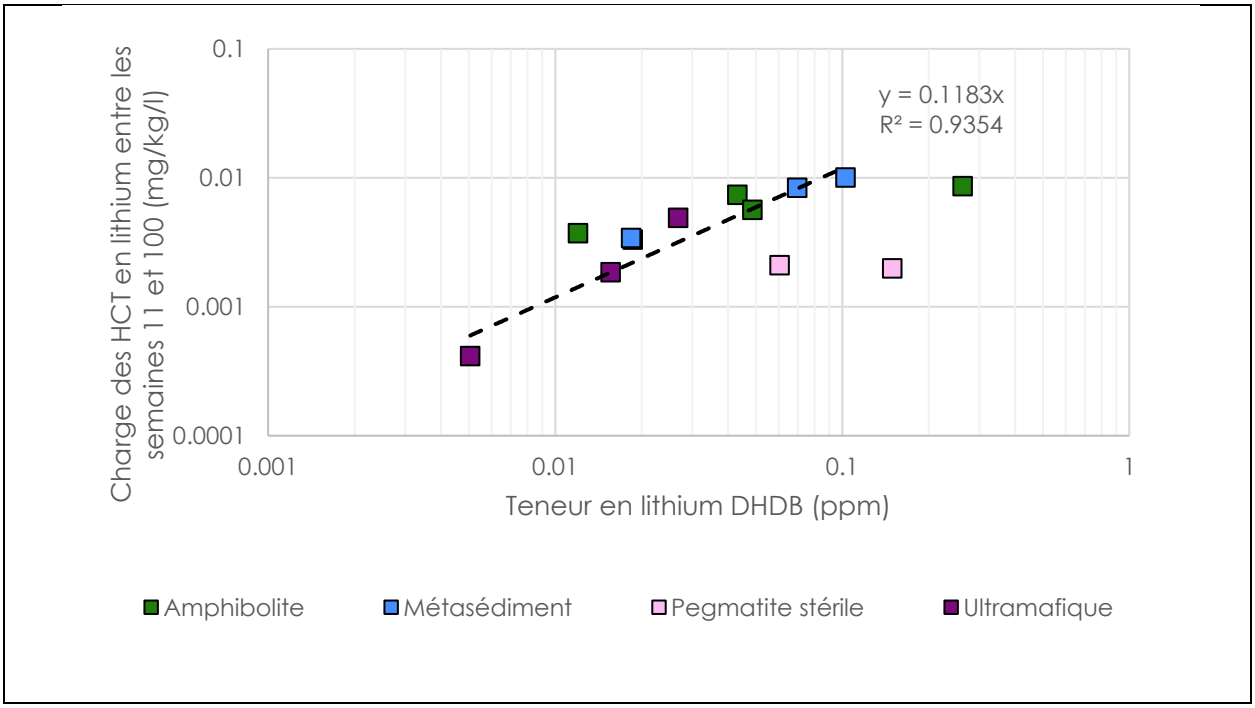


Figure 22. Relation entre le taux de lixiviation HCT et la teneur en peroxyde de sodium dans les stériles pour les COPC mobiles (antimoine, arsenic et lithium ; 2 sur 2)

Table 22. Concentrations utilisées pour les essais cinétiques dans les stocks Stockpile-001, Stockpile-002 et Ore Stockpile

Paramètres	Unité	CVAA / MDMER[1]	Stockpile-001		Stockpile-002				Halde de minerai	
			Conditions neutres		Conditions neutres		Conditions acides		Conditions neutres	
			Concentration	Rapport au critère	Concentration	Rapport au critère	Concentration	Rapport au critère	Concentration	Rapport au critère
aluminium	mg/l	0,28	0,063	0,22	0,116	0,41	0,790	2,8	0,059	0,21
Antimoine	mg/l	0,31	0,136	0,44	0,414	1,34	0,414	1,3	3,40[2]	11,0
Arsenic	mg/l	0,1	0,540	5,40	2,238	22,4	2,238	22,4	3,08[2]	30,8
Béryllium	mg/l	0,0012	0,00002	0,02	0,00003	0,03	0,0002	0,1	0,0001	0,06
Cadmium	mg/l	0,00021	0,0001	0,35	0,00005	0,26	0,0007	3,5	0,000005	0,02
Cuivre	mg/l	0,0016	0,001	0,75	0,0015	0,92	0,015	10	0,0012	0,75
Fer	mg/l	3	0,06	0,019	0,0294	0,010	0,14	0,05	0,0070	0,0023
Lithium	mg/l	0,91	0,08	0,085	0,0818	0,090	0,08	0,09	10,48[2]	11,5
nickel	mg/l	0,067	0,007	0,11	0,0184	0,27	0,29	4,3	0,0005	0,01
Uranium	mg/l	0,017	0,002	0,09	0,38	22	0,38	22	0,0116	0,68

Les résultats mis en évidence indiquent des valeurs dépassant les critères CVAA ou MDMER/D019.

[1]La valeur la plus conservatrice a été sélectionnée parmi les deux critères (CVAA pour l'aluminium, le cadmium, le cuivre et le nickel ; MDMER pour le fer).

[2]Ces concentrations sont basées sur les essais CTEU-9 et n'ont pas été mises à jour à l'aide des résultats des essais cinétiques, car les informations sur les caractéristiques de la halde de minerai n'étaient pas disponibles au moment de la rédaction du présent rapport.

3.6.3 Sélection finale

Une modélisation géochimique a été réalisée afin de prédire les concentrations dans l'eau de contact des COPC associés aux stériles et aux résidus miniers qui ont été identifiés lors des essais statiques et cinétiques effectués sur les Stockpiles-001 et -002. Plus précisément, l'évolution des concentrations d'arsenic a été modélisée pour le Stockpile-001, tandis que l'évolution des concentrations d'antimoine, d'arsenic et de lithium a été modélisée pour le Stockpile-002. Les résultats de l'effort de criblage des COPC intégrant les essais statiques, les essais cinétiques et les résultats de la modélisation géochimique en termes de concentrations maximales prévues sont résumés dans **Tableau 24**.

Les résultats de la modélisation indiquent que la mise en œuvre d'un protocole de ségrégation, impliquant la séparation complète des lithologies ultramafiques et de tous les matériaux dont la concentration en arsenic est supérieure à 30 ppm, devrait permettre de maintenir les concentrations en arsenic dans le drainage du tas en dessous des critères CVAA et MDMER/D019. À l'inverse, des conditions de lixiviation ont été identifiées pour le Stockpile-002, avec des concentrations d'arsenic dépassant les critères MDMER/D019 jusqu'à deux ordres de grandeur, principalement en raison de la contribution des résidus. De même, l'antimoine et, dans une moindre mesure, le lithium, devraient être lessivés du Stockpile-002, également sous l'influence importante des résidus. L'eau provenant du Stockpile-002 devra être gérée activement afin d'empêcher que des concentrations potentiellement nocives ne se répandent dans l'environnement par rejet ou résurgence.

Le statut réglementaire des différents tas de roches qui soutiennent les mesures de gestion de l'eau prévues dans la conception technique du site est résumé dans **Tableau 25**.

Table 23. Résumé des estimations de concentration maximale de COPC dans les eaux de drainage provenant des Stockpile-001, Stockpile-002 et de la halde de minerai.

Paramètres	Unité	CVAA / MDMER[1]	Stockpile-001		Stockpile-002				Halde de minerai	
			Conditions neutres		Conditions neutres		Conditions acides		Conditions neutres	
			Concentration	Rapport au critère	Concentration	Rapport au critère	Concentration	Rapport au critère	Concentration	Rapport au critère
aluminium	mg/l	0,28	0,063	0,22	0,116	0,41	**0,790**	**2,8**	0,059	0,21
Antimoine	mg/l	0,31	0,136	0,44	**3,04**	**9,8**	**3,04**	**9,8**	**3,40**	**11,0**
Arsenic	mg/l	0,1	0,085	0,85	**10,42**	**104**	**10,42**	**104**	**3,08**	**30,8**
Cadmium	mg/l	0,00021	0,0001	0,35	0,00005	0,26	**0,0007**	**3,5**	0,000005	0,02
Cuivre	mg/l	0,0016	0,001	0,75	0,0015	0,92	**0,015**	**10**	0,0012	0,75
Lithium	mg/l	0,91	0,077	0,085	**2,23**	**2,45**	**2,23**	**2,45**	**10,48**	**11,5**
nickel	mg/l	0,067	0,007	0,11	0,0184	0,27	**0,29**	**4,3**	0,0005	0,01
Uranium	mg/l	0,017	0,002	0,09	**0,38**	**22**	**0,38**	**22**	0,0116	0,68

Code couleur : jaune = essais statiques ; vert = essais cinétiques ; bleu = modélisation des haldes.

Texte en gras : les concentrations dépassent les critères CVAA/MDMER.

[1]La valeur la plus conservatrice des deux critères (CVAA pour l'aluminium, le cadmium, le cuivre et le nickel ; MDMER pour le fer).

Table 24. Composition et classification des haldes

Caractéristique	Stockpile-001	Stockpile-002		Stock de minerai
Rejets miniers	Roche stérile	Roche stérile	Résidus miniers	Minerai
Masse totale (Mt)	44,2	80,6	54,0	Non déterminé
Classification	**Non-PAG/Non-ML**	PAG/ML	Non-PAG/ML	**Non-PAG/ML**
		PAG/ML		
Classification D019	**Faible risque**	**Acidogène/Lixiviable**		**Lixiviable**

Les capacités de stockage des haldes ont été fournies par Atkins, et les quantités par lithologie ont été déterminées sur la base du calendrier d'exploitation fourni par G Mining.

4.0 Conclusion

Les travaux géochimiques présentés dans ce rapport correspondent à un programme de caractérisation géochimique par étapes, comprenant des essais statiques, des essais cinétiques et une modélisation prédictive, entrepris afin d'appuyer la conception du projet au stade de la faisabilité. L'intégration de ces méthodes a fourni une base solide pour comprendre le comportement géochimique des principaux rejets miniers et pour anticiper leurs impacts environnementaux potentiels. La conclusion suivante résume les principaux résultats de ce programme et décrit les prochaines étapes nécessaires pour affiner les prévisions géochimiques à mesure que le projet avance.

Les résultats ABA ont indiqué que 28,2 % des stériles, 88,0 % du minerai (pegmatite spodumène) et 77,8 % des résidus pouvaient être classés comme non PAG en raison d'une teneur totale en soufre inférieure à 0,04 %. Dans l'ensemble, 26,7 % des échantillons de stériles ont été classés comme PAG, dont 12,5 % d'amphibolite (n = 16), 35,6 % de métasédiments (n = 36), 3,0 % de pegmatite stérile (n = 1) et 5,6 % d'ultramafique (n = 3). En revanche, le minerai (pegmatite spodumène) et les résidus ne représentaient que 4,0 % des échantillons PAG. Tous les échantillons de résidus ont été classés comme non PAG.

Sur la base de l'analyse des données ABA, il a été recommandé de séparer les matériaux dont la teneur totale en soufre dépasse 0,3 % et de les placer dans le Stockpile-002, concevant ainsi le Stockpile-001 qui est classé comme Non-PAG/Non-ML (classification D019 : faible risque).

L'analyse du contenu extractible à l'eau régale a permis d'identifier un large éventail de constituants enrichis par rapport à la concentration de fond de la province géologique supérieure, mettant en évidence l'arsenic comme le constituant le plus couramment enrichi, avec 79,4 % des échantillons dépassant la concentration de fond. Les autres constituants identifiés sont le cuivre (40,8 % de dépassements) et le nickel (30,9 % de dépassements).

Les essais de lixiviation SPLP et CTEU-9 ont partiellement reflété les enrichissements mesurés lors des extractions à l'eau régale, mettant en évidence des constituants similaires. Ces procédures de lixiviation ont permis d'identifier les risques potentiels de lixiviation associés à l'aluminium, l'antimoine, l'arsenic, le cuivre, le nickel, le lithium et l'uranium dans les stériles, le minerai et les résidus miniers. Cependant, aucun des 350 échantillons environnementaux testés ne présentait de caractéristiques « à haut risque » selon la classification D019.

Les essais cinétiques comprenaient la poursuite de 15 essais en cellule d'humidité (HCT, plus un duplicata) sur les stériles et le minerai, et le lancement de 5 essais en colonne (plus un duplicata) sur les résidus. Les résultats des essais cinétiques ont été utilisés pour affiner le criblage COPC, ce qui a permis d'écarter ou de confirmer les risques potentiels de lixiviation. Il convient de noter que les résultats indiquent que si des conditions acides venaient à se développer dans le Stockpile-002, les métaux de base, notamment l'aluminium, le cuivre et le nickel, seraient susceptibles de se lixivier. En outre, les essais en colonne sur les résidus ont montré que des dépassements des limites d'arsenic, d'antimoine et, dans une moindre mesure, de lithium pourraient être attendus dans le Stockpile-002.

La modélisation géochimique des haldes a été réalisée à l'aide de données cinétiques adaptées aux conditions sur le terrain et associées à une distribution aléatoire des caractéristiques des stériles tirées de la DHDB (4 678 échantillons de stériles). Les modèles ont été conçus pour prédire les concentrations de COPC dans les eaux de contact des stériles et des résidus miniers des Stockpiles-001 et -002, afin de faciliter la conception du Stockpile-001 avec des stériles non PAG/non ML (classification D019 : faible risque) et d'éclairer la conception du Stockpile-002 et du système de traitement des eaux associé.

Les résultats de la modélisation indiquent que la mise en œuvre d'un protocole de ségrégation, plus précisément la séparation complète de la lithologie ultramafique et l'élimination de tous les matériaux dont la concentration en arsenic est supérieure à 30 ppm, devrait empêcher la lixiviation de l'arsenic au niveau de Stockpile-001, maintenant ainsi les concentrations en arsenic en dessous des critères CVAA et MDMER/D019. À l'inverse, des conditions de lixiviation ont été identifiées dans le Stockpile-002, avec des concentrations en arsenic dépassant les critères MDMER/D019 jusqu'à deux ordres de grandeur, principalement en raison de la contribution des résidus. De même, l'antimoine et, dans une moindre mesure, le lithium devraient s'échapper du Stockpile-002, en grande partie à cause des résidus.

4.1 Recommandations et poursuite des essais géochimiques

La modélisation des haldes présentée dans ce rapport est basée sur les informations actuellement disponibles au moment de la soumission de l'étude de faisabilité. Cette étude a intégré des essais statiques, des essais cinétiques et une modélisation géochimique afin de déterminer les concentrations maximales de COPC dans les Stockpiles-001 et -002 et d'étayer la conception technique des haldes. Comme indiqué à la section 4.7, la fiabilité des concentrations de COPC prévues dépend fortement de la qualité et de la représentativité des paramètres d'entrée. Il est donc recommandé de continuer à recueillir des données géochimiques afin d'affiner les estimations des concentrations maximales de COPC dans les haldes. Une meilleure collecte de données permettra également de réduire l'incertitude du modèle.

Les sections suivantes résument les essais et analyses géochimiques recommandés et continus visant à améliorer la compréhension des risques géochimiques associés aux rejets miniers sur le site.

4.1.1 Essais en barils de terrain

Cinq FBT ont été préparés à partir de stériles provenant de carottes prélevées pendant la phase d'exploration du projet. La sélection des carottes s'est faite en fonction du type lithologique ainsi que de la teneur en arsenic et en soufre. Les carottes sélectionnées ont été expédiées au laboratoire de l'URSTM, où elles ont été broyées à une granulométrie d'environ 5 cm (~2 pouces), homogénéisées et préparées par le personnel de l'URSTM avant la construction des barils. Chaque FBT a été rempli de 200 kg de stériles secs, placés sur une couche de 30 kg de sable siliceux à la base du baril afin de favoriser le drainage. Les barils ont été mis en place sur le site en octobre 2025. Les identifiants des FBT et les stériles correspondants sélectionnés pour mettre en place les essais sont résumés dans **Tableau 26**.

Table 25. Inventaire des FBT construits et lithologie et types de matériaux correspondants

# FBT	Lithologie et type de matériau
CV5-AMP-FBT	Stériles amphibolitiques contenant des concentrations d'As et de S représentatives des caractéristiques du pit shell
CV5-MS-FBT	Stériles métasédimentaires contenant des concentrations d'As et de S représentatives des caractéristiques de la fosse.
CV5-PEG-FBT	Stériles de pegmatite contenant des concentrations d'As et de S représentatives des caractéristiques de la fosse.
CV5-UM-FBT	Stériles ultramafiques contenant des concentrations d'As et de S représentatives des caractéristiques de la fosse
CV5-CP-FBT	Matériau composite de stériles reflétant la composition prévue du Stockpile-001, destiné à servir de FBT de confirmation.

4.1.2 Essais en colonne confirmatoires sur les matériaux de Stockpile-001

Les résultats de modélisation issus de cette étude ont permis d'élaborer un protocole de séparation opérationnel axé sur la séparation des stériles PAG/ML des stériles non PAG/non ML, afin de constituer une halde non PAG/non ML (c'est-à-dire le Stockpile-001). Il est donc recommandé de lancer un essai sur colonne drainée et immergée composé de la proportion lithologique du Stockpile-001, associé aux valeurs limites d'As et de S. La colonne sèche représentera le Stockpile-001 et la colonne immergée représentera le remblayage de la mine à ciel ouvert avec les stériles du Stockpile-001. L'objectif de ces essais sur colonne est de valider les résultats de modélisation du niveau de faisabilité déterminés dans cette étude. Les matériaux de stériles pour ces essais sur colonne ont été préparés et les essais devraient débuter à l'automne 2025.

4.1.3 Remblayage de la fosse avec les matériaux PAG de Stockpile-002

Le concept consistant à remettre les matériaux PAG dans la fosse a été abordé dès le début de l'étude de faisabilité. À l'époque, ce concept n'avait pas été jugé viable en raison de la présence potentielle de réserves supplémentaires de minerai de lithium sous l'enveloppe actuelle de la fosse, laissant ainsi ouverte la possibilité d'exploiter ces réserves à l'avenir. Vers la fin de l'étude de faisabilité, le concept consistant à remblayer la fosse avec des stériles a été réintroduit. Comme indiqué à la section 5.1.2, il est recommandé de procéder à des essais afin d'évaluer les risques de lixiviation des métaux pour les matériaux du Stockpile-001 dans des conditions saturées. Cependant, dans le cadre du même programme, il est également recommandé d'isoler et de tester les matériaux classés comme PAG (teneur en soufre > 0,3 % en poids) du Stockpile-002 afin d'évaluer la viabilité du stockage dans la fosse.

4.1.4 Analyse comparative entre HCT et les essais en colonnes de l'UQAT

Dans le cadre d'une initiative de recherche, l'UQAT a lancé des essais en colonne à partir d'échantillons composites provenant du programme HCT sur les stériles. Une fois les programmes d'essais en colonne et HCT terminés, il est recommandé de procéder à une analyse

comparative entre les essais en colonne sur les stériles et les essais HCT afin de mettre à jour les données d'entrée du modèle et d'étayer les prévisions du COPC pour le Stockpile-001.

4.1.5 Essais sur les matériaux de remblayage des résidus miniers

En raison de la conception hybride de la mine avec des travaux souterrains, Paterson & Cooke a mené une étude sur les matériaux de remblayage des résidus miniers adaptés au site. Les essais sur les échantillons de remblayage issus d'une période de durcissement de 180 jours devraient débuter à l'automne 2025 afin de réaliser des essais statiques et cinétiques visant à étudier les risques de lixiviation des métaux pour le stockage souterrain à long terme.

4.1.6 Modèle cinétique de qualité de l'eau dans les fosses

Les résidus miniers restants après que les capacités des stockages de Stockpile-001 et Stockpile-002 auront été atteintes seront stockés de manière permanente dans la fosse. Il est donc recommandé de développer un modèle prédictif de transport réactif afin de simuler la réponse potentielle de la qualité de l'eau de la fosse au stockage en eau des résidus miniers. Le modèle devrait être conçu comme un système hydrodynamique-géochimique couplé capable de prédire l'évolution des concentrations de COPC (par exemple, l'arsenic, l'antimoine) dans la colonne d'eau recouvrant les stériles submergés.

Un bilan hydrique dynamique doit être intégré afin de tenir compte de la dilution due aux précipitations et au ruissellement, ainsi que du débit sortant par le déversoir. Les termes sources géochimiques cinétiques utilisés comme données d'entrée du modèle doivent être dérivés des résultats mis à l'échelle des essais en colonne immergée réalisés sur des matériaux de stériles représentatifs de ceux qui devraient être placés dans la fosse.

Cet effort de modélisation devrait viser à soutenir l'évaluation des risques potentiels associés au stockage en eau des stériles, à estimer les délais pendant lesquels ces risques peuvent se concrétiser et à éclairer la conception de mesures d'atténuation appropriées.

5.0 Bibliographie

ASTM (2018). ASTM D5744-18, Standard Test Method for Laboratory Weathering of Solid Materials Using a Humidity Cell. ASTM International. West Conshohocken, PA, USA.

Dawson, R. F. (1994) Mine Waste Geotechnique. Ph.D Thesis. University of Alberta. Faculty of Engineering.

Ecometrix 2014. Geochemical evaluation of mine materials at the Goliath gold project (Report No. 12-1938). Prepared for Treasury Metal Inc.

Jambor, J., et al. (2002). "Static tests of neutralization potentials of silicate and aluminosilicate minerals." Environmental Geology 43: 1-17.

Kempton, H. (2012). A review of scale factors. In proceedings of 9th International Conference on Acid Rock Drainage (ICARD), Ottawa, ON, Canada.

Lawrence, R. W. and M. Scheske (1997). "A method to calculate the neutralization potential of mining wastes." Environmental Geology 32(2): 100-106.

Lorax Environmental. (2014). Eagle Gold Geochemical Source Term Predictions – Model Description and Results. Prepared for StrataGold Corporation.

MEND (2009). Prediction Manual for Drainage Chemistry from Sulphidic Geologic Materials. MEND Report 1.20.1. CANMET- Mining and Mineral Sciences Laboratories Smithers, BC, Canada.

MEND (2006). Updated on Cold Temperature Effects on Geochemical Weathering. MEND Report 1.61.6. Ottawa, ON Canada.

Neil, C. W., Yang, Y. J., Schupp, D., & Jun, Y.-S. (2015). Water chemistry impacts on arsenic mobilization from arsenopyrite dissolution and secondary mineral precipitation: Implications for managed aquifer recharge. Environmental Science & Technology

Nicholson, R. V., Gillham, R. W., Reardon, E. J. (1988). Pyrite oxidation in carbonate-buffered solution: 1. Experimental kinetics. Geochimica Et Cosmochimica Acta 52(5): 1077–1085.

Rescan Environmental Services Ltd. (2013). Seabridge Gold Inc. Application for an Environmental Assessment Certificate (Report No. 868-016). Prepared for Seabridge Gold Inc.

Stantec. (2017). Technical data report: Hardrock Project – Water balance and water quality model (Report No. 160961111). Prepared for Greenstone Gold Mines GP Inc.

Stockwell, J., Smith, L., Jambor, J. L., and Beckie, R. (2006). The relationship between fluid flow and mineral weathering in heterogeneous unsaturated porous media: A physical and geochemical characterization of a waste rock pile. Applied Geochemistry 21(8), 1347–1361.

Wang, S., Yang, Y., Luo, Y., Rivera, A. (2013). Spatial and seasonal variations in evapotranspiration over Canada's landmass. Hydrology and Earth System Sciences 17: 3561–3575.

Annexe A : Certificats d'analyse

Annexe B : Résultats des bilan acide-bases

Annexe C : Résultats des essais de lixiviation

Annexe D : Données des essais cinétiques

Annexe E : Résultats de la simulation de modélisation

VISION
GEOCHEMISTRY

Annexe A : Certificats d'analyse

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

25-January-2023

Patriot Battery Metals Inc
Attn : Darren Smith

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone:
Fax:

Date Rec. : 23 November 2022
LR Report: **CA11022-NOV22**

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: 1	6: 2	7: 3	8: 4	9: 5	10: 6	11: 7
Sample Date & Time			N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sample weight [g]	12-Jan-23	14:48	20	20	20	20	20	20	20
Ext Fluid [#1 or #2]	12-Jan-23	14:48	1	1	1	1	1	1	1
Ext Volume [mL]	12-Jan-23	14:48	400	400	400	400	400	400	400
Final pH [no unit]	12-Jan-23	14:48	9.45	9.25	9.51	9.57	9.47	9.51	9.53
pH [No unit]	18-Jan-23	10:47	8.40	8.01	8.31	8.49	8.22	7.76	8.49
Alkalinity [mg/L as CaCO3]	18-Jan-23	10:47	22	20	25	16	20	22	23
Conductivity [uS/cm]	18-Jan-23	10:47	58	60	54	41	59	47	56
Acidity [mg/L as CaCO3]	18-Jan-23	10:47	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Cl [mg/L]	24-Jan-23	14:59	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Hg [mg/L]	17-Jan-23	17:31	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Al [mg/L]	18-Jan-23	17:04	0.933	0.815	1.03	0.797	0.729	0.976	0.849
As [mg/L]	18-Jan-23	17:04	0.0010	0.0100	0.0011	0.0139	0.119	0.0005	0.0069
Ag [mg/L]	19-Jan-23	16:43	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Ba [mg/L]	18-Jan-23	17:04	0.00374	0.00119	0.00191	0.00020	0.00073	0.00027	0.00034
Be [mg/L]	18-Jan-23	17:04	< 0.000007	< 0.000007	< 0.000007	0.000011	< 0.000007	< 0.000007	0.000007
B [mg/L]	18-Jan-23	17:04	0.007	0.010	0.003	0.005	0.010	< 0.002	0.005

OnLine LIMS

00032068820

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11022-NOV22**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: 1	6: 2	7: 3	8: 4	9: 5	10: 6	11: 7
Bi [mg/L]	18-Jan-23	17:04	0.00002	< 0.00001	< 0.00001	0.00004	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	18-Jan-23	17:05	6.11	7.10	7.89	4.99	7.84	8.02	7.90
Cd [mg/L]	18-Jan-23	17:05	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	18-Jan-23	17:05	0.000026	0.000037	0.000014	0.000061	0.000035	0.000007	0.000025
Cr [mg/L]	18-Jan-23	17:05	0.00025	0.00028	< 0.00008	0.00048	0.00037	0.00024	< 0.00008
Cu [mg/L]	18-Jan-23	17:05	0.0002	0.0002	0.0002	0.0008	0.0002	< 0.0002	0.0003
Fe [mg/L]	18-Jan-23	17:05	0.028	0.047	0.016	0.069	0.023	< 0.007	0.011
K [mg/L]	18-Jan-23	17:05	6.04	2.50	1.33	0.474	1.22	0.254	0.868
Li [mg/L]	18-Jan-23	17:05	0.0504	0.0421	0.0189	0.0252	0.0852	0.0118	0.0147
Mg [mg/L]	18-Jan-23	17:05	0.575	0.955	0.720	1.18	1.04	0.696	0.931
Mn [mg/L]	18-Jan-23	17:05	0.00114	0.00121	0.00109	0.00173	0.00135	0.00141	0.00074
Mo [mg/L]	18-Jan-23	17:05	0.00011	0.00058	0.00014	0.00025	0.00013	0.00020	0.00049
Na [mg/L]	18-Jan-23	17:05	0.79	1.70	1.05	1.19	0.91	0.77	1.48
Ni [mg/L]	18-Jan-23	17:06	0.0002	0.0003	0.0001	0.0002	0.0003	< 0.0001	0.0002
P [mg/L]	18-Jan-23	17:06	0.012	0.009	0.008	0.017	0.013	0.012	0.008
Pb [mg/L]	18-Jan-23	17:06	< 0.00009	< 0.00009	< 0.00009	0.00021	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	18-Jan-23	17:06	< 0.0009	0.0051	< 0.0009	0.0017	0.0334	< 0.0009	0.0038
Se [mg/L]	18-Jan-23	17:06	0.00008	0.00037	0.00012	< 0.00004	0.00014	0.00010	0.00034
Si [mg/L]	18-Jan-23	17:06	2.04	1.90	2.34	3.01	2.08	2.06	2.36
Sn [mg/L]	18-Jan-23	17:06	< 0.00006	< 0.00006	< 0.00006	0.00007	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	18-Jan-23	17:06	0.0123	0.0172	0.00823	0.00474	0.0129	0.00825	0.0124
Ti [mg/L]	18-Jan-23	17:06	0.00196	0.00197	0.00050	0.00202	0.00064	0.00007	0.00026
Tl [mg/L]	18-Jan-23	17:06	< 0.000005	< 0.000005	< 0.000005	< 0.000005	0.000030	< 0.000005	< 0.000005
U [mg/L]	18-Jan-23	17:06	< 0.000002	0.000008	0.000006	0.000029	0.000003	0.000039	0.000030
V [mg/L]	18-Jan-23	17:06	0.00619	0.00405	0.00787	0.00423	0.00406	0.00570	0.00662
Zn [mg/L]	18-Jan-23	17:06	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002

OnLine LIMS

00032068 20

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11022-NOV22**

Analysis	12: 8	13: 9	14: 10	15: 11	16: 12	17: 13	18: 14	19: 15	20: 16
Sample Date & Time	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sample weight [g]	20	20	20	20	20	20	20	20	20
Ext Fluid [#1 or #2]	1	1	1	1	1	1	1	1	1
Ext Volume [mL]	400	400	400	400	400	400	400	400	400
Final pH [no unit]	9.57	9.66	9.44	9.66	9.64	9.59	9.61	9.62	9.10
pH [No unit]	8.42	8.66	8.21	8.54	8.66	8.07	8.32	8.44	7.80
Alkalinity [mg/L as CaCO3]	21	21	16	21	21	22	21	22	21
Conductivity [uS/cm]	53	51	51	50	52	56	56	53	85
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Cl [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Al [mg/L]	1.10	1.13	0.855	0.954	1.14	0.758	0.858	1.03	0.662
As [mg/L]	0.0007	0.0009	0.0063	0.0136	0.0027	0.0228	0.0282	0.0026	0.0009
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Ba [mg/L]	0.00021	0.00017	0.00036	0.00036	0.00027	0.00023	0.00019	0.00039	0.00400
Be [mg/L]	< 0.000007	0.000007	< 0.000007	< 0.000007	< 0.000007	0.000016	0.000007	< 0.000007	< 0.000007
B [mg/L]	0.005	0.003	0.008	0.012	0.006	0.011	0.005	0.010	0.004
Bi [mg/L]	0.00002	0.00002	< 0.00001	< 0.00001	0.00002	< 0.00001	< 0.00001	< 0.00001	0.00001
Ca [mg/L]	7.55	7.66	7.35	7.28	7.94	7.01	7.09	7.36	11.1
Cd [mg/L]	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	0.000003	< 0.000003	< 0.000003	0.000004
Co [mg/L]	0.000061	0.000042	0.000034	0.000014	0.000035	0.000013	0.000013	0.000008	0.000037
Cr [mg/L]	0.00030	0.00025	0.00009	< 0.00008	0.00019	0.00008	0.00008	< 0.00008	< 0.00008
Cu [mg/L]	0.0004	0.0003	0.0003	< 0.0002	0.0004	0.0003	< 0.0002	< 0.0002	0.0002
Fe [mg/L]	0.080	0.055	0.066	0.010	0.026	0.013	0.010	< 0.007	0.024
K [mg/L]	0.199	0.355	0.408	0.523	0.692	0.843	0.197	0.912	3.19
Li [mg/L]	0.0134	0.0017	0.0153	0.0283	0.0048	0.0302	0.0099	0.0103	0.0555
Mg [mg/L]	0.947	0.792	0.849	0.847	0.838	0.659	0.703	0.800	0.789
Mn [mg/L]	0.00185	0.00141	0.00100	0.00055	0.00142	0.00039	0.00051	0.00071	0.00387
Mo [mg/L]	0.00014	0.00010	0.00031	0.00012	0.00027	0.00017	0.00044	0.00016	0.00079

OnLine LIMS

00032068 20

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11022-NOV22**

Analysis	12: 8	13: 9	14: 10	15: 11	16: 12	17: 13	18: 14	19: 15	20: 16
Na [mg/L]	1.50	1.12	1.07	0.91	1.14	2.04	2.63	1.22	1.55
Ni [mg/L]	0.0003	0.0003	0.0002	< 0.0001	0.0005	0.0001	0.0001	0.0001	0.0004
P [mg/L]	0.011	0.014	0.021	0.006	0.010	0.008	0.006	0.005	0.009
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	0.00074
Sb [mg/L]	< 0.0009	< 0.0009	0.0056	0.0099	0.0012	0.0062	0.0052	0.0015	0.0039
Se [mg/L]	0.00014	0.00007	0.00027	0.00011	0.00016	0.00005	0.00008	0.00019	0.00028
Si [mg/L]	2.58	2.86	2.18	2.49	2.69	2.24	2.59	2.39	1.33
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00734	0.00405	0.00734	0.00882	0.0105	0.0296	0.00868	0.00909	0.0149
Ti [mg/L]	0.00306	0.00209	0.00217	0.00031	0.00084	0.00069	0.00040	0.00019	0.00095
Tl [mg/L]	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005	0.000009	< 0.000005	< 0.000005	< 0.000005
U [mg/L]	0.000020	0.000002	0.000013	0.000002	0.000023	0.000005	0.000004	0.000031	0.000011
V [mg/L]	0.00507	0.00578	0.00483	0.00515	0.00623	0.00867	0.00968	0.00599	0.00061
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002

Analysis	21: 17	22: 18	23: 19	24: 20	25: 21	26: 22	27: 23	28: 24	29: 25
Sample Date & Time	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sample weight [g]	20	20	20	20	20	20	20	20	20
Ext Fluid [#1 or #2]	1	1	1	1	1	1	1	1	1
Ext Volume [mL]	400	400	400	400	400	400	400	400	400
Final pH [no unit]	8.42	9.35	9.47	7.71	9.57	9.52	8.26	9.53	9.32
pH [No unit]	7.88	8.19	7.91	7.66	8.23	8.35	7.73	8.19	8.44
Alkalinity [mg/L as CaCO3]	22	21	21	26	24	23	17	22	20
Conductivity [uS/cm]	92	57	54	196	54	54	131	52	53
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Cl [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0003206820

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11022-NOV22**

Analysis	21: 17	22: 18	23: 19	24: 20	25: 21	26: 22	27: 23	28: 24	29: 25
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Al [mg/L]	0.601	0.987	1.14	0.010	0.880	0.627	0.028	1.15	0.542
As [mg/L]	0.0014	0.0245	0.0011	0.0002	0.0266	0.101	0.0004	0.0025	0.0239
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Ba [mg/L]	0.00456	0.00057	0.00036	0.08432	0.00531	0.00021	0.00494	0.01002	0.00816
Be [mg/L]	< 0.000007	0.000008	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	0.003	0.006	0.003	0.004	0.006	0.006	0.006	0.003	0.062
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00002	< 0.00001	< 0.00001	< 0.00001	0.00001	< 0.00001
Ca [mg/L]	11.6	7.82	8.05	26.7	7.12	7.30	17.8	6.10	5.53
Cd [mg/L]	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	0.000037	0.000034	0.000044	0.000514	0.000011	0.000015	0.000397	0.000027	0.000024
Cr [mg/L]	0.00013	0.00021	0.00040	< 0.00008	0.00014	0.00026	< 0.00008	0.00011	0.00084
Cu [mg/L]	< 0.0002	< 0.0002	0.0007	< 0.0002	< 0.0002	< 0.0002	< 0.0002	0.0003	< 0.0002
Fe [mg/L]	0.024	0.034	0.034	< 0.007	0.008	0.013	< 0.007	0.065	0.024
K [mg/L]	4.82	1.24	0.192	10.5	2.45	0.369	2.70	3.47	5.28
Li [mg/L]	0.0353	0.0238	0.0045	0.0637	0.0108	0.0328	0.0367	0.0089	0.0308
Mg [mg/L]	0.770	0.876	0.625	1.35	0.823	1.08	2.22	0.489	0.840
Mn [mg/L]	0.00222	0.00097	0.00170	0.03580	0.00056	0.00043	0.04418	0.00093	0.00044
Mo [mg/L]	0.00037	0.00072	0.00019	0.00029	0.00017	0.00048	0.00134	0.00031	0.00054
Na [mg/L]	1.16	1.29	1.41	0.96	0.84	1.87	1.62	1.50	0.54
Ni [mg/L]	0.0005	0.0002	0.0004	0.0046	0.0001	0.0002	0.0036	0.0002	0.0002
P [mg/L]	0.006	0.006	0.008	0.004	0.009	0.020	0.003	0.024	0.011
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.0172	0.0087	< 0.0009	< 0.0009	< 0.0009	0.0083	0.0036	< 0.0009	0.0016
Se [mg/L]	0.00005	0.00031	0.00010	0.00018	0.00009	0.00005	0.00024	< 0.00004	< 0.00004
Si [mg/L]	1.35	2.60	2.90	1.19	2.57	2.28	1.28	2.16	2.59
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.0146	0.0112	0.00970	0.0200	0.0133	0.0150	0.0213	0.0133	0.0125
Ti [mg/L]	0.00089	0.00106	0.00166	0.00005	0.00028	0.00056	0.00008	0.00241	0.00138

OnLine LIMS

0003206820

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11022-NOV22**

Analysis	21: 17	22: 18	23: 19	24: 20	25: 21	26: 22	27: 23	28: 24	29: 25
Tl [mg/L]	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005	0.000007
U [mg/L]	0.000004	0.000025	0.000004	0.000003	0.000010	0.000008	0.000020	0.000057	0.000015
V [mg/L]	0.00072	0.00688	0.00596	0.00002	0.00490	0.00592	0.00005	0.00380	0.00338
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002

Analysis	30: 26	31: 27	32: 31	33: 32	34: 33	35: 34	36: 35	37: 36	38: 37
Sample Date & Time	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sample weight [g]	20	20	20	20	20	20	20	20	20
Ext Fluid [#1 or #2]	1	1	1	1	1	1	1	1	1
Ext Volume [mL]	400	400	400	400	400	400	400	400	400
Final pH [no unit]	9.51	9.33	9.44	9.60	9.51	9.49	9.57	9.46	9.24
pH [No unit]	8.43	8.07	8.02	8.29	8.28	7.91	7.88	8.44	7.87
Alkalinity [mg/L as CaCO3]	21	23	20	23	22	22	23	25	25
Conductivity [uS/cm]	50	67	52	52	53	50	50	55	66
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Cl [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00011	< 0.00001	0.00002	< 0.00001	< 0.00001
Al [mg/L]	1.04	0.712	1.20	0.926	0.891	1.12	1.05	0.078	0.799
As [mg/L]	0.0013	0.0096	0.0451	0.0024	0.0038	0.0523	0.0095	0.343	0.819
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Ba [mg/L]	0.00056	0.00043	0.00148	0.00100	0.00122	0.00134	0.00285	0.00259	0.00057
Be [mg/L]	< 0.000007	< 0.000007	0.000011	< 0.000007	< 0.000007	0.000008	< 0.000007	< 0.000007	0.000013
B [mg/L]	0.007	0.010	0.011	0.003	0.005	0.009	0.005	0.076	0.094
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	7.38	9.18	5.39	7.62	7.89	5.67	5.34	6.85	10.5
Cd [mg/L]	< 0.000003	0.000008	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11022-NOV22**

Analysis	30: 26	31: 27	32: 31	33: 32	34: 33	35: 34	36: 35	37: 36	38: 37
Co [mg/L]	0.000014	0.000021	0.000034	0.000014	0.000007	0.000039	0.000018	0.000020	0.000021
Cr [mg/L]	0.00022	0.00018	< 0.00008	< 0.00008	< 0.00008	< 0.00008	0.00011	0.00388	< 0.00008
Cu [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	0.0007	< 0.0002	< 0.0002
Fe [mg/L]	0.037	0.016	0.051	0.017	0.008	0.047	0.038	< 0.007	< 0.007
K [mg/L]	0.586	0.693	5.09	0.881	1.14	4.78	6.01	0.660	2.22
Li [mg/L]	0.0248	0.0102	0.109	0.0084	0.0196	0.133	0.0814	0.0190	0.0739
Mg [mg/L]	0.851	0.760	0.394	0.822	0.661	0.355	0.425	2.42	0.692
Mn [mg/L]	0.00079	0.00098	0.00172	0.00078	0.00080	0.00153	0.00123	0.00020	0.00140
Mo [mg/L]	0.00045	0.00042	0.00037	0.00038	0.00043	0.00029	0.00023	0.00032	0.00310
Na [mg/L]	1.00	2.60	1.25	1.17	1.21	1.13	0.83	0.81	0.73
Ni [mg/L]	0.0002	0.0002	0.0002	< 0.0001	0.0001	0.0003	0.0001	0.0003	0.0004
P [mg/L]	0.007	0.012	0.032	0.009	0.009	0.019	0.022	0.008	0.023
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.0014	0.0036	0.0061	< 0.0009	0.0017	0.0102	0.0011	0.144	0.156
Se [mg/L]	0.00006	0.00059	< 0.00004	< 0.00004	0.00006	0.00006	0.00007	0.00006	0.00029
Si [mg/L]	2.52	2.39	1.98	2.54	2.09	1.87	2.00	4.61	1.53
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00609	0.0170	0.0167	0.00682	0.00754	0.00769	0.00693	0.0142	0.0115
Ti [mg/L]	0.00051	0.00061	0.00442	0.00042	0.00027	0.00290	0.00287	0.00009	0.00034
Tl [mg/L]	< 0.000005	< 0.000005	0.000127	< 0.000005	< 0.000005	0.000192	< 0.000005	0.000033	0.000195
U [mg/L]	0.000002	0.000041	0.000073	0.000011	0.000008	0.000052	0.000032	< 0.000002	0.000088
V [mg/L]	0.00482	0.00975	0.00541	0.00717	0.00733	0.00305	0.00357	0.00506	0.00367
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002

Analysis	39: 38	40: 39	41: 40	42: 41	43: 42	44: 43	45: 44	46: 45	47: 46
Sample Date & Time	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

OnLine LIMS

0003206820

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11022-NOV22**

Analysis	39: 38	40: 39	41: 40	42: 41	43: 42	44: 43	45: 44	46: 45	47: 46
Sample weight [g]	20	20	20	20	20	20	20	20	20
Ext Fluid [#1 or #2]	1	1	1	1	1	1	1	1	1
Ext Volume [mL]	400	400	400	400	400	400	400	400	400
Final pH [no unit]	8.75	9.14	9.23	9.26	9.00	8.98	9.12	9.23	9.29
pH [No unit]	7.18	7.62	7.76	7.68	7.66	7.78	7.84	7.75	7.82
Alkalinity [mg/L as CaCO3]	6	17	18	16	18	21	21	18	21
Conductivity [uS/cm]	27	55	51	51	72	78	45	45	48
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Cl [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Al [mg/L]	0.285	0.672	0.838	0.686	0.600	0.738	0.929	0.906	0.956
As [mg/L]	0.0047	0.0392	0.0094	0.0018	0.0014	0.0010	0.0039	0.0014	0.0019
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Ba [mg/L]	0.00064	0.00095	0.00107	0.00091	0.00106	0.00198	0.00209	0.00238	0.00294
Be [mg/L]	0.000060	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	0.000042	< 0.000007	< 0.000007
B [mg/L]	0.007	0.005	0.009	0.009	0.006	0.011	0.002	< 0.002	0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	2.00	7.49	7.32	6.43	10.4	10.1	6.80	6.38	6.47
Cd [mg/L]	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	0.000032	0.000020	0.000018	0.000017	0.000020	0.000012	0.000018	0.000027	0.000018
Cr [mg/L]	< 0.00008	0.00012	0.00008	< 0.00008	< 0.00008	< 0.00008	0.00015	0.00023	0.00011
Cu [mg/L]	0.0003	< 0.0002	< 0.0002	< 0.0002	0.0004	0.0002	0.0003	0.0002	0.0002
Fe [mg/L]	0.042	0.020	0.021	0.016	0.012	0.014	0.015	0.032	0.028
K [mg/L]	1.39	1.96	1.62	2.48	2.61	4.31	2.30	3.29	4.48
Li [mg/L]	0.0485	0.0548	0.0674	0.0278	0.0283	0.0399	0.0299	0.0027	0.0037
Mg [mg/L]	0.374	0.766	0.369	0.532	0.923	0.725	0.177	0.164	0.182
Mn [mg/L]	0.00352	0.00120	0.00107	0.00095	0.00281	0.00109	0.00114	0.00155	0.00134
Mo [mg/L]	0.00072	0.00093	0.00062	0.00068	0.00085	0.00090	0.00035	0.00034	0.00022
Na [mg/L]	2.20	1.55	2.16	2.10	1.73	2.07	1.75	1.51	1.41

OnLine LIMS

00032068820

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	39: 38	40: 39	41: 40	42: 41	43: 42	44: 43	45: 44	46: 45	47: 46
Ni [mg/L]	0.0001	0.0002	0.0001	0.0002	0.0002	0.0002	0.0002	0.0002	0.0001
P [mg/L]	0.012	0.008	0.006	0.007	0.006	0.007	0.024	0.030	0.021
Pb [mg/L]	< 0.00009	0.00010	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.0026	0.0223	0.0165	< 0.0009	0.0010	< 0.0009	< 0.0009	< 0.0009	< 0.0009
Se [mg/L]	0.00006	0.00023	0.00005	0.00005	0.00008	0.00006	< 0.00004	< 0.00004	< 0.00004
Si [mg/L]	1.33	1.81	1.65	1.89	1.43	1.44	2.22	2.19	2.12
Sn [mg/L]	0.00007	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00734	0.0131	0.0120	0.0140	0.0184	0.0207	0.0102	0.0116	0.0120
Ti [mg/L]	0.00238	0.00091	0.00128	0.00083	0.00080	0.00071	0.00163	0.00278	0.00228
Tl [mg/L]	0.000039	0.000021	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005
U [mg/L]	0.000018	0.000003	0.000049	< 0.000002	< 0.000002	< 0.000002	0.000237	0.000273	0.000282
V [mg/L]	0.00125	0.00294	0.00280	0.00229	0.00085	0.00147	0.00485	0.00502	0.00505
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002

Analysis	48: 47	49: 49	50: 50	51: 51	52: 52	53: 53	54: 55	55: 56	56: 57
Sample Date & Time	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sample weight [g]	20	20	20	20	20	20	20	20	20
Ext Fluid [#1 or #2]	1	1	1	1	1	1	1	1	1
Ext Volume [mL]	400	400	400	400	400	400	400	400	400
Final pH [no unit]	9.10	9.10	8.97	8.89	9.25	9.35	9.32	9.44	9.43
pH [No unit]	7.67	7.82	7.73	7.73	8.00	7.84	7.88	8.44	7.77
Alkalinity [mg/L as CaCO3]	17	21	22	13	22	21	21	23	21
Conductivity [uS/cm]	53	49	73	48	50	54	49	50	51
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Cl [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

OnLine LIMS

0003206820

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11022-NOV22**

Analysis	48: 47	49: 49	50: 50	51: 51	52: 52	53: 53	54: 55	55: 56	56: 57
Al [mg/L]	0.703	0.895	0.788	0.641	0.874	0.768	0.261	0.688	0.470
As [mg/L]	0.0023	0.0194	0.0621	0.0085	0.0024	0.870	0.0809	0.0080	0.0024
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Ba [mg/L]	0.00478	0.00109	0.00090	0.00081	0.00128	0.00772	0.00318	0.00304	0.00563
Be [mg/L]	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	0.002	0.010	0.004	0.003	0.005	0.002	0.002	0.007	0.006
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	6.26	4.73	8.93	6.17	7.49	6.34	7.33	6.95	7.14
Cd [mg/L]	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	0.000045	0.000025	0.000056	0.000018	0.000011	0.000011	0.000019	0.000013	0.000018
Cr [mg/L]	0.00008	< 0.00008	0.00008	< 0.00008	0.00008	< 0.00008	0.00141	< 0.00008	0.00015
Cu [mg/L]	< 0.0002	0.0004	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	0.0003	< 0.0002
Fe [mg/L]	0.051	0.045	0.011	0.014	0.019	0.027	0.008	< 0.007	0.019
K [mg/L]	4.81	6.49	4.48	1.66	2.84	5.94	0.824	3.81	3.31
Li [mg/L]	0.0108	0.207	0.0800	0.0363	0.0368	0.0324	0.0077	0.0267	0.0301
Mg [mg/L]	0.532	0.435	0.587	0.597	0.535	0.359	1.51	0.696	0.802
Mn [mg/L]	0.00185	0.00150	0.00117	0.00250	0.00138	0.00172	0.00049	0.00080	0.00084
Mo [mg/L]	0.00056	0.00027	0.00169	0.00086	0.00060	0.00034	0.00028	0.00019	0.00031
Na [mg/L]	1.42	0.89	1.56	2.20	1.18	0.94	0.52	0.83	0.98
Ni [mg/L]	0.0002	0.0002	0.0004	0.0002	0.0002	0.0001	0.0003	0.0002	0.0002
P [mg/L]	0.012	0.013	0.006	0.012	0.012	0.016	0.007	0.005	0.009
Pb [mg/L]	0.00013	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	< 0.0009	0.0054	0.0733	0.0030	0.0011	< 0.0009	0.0011	< 0.0009	< 0.0009
Se [mg/L]	0.00036	< 0.00004	0.00133	0.00021	0.00004	< 0.00004	0.00005	0.00011	0.00008
Si [mg/L]	1.70	1.81	1.41	1.73	2.00	1.70	3.29	2.61	2.29
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00622	0.0108	0.00740	0.00954	0.0102	0.00856	0.00521	0.0103	0.0151
Ti [mg/L]	0.00402	0.00317	0.00098	0.00100	0.00112	0.00178	0.00020	0.00020	0.00070
Tl [mg/L]	< 0.000005	0.000375	0.000042	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005	0.000012

OnLine LIMS

0003206820

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	48: 47	49: 49	50: 50	51: 51	52: 52	53: 53	54: 55	55: 56	56: 57
U [mg/L]	0.000044	0.000012	0.000066	0.000003	0.000053	0.000036	< 0.000002	0.000017	< 0.000002
V [mg/L]	0.00192	0.00372	0.00188	0.00288	0.00279	0.00337	0.00385	0.00611	0.00472
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002

Analysis	57: 58	58: 59	59: 60	60: 61	61: 62	62: 63	63: 64	64: 65	65: 66
Sample Date & Time	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sample weight [g]	20	20	20	20	20	20	20	20	20
Ext Fluid [#1 or #2]	1	1	1	1	1	1	1	1	1
Ext Volume [mL]	400	400	400	400	400	400	400	400	400
Final pH [no unit]	9.53	9.27	9.53	9.42	9.47	8.83	8.80	8.55	8.24
pH [No unit]	8.25	8.65	9.15	8.14	9.01	7.99	7.58	7.64	7.24
Alkalinity [mg/L as CaCO3]	26	23	32	22	42	16	13	9	7
Conductivity [uS/cm]	59	52	64	49	61	43	37	28	24
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Cl [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Al [mg/L]	0.042	0.162	0.013	0.125	0.010	0.675	0.721	0.442	0.311
As [mg/L]	0.300	0.173	0.241	0.0266	1.17	0.0571	0.0708	0.0437	0.0501
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Ba [mg/L]	0.00052	0.00029	0.00098	0.00022	0.00083	0.00018	0.00051	0.00126	0.00022
Be [mg/L]	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	0.000187	0.000090	0.000066	0.000123
B [mg/L]	0.027	0.005	0.016	0.065	0.012	0.020	0.009	0.006	0.007
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00133	< 0.00001	0.00022	0.00006
Ca [mg/L]	7.35	7.10	6.46	7.46	7.93	5.86	4.23	3.44	2.26
Cd [mg/L]	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	0.000016	0.000022	0.000016	0.000008	0.000030	0.000015	0.000008	0.000020	0.000039

OnLine LIMS

00032068820

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11022-NOV22**

Analysis	57: 58	58: 59	59: 60	60: 61	61: 62	62: 63	63: 64	64: 65	65: 66
Cr [mg/L]	0.00293	0.00326	0.00261	0.00037	0.00278	0.00017	< 0.00008	< 0.00008	0.00009
Cu [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	0.0002	< 0.0002	0.0002	0.0002
Fe [mg/L]	< 0.007	0.016	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	0.455	0.394	1.70	0.319	0.333	2.49	3.79	2.92	2.26
Li [mg/L]	0.0099	0.0141	0.0295	0.0025	0.0018	0.0090	0.0629	0.0242	0.0172
Mg [mg/L]	3.18	2.19	4.85	1.80	3.60	0.114	0.139	0.082	0.063
Mn [mg/L]	0.00018	0.00065	0.00044	0.00041	0.00036	0.00383	0.00914	0.01122	0.00675
Mo [mg/L]	0.00017	0.00019	0.00034	0.00028	0.00061	0.00126	0.00042	0.00078	0.00056
Na [mg/L]	0.81	0.79	0.31	0.49	0.18	2.30	1.01	0.91	1.44
Ni [mg/L]	0.0004	0.0003	0.0006	0.0002	0.0009	0.0002	0.0002	0.0002	0.0003
P [mg/L]	0.012	0.009	0.007	0.005	0.010	0.045	0.092	0.080	0.063
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.0818	0.0043	0.124	0.0100	0.380	0.0062	0.0060	0.0051	0.0042
Se [mg/L]	0.00007	0.00020	< 0.00004	< 0.00004	0.00010	0.00009	< 0.00004	< 0.00004	< 0.00004
Si [mg/L]	5.07	3.98	6.03	2.49	5.62	2.62	2.09	1.55	1.22
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	0.00013	0.00006	0.00010
Sr [mg/L]	0.0188	0.0303	0.0112	0.0215	0.00811	0.00526	0.00378	0.00480	0.00281
Ti [mg/L]	< 0.00005	0.00027	< 0.00005	< 0.00005	< 0.00005	0.00005	0.00016	0.00007	0.00008
Tl [mg/L]	0.000017	< 0.000005	0.000201	< 0.000005	0.000011	0.000136	0.000375	0.000245	0.000216
U [mg/L]	< 0.000002	< 0.000002	< 0.000002	< 0.000002	0.000012	0.00343	0.000937	0.000428	0.000443
V [mg/L]	0.00432	0.00716	0.00270	0.00340	0.00411	0.00047	0.00010	0.00011	0.00016
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002

Analysis	66: 67	67: 69	68: 70	69: 73	70: 74	71: 75	72: 76	73: 77	74: 79	75: 80
Sample Date & Time	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sample weight [g]	20	20	20	20	20	20	20	20	20	20

OnLine LIMS

0003206820

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11022-NOV22**

Analysis	66: 67	67: 69	68: 70	69: 73	70: 74	71: 75	72: 76	73: 77	74: 79	75: 80
Ext Fluid [#1 or #2]	1	1	1	1	1	1	1	1	1	1
Ext Volume [mL]	400	400	400	400	400	400	400	400	400	400
Final pH [no unit]	7.23	9.30	9.00	8.41	8.01	8.94	9.15	8.12	7.82	8.43
pH [No unit]	7.05	7.50	7.69	6.87	7.04	7.81	7.78	7.37	7.08	7.35
Alkalinity [mg/L as CaCO3]	4	16	17	6	5	13	21	10	8	13
Conductivity [uS/cm]	19	52	46	22	20	32	48	27	26	36
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Cl [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Al [mg/L]	0.164	0.754	0.529	0.218	0.131	0.716	0.803	0.505	0.419	0.559
As [mg/L]	0.0091	0.0301	0.0314	0.0225	0.128	0.0626	0.0139	0.0219	0.0199	0.0532
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Ba [mg/L]	0.00016	0.00024	0.00025	0.00038	0.00015	0.00016	0.00039	0.00028	0.00025	0.00033
Be [mg/L]	0.000080	0.000546	0.000545	0.000038	0.000032	0.000238	0.000122	0.000180	0.000095	0.000175
B [mg/L]	0.005	0.016	0.007	0.007	0.009	0.009	0.011	0.009	0.004	0.014
Bi [mg/L]	0.00026	0.00080	0.00016	0.00006	< 0.00001	0.00619	0.00057	0.00018	0.00021	0.00079
Ca [mg/L]	1.20	6.34	7.09	2.00	1.30	5.48	6.01	3.34	2.86	4.32
Cd [mg/L]	< 0.000003	< 0.000003	0.000031	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	0.000003	< 0.000003
Co [mg/L]	0.000039	0.000016	0.000083	0.000022	0.000008	0.000006	0.000026	0.000007	0.000040	0.000073
Cr [mg/L]	0.00012	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008	0.00030	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	< 0.0002	0.0003	0.0036	0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	0.0004
Fe [mg/L]	< 0.007	0.007	0.010	< 0.007	< 0.007	< 0.007	0.012	< 0.007	0.008	0.017
K [mg/L]	2.80	0.987	0.922	2.69	2.40	1.18	3.12	1.81	3.51	3.48
Li [mg/L]	0.0055	0.0394	0.0186	0.0630	0.169	0.141	0.159	0.366	0.0598	0.0493
Mg [mg/L]	0.054	0.164	0.249	0.022	0.031	0.072	0.278	0.098	0.103	0.302
Mn [mg/L]	0.00566	0.00207	0.00329	0.01980	0.04757	0.02445	0.00259	0.06045	0.01085	0.00948
Mo [mg/L]	0.00055	0.00073	0.00088	0.00062	0.00052	0.00030	0.00090	0.00042	0.00035	0.00045
Na [mg/L]	1.23	2.82	2.26	0.92	0.90	1.41	1.75	0.93	0.87	1.57
Ni [mg/L]	0.0004	0.0003	0.0003	0.0004	0.0002	0.0002	0.0003	0.0002	0.0003	0.0004

OnLine LIMS

0003206820

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11022-NOV22**

Analysis	66: 67	67: 69	68: 70	69: 73	70: 74	71: 75	72: 76	73: 77	74: 79	75: 80
P [mg/L]	0.070	0.061	0.052	0.029	0.109	0.050	0.070	0.203	0.071	0.069
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	0.00011	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.0018	0.0039	0.0057	0.0060	0.0241	0.0125	0.0027	0.0050	0.0024	0.0076
Se [mg/L]	< 0.00004	0.00006	0.00077	< 0.00004	< 0.00004	< 0.00004	0.00005	< 0.00004	< 0.00004	0.00010
Si [mg/L]	1.12	2.52	2.35	1.26	1.24	2.21	2.28	1.50	1.56	1.78
Sn [mg/L]	< 0.00006	0.00011	0.00011	0.00009	0.00016	0.00006	0.00021	0.00018	0.00012	0.00018
Sr [mg/L]	0.00231	0.00926	0.0103	0.00358	0.00136	0.00794	0.0100	0.00568	0.00421	0.00560
Ti [mg/L]	0.00006	0.00007	0.00006	0.00021	0.00018	0.00010	0.00012	0.00017	0.00019	0.00027
Tl [mg/L]	0.000277	0.000057	0.000070	0.000182	0.000419	0.000157	0.000156	0.000251	0.000242	0.000190
U [mg/L]	0.000073	0.002184	0.001253	0.000411	0.000071	0.00107	0.000340	0.000099	0.000198	0.000171
V [mg/L]	0.00011	0.00031	0.00077	0.00006	0.00003	0.00007	0.00024	0.00004	0.00004	0.00059
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002

Analysis	76: 82	77: 20	78:BLK: $SPLP1312 Blank #1	79: 50	80: 69	81:BLK: $SPLP1312 Blank #1
Sample Date & Time	N/A					
Sample weight [g]	20	20	---	20	20	---
Ext Fluid [#1 or #2]	1	1	1	1	1	1
Ext Volume [mL]	400	400	400	400	400	400
Final pH [no unit]	9.21	7.70	4.21	8.99	9.30	4.21
pH [No unit]	8.05	7.78	4.81	7.92	7.83	4.50
Alkalinity [mg/L as CaCO3]	23	34	< 2	23	17	< 2
Conductivity [uS/cm]	49	196	21	61	38	17
Acidity [mg/L as CaCO3]	< 2	< 2	4	< 2	< 2	4
Cl [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Al [mg/L]	1.23	0.033	0.001	0.762	0.740	0.006

OnLine LIMS

0003206820

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11022-NOV22**

Analysis	76: 82	77: 20	78:BLK: $SPLP1312 Blank #1	79: 50	80: 69	81:BLK: $SPLP1312 Blank #1
As [mg/L]	0.0115	< 0.0002	< 0.0002	0.0702	0.0337	0.0003
Ag [mg/L]	< 0.00005	< 0.00005	---	< 0.00005	< 0.00005	< 0.00005
Ba [mg/L]	0.00024	0.0670	0.00027	0.00084	0.00033	0.00011
Be [mg/L]	0.000127	< 0.000007	0.000030	0.000007	0.000745	0.000007
B [mg/L]	0.010	0.005	< 0.002	0.004	0.015	< 0.002
Bi [mg/L]	0.00015	< 0.00001	0.00001	0.00032	0.00088	< 0.00001
Ca [mg/L]	5.23	27.1	0.03	9.01	6.58	0.05
Cd [mg/L]	0.000003	0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	0.000031	0.000159	0.000008	0.000070	0.000012	0.000029
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	0.00009	0.00011	0.00028
Cu [mg/L]	0.0003	< 0.0002	0.0003	< 0.0002	0.0003	0.0013
Fe [mg/L]	0.010	< 0.007	< 0.007	0.013	0.007	< 0.007
K [mg/L]	5.50	10.8	0.042	4.37	0.796	0.117
Li [mg/L]	0.103	0.0664	0.0001	0.0810	0.0342	0.0002
Mg [mg/L]	0.100	1.32	0.005	0.608	0.146	0.005
Mn [mg/L]	0.00281	0.01202	0.00021	0.00134	0.00278	0.00171
Mo [mg/L]	0.00037	0.00063	0.00005	0.00216	0.00082	0.00009
Na [mg/L]	2.72	1.05	< 0.01	1.54	2.60	0.06
Ni [mg/L]	0.0002	0.0016	0.0002	0.0003	0.0002	0.0005
P [mg/L]	0.039	0.003	0.005	0.005	0.080	0.006
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.0032	< 0.0009	< 0.0009	0.0812	0.0043	< 0.0009
Se [mg/L]	0.00009	0.00012	0.00007	0.00143	0.00007	< 0.00004
Si [mg/L]	2.62	1.19	< 0.02	1.42	2.60	< 0.02
Sn [mg/L]	0.00027	< 0.00006	< 0.00006	< 0.00006	0.00017	< 0.00006
Sr [mg/L]	0.00302	0.0210	< 0.00008	0.00745	0.00965	0.00017
Ti [mg/L]	0.00032	0.00014	< 0.00005	0.00121	0.00018	< 0.00005
Tl [mg/L]	0.000353	< 0.000005	< 0.000005	0.000048	0.000045	< 0.000005
U [mg/L]	0.007091	0.000003	< 0.000002	0.000240	0.002214	0.000003

OnLine LIMS

00032068820

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11022-NOV22**

Analysis	76: 82	77: 20	78:BLK: $SPLP1312 Blank #1	79: 50	80: 69	81:BLK: $SPLP1312 Blank #1
V [mg/L]	0.00093	0.00004	< 0.00001	0.00189	0.00030	0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003206820

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

30-January-2023

Patriot Battery Metals Inc
Attn : Darren Smith

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone:
Fax:

Date Rec. : 23 November 2022
LR Report: **CA11023-NOV22**

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Sample ID	Sample Date & Time	Sample weight g	Volume D.I. Water mL	pH No unit	Alkalinity mg/L as CaCO3	Conductivity uS/cm	Acidity mg/L as CaCO3	Cl mg/L	SO4 mg/L	Hg mg/L	Al mg/L	As mg/L	Ag mg/L
3: Analysis Completed Date		20-Jan-23	20-Jan-23	27-Jan-23	27-Jan-23	27-Jan-23	27-Jan-23	27-Jan-23	27-Jan-23	23-Jan-23	30-Jan-23	30-Jan-23	30-Jan-23
4: Analysis Completed Time		15:15	15:15	09:12	09:11	09:10	09:09	10:04	10:04	16:56	12:37	12:37	12:37
5: 1	N/A	100	400	9.08	82	278	< 2	< 20	24	< 0.00001	1.00	0.0298	< 0.00005
6: 2	N/A	100	400	8.07	60	331	< 2	< 20	41	< 0.00001	0.331	0.0815	0.00030
7: 3	N/A	100	400	8.23	52	185	< 2	< 20	< 20	< 0.00001	0.814	0.0099	< 0.00005
8: 4	N/A	100	400	9.55	71	158	< 2	< 20	< 20	< 0.00001	0.734	0.384	< 0.00005
9: 5	N/A	100	400	8.00	55	333	< 2	< 20	53	< 0.00001	0.248	1.02	0.00015
10: 6	N/A	100	400	8.26	40	119	< 2	< 20	< 20	< 0.00001	0.616	0.0028	< 0.00005
11: 7	N/A	100	400	8.27	47	175	< 2	< 20	< 20	< 0.00001	0.309	0.0316	< 0.00005
12: 8	N/A	100	400	8.38	45	157	< 2	< 20	< 20	< 0.00001	0.638	0.0065	< 0.00005
13: 9	N/A	100	400	8.57	34	122	< 2	< 20	< 20	< 0.00001	0.779	0.0193	< 0.00005
14: 10	N/A	100	400	8.06	47	252	< 2	< 20	35	< 0.00001	0.210	0.0143	< 0.00005
15: 11	N/A	100	400	8.66	60	199	< 2	< 20	< 20	< 0.00001	0.513	0.0787	< 0.00005
16: 12	N/A	101	400	8.12	39	188	< 2	< 20	< 20	< 0.00001	0.451	0.0242	< 0.00005
17: 13	N/A	100	400	8.24	53	198	< 2	< 20	< 20	< 0.00001	0.297	0.228	< 0.00005
18: 14	N/A	99	400	8.46	54	233	< 2	24	< 20	< 0.00001	0.397	0.280	< 0.00005
19: 15	N/A	100	400	8.71	44	162	< 2	< 20	< 20	< 0.00001	0.425	0.0301	< 0.00005
20: 16	N/A	100	400	7.95	50	502	< 2	< 20	75	< 0.00001	0.072	0.0018	0.00025
21: 17	N/A	100	400	7.95	56	573	< 2	< 20	94	< 0.00001	0.137	0.0045	0.00028
22: 18	N/A	100	400	8.08	46	255	< 2	< 20	32	< 0.00001	0.241	0.292	< 0.00005
23: 19	N/A	100	400	8.69	41	207	< 2	< 20	< 20	< 0.00001	0.447	0.0266	< 0.00005
24: 20	N/A	100	400	8.07	65	654	< 2	< 20	160	< 0.00001	0.130	0.0010	0.00006

OnLine LIMS

0003212895

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11023-NOV22**

Sample ID	Sample Date & Time	Sample weight g	Volume D.I. Water mL	pH No unit	Alkalinity mg/L as CaCO3	Conductivity uS/cm	Acidity mg/L as CaCO3	Cl mg/L	SO4 mg/L	Hg mg/L	Al mg/L	As mg/L	Ag mg/L
25: 21	N/A	100	400	8.60	45	141	< 2	< 20	< 20	< 0.00001	0.535	0.609	< 0.00005
26: 22	N/A	100	400	8.15	55	210	< 2	< 20	< 20	0.00003	0.260	1.22	< 0.00005
27: 23	N/A	100	400	8.16	85	836	< 2	< 20	240	0.00002	0.040	0.0025	< 0.00005
28: 24	N/A	100	400	8.41	60	179	< 2	< 20	< 20	< 0.00001	1.07	0.0305	< 0.00005
29: 25	N/A	100	400	8.84	57	185	< 2	< 20	< 20	< 0.00001	0.136	0.879	< 0.00005
30: 26	N/A	100	400	8.60	43	145	< 2	< 20	< 20	< 0.00001	0.773	0.0191	< 0.00005
31: 27	N/A	100	400	8.07	56	333	< 2	20	42	< 0.00001	0.159	0.0256	0.00007
32: 31	N/A	100	400	8.52	89	234	< 2	< 20	< 20	< 0.00001	2.30	0.680	< 0.00005
33: 32	N/A	100	400	8.53	47	114	< 2	< 20	< 20	< 0.00001	0.777	0.0221	< 0.00005
34: 33	N/A	101	400	8.43	60	162	< 2	< 20	< 20	< 0.00001	0.753	0.0178	< 0.00005
35: 34	N/A	100	400	8.44	85	237	< 2	< 20	< 20	< 0.00001	2.94	0.604	< 0.00005
36: 35	N/A	100	400	8.80	89	211	< 2	< 20	< 20	< 0.00001	2.35	0.187	< 0.00005
37: 36	N/A	100	400	8.49	132	353	< 2	< 20	51	< 0.00001	0.007	63.8	< 0.00005
38: 37	N/A	100	400	8.21	68	334	< 2	< 20	41	< 0.00001	0.308	1.13	0.00023
39: 38	N/A	100	400	8.19	58	247	< 2	< 20	22	< 0.00001	0.637	0.0369	< 0.00005
40: 39	N/A	100	400	7.89	65	260	< 2	< 20	43	< 0.00001	0.413	0.146	0.00035
41: 40	N/A	100	400	8.08	75	218	< 2	< 20	20	< 0.00001	1.03	0.0784	< 0.00005
42: 41	N/A	100	400	8.04	65	232	< 2	< 20	36	< 0.00001	0.598	0.0242	0.00007
43: 42	N/A	100	400	7.98	69	429	< 2	< 20	92	< 0.00001	0.262	0.0067	0.00020
44: 43	N/A	100	400	8.02	71	341	< 2	< 20	78	< 0.00001	0.367	0.0068	0.00013
45: 44	N/A	100	400	8.47	83	176	< 2	< 20	< 20	< 0.00001	2.59	0.125	< 0.00005
46: 45	N/A	100	400	8.36	76	173	< 2	< 20	< 20	< 0.00001	2.37	0.0359	< 0.00005
47: 46	N/A	100	400	8.50	85	183	< 2	< 20	< 20	< 0.00001	2.92	0.0575	< 0.00005
48: 47	N/A	100	400	8.02	50	145	< 2	< 20	31	< 0.00001	0.913	0.0172	0.00009
49: 49	N/A	100	400	8.86	96	212	< 2	< 20	< 20	< 0.00001	2.07	0.268	< 0.00005
50: 50	N/A	100	400	8.05	74	417	< 2	< 20	61	< 0.00001	0.266	0.0871	0.00045
51: 51	N/A	100	400	8.04	58	167	< 2	< 20	46	< 0.00001	0.852	0.0381	0.00015
52: 52	N/A	100	400	8.12	86	253	< 2	< 20	25	< 0.00001	0.363	0.0082	0.00006
53: 53	N/A	100	400	8.08	83	278	< 2	< 20	25	< 0.00001	0.561	5.47	< 0.00005
54: 55	N/A	100	400	8.44	47	149	< 2	< 20	< 20	< 0.00001	0.034	3.99	< 0.00005
55: 56	N/A	100	400	8.10	62	183	< 2	< 20	< 20	< 0.00001	0.330	0.199	< 0.00005
56: 57	N/A	100	400	7.84	47	200	< 2	< 20	22	< 0.00001	0.064	0.0080	0.00005
57: 58	N/A	100	400	8.14	119	281	< 2	< 20	37	< 0.00001	0.007	18.0	< 0.00005
58: 59	N/A	100	400	7.99	76	255	< 2	< 20	36	< 0.00001	0.047	3.77	0.00007
59: 60	N/A	100	400	8.59	191	437	< 2	< 20	30	< 0.00001	0.004	40.3	< 0.00005
60: 61	N/A	100	400	8.36	101	219	< 2	< 20	< 20	< 0.00001	0.016	1.60	< 0.00005
61: 62	N/A	100	400	8.08	153	521	< 2	23	58	< 0.00001	0.005	49.4	< 0.00005

OnLine LIMS

0003212895

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11023-NOV22**

Sample ID	Sample Date & Time	Sample weight g	Volume D.I. Water mL	pH No unit	Alkalinity mg/L as CaCO3	Conductivity uS/cm	Acidity mg/L as CaCO3	Cl mg/L	SO4 mg/L	Hg mg/L	Al mg/L	As mg/L	Ag mg/L
62: 63	N/A	100	400	9.19	104	286	< 2	< 20	< 20	< 0.00001	1.03	0.923	< 0.00005
63: 64	N/A	100	400	8.32	59	125	< 2	< 20	< 20	< 0.00001	3.62	1.83	< 0.00005
64: 65	N/A	100	400	9.69	90	266	< 2	< 20	< 20	< 0.00001	0.789	0.723	< 0.00005
65: 66	N/A	100	400	9.19	73	117	< 2	< 20	< 20	< 0.00001	0.771	1.08	< 0.00005
66: 67	N/A	100	400	9.67	82	267	< 2	22	< 20	< 0.00001	0.570	0.265	< 0.00005
67: 69	N/A	100	400	8.68	93	249	< 2	30	< 20	< 0.00001	1.91	0.850	< 0.00005
68: 70	N/A	100	400	9.31	86	117	< 2	30	< 20	< 0.00001	0.717	0.611	0.00033
69: 73	N/A	100	400	9.19	79	117	< 2	< 20	< 20	< 0.00001	1.61	0.499	< 0.00005
70: 74	N/A	100	400	9.63	96	156	< 2	21	< 20	< 0.00001	2.33	3.30	< 0.00005
71: 75	N/A	100	400	9.77	110	155	< 2	20	< 20	< 0.00001	0.830	1.37	0.00007
72: 76	N/A	100	400	8.23	82	240	< 2	30	< 20	< 0.00001	1.28	0.350	< 0.00005
73: 77	N/A	100	400	8.73	83	179	< 2	29	< 20	< 0.00001	1.61	0.441	< 0.00005
74: 79	N/A	100	400	9.60	93	285	< 2	< 20	< 20	< 0.00001	1.25	0.431	< 0.00005
75: 80	N/A	100	400	7.90	71	145	< 2	< 20	26	< 0.00001	0.751	0.650	0.00025
76: 82	N/A	100	400	8.46	108	214	< 2	< 20	< 20	< 0.00001	5.48	0.132	< 0.00005
77-DUP: 20		100	400	8.08	66	685	< 2	< 20	170	< 0.00001	0.128	0.0011	0.00008
78-BLK: CTEU Blank		---	400	7.19	4	18	< 2	< 20	< 20	< 0.00001	0.003	0.0004	< 0.00005
79-DUP: 56		100	400	8.43	58	223	< 2	< 20	29	< 0.00001	0.325	0.193	< 0.00005
80-BLK: CTEU Blank		---	400	7.20	5	26	< 2	< 20	< 20	< 0.00001	0.005	0.0006	< 0.00005
81-DUP: 37		100	400	8.08	53	222	< 2	< 20	47	< 0.00001	0.496	0.0365	< 0.00005
82-DUP: 63		100	---	9.24	102	308	< 2	23	< 20	< 0.00001	2.79	1.12	< 0.00005

Sample ID	Ba mg/L	Be mg/L	B mg/L	Bi mg/L	Ca mg/L	Cd mg/L	Co mg/L	Cr mg/L	Cu mg/L	Fe mg/L	K mg/L	Li mg/L	Mg mg/L
3: Analysis Completed Date	30-Jan-23	30-Jan-23	30-Jan-23	30-Jan-23	30-Jan-23	30-Jan-23	30-Jan-23	30-Jan-23	30-Jan-23	30-Jan-23	30-Jan-23	30-Jan-23	30-Jan-23
4: Analysis Completed Time	12:37	12:37	12:37	12:37	12:37	12:37	12:37	12:37	12:37	12:37	12:37	12:37	12:37
5: 1	0.00562	0.000016	0.104	< 0.00001	2.09	0.000006	0.000183	0.00805	0.0015	0.224	62.5	1.36	0.611
6: 2	0.00441	< 0.000007	0.221	< 0.00001	12.9	0.000004	0.000117	0.00196	0.0012	0.083	21.9	0.771	5.90
7: 3	0.00137	< 0.000007	0.078	< 0.00001	7.37	< 0.000003	0.000029	0.00031	0.0009	0.009	11.6	0.482	2.42
8: 4	0.00081	0.000017	0.112	0.00001	5.70	< 0.000003	0.000303	0.02446	0.0010	0.258	3.28	0.690	2.75
9: 5	0.00443	< 0.000007	0.165	< 0.00001	16.3	< 0.000003	0.000343	0.00367	0.0012	0.032	18.8	2.47	8.76
10: 6	0.00033	0.000007	0.042	< 0.00001	7.18	< 0.000003	0.000014	0.00118	0.0010	< 0.007	1.58	0.464	1.94
11: 7	0.00053	< 0.000007	0.092	< 0.00001	7.61	< 0.000003	0.000018	0.00105	0.0006	0.010	6.13	0.298	2.30
12: 8	0.00047	< 0.000007	0.135	< 0.00001	6.45	< 0.000003	0.000047	0.00224	0.0018	0.057	3.02	0.395	1.83
13: 9	0.00039	< 0.000007	0.065	< 0.00001	8.41	< 0.000003	0.000030	0.00492	0.0009	0.035	0.530	0.0679	2.07
14: 10	0.00086	< 0.000007	0.115	< 0.00001	17.6	< 0.000003	0.000064	0.00027	0.0013	0.043	3.27	0.340	6.49

OnLine LIMS

0003212895

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11023-NOV22**

Sample ID	Ba mg/L	Be mg/L	B mg/L	Bi mg/L	Ca mg/L	Cd mg/L	Co mg/L	Cr mg/L	Cu mg/L	Fe mg/L	K mg/L	Li mg/L	Mg mg/L
15: 11	0.00072	< 0.000007	0.288	< 0.00001	7.29	0.000004	0.000035	0.00164	0.0004	0.007	6.16	1.03	2.08
16: 12	0.00091	< 0.000007	0.280	< 0.00001	8.55	< 0.000003	0.000020	0.00144	0.0007	< 0.007	9.51	0.146	2.15
17: 13	0.00097	0.000010	0.183	< 0.00001	6.52	< 0.000003	0.000053	0.00437	0.0007	0.031	9.31	0.457	2.46
18: 14	0.00056	< 0.000007	0.110	< 0.00001	6.71	< 0.000003	0.000078	0.00257	0.0003	0.008	1.80	0.116	2.72
19: 15	0.00079	< 0.000007	0.174	< 0.00001	6.32	< 0.000003	0.000025	0.00222	0.0005	< 0.007	8.05	0.247	1.99
20: 16	0.0168	< 0.000007	0.085	0.00001	35.2	0.000315	0.000203	< 0.00008	0.0010	0.012	25.8	1.30	7.75
21: 17	0.0158	< 0.000007	0.093	< 0.00001	44.3	0.000247	0.000320	0.00011	0.0014	0.013	41.5	1.10	9.59
22: 18	0.00202	0.000007	0.157	< 0.00001	13.0	0.000007	0.000142	0.00179	0.0009	0.027	11.1	0.487	4.33
23: 19	0.00054	< 0.000007	0.094	< 0.00001	7.38	< 0.000003	0.000082	0.00262	0.0034	0.022	2.44	0.152	2.28
24: 20	0.0506	< 0.000007	0.067	< 0.00001	60.0	0.000025	0.000502	< 0.00008	0.0009	0.009	44.0	0.592	16.2
25: 21	0.00164	< 0.000007	0.118	< 0.00001	4.87	0.000004	0.000048	0.00938	0.0005	0.008	13.3	0.192	1.86
26: 22	0.00075	0.000012	0.120	< 0.00001	8.19	0.000007	0.000188	0.01168	0.0008	0.093	3.81	0.684	3.74
27: 23	0.0115	< 0.000007	0.128	< 0.00001	92.7	0.000028	0.001248	< 0.00008	0.0007	0.012	12.9	0.467	29.2
28: 24	0.00253	< 0.000007	0.063	< 0.00001	3.93	< 0.000003	0.000076	0.00069	0.0006	0.159	11.0	0.0749	0.918
29: 25	0.00701	< 0.000007	0.913	0.00001	8.58	< 0.000003	0.000310	0.122	0.0024	0.162	20.0	0.178	7.12
30: 26	0.00065	< 0.000007	0.192	< 0.00001	4.72	< 0.000003	0.000015	0.00342	0.0004	0.013	6.77	0.636	1.40
31: 27	0.00140	< 0.000007	0.140	< 0.00001	15.4	0.000007	0.000074	0.00146	0.0006	0.017	6.37	0.116	5.25
32: 31	0.00757	0.000092	0.187	< 0.00001	1.74	0.000006	0.000644	0.00191	0.0011	0.790	37.9	2.28	0.586
33: 32	0.00044	< 0.000007	0.076	< 0.00001	4.51	< 0.000003	0.000014	0.00041	0.0005	0.015	6.01	0.223	1.52
34: 33	0.00096	< 0.000007	0.112	< 0.00001	5.89	< 0.000003	0.000029	0.00027	0.0012	0.008	7.76	0.366	2.08
35: 34	0.0118	0.000200	0.186	0.00002	2.09	0.000020	0.001409	0.00063	0.0015	1.81	40.3	3.31	0.766
36: 35	0.0141	0.000022	0.118	0.00001	1.71	0.000010	0.000872	0.00326	0.0022	1.44	45.3	1.71	0.752
37: 36	0.00937	< 0.000007	0.623	< 0.00001	14.3	< 0.000003	0.000932	0.02574	0.0004	0.012	5.22	0.348	35.5
38: 37	0.00535	0.000028	1.35	< 0.00001	18.8	0.000017	0.000328	0.00053	0.0014	0.009	31.1	1.70	6.66
39: 38	0.00110	0.000228	0.149	0.00002	4.34	0.000011	0.000182	0.00048	0.0012	0.287	11.9	0.739	2.07
40: 39	0.00474	0.000049	0.107	0.00001	9.26	0.000067	0.000215	0.00230	0.0008	0.143	24.1	1.20	5.30
41: 40	0.00189	< 0.000007	0.139	< 0.00001	4.99	< 0.000003	0.000094	0.00064	0.0011	0.123	14.5	0.884	1.23
42: 41	0.00288	0.000008	0.158	< 0.00001	6.70	< 0.000003	0.000063	0.00088	0.0009	0.105	31.8	0.335	3.42
43: 42	0.00471	0.000032	0.151	0.00001	19.5	0.000046	0.000043	0.00034	0.0003	0.023	30.3	0.443	7.78
44: 43	0.00498	0.000055	0.286	0.00001	16.3	0.000033	0.000049	0.00056	0.0004	0.022	35.5	0.408	5.01
45: 44	0.00564	0.000119	0.051	0.00001	1.49	0.000003	0.000238	0.00406	0.0020	0.254	12.5	0.533	0.262
46: 45	0.00309	0.000026	0.034	0.00002	1.81	< 0.000003	0.000090	0.00307	0.0022	0.153	17.3	0.0147	0.301
47: 46	0.00284	0.000011	0.037	< 0.00001	1.70	0.000004	0.000069	0.00251	0.0009	0.142	27.3	0.0226	0.306
48: 47	0.00579	< 0.000007	0.039	0.00002	3.44	0.000009	0.000206	0.00123	0.0014	0.414	33.3	0.141	2.14
49: 49	0.00497	0.000072	0.166	0.00003	1.03	0.000006	0.000793	0.00206	0.0013	0.996	44.8	3.38	0.833
50: 50	0.00561	< 0.000007	0.073	< 0.00001	15.2	0.000106	0.000406	0.00023	0.0025	0.034	46.4	1.55	4.51
51: 51	0.00270	0.000032	0.075	0.00001	5.64	0.000003	0.000225	0.00167	0.0009	0.297	16.0	0.705	3.02

OnLine LIMS

0003212895

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11023-NOV22**

Sample ID	Ba mg/L	Be mg/L	B mg/L	Bi mg/L	Ca mg/L	Cd mg/L	Co mg/L	Cr mg/L	Cu mg/L	Fe mg/L	K mg/L	Li mg/L	Mg mg/L
52: 52	0.00437	< 0.000007	0.113	< 0.00001	11.6	0.000005	0.000065	0.00090	0.0004	0.014	32.1	0.432	4.08
53: 53	0.01003	0.000046	0.055	< 0.00001	7.60	< 0.000003	0.000009	0.00049	0.0004	0.033	45.2	0.474	2.29
54: 55	0.00302	< 0.000007	0.041	< 0.00001	8.79	0.000003	0.000079	0.01934	0.0006	0.009	5.69	0.0522	6.82
55: 56	0.00336	< 0.000007	0.123	< 0.00001	4.20	0.000021	0.000029	0.00267	0.0006	0.016	31.8	0.353	1.55
56: 57	0.00651	0.000037	0.126	< 0.00001	9.17	0.000142	0.000061	0.00247	0.0020	< 0.007	19.3	0.372	3.70
57: 58	0.00229	< 0.000007	0.222	< 0.00001	13.0	< 0.000003	0.000956	0.03949	0.0002	< 0.007	4.35	0.0829	34.4
58: 59	0.00230	0.000047	0.039	< 0.00001	14.8	< 0.000003	0.000326	0.01177	0.0026	0.024	5.54	0.160	16.2
59: 60	0.00806	0.000094	0.164	0.00002	12.2	0.000026	0.000441	0.00038	0.0010	< 0.007	14.3	0.281	42.1
60: 61	0.00083	0.000093	1.15	< 0.00001	9.32	0.000035	0.000203	0.00269	0.0006	< 0.007	1.43	0.0240	17.4
61: 62	0.00997	0.000034	0.232	< 0.00001	21.4	0.000039	0.002068	0.00087	0.0022	0.016	2.69	0.0291	41.4
62: 63	0.00100	0.001541	0.653	0.00248	0.60	0.000010	0.000090	0.00726	0.0023	0.064	16.2	0.129	0.150
63: 64	0.00387	0.002100	0.261	0.00006	1.04	< 0.000003	0.000180	0.00393	0.0013	0.120	49.1	1.25	0.290
64: 65	0.00074	0.000295	0.190	0.00070	0.51	0.000003	0.000026	0.00786	0.0017	0.040	43.8	0.310	0.055
65: 66	0.00051	0.000392	0.274	0.00044	0.18	0.000004	0.000130	0.00783	0.0011	0.045	27.0	0.450	0.060
66: 67	0.00061	0.000174	0.170	0.00050	0.21	0.000004	0.000047	0.00814	0.0017	0.038	37.9	0.0883	0.034
67: 69	0.00178	0.014600	0.472	0.00372	0.90	< 0.000003	0.000150	0.0146	0.0029	0.170	4.59	0.642	0.200
68: 70	0.00074	0.003832	0.253	0.00126	0.70	0.000058	0.000521	0.0136	0.0439	0.142	7.88	0.264	0.145
69: 73	0.00089	0.000220	0.221	0.00052	0.21	< 0.000003	0.000070	0.00554	0.0015	0.060	38.9	1.37	0.040
70: 74	0.00083	0.000580	0.331	0.00023	0.30	0.000010	0.000030	0.00227	0.0011	0.070	20.6	4.89	0.280
71: 75	0.00046	0.00173	0.300	0.01030	0.38	0.000004	0.000014	0.00190	0.0010	0.031	9.71	2.90	0.212
72: 76	0.00221	0.00285	0.296	0.00043	1.47	0.000060	0.000100	0.00117	0.0012	0.090	19.4	3.38	0.300
73: 77	0.00086	0.00429	0.224	0.00006	0.85	< 0.000003	0.000040	0.00134	0.0009	0.060	11.6	11.6	0.130
74: 79	0.00111	0.000777	0.191	0.00031	0.50	0.000009	0.000274	0.00524	0.0013	0.588	36.4	1.40	0.332
75: 80	0.00220	0.000935	0.444	0.00030	2.90	0.000015	0.000180	0.00100	0.0017	0.140	33.8	0.955	0.917
76: 82	0.00299	0.00794	0.187	0.00017	1.16	< 0.000003	0.000390	0.00105	0.0022	0.370	25.8	1.22	0.220
77-DUP: 20	0.0518	< 0.000007	0.065	0.00001	60.9	0.000027	0.000475	< 0.00008	0.0010	0.008	45.1	0.718	16.6
78-BLK: CTEU Blank	0.00063	< 0.000007	< 0.002	< 0.00001	0.06	0.000003	0.000006	< 0.00008	0.0003	< 0.007	5.34	0.0002	0.023
79-DUP: 56	0.00362	< 0.000007	0.102	< 0.00001	4.55	< 0.000003	0.000060	0.00346	0.0004	0.040	32.5	0.368	1.51
80-BLK: CTEU Blank	0.00024	< 0.000007	< 0.002	< 0.00001	0.05	< 0.000003	0.000030	0.00086	< 0.0002	0.030	3.78	< 0.0001	< 0.001
81-DUP: 37	0.00129	0.000154	0.170	0.00003	3.75	0.000003	0.000162	0.00050	0.0014	0.209	11.0	0.670	1.41
82-DUP: 63	0.00144	0.00616	0.669	0.00530	0.86	0.000060	0.000170	0.01047	0.0027	0.120	28.4	0.150	0.180

Sample ID	Mn mg/L	Mo mg/L	Na mg/L	Ni mg/L	P mg/L	Pb mg/L	Sb mg/L	Se mg/L	Si mg/L	Sn mg/L	Sr mg/L	Ti mg/L	Tl mg/L
3: Analysis Completed Date	30-Jan-23	30-Jan-23	30-Jan-23	30-Jan-23	30-Jan-23	30-Jan-23	30-Jan-23	30-Jan-23	30-Jan-23	30-Jan-23	30-Jan-23	30-Jan-23	30-Jan-23
4: Analysis Completed Time	12:37	12:37	12:37	12:37	12:37	12:37	12:37	12:37	12:37	12:37	12:37	12:37	12:37

OnLine LIMS

0003212895

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : CA11023-NOV22

Sample ID	Mn mg/L	Mo mg/L	Na mg/L	Ni mg/L	P mg/L	Pb mg/L	Sb mg/L	Se mg/L	Si mg/L	Sn mg/L	Sr mg/L	Ti mg/L	Tl mg/L
5: 1	0.00751	0.00120	9.22	0.0008	0.046	< 0.00009	0.0025	0.00041	3.81	0.00008	0.00415	0.0194	0.000009
6: 2	0.00414	0.00378	25.8	0.0006	0.039	< 0.00009	0.0759	0.00453	2.98	0.00008	0.0406	0.00372	0.000035
7: 3	0.00219	0.00318	16.8	0.0002	0.009	< 0.00009	0.0080	0.00124	2.81	0.00006	0.00987	0.00059	0.000011
8: 4	0.01451	0.00145	20.6	0.0008	0.105	< 0.00009	0.0275	0.00050	9.56	< 0.00006	0.00543	0.00700	0.000021
9: 5	0.00397	0.00120	15.0	0.0016	0.032	< 0.00009	0.589	0.00115	3.42	< 0.00006	0.0278	0.00087	0.000229
10: 6	0.00171	0.00104	11.6	0.0001	0.007	< 0.00009	0.0028	0.00038	3.46	< 0.00006	0.0126	0.00012	< 0.000005
11: 7	0.00215	0.00132	20.1	0.0002	0.029	< 0.00009	0.0605	0.00110	5.02	0.00007	0.0109	0.00035	0.000023
12: 8	0.00128	0.00085	19.2	0.0003	0.033	< 0.00009	0.0094	0.00085	3.98	< 0.00006	0.00788	0.00179	0.000008
13: 9	0.00097	0.00065	12.3	0.0002	0.029	< 0.00009	0.0044	0.00274	4.64	< 0.00006	0.00584	0.00176	< 0.000005
14: 10	0.00477	0.00228	18.2	0.0003	0.039	< 0.00009	0.0761	0.00313	3.57	< 0.00006	0.0168	0.00139	0.000010
15: 11	0.00090	0.00066	24.9	0.0002	0.009	< 0.00009	0.269	0.00051	4.60	0.00007	0.0106	0.00042	0.000019
16: 12	0.00123	0.00232	17.1	0.0002	< 0.003	< 0.00009	0.0419	0.00104	4.13	0.00007	0.0156	0.00029	0.000008
17: 13	0.00114	0.00116	22.1	0.0003	0.008	< 0.00009	0.165	0.00079	3.70	0.00008	0.0209	0.00119	0.000064
18: 14	0.00122	0.00149	34.7	0.0003	0.011	< 0.00009	0.265	0.00172	3.98	0.00010	0.0122	0.00038	0.000022
19: 15	0.00088	0.00100	16.9	0.0002	0.004	< 0.00009	0.0429	0.00168	4.05	< 0.00006	0.0101	0.00021	0.000023
20: 16	0.0488	0.00321	31.3	0.0003	0.007	0.00255	0.0319	0.00064	4.02	0.00018	0.0860	0.00056	0.000022
21: 17	0.0411	0.00278	24.7	0.0006	0.007	0.00010	0.146	0.00022	3.26	< 0.00006	0.0797	0.00038	0.000011
22: 18	0.00715	0.01158	21.3	0.0004	0.013	< 0.00009	0.391	0.00326	3.77	0.00007	0.0215	0.00084	0.000044
23: 19	0.00164	0.00109	29.0	0.0004	0.011	0.00010	0.0081	0.00123	5.16	0.00014	0.0121	0.00057	0.000005
24: 20	0.0269	0.00529	18.2	0.0015	0.006	< 0.00009	0.0043	0.00039	3.03	< 0.00006	0.105	0.00030	0.000006
25: 21	0.00111	0.00111	13.1	0.0003	0.014	< 0.00009	0.0096	0.00059	5.10	0.00009	0.00901	0.00022	0.000007
26: 22	0.00252	0.00477	25.2	0.0009	0.047	0.00015	0.199	0.00097	4.89	0.00012	0.0206	0.00319	0.000045
27: 23	0.128	0.01286	35.4	0.0038	< 0.003	< 0.00009	0.0403	0.00196	4.66	0.00008	0.137	0.00049	0.000020
28: 24	0.00217	0.00223	23.0	0.0003	0.082	< 0.00009	0.0030	0.00053	3.20	0.00008	0.0121	0.00850	0.000008
29: 25	0.00164	0.00268	4.80	0.0029	0.028	< 0.00009	0.0672	0.00077	13.3	0.00007	0.0158	0.00405	0.000030
30: 26	0.00059	0.00163	15.8	0.0002	0.011	< 0.00009	0.0367	0.00038	3.70	< 0.00006	0.00549	0.00039	0.000017
31: 27	0.00452	0.00584	40.3	0.0005	0.019	< 0.00009	0.0289	0.00298	4.42	< 0.00006	0.0343	0.00070	0.000017
32: 31	0.0166	0.00487	13.0	0.0009	0.092	0.00038	0.0985	0.00018	3.58	0.00052	0.0118	0.08936	0.000660
33: 32	0.00071	0.00113	13.0	< 0.0001	0.019	< 0.00009	0.0126	0.00069	3.92	< 0.00006	0.00427	0.00063	0.000014
34: 33	0.00172	0.00194	18.4	0.0002	0.009	< 0.00009	0.0344	0.00111	2.68	0.00007	0.00758	0.00031	0.000021
35: 34	0.0343	0.00412	12.8	0.0021	0.095	0.00225	0.186	0.00083	4.67	0.00055	0.00474	0.144	0.00105
36: 35	0.0262	0.00388	11.3	0.0019	0.114	0.00069	0.0136	0.00077	4.67	0.00009	0.00357	0.112	0.000041
37: 36	0.00074	0.00083	5.86	0.0728	0.017	< 0.00009	9.76	0.00065	24.1	0.00007	0.0280	0.00074	0.000161
38: 37	0.00773	0.02313	13.7	0.0014	0.012	< 0.00009	3.07	0.00143	2.75	0.00012	0.0314	0.00073	0.00182
39: 38	0.00795	0.00525	37.6	0.0020	0.030	< 0.00009	0.0394	0.00026	3.49	0.00032	0.0139	0.01768	0.000191
40: 39	0.00654	0.00836	23.1	0.0009	0.032	0.00050	0.265	0.00214	2.76	0.00008	0.0279	0.00658	0.000142
41: 40	0.00343	0.00316	41.8	0.0011	0.012	< 0.00009	0.219	0.00045	2.11	< 0.00006	0.0135	0.00778	0.000008

OnLine LIMS

0003212895

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : CA11023-NOV22

Sample ID	Mn mg/L	Mo mg/L	Na mg/L	Ni mg/L	P mg/L	Pb mg/L	Sb mg/L	Se mg/L	Si mg/L	Sn mg/L	Sr mg/L	Ti mg/L	Tl mg/L
42: 41	0.00324	0.00326	27.7	0.0004	0.006	< 0.00009	0.0097	0.00031	3.15	< 0.00006	0.0230	0.00616	< 0.000005
43: 42	0.0121	0.00305	28.4	0.0002	0.011	< 0.00009	0.0136	0.00080	2.46	0.00007	0.0555	0.00118	0.000024
44: 43	0.00649	0.00206	26.7	0.0003	0.013	< 0.00009	0.0092	0.00062	2.15	< 0.00006	0.0509	0.00170	0.000061
45: 44	0.00489	0.00221	39.2	0.0007	0.112	0.00025	0.0086	0.00023	3.68	< 0.00006	0.00455	0.0189	0.000060
46: 45	0.00237	0.00171	31.7	0.0004	0.091	0.00010	0.0017	0.00018	2.81	< 0.00006	0.00570	0.0141	0.000010
47: 46	0.00197	0.00223	28.0	0.0002	0.044	< 0.00009	0.0011	0.00026	1.95	< 0.00006	0.00505	0.0122	0.000014
48: 47	0.00677	0.00622	31.8	0.0006	0.025	0.00035	0.0032	0.00243	2.27	< 0.00006	0.00566	0.0287	0.000008
49: 49	0.0198	0.00402	11.4	0.0008	0.029	0.00024	0.0634	0.00008	3.07	0.00047	0.00326	0.0626	0.001572
50: 50	0.0127	0.01565	23.6	0.0005	0.005	< 0.00009	0.761	0.00882	2.52	< 0.00006	0.0258	0.00206	0.000266
51: 51	0.00687	0.00660	49.6	0.0011	0.032	0.00059	0.0353	0.00220	3.45	0.00017	0.0147	0.0165	0.000022
52: 52	0.00574	0.00475	28.4	0.0009	< 0.003	< 0.00009	0.0218	0.00017	2.46	< 0.00006	0.0271	0.00070	< 0.000005
53: 53	0.00273	0.00205	21.2	0.0002	0.037	< 0.00009	0.0049	< 0.00004	2.44	< 0.00006	0.0199	0.00195	0.000009
54: 55	0.00081	0.00298	15.5	0.0009	0.008	< 0.00009	0.0397	0.00017	15.4	< 0.00006	0.0117	0.00023	< 0.000005
55: 56	0.00143	0.00211	13.9	0.0002	0.015	< 0.00009	0.0039	0.00023	4.57	< 0.00006	0.00901	0.00055	0.000008
56: 57	0.00180	0.00223	14.9	0.0003	0.038	< 0.00009	0.0024	0.00284	8.98	< 0.00006	0.0253	0.00267	0.000008
57: 58	0.00104	0.00172	11.4	0.0185	0.012	< 0.00009	3.03	0.00035	14.8	< 0.00006	0.0495	0.00009	0.000062
58: 59	0.00194	0.00149	13.4	0.0031	0.034	< 0.00009	0.0967	0.00178	7.61	< 0.00006	0.0818	0.00036	0.000014
59: 60	0.00145	0.00282	3.44	0.0577	0.024	< 0.00009	15.3	0.00123	16.2	< 0.00006	0.0280	0.00071	0.001059
60: 61	0.00103	0.00252	4.15	0.0020	0.013	< 0.00009	0.900	0.00073	7.98	< 0.00006	0.0435	0.00071	0.000015
61: 62	0.00274	0.00427	3.04	0.113	0.027	< 0.00009	28.8	0.00193	23.3	< 0.00006	0.0309	0.00096	0.000055
62: 63	0.00405	0.00611	49.7	0.0007	0.408	0.00050	0.232	0.00058	7.12	0.00025	0.00106	0.00049	0.000963
63: 64	0.0311	0.00342	20.3	0.0007	1.15	0.00069	0.247	0.00034	12.7	0.00487	0.00197	0.00456	0.00442
64: 65	0.00520	0.00252	20.3	0.0003	0.709	0.00068	0.154	0.00018	8.67	0.00019	0.00125	0.00025	0.00215
65: 66	0.00483	0.00260	30.9	0.0003	0.455	0.00041	0.193	0.00026	6.51	0.00055	0.000645	0.00046	0.00135
66: 67	0.00252	0.00375	26.4	0.0004	0.509	0.00026	0.0521	0.00005	10.4	0.00011	0.000782	0.00023	0.00174
67: 69	0.0248	0.00728	68.0	0.0004	0.770	0.00070	0.117	0.00029	11.8	0.00105	0.00207	0.00223	0.000370
68: 70	0.00451	0.00654	67.2	0.0003	0.418	0.00114	0.188	0.00218	7.11	0.00067	0.00148	0.00056	0.000547
69: 73	0.0108	0.00853	21.0	0.0001	0.350	0.00029	0.124	0.00004	8.90	0.00107	0.00074	0.00147	0.00118
70: 74	0.0279	0.00119	33.6	0.0007	1.70	0.00035	0.683	< 0.00004	12.6	0.00277	0.00074	0.00332	0.00186
71: 75	0.00647	0.00158	49.9	0.0003	0.429	0.00027	0.452	0.00023	10.5	0.00042	0.00082	0.00043	0.000600
72: 76	0.0185	0.00296	41.1	0.0003	0.620	0.00046	0.0768	0.00017	5.83	0.00226	0.00340	0.00177	0.000950
73: 77	0.0336	0.00198	20.3	0.0003	1.10	< 0.00009	0.140	< 0.00004	7.37	0.00208	0.00187	0.00197	0.00100
74: 79	0.0180	0.00249	26.9	0.0005	0.849	0.00054	0.122	0.00007	7.54	0.00093	0.00144	0.0148	0.00179
75: 80	0.00928	0.00274	36.1	0.0007	0.141	0.00042	0.208	0.00067	3.35	0.00102	0.00493	0.00205	0.00137
76: 82	0.0593	0.00215	44.1	0.0003	0.280	0.00059	0.0555	0.00031	10.9	0.01001	0.00237	0.0127	0.00197
77-DUP: 20	0.0324	0.00581	18.7	0.0013	0.006	< 0.00009	0.0023	0.00036	3.14	< 0.00006	0.109	0.00029	0.000008
78-BLK: CTEU Blank	0.00032	0.00008	1.64	0.0001	< 0.003	< 0.00009	< 0.0009	< 0.00004	< 0.02	0.00007	0.00019	0.00011	< 0.000005

OnLine LIMS

0003212895

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Sample ID	Mn mg/L	Mo mg/L	Na mg/L	Ni mg/L	P mg/L	Pb mg/L	Sb mg/L	Se mg/L	Si mg/L	Sn mg/L	Sr mg/L	Ti mg/L	Tl mg/L
79-DUP: 56	0.00127	0.00173	15.9	0.0002	< 0.003	< 0.00009	0.0037	0.00124	4.67	< 0.00006	0.00980	< 0.00005	0.000020
80-BLK: CTEU Blank	0.00022	0.00011	2.09	0.0004	< 0.003	< 0.00009	< 0.0009	0.00040	< 0.02	< 0.00006	0.00016	< 0.00005	0.000030
81-DUP: 37	0.0128	0.00471	28.1	0.0009	0.077	0.00011	0.0499	0.00033	3.32	0.00030	0.0119	0.0134	0.000165
82-DUP: 63	0.01094	0.00787	49.6	0.0007	0.580	0.00063	0.179	0.00052	16.1	0.00118	0.00152	0.00193	0.00151

Sample ID	U mg/L	V mg/L	Zn mg/L
3: Analysis Completed Date	30-Jan-23	30-Jan-23	30-Jan-23
4: Analysis Completed Time	12:37	12:37	12:37
5: 1	0.000052	0.117	< 0.002
6: 2	0.000534	0.00890	< 0.002
7: 3	0.000053	0.0355	< 0.002
8: 4	0.000789	0.0944	< 0.002
9: 5	0.000075	0.0150	< 0.002
10: 6	0.000198	0.0365	< 0.002
11: 7	0.000444	0.0543	< 0.002
12: 8	0.000029	0.0745	< 0.002
13: 9	0.000019	0.0906	< 0.002
14: 10	0.000421	0.0139	< 0.002
15: 11	0.000025	0.0521	< 0.002
16: 12	0.000596	0.0405	< 0.002
17: 13	0.000078	0.0480	< 0.002
18: 14	0.000079	0.0552	< 0.002
19: 15	0.000692	0.0433	< 0.002
20: 16	0.000154	0.00203	0.036
21: 17	0.000087	0.00273	0.013
22: 18	0.000550	0.0243	< 0.002
23: 19	0.000030	0.0582	< 0.002
24: 20	0.000324	0.00094	0.002
25: 21	0.000106	0.0665	< 0.002
26: 22	0.000530	0.0438	< 0.002
27: 23	0.00443	0.00083	0.002
28: 24	0.00142	0.0444	< 0.002
29: 25	0.000266	0.0466	< 0.002
30: 26	0.000013	0.0513	< 0.002
31: 27	0.00147	0.0231	< 0.002

OnLine LIMS

0003212895

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Sample ID	U mg/L	V mg/L	Zn mg/L
32: 31	0.00168	0.0700	0.003
33: 32	0.000074	0.0758	< 0.002
34: 33	0.000066	0.0338	< 0.002
35: 34	0.00278	0.0333	0.007
36: 35	0.00198	0.0642	0.005
37: 36	0.000542	0.0362	< 0.002
38: 37	0.00277	0.00925	< 0.002
39: 38	0.00384	0.0105	< 0.002
40: 39	0.00130	0.0103	0.002
41: 40	0.00538	0.0202	< 0.002
42: 41	0.000261	0.0118	< 0.002
43: 42	0.000412	0.00334	< 0.002
44: 43	0.000637	0.00645	< 0.002
45: 44	0.0108	0.113	< 0.002
46: 45	0.00461	0.103	< 0.002
47: 46	0.00578	0.0944	< 0.002
48: 47	0.00426	0.0136	0.004
49: 49	0.00132	0.0464	< 0.002
50: 50	0.00871	0.00444	0.004
51: 51	0.00116	0.0226	< 0.002
52: 52	0.00776	0.00513	< 0.002
53: 53	0.00135	0.0217	< 0.002
54: 55	0.000376	0.0360	< 0.002
55: 56	0.000420	0.0563	< 0.002
56: 57	0.000560	0.0292	< 0.002
57: 58	0.000271	0.00618	< 0.002
58: 59	0.00968	0.0116	< 0.002
59: 60	0.000598	0.00479	< 0.002
60: 61	0.000083	0.00829	< 0.002
61: 62	0.00124	0.00705	< 0.002
62: 63	0.0620	0.00768	< 0.002
63: 64	0.0231	0.00421	0.004
64: 65	0.00475	0.00317	< 0.002
65: 66	0.0269	0.00384	< 0.002
66: 67	0.000963	0.00392	< 0.002
67: 69	0.0694	0.00749	< 0.002
68: 70	0.0271	0.00998	0.005

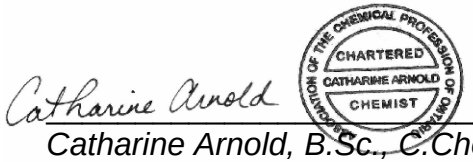
OnLine LIMS

0003212895

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Sample ID	U mg/L	V mg/L	Zn mg/L
69: 73	0.0805	0.00283	< 0.002
70: 74	0.0199	0.00239	< 0.002
71: 75	0.0326	0.00279	< 0.002
72: 76	0.0132	0.00273	< 0.002
73: 77	0.0460	0.00119	< 0.002
74: 79	0.0556	0.00280	< 0.002
75: 80	0.0195	0.00608	< 0.002
76: 82	0.111	0.0103	0.011
77-DUP: 20	0.000342	0.00095	< 0.002
78-BLK: CTEU Blank	< 0.000002	0.00003	< 0.002
79-DUP: 56	0.000380	0.05706	< 0.002
80-BLK: CTEU Blank	< 0.000002	< 0.00001	< 0.002
81-DUP: 37	0.00385	0.0112	< 0.002
82-DUP: 63	0.0512	0.0102	< 0.002



Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003212895

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quebec MA110 ACISOL 1.0

29-December-2022

Patriot Battery Metals Inc
Attn : Darren Smith

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone:
Fax:

Date Rec. : 23 November 2022
LR Report: **CA11020-NOV22**

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Sample ID	Sample weight g	Initial pH	Vol H2SO4 mL	H2SO4 Normality t	NP CaCO3/1000 t t	AP CaCO3/1000 t	NNP kg CaCO3/ tonne	Sulphur (total) %	Acid Leachable SO4-S %	Sulphide %	Carbon (total) %	Carbonate (pyro) as %CO3 %
3: Analysis Completed Date	19-Dec-22	19-Dec-22	19-Dec-22	19-Dec-22	19-Dec-22	19-Dec-22	19-Dec-22	05-Dec-22	05-Dec-22	05-Dec-22	01-Dec-22	01-Dec-22
4: Analysis Completed Time	13:31	13:31	13:31	13:31	13:31	13:31	13:31	10:44	10:44	10:44	11:40	11:40
5: 1	2.00	9.96	2.30	1.00	57.5	25.3	32	0.811	0.07	0.74	0.243	0.605
6: 2	2.01	9.64	1.90	1.00	47.3	40.5	6.8	1.30	0.18	1.12	0.662	2.89
7: 3	2.00	9.85	2.35	1.00	58.8	5.84	53	0.187	< 0.04	0.16	0.348	1.20
8: 4	1.99	9.88	0.90	1.00	22.6	0.25	22	0.008	< 0.04	< 0.04	0.043	0.070
9: 5	1.99	9.73	1.50	1.00	37.7	22.4	15	0.717	0.10	0.62	0.077	0.150
10: 6	1.99	9.80	4.10	1.00	103	4.00	99	0.128	< 0.04	0.10	1.01	4.30
11: 7	2.01	9.79	2.15	1.00	53.5	2.94	51	0.094	< 0.04	0.07	0.247	0.849
12: 8	1.99	9.69	1.60	1.00	40.2	3.34	37	0.107	< 0.04	0.08	0.052	0.065
13: 9	1.99	9.75	1.45	1.00	36.4	2.88	34	0.092	< 0.04	0.06	0.057	0.100
14: 10	2.02	9.62	1.45	1.00	35.9	16.3	20	0.523	0.06	0.46	0.057	0.080
15: 11	2.01	9.85	2.35	1.00	58.5	7.19	51	0.230	0.05	0.18	0.307	1.03
16: 12	2.03	9.75	3.75	1.00	92.4	14.4	78	0.462	0.07	0.39	0.716	2.67
17: 13	1.99	9.65	2.20	1.00	55.3	3.09	52	0.099	< 0.04	0.09	0.240	0.834
18: 14	2.03	9.80	1.65	1.00	40.6	3.50	37	0.112	< 0.04	0.08	0.186	0.475
19: 15	2.00	9.81	3.45	1.00	86.2	3.56	83	0.114	< 0.04	0.09	0.630	2.48
20: 16	2.01	9.55	2.55	1.00	63.4	111	-47.9	3.56	0.12	3.44	0.101	0.040
21: 17	2.05	9.58	3.06	1.00	74.6	138	-63.7	4.43	0.24	4.19	0.141	0.040
22: 18	2.00	9.60	1.90	1.00	47.5	12.3	35	0.394	0.08	0.31	0.157	0.520
23: 19	2.02	9.69	1.35	1.00	33.4	10.6	23	0.339	0.07	0.27	0.118	0.265
24: 20	1.96	9.15	4.75	1.00	121	231	-109.8	7.39	0.51	6.88	0.073	< 0.025

OnLine LIMS

00003175609

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quebec MA110 ACISOL 1.0

LR Report : **CA11020-NOV22**

Sample ID	Sample weight g	Initial pH	Vol H2SO4 mL	H2SO4 Normality	NP t CaCO3/1000 t	AP t CaCO3/1000 t	NNP kg CaCO3/ tonne	Sulphur (total) %	Acid Leachable SO4-S %	Sulphide %	Carbon (total) %	Carbonate (pyro) as %CO3 %
25: 21	2.03	9.80	2.70	1.00	66.5	2.00	64	0.064	< 0.04	0.04	0.488	1.83
26: 22	2.00	9.68	1.50	1.00	37.5	1.66	36	0.053	< 0.04	< 0.04	0.099	0.180
27: 23	1.98	9.12	4.00	1.00	101	229	-127.7	7.32	0.17	7.15	0.078	< 0.025
28: 24	2.00	9.65	1.80	1.00	45.0	2.59	42	0.083	< 0.04	0.06	0.086	0.200
29: 25	2.05	9.71	1.50	1.00	36.6	3.91	33	0.125	0.04	0.08	0.068	0.180
30: 26	1.99	9.74	2.10	1.00	52.8	3.22	50	0.103	< 0.04	0.08	0.197	0.634
31: 27	1.98	9.71	2.05	1.00	51.8	9.16	43	0.293	< 0.04	0.27	0.228	0.605
32: 31	1.99	9.75	1.35	1.00	33.9	0.66	33	0.021	< 0.04	< 0.04	0.046	< 0.025
33: 32	1.99	9.80	1.65	1.00	41.5	0.34	41	0.011	< 0.04	< 0.04	0.217	0.834
34: 33	1.97	9.72	2.10	1.00	53.3	0.97	52	0.031	< 0.04	< 0.04	0.354	1.25
35: 34	1.99	9.59	1.55	1.00	38.9	1.38	38	0.044	< 0.04	< 0.04	0.042	< 0.025
36: 35	2.02	9.96	1.45	1.00	35.9	1.31	35	0.042	< 0.04	< 0.04	0.108	0.295
37: 36	1.97	9.74	2.45	1.00	62.2	2.94	59	0.094	0.04	0.05	0.541	2.42
38: 37	1.99	9.61	1.75	1.00	44.0	11.4	33	0.366	0.05	0.32	0.306	1.01
39: 38	1.99	8.98	0.60	1.00	15.1	0.53	15	0.017	< 0.04	< 0.04	0.016	< 0.025
40: 39	2.02	9.37	0.75	1.00	18.6	21.1	-2.5	0.675	0.10	0.58	0.032	0.065
41: 40	1.98	9.49	0.75	1.00	18.9	23.7	-4.8	0.757	0.21	0.55	0.065	0.115
42: 41	2.04	9.31	0.60	1.00	14.7	15.7	-1.0	0.503	0.11	0.39	0.027	0.060
43: 42	2.00	9.38	0.65	1.00	16.2	34.2	-18.0	1.09	0.19	0.90	0.034	0.075
44: 43	1.97	9.36	0.80	1.00	20.3	31.7	-11.4	1.01	0.12	0.89	0.042	0.085
45: 44	1.96	9.61	0.70	1.00	17.9	1.25	17	< 0.005	< 0.04	< 0.04	0.115	0.415
46: 45	2.00	9.56	0.65	1.00	16.2	0.22	16	0.007	< 0.04	< 0.04	0.088	0.285
47: 46	2.06	9.52	0.80	1.00	19.4	0.25	19	0.008	< 0.04	< 0.04	0.117	0.410
48: 47	1.99	9.39	0.55	1.00	13.8	10.9	2.9	0.349	0.07	0.28	0.025	< 0.025
49: 49	1.97	9.44	0.60	1.00	15.2	1.25	14	< 0.005	< 0.04	< 0.04	0.025	< 0.025
50: 50	1.95	9.19	0.65	1.00	16.7	27.8	-11.1	0.891	0.13	0.76	1.26	6.04
51: 51	1.97	8.96	0.50	1.00	12.7	14.2	-1.5	0.454	0.07	0.38	0.019	< 0.025
52: 52	2.00	9.41	0.85	1.00	21.2	7.97	13	0.255	0.04	0.21	0.104	0.345
53: 53	1.97	9.49	1.00	1.00	25.4	35.6	-10.2	1.14	0.20	0.94	0.118	0.400
54: 55	2.03	9.77	1.30	1.00	32.0	7.47	25	0.239	< 0.04	0.21	0.202	0.809
55: 56	1.99	9.73	2.10	1.00	52.8	11.2	42	0.357	0.09	0.27	0.495	2.02
56: 57	2.05	9.68	1.60	1.00	39.0	29.7	9.3	0.951	0.16	0.79	0.349	1.08
57: 58	2.01	9.72	3.30	1.00	82.1	12.7	69	0.407	0.08	0.33	0.819	3.33
58: 59	1.99	9.42	1.25	1.00	31.4	40.8	-9.4	1.30	0.26	1.04	0.048	0.105
59: 60	2.05	9.72	4.85	1.00	118	5.31	113	0.170	0.09	0.08	2.40	6.18
60: 61	1.97	9.51	3.40	1.00	86.3	5.25	81	0.168	0.05	0.12	1.14	3.95
61: 62	1.97	9.72	4.55	1.00	116	13.0	102	0.417	0.07	0.35	2.12	6.38
62: 63	1.99	9.48	0.50	1.00	12.6	1.25	11	< 0.005	< 0.04	< 0.04	0.032	0.040

OnLine LIMS

00031756609

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quebec MA110 ACISOL 1.0

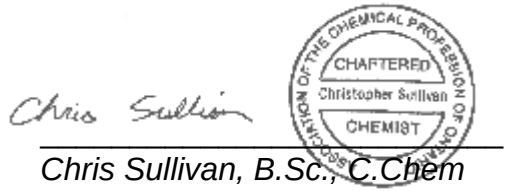
LR Report : **CA11020-NOV22**

Sample ID	Sample weight g	Initial pH	Vol H2SO4 mL	H2SO4 Normality	NP t CaCO3/1000 t	AP t CaCO3/1000 t	NNP kg CaCO3/ tonne	Sulphur (total) %	Acid Leachable SO4-S %	Sulphide %	Carbon (total) %	Carbonate (pyro) as %CO3 %
63: 64	2.00	9.32	0.50	1.00	12.5	1.25	11	< 0.005	< 0.04	< 0.04	0.021	< 0.025
64: 65	1.98	9.28	0.35	1.00	8.8	1.25	7.6	< 0.005	< 0.04	< 0.04	0.014	< 0.025
65: 66	1.93	9.15	0.30	1.00	7.8	1.25	6.6	< 0.005	< 0.04	< 0.04	0.011	< 0.025
66: 67	2.14	9.11	0.35	1.00	8.2	1.25	7.0	< 0.005	< 0.04	< 0.04	0.013	< 0.025
67: 69	1.95	9.77	0.40	1.00	10.3	1.25	9.0	< 0.005	< 0.04	< 0.04	0.039	0.075
68: 70	2.06	9.66	0.35	1.00	8.5	0.16	8.3	0.005	< 0.04	< 0.04	0.030	< 0.025
69: 73	2.00	9.07	0.30	1.00	7.5	1.25	6.2	< 0.005	< 0.04	< 0.04	0.020	< 0.025
70: 74	2.05	8.52	0.35	1.00	8.5	1.25	7.2	< 0.005	< 0.04	< 0.04	0.013	< 0.025
71: 75	1.97	9.31	0.40	1.00	10.2	1.25	9.0	< 0.005	< 0.04	< 0.04	0.030	0.040
72: 76	2.08	9.40	0.50	1.00	12.0	1.25	11	< 0.005	< 0.04	< 0.04	0.034	0.040
73: 77	1.99	8.91	0.45	1.00	11.3	1.25	10	< 0.005	< 0.04	< 0.04	0.025	< 0.025
74: 79	2.10	9.04	0.40	1.00	9.5	1.25	8.2	< 0.005	< 0.04	< 0.04	0.024	< 0.025
75: 80	2.02	8.76	0.35	1.00	8.7	0.94	7.8	0.030	< 0.04	< 0.04	0.021	< 0.025
76: 82	2.05	9.51	0.55	1.00	13.4	1.25	12	< 0.005	< 0.04	< 0.04	0.057	0.130

MA110 ACISOL 1.0

Gross NP (kg CaCO3/tonne) Section 7.3
AP (kg CaCO3/tonne) = Total S x 31.25

ASTM E1918 - S and C speciation



Chris Sullivan, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

00031756\09

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quality Control Report

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material			
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)		
							%		Low	High		Low	High	
Carbon/Sulphur - QCBatchID: ECS0109-NOV22														
Sulphide	0.04	%	< 0.04			4	20	119	80	120				
Carbon/Sulphur - QCBatchID: ECS0114-NOV22														
Carbon (total)	0.005	%	<0.005			1	20				98	70	130	
Sulphur (total)	0.005	%	<0.005			1	20				96	70	130	
Carbon/Sulphur - QCBatchID: ECS0117-NOV22														
Carbonate (pyro) as %CO3	0.025	%	<0.02			2	20				112	70	130	

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

00031756O9

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

27-June-2023

Patriot Battery Metals Inc
Attn : Darren Smith

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 01 June 2023
LR Report: **CA10008-JUN23**
Reference: Wk#5 - Patriot Tailings

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report - Revised

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HC T-83 Wk#5	6: CV5-DMS-HC T-84 Wk#5
Sample Date & Time			1-Jun-23	1-Jun-23
HumCell Leachate Vol [mL]	06-Jun-23	12:38	949	922
pH [No unit]	05-Jun-23	11:24	6.59	6.58
Alkalinity [mg/L as CaCO3]	05-Jun-23	11:24	2	2
Conductivity [uS/cm]	05-Jun-23	11:24	5	5
Acidity [mg/L as CaCO3]	05-Jun-23	11:24	2	2
F [mg/L]	15-Jun-23	11:03	< 0.06	< 0.06
SO4 [mg/L]	08-Jun-23	14:21	< 2	< 2
Cl [mg/L]	16-Jun-23	15:05	< 1	< 1
NO2 [as N mg/L]	16-Jun-23	16:03	< 0.03	< 0.03
NO3 [as N mg/L]	16-Jun-23	16:03	< 0.06	< 0.06
Br [mg/L]	16-Jun-23	16:03	< 0.3	< 0.3
Tot.Reactive P [mg/L]	16-Jun-23	08:11	< 0.03	< 0.03
Hg [mg/L]	20-Jun-23	14:16	< 0.00001	< 0.00001
Ag [mg/L]	20-Jun-23	14:16	< 0.00005	< 0.00005
Al [mg/L]	20-Jun-23	14:16	0.010	0.009
As [mg/L]	20-Jun-23	14:16	0.0153	0.0046
Ba [mg/L]	20-Jun-23	14:16	0.00008	0.00010
Be [mg/L]	20-Jun-23	14:16	0.000014	0.000025
B [mg/L]	20-Jun-23	14:16	< 0.002	< 0.002
Bi [mg/L]	20-Jun-23	14:16	0.00002	0.00002
Ca [mg/L]	20-Jun-23	14:16	0.54	0.61
Cd [mg/L]	20-Jun-23	14:16	0.000003	< 0.000003
Co [mg/L]	20-Jun-23	14:16	0.000023	0.000018
Cr [mg/L]	20-Jun-23	14:16	< 0.00008	< 0.00008
Cu [mg/L]	20-Jun-23	14:16	0.0008	0.0004
Fe [mg/L]	20-Jun-23	14:16	< 0.007	< 0.007
K [mg/L]	20-Jun-23	14:16	0.300	0.311

OnLine LIMS

0003380843

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10008-JUN23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HC T-83 Wk#5	6: CV5-DMS-HC T-84 Wk#5
Li [mg/L]	20-Jun-23	14:16	0.0069	0.0072
Mg [mg/L]	20-Jun-23	14:16	0.036	0.037
Mn [mg/L]	20-Jun-23	14:16	0.00210	0.00246
Mo [mg/L]	20-Jun-23	14:16	0.00012	0.00028
Na [mg/L]	20-Jun-23	14:16	0.21	0.21
Ni [mg/L]	20-Jun-23	14:16	< 0.0001	0.0001
Pb [mg/L]	20-Jun-23	14:16	< 0.00009	< 0.00009
Sb [mg/L]	20-Jun-23	14:16	0.0078	0.0060
Se [mg/L]	22-Jun-23	14:13	< 0.00004	< 0.00004
Sn [mg/L]	20-Jun-23	14:16	< 0.00006	< 0.00006
Sr [mg/L]	20-Jun-23	14:16	0.00149	0.00160
Ti [mg/L]	20-Jun-23	14:16	0.00005	0.00006
Tl [mg/L]	20-Jun-23	14:16	0.000021	0.000025
U [mg/L]	20-Jun-23	14:16	0.00470	0.00460
V [mg/L]	20-Jun-23	14:16	0.00005	0.00006
W [mg/L]	20-Jun-23	14:16	0.00009	0.00007
Y [mg/L]	20-Jun-23	14:16	< 0.00002	< 0.00002
Zn [mg/L]	20-Jun-23	14:16	< 0.002	0.002
Au (tot) [mg/L]	20-Jun-23	14:16	< 0.00001	< 0.00001
Ce (tot) [mg/L]	22-Jun-23	14:13	< 0.00001	< 0.00001
Cs (tot) [mg/L]	20-Jun-23	14:17	0.0019	0.0018
Dy (tot) [mg/L]	22-Jun-23	14:13	< 0.0001	< 0.0001
Er (tot) [mg/L]	22-Jun-23	14:13	< 0.0001	< 0.0001
Eu (tot) [mg/L]	22-Jun-23	14:13	< 0.0001	< 0.0001
Ga (tot) [mg/L]	22-Jun-23	14:13	0.0008	0.0005
Gd (tot) [mg/L]	22-Jun-23	14:13	< 0.00001	< 0.00001
Ge (tot) [mg/L]	22-Jun-23	14:21	< 0.0001	< 0.0001
Hf (tot) [mg/L]	20-Jun-23	14:17	< 0.0001	< 0.0001
Ho (tot) [mg/L]	22-Jun-23	14:13	< 0.0001	< 0.0001
In (tot) [mg/L]	22-Jun-23	14:13	< 0.0001	< 0.0001
Ir (tot) [mg/L]	22-Jun-23	14:21	< 0.0001	< 0.0001
La (tot) [mg/L]	22-Jun-23	14:13	< 0.0001	< 0.0001
Lu (tot) [mg/L]	22-Jun-23	14:13	< 0.0001	< 0.0001
Nb (tot) [mg/L]	20-Jun-23	14:17	< 0.0001	< 0.0001
Nd (tot) [mg/L]	22-Jun-23	14:13	< 0.0001	< 0.0001
Os (tot) [mg/L]	22-Jun-23	14:21	< 0.0001	< 0.0001
Pd (tot) [mg/L]	20-Jun-23	14:17	< 0.0001	< 0.0001
Pr (tot) [mg/L]	22-Jun-23	14:13	< 0.0001	< 0.0001
Pt (tot) [mg/L]	20-Jun-23	14:17	< 0.0001	< 0.0001
Rb (tot) [mg/L]	20-Jun-23	14:17	0.0140	0.0146
Re (tot) [mg/L]	22-Jun-23	14:21	< 0.0001	< 0.0001
Rh (tot) [mg/L]	20-Jun-23	14:17	< 0.00001	< 0.00001

OnLine LIMS

0003380843

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10008-JUN23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HC T-83 Wk#5	6: CV5-DMS-HC T-84 Wk#5
Sc (tot) [mg/L]	22-Jun-23	14:13	< 0.0001	< 0.0001
Sm (tot) [mg/L]	22-Jun-23	14:13	< 0.0001	< 0.0001
Ta (tot) [mg/L]	20-Jun-23	14:17	< 0.0001	< 0.0001
Tb (tot) [mg/L]	22-Jun-23	14:13	< 0.0001	< 0.0001
Te (tot) [mg/L]	20-Jun-23	14:17	< 0.0001	< 0.0001
Th (tot) [mg/L]	20-Jun-23	14:17	< 0.0001	< 0.0001
Tm (tot) [mg/L]	22-Jun-23	14:13	< 0.0001	< 0.0001
Yb (tot) [mg/L]	22-Jun-23	14:13	< 0.0001	< 0.0001

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003380843

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

27-June-2023

Patriot Battery Metals Inc
Attn : Darren Smith

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 01 June 2023
LR Report: **CA10009-JUN23**
Reference: Wk#5 - Patriot WR

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report - Revised

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#5	6: CV5-WR-HCT-5 Wk#5	7: CV5-WR-HCT-5 (DUP) Wk#5	8: CV5-WR-HCT-14 Wk#5
Sample Date & Time			1-Jun-23	1-Jun-23	1-Jun-23	1-Jun-23
HumCell Leachate Vol [mL]	06-Jun-23	12:38	997	1005	1002	998
pH [No unit]	05-Jun-23	11:25	6.90	7.10	6.98	7.81
Alkalinity [mg/L as CaCO3]	05-Jun-23	11:25	7	7	7	21
Conductivity [uS/cm]	05-Jun-23	11:25	45	45	35	55
Acidity [mg/L as CaCO3]	05-Jun-23	11:25	5	< 2	< 2	< 2
F [mg/L]	15-Jun-23	11:04	< 0.06	< 0.06	< 0.06	< 0.06
SO4 [mg/L]	08-Jun-23	16:36	9	8	7	3
Cl [mg/L]	16-Jun-23	15:05	1	< 1	< 1	< 1
NO2 [as N mg/L]	16-Jun-23	16:13	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	16-Jun-23	16:13	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	16-Jun-23	16:13	< 0.3	< 0.3	< 0.3	< 0.3
Tot.Reactive P [mg/L]	19-Jun-23	13:24	< 0.03	0.12	0.08	< 0.03
Hg [mg/L]	20-Jun-23	14:18	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	20-Jun-23	14:18	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	20-Jun-23	14:18	0.016	0.012	0.021	0.122
As [mg/L]	23-Jun-23	18:45	0.0053	0.512	0.366	0.113
Ba [mg/L]	20-Jun-23	14:18	0.00045	0.00042	0.00043	0.00025
Be [mg/L]	20-Jun-23	14:18	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	20-Jun-23	14:18	0.016	0.016	0.015	0.008
Bi [mg/L]	20-Jun-23	14:18	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	20-Jun-23	14:18	4.50	4.56	4.13	7.34
Cd [mg/L]	20-Jun-23	14:18	< 0.000003	< 0.000003	0.000004	< 0.000003
Co [mg/L]	20-Jun-23	14:18	0.000164	0.000465	0.000452	0.000048
Cr [mg/L]	20-Jun-23	14:19	< 0.00008	< 0.00008	0.00052	0.00016
Cu [mg/L]	20-Jun-23	14:19	0.0003	0.0017	0.0004	0.0003
Fe [mg/L]	20-Jun-23	14:19	0.007	0.016	0.020	0.011
K [mg/L]	20-Jun-23	14:19	0.908	0.481	0.430	0.164

OnLine LIMS

0003380845

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10009-JUN23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#5	6: CV5-WR-HCT-5 Wk#5	7: CV5-WR-HCT-5 (DUP) Wk#5	8: CV5-WR-HCT-14 Wk#5
Li [mg/L]	20-Jun-23	14:19	0.0363	0.0783	0.0695	0.0095
Mg [mg/L]	20-Jun-23	14:19	0.870	0.987	0.708	0.688
Mn [mg/L]	20-Jun-23	14:19	0.00313	0.00659	0.00554	0.00462
Mo [mg/L]	20-Jun-23	14:19	0.00035	0.00015	0.00006	0.00012
Na [mg/L]	20-Jun-23	14:19	1.75	0.98	0.90	1.83
Ni [mg/L]	20-Jun-23	14:19	0.0005	0.0053	0.0039	0.0003
Pb [mg/L]	20-Jun-23	14:19	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	20-Jun-23	14:19	0.0136	0.244	0.149	0.0335
Se [mg/L]	23-Jun-23	18:45	0.00034	0.00017	0.00014	0.00033
Sn [mg/L]	20-Jun-23	14:19	0.00013	0.00010	< 0.00006	0.00007
Sr [mg/L]	20-Jun-23	14:19	0.0210	0.0159	0.0153	0.0112
Ti [mg/L]	20-Jun-23	14:19	< 0.00005	0.00009	0.00008	0.00013
Tl [mg/L]	20-Jun-23	14:19	0.000005	0.000012	0.000011	0.000005
U [mg/L]	20-Jun-23	14:19	0.000174	0.000091	0.000046	0.000298
V [mg/L]	20-Jun-23	14:19	0.00039	0.00095	0.00094	0.00577
W [mg/L]	20-Jun-23	14:19	0.00034	0.00058	0.00097	0.00013
Y [mg/L]	20-Jun-23	14:19	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	20-Jun-23	14:19	< 0.002	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	20-Jun-23	14:19	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	22-Jun-23	14:14	< 0.00001	0.00001	< 0.00001	< 0.00001
Cs (tot) [mg/L]	20-Jun-23	14:19	0.0114	0.0199	0.0202	0.0033
Dy (tot) [mg/L]	22-Jun-23	14:14	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Er (tot) [mg/L]	22-Jun-23	14:14	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Eu (tot) [mg/L]	22-Jun-23	14:14	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ga (tot) [mg/L]	22-Jun-23	14:14	0.0001	< 0.0001	< 0.0001	< 0.0001
Gd (tot) [mg/L]	22-Jun-23	14:14	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	22-Jun-23	14:21	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	20-Jun-23	14:19	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	22-Jun-23	14:14	< 0.0001	< 0.0001	< 0.0001	< 0.0001
In (tot) [mg/L]	22-Jun-23	14:14	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ir (tot) [mg/L]	22-Jun-23	14:21	< 0.0001	< 0.0001	< 0.0001	< 0.0001
La (tot) [mg/L]	22-Jun-23	14:14	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Lu (tot) [mg/L]	22-Jun-23	14:14	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	20-Jun-23	14:19	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nd (tot) [mg/L]	22-Jun-23	14:15	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Os (tot) [mg/L]	22-Jun-23	14:21	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	20-Jun-23	14:19	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	22-Jun-23	14:15	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pt (tot) [mg/L]	20-Jun-23	14:19	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	20-Jun-23	14:19	0.0108	0.0104	0.0094	0.0012
Re (tot) [mg/L]	22-Jun-23	14:21	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	20-Jun-23	14:19	< 0.00001	< 0.00001	< 0.00001	< 0.00001

OnLine LIMS

0003380845

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10009-JUN23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#5	6: CV5-WR-HCT-5 Wk#5	7: CV5-WR-HCT-5 (DUP) Wk#5	8: CV5-WR-HCT-14 Wk#5
Sc (tot) [mg/L]	22-Jun-23	14:15	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	22-Jun-23	14:15	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ta (tot) [mg/L]	20-Jun-23	14:20	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	22-Jun-23	14:15	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Te (tot) [mg/L]	20-Jun-23	14:20	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	20-Jun-23	14:20	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	22-Jun-23	14:15	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Yb (tot) [mg/L]	22-Jun-23	14:15	< 0.0001	< 0.0001	< 0.0001	< 0.0001

Analysis	9: CV5-WR-HCT-22 Wk#5	10: CV5-WR-HCT-33 Wk#5	11: CV5-WR-HCT-36 Wk#5	12: CV5-WR-HCT-39 Wk#5	13: CV5-WR-HCT-50 Wk#5	14: CV5-WR-HCT-56 Wk#5
Sample Date & Time	1-Jun-23	1-Jun-23	1-Jun-23	1-Jun-23	1-Jun-23	1-Jun-23
HumCell Leachate Vol [mL]	1001	997	994	1004	996	1005
pH [No unit]	6.98	7.14	7.51	6.82	7.32	7.81
Alkalinity [mg/L as CaCO3]	6	9	14	5	13	18
Conductivity [uS/cm]	26	26	49	45	60	34
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	< 2
F [mg/L]	< 0.06	< 0.06	< 0.06	0.17	0.28	< 0.06
SO4 [mg/L]	2	< 2	3	10	13	< 2
Cl [mg/L]	< 1	< 1	< 1	< 1	< 1	< 1
NO2 [as N mg/L]	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Tot.Reactive P [mg/L]	0.08	< 0.03	2.23	< 0.03	< 0.03	< 0.03
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.020	0.060	< 0.001	0.010	0.046	0.063
As [mg/L]	0.293	0.0045	8.22	0.0588	0.0254	0.0170
Ba [mg/L]	0.00059	0.00028	0.00134	0.00084	0.00072	0.00115
Be [mg/L]	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	0.008	0.005	0.045	0.009	0.005	0.011
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	2.56	3.27	4.90	4.14	8.73	4.76
Cd [mg/L]	< 0.000003	< 0.000003	< 0.000003	0.000005	0.000027	< 0.000003
Co [mg/L]	0.000217	0.000069	0.000452	0.000248	0.00119	0.000088
Cr [mg/L]	< 0.00008	0.00030	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	0.0002	0.0004	0.0003	0.0002	0.0046	0.0003
Fe [mg/L]	0.007	< 0.007	0.008	< 0.007	0.008	0.007
K [mg/L]	0.164	0.265	0.165	0.861	1.59	1.58
Li [mg/L]	0.0166	0.0141	0.0105	0.0405	0.0338	0.0206

OnLine LIMS

0003380845

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10009-JUN23**

Analysis	9: CV5-WR-HCT-22 Wk#5	10: CV5-WR-HCT-33 Wk#5	11: CV5-WR-HCT-36 Wk#5	12: CV5-WR-HCT-39 Wk#5	13: CV5-WR-HCT-50 Wk#5	14: CV5-WR-HCT-56 Wk#5
Mg [mg/L]	0.368	0.309	2.28	0.686	0.743	0.492
Mn [mg/L]	0.00151	0.00972	0.00539	0.00337	0.0106	0.0217
Mo [mg/L]	0.00041	0.00023	0.00078	0.00133	0.00192	0.00027
Na [mg/L]	1.17	1.01	0.37	1.38	0.41	0.89
Ni [mg/L]	0.0010	0.0001	0.0676	0.0008	0.0014	0.0002
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.0272	0.0091	1.68	0.0630	0.179	0.0019
Se [mg/L]	0.00008	0.00009	0.00010	0.00017	0.00110	0.00008
Sn [mg/L]	< 0.00006	0.00013	0.00012	0.00013	0.00011	< 0.00006
Sr [mg/L]	0.00900	0.00459	0.0125	0.0167	0.0135	0.00709
Ti [mg/L]	0.00032	0.00010	0.00006	< 0.00005	0.00010	0.00026
Tl [mg/L]	0.000006	0.000008	0.000010	0.000013	0.000031	< 0.000005
U [mg/L]	0.000084	0.000173	0.000043	0.000440	0.00226	0.000717
V [mg/L]	0.00171	0.00142	0.00086	0.00061	0.00030	0.00102
W [mg/L]	0.00023	0.00043	0.00037	0.00032	0.00024	0.00088
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	< 0.00001	< 0.00001	0.00002	< 0.00001	< 0.00001	0.00001
Cs (tot) [mg/L]	0.0068	0.0076	0.0217	0.0056	0.0690	0.0258
Dy (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Er (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Eu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ga (tot) [mg/L]	< 0.0001	0.0003	0.0004	0.0005	0.0003	0.0003
Gd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
In (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ir (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
La (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Lu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Os (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pt (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	0.0031	0.0018	0.0049	0.0064	0.0378	0.0043
Re (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001

OnLine LIMS

0003380845

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10009-JUN23**

Analysis	9: CV5-WR-HCT-22 Wk#5	10: CV5-WR-HCT-33 Wk#5	11: CV5-WR-HCT-36 Wk#5	12: CV5-WR-HCT-39 Wk#5	13: CV5-WR-HCT-50 Wk#5	14: CV5-WR-HCT-56 Wk#5
Sm (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ta (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Te (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Yb (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001

Analysis	15: CV5-WR-HCT-59 Wk#5	16: CV5-WR-HCT-62 Wk#5	17: CV5-WR-HCT-64 Wk#5	18: CV5-WR-HCT-69 Wk#5	19: CV5-ORE-HCT-74 Wk#5	20: CV5-ORE-HCT-76 Wk#5
Sample Date & Time	1-Jun-23	1-Jun-23	1-Jun-23	1-Jun-23	1-Jun-23	1-Jun-23
HumCell Leachate Vol [mL]	998	1003	1000	1003	994	995
pH [No unit]	6.88	7.54	7.04	7.55	7.07	7.43
Alkalinity [mg/L as CaCO3]	3	12	7	12	6	14
Conductivity [uS/cm]	23	37	16	27	15	29
Acidity [mg/L as CaCO3]	< 2	2	< 2	< 2	< 2	< 2
F [mg/L]	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
SO4 [mg/L]	5	< 2	< 2	< 2	< 2	< 2
Cl [mg/L]	< 1	< 1	< 1	< 1	< 1	< 1
NO2 [as N mg/L]	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Tot.Reactive P [mg/L]	0.26	1.15	< 0.03	< 0.03	0.08	< 0.03
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	< 0.001	< 0.001	0.016	0.131	0.038	0.036
As [mg/L]	0.854	4.27	0.0399	0.0425	0.0895	0.0248
Ba [mg/L]	0.00031	0.00145	0.00012	0.00022	< 0.00008	0.00014
Be [mg/L]	< 0.000007	< 0.000007	0.000007	0.000194	0.000011	0.000054
B [mg/L]	0.004	0.009	0.007	0.007	0.005	0.010
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00050	< 0.00001	0.00009
Ca [mg/L]	2.59	4.50	2.10	4.40	1.51	4.08
Cd [mg/L]	< 0.000003	< 0.000003	0.000004	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	0.000782	0.000445	0.000033	0.000029	0.000043	0.000035
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	0.0055	< 0.0002	0.0005	0.0006	0.0004	0.0004
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	0.238	0.176	1.33	0.413	0.734	1.53
Li [mg/L]	0.0060	0.0013	0.0208	0.0128	0.0593	0.0382
Mg [mg/L]	0.827	1.88	0.187	0.203	0.062	0.269

OnLine LIMS

00033808845

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10009-JUN23**

Analysis	15: CV5-WR-HCT-59 Wk#5	16: CV5-WR-HCT-62 Wk#5	17: CV5-WR-HCT-64 Wk#5	18: CV5-WR-HCT-69 Wk#5	19: CV5-ORE-HCT-74 Wk#5	20: CV5-ORE-HCT-76 Wk#5
Mn [mg/L]	0.00216	0.00676	0.00535	0.00352	0.0294	0.00474
Mo [mg/L]	0.00132	0.00056	0.00025	0.00070	0.00039	0.00083
Na [mg/L]	0.57	0.61	0.55	0.89	0.92	0.95
Ni [mg/L]	0.0074	0.0514	0.0002	< 0.0001	0.0004	0.0002
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.0209	2.94	0.0099	0.0157	0.0489	0.0204
Se [mg/L]	0.00009	0.00021	< 0.00004	0.00019	< 0.00004	0.00006
Sn [mg/L]	< 0.00006	0.00006	0.00010	0.00015	0.00029	0.00007
Sr [mg/L]	0.0168	0.00604	0.00508	0.0109	0.00293	0.0118
Ti [mg/L]	0.00015	< 0.00005	< 0.00005	< 0.00005	< 0.00005	0.00007
Tl [mg/L]	0.000007	< 0.000005	0.000123	0.000018	0.000107	0.000061
U [mg/L]	0.000119	0.000265	0.00656	0.0213	0.00998	0.00446
V [mg/L]	0.00093	0.00055	0.00008	0.00031	0.00005	0.00016
W [mg/L]	0.00137	0.00044	0.00018	0.00047	0.00013	0.00034
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	0.003	< 0.002	0.002	< 0.002
Au (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	< 0.00001	0.00001	< 0.00001	< 0.00001	< 0.00001	0.00001
Cs (tot) [mg/L]	0.0145	0.0052	0.0224	0.0049	0.0315	0.0160
Dy (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Er (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Eu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ga (tot) [mg/L]	0.0004	0.0003	0.0003	0.0002	0.0005	0.0009
Gd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
In (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ir (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
La (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001
Lu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001
Nd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Os (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pt (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	0.0062	0.0030	0.0658	0.0148	0.0639	0.0320
Re (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001

OnLine LIMS

0003380845

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10009-JUN23**

Analysis	15: CV5-WR-HCT-59 Wk#5	16: CV5-WR-HCT-62 Wk#5	17: CV5-WR-HCT-64 Wk#5	18: CV5-WR-HCT-69 Wk#5	19: CV5-ORE-HCT-74 Wk#5	20: CV5-ORE-HCT-76 Wk#5
Ta (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Te (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Yb (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003380845

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Patriot Tailings -Short- (9.5mm fraction size)

24-November-2023

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 02 November 2023
LR Report: **CA10024-NOV23**
Reference: Wk#27

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#27	6: CV5-DMS-HCT-84 Wk#27
Sample Date & Time			02-Nov-23	02-Nov-23
HumCell Leachate Vol [mL]	13-Nov-23	16:06	994	983
pH [No unit]	03-Nov-23	12:07	6.39	6.27
Alkalinity [mg/L as CaCO3]	03-Nov-23	12:07	< 2	< 2
Conductivity [uS/cm]	07-Nov-23	09:34	2	3
Acidity [mg/L as CaCO3]	07-Nov-23	09:34	2	< 2
Tot.Reactive P [mg/L]	06-Nov-23	09:22	< 0.03	< 0.03
SO4 [mg/L]	20-Nov-23	15:44	< 2	< 2
Ag [mg/L]	14-Nov-23	16:52	< 0.00005	< 0.00005
Al [mg/L]	14-Nov-23	16:52	0.012	0.009
As [mg/L]	14-Nov-23	16:52	0.0050	0.0035
Ba [mg/L]	14-Nov-23	16:52	< 0.00008	< 0.00008
Be [mg/L]	14-Nov-23	16:52	0.000008	< 0.000007
B [mg/L]	14-Nov-23	16:52	< 0.002	< 0.002
Bi [mg/L]	14-Nov-23	16:52	0.00002	0.00003
Ca [mg/L]	14-Nov-23	16:52	0.39	0.31
Cd [mg/L]	14-Nov-23	16:52	0.000003	< 0.000003
Co [mg/L]	14-Nov-23	16:52	< 0.000004	< 0.000004
Cr [mg/L]	14-Nov-23	16:52	< 0.00008	< 0.00008
Cu [mg/L]	14-Nov-23	16:52	< 0.0002	< 0.0002
Fe [mg/L]	14-Nov-23	16:52	< 0.007	< 0.007
K [mg/L]	14-Nov-23	16:52	0.075	0.063
Li [mg/L]	14-Nov-23	16:52	0.0005	0.0005
Mg [mg/L]	14-Nov-23	16:52	0.020	0.014
Mn [mg/L]	14-Nov-23	16:52	0.00079	0.00116
Mo [mg/L]	14-Nov-23	16:52	0.00049	0.00007
Na [mg/L]	14-Nov-23	16:52	0.04	0.03
Ni [mg/L]	14-Nov-23	16:52	< 0.0001	< 0.0001
Pb [mg/L]	14-Nov-23	16:52	< 0.00009	< 0.00009
Sb [mg/L]	14-Nov-23	16:52	0.0020	0.0017
Se [mg/L]	14-Nov-23	16:52	< 0.00004	< 0.00004
Sn [mg/L]	14-Nov-23	16:52	< 0.00006	< 0.00006
Sr [mg/L]	14-Nov-23	16:52	0.00094	0.00070
Ti [mg/L]	14-Nov-23	16:52	< 0.00007	< 0.00007

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0003543820

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : CA10024-NOV23

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#27	6: CV5-DMS-HCT-84 Wk#27
Tl [mg/L]	14-Nov-23	16:52	0.000008	0.000011
U [mg/L]	14-Nov-23	16:52	0.00125	0.00174
V [mg/L]	14-Nov-23	16:52	0.00002	0.00001
W [mg/L]	14-Nov-23	16:52	< 0.00002	< 0.00002
Y [mg/L]	14-Nov-23	16:52	< 0.00002	< 0.00002
Zn [mg/L]	14-Nov-23	16:52	< 0.002	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003543820

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

24-November-2023

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 02 November 2023
LR Report: **CA10025-NOV23**
Reference: Wk#27

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#27	6: CV5-WR-HCT-5 Wk#27	7: CV5-WR-HCT-5 (DUP) Wk#27	8: CV5-WR-HCT-14 Wk#27	9: CV5-WR-HCT-22 Wk#27
Sample Date & Time			02-Nov-23	02-Nov-23	02-Nov-23	02-Nov-23	02-Nov-23
HumCell Leachate Vol [mL]	13-Nov-23	16:07	944	928	992	998	1002
pH [No unit]	07-Nov-23	09:35	6.81	7.00	6.89	7.49	6.92
Alkalinity [mg/L as CaCO3]	07-Nov-23	09:36	2	3	3	12	4
Conductivity [uS/cm]	07-Nov-23	09:37	26	17	14	26	9
Acidity [mg/L as CaCO3]	07-Nov-23	09:37	< 2	< 2	< 2	< 2	< 2
Tot.Reactive P [mg/L]	06-Nov-23	09:22	< 0.03	0.08	0.05	< 0.03	0.05
SO4 [mg/L]	20-Nov-23	15:45	8	4	3	2	< 2
Ag [mg/L]	14-Nov-23	16:52	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	14-Nov-23	16:52	0.022	0.019	0.020	0.080	0.019
As [mg/L]	21-Nov-23	21:48	0.0041	0.201	0.144	0.0383	0.156
Ba [mg/L]	14-Nov-23	16:53	0.00019	0.00020	0.00020	0.00021	< 0.00008
Be [mg/L]	14-Nov-23	16:53	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	14-Nov-23	16:53	0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	14-Nov-23	16:53	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	14-Nov-23	16:53	3.85	2.82	2.32	5.65	1.62
Cd [mg/L]	14-Nov-23	16:53	0.000006	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	14-Nov-23	16:53	0.000084	0.000197	0.000206	0.000054	0.000136
Cr [mg/L]	14-Nov-23	16:53	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	14-Nov-23	16:53	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Fe [mg/L]	14-Nov-23	16:53	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	14-Nov-23	16:53	0.247	0.117	0.091	0.034	0.040
Li [mg/L]	14-Nov-23	16:53	0.0083	0.0096	0.0081	0.0038	0.0056
Mg [mg/L]	14-Nov-23	16:53	0.399	0.248	0.216	0.236	0.228
Mn [mg/L]	14-Nov-23	16:53	0.00125	0.00198	0.00174	0.00608	0.00041
Mo [mg/L]	14-Nov-23	16:53	0.00011	< 0.00004	0.00005	0.00008	0.00022
Na [mg/L]	14-Nov-23	16:53	0.17	0.08	0.08	0.21	0.13
Ni [mg/L]	14-Nov-23	16:53	0.0002	0.0013	0.0009	0.0001	0.0003
Pb [mg/L]	14-Nov-23	16:53	0.00015	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	21-Nov-23	17:24	0.0035	0.0553	0.0339	0.0066	0.0084

OnLine LIMS

0003544347

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10025-NOV23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#27	6: CV5-WR-HCT-5 Wk#27	7: CV5-WR-HCT-5 (DUP) Wk#27	8: CV5-WR-HCT-14 Wk#27	9: CV5-WR-HCT-22 Wk#27
Se [mg/L]	14-Nov-23	16:54	0.00017	< 0.00004	< 0.00004	0.00006	< 0.00004
Sn [mg/L]	14-Nov-23	16:53	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	14-Nov-23	16:53	0.0120	0.00631	0.00581	0.00457	0.00521
Ti [mg/L]	14-Nov-23	16:53	0.00019	0.00009	< 0.00007	0.00017	0.00015
Tl [mg/L]	14-Nov-23	16:53	0.000005	0.000006	< 0.000005	< 0.000005	< 0.000005
U [mg/L]	14-Nov-23	16:53	0.000497	0.000029	0.000055	0.000088	0.000568
V [mg/L]	14-Nov-23	16:53	0.00030	0.00052	0.00044	0.00243	0.00111
W [mg/L]	14-Nov-23	16:53	0.00006	0.00007	0.00006	< 0.00002	0.00002
Y [mg/L]	14-Nov-23	16:53	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	14-Nov-23	16:53	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002

Analysis	10: CV5-WR-HCT-33 Wk#27	11: CV5-WR-HCT-36 Wk#27	12: CV5-WR-HCT-39 Wk#27	13: CV5-WR-HCT-50 Wk#27	14: CV5-WR-HCT-56 Wk#27	15: CV5-WR-HCT-59 Wk#27	16: CV5-WR-HCT-62 Wk#27
Sample Date & Time	02-Nov-23	02-Nov-23	02-Nov-23	02-Nov-23	02-Nov-23	02-Nov-23	02-Nov-23
HumCell Leachate Vol [mL]	970	1000	956	983	960	996	963
pH [No unit]	7.32	7.18	6.49	6.54	7.14	6.40	7.18
Alkalinity [mg/L as CaCO3]	6	7	3	2	6	3	7
Conductivity [uS/cm]	15	19	18	22	26	11	21
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	6	< 2	< 2	< 2
Tot.Reactive P [mg/L]	< 0.03	0.62	< 0.03	< 0.03	< 0.03	0.11	0.26
SO4 [mg/L]	< 2	2	6	5	6	4	4
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.058	0.003	0.018	0.005	0.034	0.004	0.001
As [mg/L]	0.0042	1.67	0.0244	0.0029	0.0168	0.333	0.745
Ba [mg/L]	0.00017	0.00078	0.00023	0.00018	0.00038	0.00015	0.00042
Be [mg/L]	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	< 0.002	0.007	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	2.88	2.99	2.81	3.77	4.51	1.50	2.97
Cd [mg/L]	< 0.000003	< 0.000003	0.000013	0.000027	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	0.000052	0.000334	0.000215	0.00129	0.000062	0.000491	0.000409
Cr [mg/L]	< 0.00008	0.00015	< 0.00008	< 0.00008	< 0.00008	0.00010	< 0.00008
Cu [mg/L]	0.0004	0.0005	< 0.0002	0.0005	0.0013	0.0008	0.0005
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	0.060	0.049	0.212	0.092	0.283	0.039	0.017
Li [mg/L]	0.0036	0.0024	0.0088	0.0042	0.0037	0.0017	0.0004
Mg [mg/L]	0.137	0.655	0.361	0.080	0.343	0.320	0.775
Mn [mg/L]	0.00923	0.00226	0.00226	0.00354	0.00792	0.00128	0.00247
Mo [mg/L]	0.00032	0.00013	0.00013	0.00025	0.00029	0.00011	0.00028
Na [mg/L]	0.12	0.04	0.14	0.06	0.09	0.06	0.02
Ni [mg/L]	< 0.0001	0.0101	0.0004	0.0009	0.0001	0.0043	0.0080
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	0.00016	< 0.00009	< 0.00009
Sb [mg/L]	0.0015	0.695	0.0150	0.0129	< 0.0009	0.0066	0.751

OnLine LIMS

0003544347

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10025-NOV23**

Analysis	10: CV5-WR-HCT-33 Wk#27	11: CV5-WR-HCT-36 Wk#27	12: CV5-WR-HCT-39 Wk#27	13: CV5-WR-HCT-50 Wk#27	14: CV5-WR-HCT-56 Wk#27	15: CV5-WR-HCT-59 Wk#27	16: CV5-WR-HCT-62 Wk#27
Se [mg/L]	0.00005	0.00007	0.00004	0.00035	< 0.00004	< 0.00004	0.00009
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00258	0.00385	0.00868	0.00308	0.00496	0.00691	0.00225
Ti [mg/L]	0.00028	< 0.00007	0.00015	< 0.00007	0.00014	< 0.00007	< 0.00007
Tl [mg/L]	< 0.000005	0.000007	0.000007	0.000010	< 0.000005	< 0.000005	< 0.000005
U [mg/L]	0.000068	0.00161	0.000275	0.000943	0.00205	0.000015	0.00237
V [mg/L]	0.00063	0.00020	0.00033	0.00003	0.00038	0.00038	0.00018
W [mg/L]	0.00004	0.00010	0.00004	< 0.00002	0.00006	0.00014	0.00006
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	0.008	< 0.002	0.002	< 0.002

Analysis	17: CV5-WR-HCT-64 Wk#27	18: CV5-WR-HCT-69 Wk#27	19: CV5-ORE-HCT-74 Wk#27	20: CV5-ORE-HCT-76 Wk#27
Sample Date & Time	02-Nov-23	02-Nov-23	02-Nov-23	02-Nov-23
HumCell Leachate Vol [mL]	994	1001	1002	983
pH [No unit]	6.61	7.16	6.82	7.13
Alkalinity [mg/L as CaCO3]	3	6	2	6
Conductivity [uS/cm]	8	14	5	13
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2
Tot.Reactive P [mg/L]	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	< 2	< 2	< 2	< 2
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.023	0.077	0.017	0.032
As [mg/L]	0.0077	0.0059	0.0103	0.0040
Ba [mg/L]	< 0.00008	0.00014	< 0.00008	< 0.00008
Be [mg/L]	0.000008	0.000057	< 0.000007	0.000027
B [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	0.00020	< 0.00001	0.00008
Ca [mg/L]	1.37	2.46	0.89	2.26
Cd [mg/L]	0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	0.000011	0.000012	0.000009	0.000012
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	< 0.0002	0.0008	0.0019	< 0.0002
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	0.226	0.074	0.121	0.326
Li [mg/L]	0.0020	0.0019	0.0067	0.0068
Mg [mg/L]	0.067	0.043	0.017	0.116
Mn [mg/L]	0.00340	0.00252	0.0417	0.00194
Mo [mg/L]	0.00050	0.00011	0.00006	0.00008
Na [mg/L]	0.06	0.14	0.11	0.10
Ni [mg/L]	0.0001	< 0.0001	< 0.0001	< 0.0001
Pb [mg/L]	< 0.00009	0.00018	< 0.00009	< 0.00009
Sb [mg/L]	0.0020	0.0025	0.0123	0.0016

OnLine LIMS

0003544347

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10025-NOV23**

Analysis	17: CV5-WR-HCT-64 Wk#27	18: CV5-WR-HCT-69 Wk#27	19: CV5-ORE-HCT-74 Wk#27	20: CV5-ORE-HCT-76 Wk#27
Se [mg/L]	< 0.00004	< 0.00004	< 0.00004	< 0.00004
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00215	0.00448	0.00130	0.00525
Ti [mg/L]	< 0.00007	< 0.00007	< 0.00007	< 0.00007
Tl [mg/L]	0.000032	< 0.000005	0.000029	0.000021
U [mg/L]	0.00125	0.00360	0.00149	0.00141
V [mg/L]	0.00002	0.00009	0.00003	0.00006
W [mg/L]	0.00004	0.00004	0.00004	0.00006
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	0.002	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0003544347

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

18-July-2023

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 06 July 2023
LR Report: **CA10046-JUL23**
Reference: Wk#10 - Patriot Tailings- Long - (9.5mm fraction size)

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HC T-83 Wk#10	6: CV5-DMS-HC T-84 Wk#10
Sample Date & Time			6-Jul-23	6-Jul-23
HumCell Leachate Vol [mL]	11-Jul-23	10:11	973	960
pH [No unit]	07-Jul-23	13:39	6.58	6.53
Alkalinity [mg/L as CaCO3]	07-Jul-23	13:39	2	< 2
Conductivity [uS/cm]	07-Jul-23	13:39	4	3
Acidity [mg/L as CaCO3]	07-Jul-23	13:39	2	4
F [mg/L]	10-Jul-23	09:34	< 0.06	< 0.06
SO4 [mg/L]	11-Jul-23	19:57	< 2	< 2
Cl [mg/L]	11-Jul-23	19:57	< 1	< 1
NO2 [as N mg/L]	13-Jul-23	13:22	< 0.03	< 0.03
NO3 [as N mg/L]	13-Jul-23	13:22	< 0.06	< 0.06
Br [mg/L]	13-Jul-23	13:22	< 0.3	< 0.3
Tot.Reactive P [mg/L]	10-Jul-23	09:11	< 0.03	< 0.03
Hg [mg/L]	18-Jul-23	14:34	< 0.00001	< 0.00001
Ag [mg/L]	18-Jul-23	15:42	< 0.00005	< 0.00005
Al [mg/L]	18-Jul-23	15:42	0.031	0.029
As [mg/L]	18-Jul-23	15:42	0.0186	0.0085
Ba [mg/L]	18-Jul-23	15:42	0.00010	0.00011
Be [mg/L]	18-Jul-23	15:42	0.000013	< 0.000007
B [mg/L]	18-Jul-23	15:42	< 0.002	< 0.002
Bi [mg/L]	18-Jul-23	15:42	0.00003	0.00004
Ca [mg/L]	18-Jul-23	15:42	0.54	0.57
Cd [mg/L]	18-Jul-23	15:42	0.000004	< 0.000003
Co [mg/L]	18-Jul-23	15:42	0.000011	0.000010
Cr [mg/L]	18-Jul-23	15:42	< 0.00008	< 0.00008
Cu [mg/L]	18-Jul-23	15:42	0.0003	0.0002

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0003403743

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10046-JUL23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HC T-83 Wk#10	6: CV5-DMS-HC T-84 Wk#10
Fe [mg/L]	18-Jul-23	15:42	0.011	0.009
K [mg/L]	18-Jul-23	15:42	0.209	0.208
Li [mg/L]	18-Jul-23	15:42	0.0026	0.0024
Mg [mg/L]	18-Jul-23	15:42	0.030	0.027
Mn [mg/L]	18-Jul-23	15:42	0.00218	0.00283
Mo [mg/L]	18-Jul-23	15:42	0.00007	0.00039
Na [mg/L]	18-Jul-23	15:42	0.08	0.09
Ni [mg/L]	18-Jul-23	15:42	< 0.0001	< 0.0001
Pb [mg/L]	18-Jul-23	15:42	< 0.00009	< 0.00009
Sb [mg/L]	18-Jul-23	15:42	0.0037	0.0026
Se [mg/L]	18-Jul-23	15:42	< 0.00004	< 0.00004
Sn [mg/L]	18-Jul-23	15:42	< 0.00006	< 0.00006
Sr [mg/L]	18-Jul-23	15:42	0.00148	0.00137
Ti [mg/L]	18-Jul-23	15:42	< 0.00007	< 0.00007
Tl [mg/L]	18-Jul-23	15:42	0.000018	0.000019
U [mg/L]	18-Jul-23	15:42	0.00341	0.00375
V [mg/L]	18-Jul-23	15:42	0.00004	0.00005
W [mg/L]	18-Jul-23	15:42	0.00007	0.00007
Y [mg/L]	18-Jul-23	15:42	< 0.00002	< 0.00002
Zn [mg/L]	18-Jul-23	15:42	< 0.002	< 0.002
Au (tot) [mg/L]	18-Jul-23	15:42	< 0.00001	< 0.00001
Ce (tot) [mg/L]	18-Jul-23	15:42	< 0.00001	< 0.00001
Cs (tot) [mg/L]	18-Jul-23	15:42	0.0020	0.0019
Dy (tot) [mg/L]	18-Jul-23	15:42	< 0.0001	< 0.0001
Er (tot) [mg/L]	18-Jul-23	15:42	< 0.0001	< 0.0001
Eu (tot) [mg/L]	18-Jul-23	15:42	< 0.0001	< 0.0001
Ga (tot) [mg/L]	18-Jul-23	15:42	< 0.0001	0.0001
Gd (tot) [mg/L]	18-Jul-23	15:42	< 0.00001	< 0.00001
Ge (tot) [mg/L]	18-Jul-23	15:42	< 0.0001	< 0.0001
Hf (tot) [mg/L]	18-Jul-23	15:42	< 0.0001	< 0.0001
Ho (tot) [mg/L]	18-Jul-23	15:42	< 0.0001	< 0.0001
In (tot) [mg/L]	18-Jul-23	15:42	< 0.0001	< 0.0001
Ir (tot) [mg/L]	18-Jul-23	15:42	< 0.0001	< 0.0001
La (tot) [mg/L]	18-Jul-23	15:42	< 0.0001	< 0.0001
Lu (tot) [mg/L]	18-Jul-23	15:42	< 0.0001	< 0.0001
Nb (tot) [mg/L]	18-Jul-23	15:42	< 0.0001	< 0.0001
Nd (tot) [mg/L]	18-Jul-23	15:42	< 0.0001	< 0.0001
Os (tot) [mg/L]	18-Jul-23	15:42	< 0.0001	< 0.0001
Pd (tot) [mg/L]	18-Jul-23	15:42	< 0.0001	< 0.0001
Pr (tot) [mg/L]	18-Jul-23	15:42	< 0.0001	< 0.0001
Pt (tot) [mg/L]	18-Jul-23	15:42	< 0.0001	< 0.0001
Rb (tot) [mg/L]	18-Jul-23	15:42	0.0110	0.0111

OnLine LIMS

0003403743

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10046-JUL23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HC T-83 Wk#10	6: CV5-DMS-HC T-84 Wk#10
Re (tot) [mg/L]	18-Jul-23	15:42	< 0.0001	< 0.0001
Rh (tot) [mg/L]	18-Jul-23	15:42	< 0.00001	< 0.00001
Sc (tot) [mg/L]	18-Jul-23	15:42	< 0.0001	< 0.0001
Sm (tot) [mg/L]	18-Jul-23	15:42	< 0.0001	< 0.0001
Ta (tot) [mg/L]	18-Jul-23	15:42	< 0.0001	< 0.0001
Tb (tot) [mg/L]	18-Jul-23	15:42	< 0.0001	< 0.0001
Te (tot) [mg/L]	18-Jul-23	15:42	< 0.0001	< 0.0001
Th (tot) [mg/L]	18-Jul-23	15:42	< 0.0001	< 0.0001
Tm (tot) [mg/L]	18-Jul-23	15:42	< 0.0001	< 0.0001
Yb (tot) [mg/L]	18-Jul-23	15:42	< 0.0001	< 0.0001

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003403743

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

21-August-2023

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 03 August 2023
LR Report: **CA10047-AUG23**
Reference: Wk#14

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#14	6: CV5-DMS-HCT-84 Wk#14
Sample Date & Time			3-Aug-23	3-Aug-23
HumCell Leachate Vol [mL]	08-Aug-23	16:11	978	919
pH [No unit]	04-Aug-23	12:24	6.39	6.41
Alkalinity [mg/L as CaCO3]	04-Aug-23	12:24	< 2	< 2
Conductivity [uS/cm]	04-Aug-23	12:24	4	5
Acidity [mg/L as CaCO3]	09-Aug-23	08:56	3	3
SO4 [mg/L]	09-Aug-23	12:50	< 2	< 2
Tot.Reactive P [mg/L]	04-Aug-23	10:49	< 0.03	< 0.03
Ag [mg/L]	11-Aug-23	14:05	< 0.00005	< 0.00005
Al [mg/L]	11-Aug-23	14:05	0.019	0.019
As [mg/L]	11-Aug-23	14:05	0.0081	0.0052
Ba [mg/L]	11-Aug-23	14:05	< 0.00008	0.00008
Be [mg/L]	11-Aug-23	14:05	0.000009	< 0.000007
B [mg/L]	11-Aug-23	14:05	< 0.002	< 0.002
Bi [mg/L]	11-Aug-23	14:05	0.00002	0.00003
Ca [mg/L]	11-Aug-23	14:05	0.35	0.37
Cd [mg/L]	11-Aug-23	14:05	< 0.000003	< 0.000003
Co [mg/L]	11-Aug-23	14:05	0.000010	0.000012
Cr [mg/L]	11-Aug-23	14:05	< 0.00008	0.00010
Cu [mg/L]	11-Aug-23	14:05	0.0007	0.0004
Fe [mg/L]	11-Aug-23	14:05	0.060	0.058
K [mg/L]	11-Aug-23	14:05	0.139	0.149
Li [mg/L]	11-Aug-23	14:05	0.0013	0.0014
Mg [mg/L]	11-Aug-23	14:05	0.018	0.018
Mn [mg/L]	11-Aug-23	14:05	0.00155	0.00228
Mo [mg/L]	11-Aug-23	14:05	0.00023	0.00072
Na [mg/L]	11-Aug-23	14:05	0.08	0.08
Ni [mg/L]	11-Aug-23	14:05	0.0008	0.0008
Pb [mg/L]	11-Aug-23	14:05	< 0.00009	< 0.00009
Sb [mg/L]	11-Aug-23	14:05	0.0020	0.0018
Se [mg/L]	11-Aug-23	14:05	< 0.00004	< 0.00004
Sn [mg/L]	11-Aug-23	14:05	< 0.00006	< 0.00006
Sr [mg/L]	11-Aug-23	14:05	0.00095	0.00101
Ti [mg/L]	11-Aug-23	14:05	< 0.00007	< 0.00007

OnLine LIMS

0003439823

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10047-AUG23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#14	6: CV5-DMS-HCT-84 Wk#14
Tl [mg/L]	11-Aug-23	14:05	0.000015	0.000015
U [mg/L]	11-Aug-23	14:05	0.00130	0.00149
V [mg/L]	11-Aug-23	14:05	0.00003	0.00003
W [mg/L]	11-Aug-23	14:05	0.00003	0.00003
Y [mg/L]	11-Aug-23	14:05	< 0.00002	< 0.00002
Zn [mg/L]	11-Aug-23	14:05	0.002	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0003439823

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

20-July-2023

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 06 July 2023
LR Report: **CA10047-JUL23**
Reference: Wk#10

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#10	6: CV5-WR-HCT-5 Wk#10	7: CV5-WR-HCT-5 (DUP) Wk#10	8: CV5-WR-HCT-1 4 Wk#10	9: CV5-WR-HCT-2 2 Wk#10	10: CV5-WR-HCT-3 3 Wk#10
Sample Date & Time			6-Jul-23	6-Jul-23	6-Jul-23	6-Jul-23	6-Jul-23	6-Jul-23
HumCell Leachate Vol [mL]	11-Jul-23	10:11	902	897	922	957	927	1001
pH [No unit]	10-Jul-23	11:53	6.96	7.25	7.15	8.10	7.19	7.29
Alkalinity [mg/L as CaCO3]	10-Jul-23	11:53	4	6	5	14	4	9
Conductivity [uS/cm]	10-Jul-23	11:53	43	28	25	39	18	24
Acidity [mg/L as CaCO3]	10-Jul-23	11:53	7	< 2	< 2	< 2	< 2	< 2
F [mg/L]	10-Jul-23	09:34	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
SO4 [mg/L]	13-Jul-23	15:29	12	6	6	4	3	< 2
Cl [mg/L]	13-Jul-23	15:29	4	< 1	< 1	< 1	< 1	< 1
NO2 [as N mg/L]	20-Jul-23	08:55	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	14-Jul-23	15:43	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	14-Jul-23	15:43	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Tot.Reactive P [mg/L]	10-Jul-23	09:11	< 0.03	0.08	0.05	< 0.03	0.08	< 0.03
Hg [mg/L]	18-Jul-23	14:34	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	18-Jul-23	15:49	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	18-Jul-23	15:49	0.040	0.027	0.033	0.101	0.038	0.051
As [mg/L]	18-Jul-23	15:49	0.0067	0.536	0.337	0.0730	0.349	0.0106
Ba [mg/L]	18-Jul-23	15:49	0.00048	0.00143	0.00026	0.00018	0.00014	0.00023
Be [mg/L]	18-Jul-23	15:49	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	18-Jul-23	15:49	0.010	0.006	0.006	0.002	0.007	0.002
Bi [mg/L]	18-Jul-23	15:49	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	18-Jul-23	15:49	5.37	3.96	3.48	6.24	2.20	3.26
Cd [mg/L]	18-Jul-23	15:49	< 0.000003	0.000038	< 0.000003	< 0.000003	0.000005	0.000004
Co [mg/L]	18-Jul-23	15:49	0.000088	0.000155	0.000227	0.000050	0.000133	0.000057
Cr [mg/L]	18-Jul-23	15:49	< 0.00008	< 0.00008	< 0.00008	< 0.00008	0.00012	< 0.00008
Cu [mg/L]	18-Jul-23	15:49	0.0005	0.0007	< 0.0002	0.0002	0.0006	0.0003
Fe [mg/L]	18-Jul-23	15:49	0.022	0.035	0.021	0.019	0.020	0.012
K [mg/L]	18-Jul-23	15:49	0.732	0.324	0.269	0.088	0.138	0.173
Li [mg/L]	18-Jul-23	15:49	0.0312	0.0401	0.0382	0.0065	0.0187	0.0112
Mg [mg/L]	18-Jul-23	15:49	0.946	0.736	0.571	0.442	0.398	0.283
Mn [mg/L]	18-Jul-23	15:49	0.00228	0.00227	0.00257	0.00445	0.00063	0.00782
Mo [mg/L]	18-Jul-23	15:49	0.00075	0.00005	0.00011	0.00010	0.00082	0.00011
Na [mg/L]	18-Jul-23	15:49	0.87	0.34	0.33	0.59	0.79	0.40
Ni [mg/L]	18-Jul-23	15:49	0.0003	0.0016	0.0012	0.0002	0.0004	< 0.0001

OnLine LIMS

0003406349

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10047-JUL23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#10	6: CV5-WR-HCT-5 Wk#10	7: CV5-WR-HCT-5 (DUP) Wk#10	8: CV5-WR-HCT-1 4 Wk#10	9: CV5-WR-HCT-2 2 Wk#10	10: CV5-WR-HCT-3 3 Wk#10
Pb [mg/L]	18-Jul-23	15:49	< 0.00009	0.00026	< 0.00009	< 0.00009	< 0.00009	0.00011
Sb [mg/L]	18-Jul-23	15:49	0.0066	0.134	0.0841	0.0147	0.0209	0.0079
Se [mg/L]	18-Jul-23	15:49	0.00044	0.00011	0.00009	0.00009	< 0.00004	0.00015
Sn [mg/L]	18-Jul-23	15:49	0.00006	0.00008	< 0.00006	0.00006	< 0.00006	0.00007
Sr [mg/L]	18-Jul-23	15:49	0.0232	0.0128	0.0122	0.00778	0.00876	0.00465
Ti [mg/L]	18-Jul-23	15:49	0.00047	0.00027	0.00019	0.00020	0.00037	0.00017
Tl [mg/L]	18-Jul-23	15:49	< 0.000005	< 0.000005	< 0.000005	< 0.000005	0.000007	< 0.000005
U [mg/L]	18-Jul-23	15:49	0.000155	0.000031	0.000065	0.001404	0.000186	0.000192
V [mg/L]	18-Jul-23	15:49	0.00041	0.00100	0.00095	0.00403	0.00198	0.00122
W [mg/L]	18-Jul-23	15:49	0.00023	0.00028	0.00056	0.00006	0.00021	0.00020
Y [mg/L]	18-Jul-23	15:49	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	18-Jul-23	15:49	< 0.002	0.004	< 0.002	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	18-Jul-23	15:49	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	18-Jul-23	15:49	0.00001	< 0.00001	< 0.00001	0.00001	0.00004	< 0.00001
Cs (tot) [mg/L]	18-Jul-23	15:49	0.0114	0.0158	0.0152	0.0025	0.0063	0.0070
Dy (tot) [mg/L]	18-Jul-23	15:49	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Er (tot) [mg/L]	18-Jul-23	15:49	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Eu (tot) [mg/L]	18-Jul-23	15:49	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ga (tot) [mg/L]	18-Jul-23	15:49	< 0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001	0.0001
Gd (tot) [mg/L]	18-Jul-23	15:49	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	18-Jul-23	15:49	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	18-Jul-23	15:49	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	18-Jul-23	15:49	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
In (tot) [mg/L]	18-Jul-23	15:49	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ir (tot) [mg/L]	18-Jul-23	15:49	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
La (tot) [mg/L]	18-Jul-23	15:49	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Lu (tot) [mg/L]	18-Jul-23	15:49	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	18-Jul-23	15:49	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nd (tot) [mg/L]	18-Jul-23	15:49	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Os (tot) [mg/L]	18-Jul-23	15:49	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	18-Jul-23	15:49	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	18-Jul-23	15:49	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pt (tot) [mg/L]	18-Jul-23	15:49	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	18-Jul-23	15:49	0.0094	0.0074	0.0063	0.0008	0.0029	0.0014
Re (tot) [mg/L]	18-Jul-23	15:49	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	18-Jul-23	15:49	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	18-Jul-23	15:49	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	18-Jul-23	15:49	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ta (tot) [mg/L]	18-Jul-23	15:49	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	18-Jul-23	15:49	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Te (tot) [mg/L]	18-Jul-23	15:49	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	18-Jul-23	15:49	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	18-Jul-23	15:49	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Yb (tot) [mg/L]	18-Jul-23	15:49	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001

Analysis	11: CV5-WR-HCT-3 6 Wk#10	12: CV5-WR-HCT-3 9 Wk#10	13: CV5-WR-HCT-5 0 Wk#10	14: CV5-WR-HCT-5 6 Wk#10	15: CV5-WR-HCT-5 9 Wk#10	16: CV5-WR-HCT-6 2 Wk#10	17: CV5-WR-HCT-6 4 Wk#10	18: CV5-WR-HCT-6 9 Wk#10
Sample Date & Time	6-Jul-23	6-Jul-23	6-Jul-23	6-Jul-23	6-Jul-23	6-Jul-23	6-Jul-23	6-Jul-23
HumCell Leachate Vol [mL]	952	972	1010	1014	984	981	1004	1014
pH [No unit]	7.64	6.97	7.53	8.04	7.05	7.69	7.16	7.77

OnLine LIMS

00034063 49

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10047-JUL23**

Analysis	11: CV5-WR-HCT-3 6 Wk#10	12: CV5-WR-HCT-3 9 Wk#10	13: CV5-WR-HCT-5 0 Wk#10	14: CV5-WR-HCT-5 6 Wk#10	15: CV5-WR-HCT-5 9 Wk#10	16: CV5-WR-HCT-6 2 Wk#10	17: CV5-WR-HCT-6 4 Wk#10	18: CV5-WR-HCT-6 9 Wk#10
Alkalinity [mg/L as CaCO3]	7	3	15	10	3	10	7	10
Conductivity [uS/cm]	27	28	64	31	24	31	18	26
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	2	< 2	< 2	< 2
F [mg/L]	< 0.06	0.14	0.37	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
SO4 [mg/L]	2	7	11	3	4	< 2	< 2	< 2
Cl [mg/L]	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
NO2 [as N mg/L]	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Tot.Reactive P [mg/L]	1.22	< 0.03	< 0.03	< 0.03	0.21	0.73	< 0.03	< 0.03
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.004	0.027	0.092	0.040	0.007	0.002	0.030	0.160
As [mg/L]	3.79	0.0395	0.0273	0.0249	0.947	2.53	0.0327	0.0212
Ba [mg/L]	0.00098	0.00032	0.00063	0.00110	0.00033	0.00097	0.00017	0.00019
Be [mg/L]	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	0.000014	0.000129
B [mg/L]	0.026	0.004	0.002	0.006	0.002	0.004	0.002	0.003
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00053
Ca [mg/L]	3.91	3.26	10.4	4.45	2.67	4.34	2.69	4.37
Cd [mg/L]	< 0.000003	0.000015	0.000041	< 0.000003	< 0.000003	< 0.000003	0.000005	< 0.000003
Co [mg/L]	0.000215	0.000188	0.001681	0.000090	0.000643	0.000297	0.000019	0.000021
Cr [mg/L]	0.00013	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	< 0.0002	0.0006	0.0002	0.0002	< 0.0002	< 0.0002	< 0.0002	0.0004
Fe [mg/L]	0.013	0.016	0.015	0.022	0.023	0.017	0.009	0.016
K [mg/L]	0.091	0.486	0.939	0.946	0.161	0.095	0.848	0.257
Li [mg/L]	0.0067	0.0225	0.0204	0.0124	0.0051	0.0010	0.0095	0.0073
Mg [mg/L]	0.958	0.513	0.504	0.532	0.726	1.25	0.177	0.142
Mn [mg/L]	0.00230	0.00231	0.0104	0.0163	0.00183	0.00369	0.00723	0.00377
Mo [mg/L]	0.00011	0.00052	0.00090	0.00018	0.00022	0.00020	0.00010	0.00009
Na [mg/L]	0.14	0.44	0.21	0.33	0.25	0.12	0.18	0.38
Ni [mg/L]	0.0147	0.0004	0.0013	< 0.0001	0.0067	0.0239	< 0.0001	< 0.0001
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.950	0.0350	0.104	< 0.0009	0.0167	1.95	0.0057	0.0059
Se [mg/L]	0.00007	0.00006	0.00108	< 0.00004	0.00008	0.00015	< 0.00004	0.00009
Sn [mg/L]	0.00013	< 0.00006	0.00008	< 0.00006	< 0.00006	< 0.00006	0.00009	0.00009
Sr [mg/L]	0.00762	0.0122	0.0118	0.00723	0.0151	0.00468	0.00544	0.00937
Ti [mg/L]	< 0.00007	0.00010	0.00011	0.00012	0.00013	< 0.00007	< 0.00007	< 0.00007
Tl [mg/L]	< 0.000005	0.000008	0.000031	< 0.000005	< 0.000005	< 0.000005	0.000093	0.000013
U [mg/L]	0.000439	0.000446	0.002750	0.001136	0.001307	0.000117	0.004282	0.012015
V [mg/L]	0.00044	0.00051	0.00039	0.00081	0.00093	0.00037	0.00006	0.00026
W [mg/L]	0.00022	0.00015	0.00011	0.00043	0.00083	0.00029	0.00021	0.00024
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	0.004	< 0.002	0.002	< 0.002	0.002	< 0.002
Au (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	< 0.00001	< 0.00001	0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Cs (tot) [mg/L]	0.0160	0.0037	0.0720	0.0301	0.0138	0.0041	0.0194	0.0041
Dy (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Er (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Eu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ga (tot) [mg/L]	< 0.0001	< 0.0001	0.0003	< 0.0001	< 0.0001	< 0.0001	0.0003	0.0005
Gd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001

OnLine LIMS

0003406349

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10047-JUL23**

Analysis	11: CV5-WR-HCT-36 Wk#10	12: CV5-WR-HCT-39 Wk#10	13: CV5-WR-HCT-50 Wk#10	14: CV5-WR-HCT-56 Wk#10	15: CV5-WR-HCT-59 Wk#10	16: CV5-WR-HCT-62 Wk#10	17: CV5-WR-HCT-64 Wk#10	18: CV5-WR-HCT-69 Wk#10
Hf (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
In (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ir (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
La (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Lu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Os (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pt (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	0.0030	0.0038	0.0272	0.0029	0.0051	0.0019	0.0474	0.0103
Re (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ta (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Te (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Yb (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001

Analysis	19: CV5-ORE-HCT-74 Wk#10	20: CV5-ORE-HCT-76 Wk#10
Sample Date & Time	6-Jul-23	6-Jul-23
HumCell Leachate Vol [mL]	986	960
pH [No unit]	7.09	7.46
Alkalinity [mg/L as CaCO3]	5	9
Conductivity [uS/cm]	15	23
Acidity [mg/L as CaCO3]	< 2	< 2
F [mg/L]	< 0.06	< 0.06
SO4 [mg/L]	< 2	< 2
Cl [mg/L]	< 1	< 1
NO2 [as N mg/L]	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06
Br [mg/L]	< 0.3	< 0.3
Tot.Reactive P [mg/L]	0.04	< 0.03
Hg [mg/L]	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005
Al [mg/L]	0.034	0.047
As [mg/L]	0.0379	0.0112
Ba [mg/L]	0.00010	0.00011
Be [mg/L]	< 0.000007	0.000056
B [mg/L]	< 0.002	0.004
Bi [mg/L]	< 0.00001	0.00015
Ca [mg/L]	1.62	3.30
Cd [mg/L]	0.000003	< 0.000003
Co [mg/L]	0.000016	0.000018

OnLine LIMS

0003406349

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10047-JUL23**

Analysis	19: CV5-ORE-HCT-74 Wk#10	20: CV5-ORE-HCT-76 Wk#10
Cr [mg/L]	< 0.00008	< 0.00008
Cu [mg/L]	< 0.0002	0.0006
Fe [mg/L]	0.017	0.018
K [mg/L]	0.366	0.854
Li [mg/L]	0.0262	0.0187
Mg [mg/L]	0.047	0.196
Mn [mg/L]	0.0381	0.00344
Mo [mg/L]	0.00011	0.00021
Na [mg/L]	0.30	0.28
Ni [mg/L]	< 0.0001	< 0.0001
Pb [mg/L]	< 0.00009	< 0.00009
Sb [mg/L]	0.0326	0.0031
Se [mg/L]	< 0.00004	< 0.00004
Sn [mg/L]	0.00007	0.00007
Sr [mg/L]	0.00272	0.00886
Ti [mg/L]	< 0.00007	< 0.00007
Tl [mg/L]	0.000056	0.000042
U [mg/L]	0.006351	0.004507
V [mg/L]	0.00002	0.00012
W [mg/L]	0.00014	0.00030
Y [mg/L]	< 0.00002	< 0.00002
Zn [mg/L]	0.002	< 0.002
Au (tot) [mg/L]	< 0.00001	< 0.00001
Ce (tot) [mg/L]	< 0.00001	< 0.00001
Cs (tot) [mg/L]	0.0203	0.0118
Dy (tot) [mg/L]	< 0.0001	< 0.0001
Er (tot) [mg/L]	< 0.0001	< 0.0001
Eu (tot) [mg/L]	< 0.0001	< 0.0001
Ga (tot) [mg/L]	0.0004	0.0003
Gd (tot) [mg/L]	< 0.00001	< 0.00001
Ge (tot) [mg/L]	< 0.0001	< 0.0001
Hf (tot) [mg/L]	< 0.0001	< 0.0001
Ho (tot) [mg/L]	< 0.0001	< 0.0001
In (tot) [mg/L]	< 0.0001	< 0.0001
Ir (tot) [mg/L]	< 0.0001	< 0.0001
La (tot) [mg/L]	< 0.0001	< 0.0001
Lu (tot) [mg/L]	< 0.0001	< 0.0001
Nb (tot) [mg/L]	< 0.0001	< 0.0001
Nd (tot) [mg/L]	< 0.0001	< 0.0001
Os (tot) [mg/L]	< 0.0001	< 0.0001
Pd (tot) [mg/L]	< 0.0001	< 0.0001
Pr (tot) [mg/L]	< 0.0001	< 0.0001
Pt (tot) [mg/L]	< 0.0001	< 0.0001
Rb (tot) [mg/L]	0.0346	0.0212
Re (tot) [mg/L]	< 0.0001	< 0.0001
Rh (tot) [mg/L]	< 0.00001	< 0.00001
Sc (tot) [mg/L]	< 0.0001	< 0.0001
Sm (tot) [mg/L]	< 0.0001	< 0.0001
Ta (tot) [mg/L]	< 0.0001	< 0.0001
Tb (tot) [mg/L]	< 0.0001	< 0.0001
Te (tot) [mg/L]	< 0.0001	< 0.0001
Th (tot) [mg/L]	< 0.0001	< 0.0001

OnLine LIMS

0003406349

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10047-JUL23**

Analysis	19: CV5-ORE-HCT-74 Wk#10	20: CV5-ORE-HCT-76 Wk#10
Tm (tot) [mg/L]	< 0.0001	< 0.0001
Yb (tot) [mg/L]	< 0.0001	< 0.0001

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

17-May-2023

Patriot Battery Metals Inc
Attn : Darren Smith

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 04 May 2023
LR Report: **CA10047-MAY23**
Reference: Wk#1 - Patriot Tailings- Long - (9.5mm fraction size)

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HC T-83 Wk#1	6: CV5-DMS-HC T-84 Wk#1
Sample Date & Time			04-May-23	04-May-23
HumCell Leachate Vol [mL]	04-May-23	18:10	987	959
pH [No unit]	09-May-23	11:00	6.84	6.86
Alkalinity [mg/L as CaCO3]	09-May-23	11:00	3	4
Conductivity [uS/cm]	09-May-23	11:00	14	16
Acidity [mg/L as CaCO3]	09-May-23	11:00	< 2	< 2
F [mg/L]	05-May-23	10:49	< 0.06	< 0.06
SO4 [mg/L]	11-May-23	15:20	< 2	< 2
Cl [mg/L]	11-May-23	15:20	< 1	< 1
NO2 [as N mg/L]	09-May-23	12:45	< 0.03	< 0.03
NO3 [as N mg/L]	09-May-23	12:45	< 0.06	< 0.06
Br [mg/L]	09-May-23	12:45	< 0.3	< 0.3
Tot.Reactive P [mg/L]	12-May-23	09:38	< 0.03	< 0.03
Hg [mg/L]	09-May-23	09:56	< 0.00001	< 0.00001
Ag [mg/L]	11-May-23	14:00	< 0.00005	< 0.00005
Al [mg/L]	11-May-23	14:00	0.045	0.047
As [mg/L]	11-May-23	14:00	0.0909	0.0448
Ba [mg/L]	11-May-23	14:00	0.00027	0.00022
Be [mg/L]	11-May-23	14:00	0.000028	0.000027
B [mg/L]	11-May-23	14:00	0.005	0.007
Bi [mg/L]	11-May-23	14:00	0.00011	0.00011
Ca [mg/L]	11-May-23	14:00	1.33	1.42
Cd [mg/L]	11-May-23	14:00	< 0.000003	< 0.000003
Co [mg/L]	11-May-23	14:00	0.000049	0.000060
Cr [mg/L]	11-May-23	14:00	0.00010	0.00012
Cu [mg/L]	11-May-23	14:00	0.0010	0.0010

OnLine LIMS

0003335919

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10047-MAY23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#1	6: CV5-DMS-HCT-84 Wk#1
Fe [mg/L]	11-May-23	14:00	< 0.007	< 0.007
K [mg/L]	11-May-23	14:00	0.726	0.773
Li [mg/L]	11-May-23	14:00	0.0424	0.0466
Mg [mg/L]	11-May-23	14:00	0.075	0.079
Mn [mg/L]	11-May-23	14:00	0.00263	0.00302
Mo [mg/L]	11-May-23	14:00	0.00164	0.00125
Na [mg/L]	11-May-23	14:00	1.15	1.20
Ni [mg/L]	11-May-23	14:00	0.0003	0.0004
Pb [mg/L]	11-May-23	14:00	< 0.00009	< 0.00009
Sb [mg/L]	11-May-23	14:00	0.0117	0.0099
Se [mg/L]	11-May-23	14:00	0.00014	< 0.00004
Sn [mg/L]	11-May-23	14:00	0.00032	0.00020
Sr [mg/L]	11-May-23	14:00	0.00321	0.00356
Ti [mg/L]	11-May-23	14:00	0.00006	< 0.00005
Tl [mg/L]	11-May-23	14:00	0.000037	0.000041
U [mg/L]	11-May-23	14:00	0.0166	0.0174
V [mg/L]	11-May-23	14:00	0.00018	0.00012
W [mg/L]	11-May-23	14:00	0.00126	0.00126
Y [mg/L]	11-May-23	14:00	< 0.00002	< 0.00002
Zn [mg/L]	11-May-23	14:00	0.014	0.008
Au (tot) [mg/L]	11-May-23	14:00	< 0.00001	< 0.00001
Ce (tot) [mg/L]	16-May-23	15:18	0.00004	0.00004
Cs (tot) [mg/L]	11-May-23	14:00	0.0031	0.0035
Dy (tot) [mg/L]	16-May-23	15:18	< 0.0001	< 0.0001
Er (tot) [mg/L]	16-May-23	15:18	< 0.0001	< 0.0001
Eu (tot) [mg/L]	16-May-23	15:18	< 0.0001	< 0.0001
Ga (tot) [mg/L]	16-May-23	15:18	0.0002	0.0002
Gd (tot) [mg/L]	16-May-23	15:18	< 0.00001	< 0.00001
Ge (tot) [mg/L]	16-May-23	15:18	< 0.0001	< 0.0001
Hf (tot) [mg/L]	11-May-23	14:00	< 0.0001	< 0.0001
Ho (tot) [mg/L]	16-May-23	15:18	< 0.0001	< 0.0001
In (tot) [mg/L]	16-May-23	15:18	< 0.0001	< 0.0001
Ir (tot) [mg/L]	16-May-23	15:18	< 0.0001	< 0.0001
La (tot) [mg/L]	16-May-23	15:18	< 0.0001	< 0.0001
Lu (tot) [mg/L]	16-May-23	15:18	< 0.0001	< 0.0001
Nb (tot) [mg/L]	11-May-23	14:00	< 0.0001	< 0.0001
Nd (tot) [mg/L]	16-May-23	15:18	< 0.0001	< 0.0001
Os (tot) [mg/L]	16-May-23	15:18	< 0.0001	< 0.0001
Pd (tot) [mg/L]	11-May-23	14:00	< 0.0001	< 0.0001
Pr (tot) [mg/L]	16-May-23	15:18	< 0.0001	< 0.0001
Pt (tot) [mg/L]	11-May-23	14:00	< 0.0001	< 0.0001
Rb (tot) [mg/L]	11-May-23	14:00	0.0343	0.0373

OnLine LIMS

0003335919

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10047-MAY23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HC T-83 Wk#1	6: CV5-DMS-HC T-84 Wk#1
Re (tot) [mg/L]	16-May-23	15:19	< 0.0001	< 0.0001
Rh (tot) [mg/L]	11-May-23	14:00	< 0.00001	< 0.00001
Sc (tot) [mg/L]	16-May-23	15:19	< 0.0001	< 0.0001
Sm (tot) [mg/L]	16-May-23	15:19	< 0.0001	< 0.0001
Ta (tot) [mg/L]	11-May-23	14:00	< 0.0001	< 0.0001
Tb (tot) [mg/L]	16-May-23	15:19	< 0.0001	< 0.0001
Te (tot) [mg/L]	11-May-23	14:00	< 0.0001	< 0.0001
Th (tot) [mg/L]	11-May-23	14:00	< 0.0001	< 0.0001
Tm (tot) [mg/L]	16-May-23	15:19	< 0.0001	< 0.0001
Yb (tot) [mg/L]	16-May-23	15:19	< 0.0001	< 0.0001

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003335919

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

07-September-2023

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 03 August 2023
LR Report: **CA10048-AUG23**
Reference: Wk#14

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#14	6: CV5-WR-HCT-5 Wk#14	7: CV5-WR-HCT-5 (DUP) Wk#14	8: CV5-WR-HCT-14 Wk#14	9: CV5-WR-HCT-22 Wk#14	10: CV5-WR-HCT-33 Wk#14
Sample Date & Time			3-Aug-23	3-Aug-23	3-Aug-23	3-Aug-23	3-Aug-23	3-Aug-23
HumCell Leachate Vol [mL]	08-Aug-23	16:11	962	937	958	1003	962	1008
pH [No unit]	09-Aug-23	11:27	6.78	7.02	6.90	7.79	6.92	7.25
Alkalinity [mg/L as CaCO3]	04-Aug-23	11:34	3	4	3	16	3	6
Conductivity [uS/cm]	04-Aug-23	11:34	24	20	16	39	11	18
Acidity [mg/L as CaCO3]	04-Aug-23	11:34	2	< 2	< 2	< 2	< 2	< 2
F [mg/L]	08-Aug-23	08:29	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
SO4 [mg/L]	10-Aug-23	13:52	6	3	3	2	< 2	< 2
Tot.Reactive P [mg/L]	04-Aug-23	10:50	< 0.03	0.06	0.03	< 0.03	0.09	< 0.03
Ag [mg/L]	11-Aug-23	13:43	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	11-Aug-23	13:43	0.028	0.023	0.027	0.137	0.034	0.057
As [mg/L]	11-Aug-23	13:43	0.0040	0.273	0.185	0.0729	0.215	0.0044
Ba [mg/L]	11-Aug-23	13:43	0.00030	0.00026	0.00022	0.00019	0.00012	0.00020
Be [mg/L]	11-Aug-23	13:43	< 0.000007	< 0.000007	< 0.000007	< 0.000007	0.000009	< 0.000007
B [mg/L]	11-Aug-23	13:43	0.005	0.004	0.003	0.002	0.003	< 0.002
Bi [mg/L]	11-Aug-23	13:43	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	11-Aug-23	13:43	3.24	2.90	2.36	6.68	1.56	2.79
Cd [mg/L]	11-Aug-23	13:43	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	11-Aug-23	13:43	0.000068	0.000139	0.000186	0.000053	0.000140	0.000045
Cr [mg/L]	22-Aug-23	09:37	< 0.00008	< 0.00008	< 0.00008	< 0.00008	0.00026	< 0.00008
Cr [mg/L]	31-Aug-23	11:44	---	---	---	---	---	---
Cu [mg/L]	22-Aug-23	09:37	0.0003	0.0002	0.0003	0.0004	0.0002	0.0004
Cu [mg/L]	31-Aug-23	11:44	---	---	---	---	---	---
Fe [mg/L]	22-Aug-23	09:37	< 0.007	< 0.007	< 0.007	< 0.007	---	< 0.007
Fe [mg/L]	22-Aug-23	09:37	---	---	---	---	0.010	---
K [mg/L]	11-Aug-23	13:43	0.403	0.193	0.150	0.083	0.085	0.106
Li [mg/L]	11-Aug-23	13:43	0.0138	0.0157	0.0130	0.0061	0.0102	0.0061
Mg [mg/L]	22-Aug-23	09:37	0.404	0.363	0.278	0.422	0.267	0.189
Mn [mg/L]	22-Aug-23	09:37	0.00156	0.00217	0.00224	0.00364	0.00117	0.00609
Mn [mg/L]	31-Aug-23	11:44	---	---	---	---	---	---
Mo [mg/L]	11-Aug-23	13:44	0.00079	0.00014	0.00021	0.00016	0.00051	0.00013
Mo [mg/L]	31-Aug-23	15:01	---	---	---	---	---	---
Na [mg/L]	11-Aug-23	13:44	0.36	0.16	0.14	0.52	0.37	0.24
Ni [mg/L]	22-Aug-23	09:36	0.0002	0.0011	0.0008	0.0003	0.0007	0.0002

OnLine LIMS

00034586669

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : CA10048-AUG23

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#14	6: CV5-WR-HCT-5 Wk#14	7: CV5-WR-HCT-5 (DUP) Wk#14	8: CV5-WR-HCT-1 4 Wk#14	9: CV5-WR-HCT-2 2 Wk#14	10: CV5-WR-HCT-3 3 Wk#14
Pb [mg/L]	22-Aug-23	09:41	< 0.00009	< 0.00009	0.00013	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	22-Aug-23	09:36	0.0037	0.0587	0.0366	0.0140	0.0110	0.0032
Se [mg/L]	22-Aug-23	09:41	0.00018	0.00008	0.00006	0.00020	0.00005	0.00014
Sn [mg/L]	22-Aug-23	09:36	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	0.00011
Sn [mg/L]	31-Aug-23	11:45	---	---	---	---	---	---
Sr [mg/L]	11-Aug-23	13:44	0.0125	0.00786	0.00699	0.00758	0.00586	0.00342
Sr [mg/L]	31-Aug-23	11:45	---	---	---	---	---	---
Ti [mg/L]	11-Aug-23	13:44	0.00017	0.00016	0.00017	0.00038	0.00053	0.00023
Tl [mg/L]	11-Aug-23	13:44	< 0.000005	0.000005	0.000005	< 0.000005	0.000005	< 0.000005
U [mg/L]	11-Aug-23	13:45	0.000082	0.000026	0.000019	0.000098	0.000158	0.00227
U [mg/L]	31-Aug-23	15:01	---	---	---	---	---	---
V [mg/L]	11-Aug-23	13:45	0.00032	0.00066	0.00055	0.00420	0.00128	0.00095
W [mg/L]	11-Aug-23	13:45	0.00008	0.00010	0.00017	0.00004	0.00006	0.00010
Y [mg/L]	11-Aug-23	13:45	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	11-Aug-23	13:45	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002

Analysis	11: CV5-WR-HCT-3 6 Wk#14	12: CV5-WR-HCT-3 9 Wk#14	13: CV5-WR-HCT-5 0 Wk#14	14: CV5-WR-HCT-5 6 Wk#14	15: CV5-WR-HCT-5 9 Wk#14	16: CV5-WR-HCT-6 2 Wk#14	17: CV5-WR-HCT-6 4 Wk#14	18: CV5-WR-HCT-6 9 Wk#14
Sample Date & Time	3-Aug-23	3-Aug-23	3-Aug-23	3-Aug-23	3-Aug-23	3-Aug-23	3-Aug-23	3-Aug-23
HumCell Leachate Vol [mL]	977	954	1016	940	927	914	936	977
pH [No unit]	7.29	6.61	7.36	7.45	6.80	7.39	7.20	7.26
Alkalinity [mg/L as CaCO3]	7	2	13	8	2	8	3	7
Conductivity [uS/cm]	22	23	58	28	21	24	6	15
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	3	< 2	< 2	< 2
F [mg/L]	< 0.06	0.13	0.34	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
SO4 [mg/L]	< 2	6	10	4	4	< 2	< 2	< 2
Tot.Reactive P [mg/L]	0.91	< 0.03	< 0.03	< 0.03	0.21	0.34	0.04	< 0.03
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.003	0.024	0.077	0.044	0.019	0.001	0.036	0.096
As [mg/L]	2.57	0.0285	0.0222	0.0174	0.658	1.16	0.0141	0.0092
Ba [mg/L]	0.00072	0.00030	0.00051	0.00063	0.00032	0.00065	0.00013	0.00018
Be [mg/L]	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	0.000022	0.000178
B [mg/L]	0.017	0.003	0.002	0.004	< 0.002	0.003	< 0.002	0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00033
Ca [mg/L]	3.22	2.90	10.0	4.20	2.86	3.59	1.13	2.88
Cd [mg/L]	< 0.000003	0.000006	0.000035	0.000003	< 0.000003	< 0.000003	0.000003	< 0.000003
Co [mg/L]	0.000211	0.000179	0.00146	0.000063	0.000696	0.000254	0.000039	0.000058
Cr [mg/L]	0.00037	< 0.00008	---	< 0.00008	0.00041	0.00012	< 0.00008	0.00016
Cr [mg/L]	---	---	< 0.00008	---	---	---	---	---
Cu [mg/L]	0.0012	0.0002	---	0.0005	0.0006	0.0008	0.0002	0.0006
Cu [mg/L]	---	---	< 0.0002	---	---	---	---	---
Fe [mg/L]	---	< 0.007	---	---	0.024	0.042	< 0.007	---
Fe [mg/L]	< 0.007	---	< 0.007	< 0.007	---	< 0.007	---	< 0.007
K [mg/L]	0.068	0.357	0.644	0.692	0.101	0.057	0.433	0.159
Li [mg/L]	0.0043	0.0164	0.0147	0.0081	0.0029	0.0005	0.0036	0.0045
Mg [mg/L]	0.751	0.420	0.339	0.461	0.530	0.834	0.074	0.087
Mn [mg/L]	0.00311	0.00185	---	0.0149	0.00191	0.00380	0.00317	0.00491
Mn [mg/L]	---	---	0.00899	---	---	---	---	---
Mo [mg/L]	0.00033	0.00040	0.00086	0.00037	0.00037	0.00020	0.00033	0.00022
Mo [mg/L]	---	---	---	---	0.00029	---	---	---

OnLine LIMS

00034586669

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10048-AUG23**

Analysis	11: CV5-WR-HCT-36 Wk#14	12: CV5-WR-HCT-39 Wk#14	13: CV5-WR-HCT-50 Wk#14	14: CV5-WR-HCT-56 Wk#14	15: CV5-WR-HCT-59 Wk#14	16: CV5-WR-HCT-62 Wk#14	17: CV5-WR-HCT-64 Wk#14	18: CV5-WR-HCT-69 Wk#14
Na [mg/L]	0.10	0.31	0.20	0.24	0.17	0.07	0.11	0.29
Ni [mg/L]	0.0113	0.0004	0.0118	0.0003	0.0045	0.0084	0.0001	0.0006
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.790	0.0235	0.0703	< 0.0009	0.0083	1.14	0.0023	0.0036
Se [mg/L]	0.00007	0.00009	0.00092	0.00006	0.00005	0.00022	< 0.00004	< 0.00004
Sn [mg/L]	0.00007	< 0.00006	---	< 0.00006	0.00009	< 0.00006	0.00009	0.00008
Sn [mg/L]	---	---	< 0.00006	---	---	---	---	---
Sr [mg/L]	0.00546	0.0104	0.0103	0.00580	0.0150	0.00347	0.00204	0.00623
Sr [mg/L]	---	---	0.0103	---	---	---	---	---
Ti [mg/L]	< 0.00007	0.00021	0.00012	0.00015	0.00065	< 0.00007	< 0.00007	< 0.00007
Tl [mg/L]	0.000005	0.000006	0.000031	< 0.000005	< 0.000005	< 0.000005	0.000061	0.000012
U [mg/L]	0.000018	0.000600	0.00372	0.000387	0.000267	0.000085	0.00133	0.00828
U [mg/L]	---	---	---	---	0.000291	---	---	---
V [mg/L]	0.00033	0.00039	0.00032	0.00065	0.00064	0.00027	0.00003	0.00011
W [mg/L]	0.00014	0.00011	0.00008	0.00013	0.00040	0.00012	0.00007	0.00012
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	0.003	0.005	< 0.002	0.002	< 0.002	0.005	0.004

Analysis	19: CV5-ORE-HCT-74 Wk#14	20: CV5-ORE-HCT-76 Wk#14
Sample Date & Time	3-Aug-23	3-Aug-23
HumCell Leachate Vol [mL]	985	939
pH [No unit]	6.88	7.24
Alkalinity [mg/L as CaCO3]	3	7
Conductivity [uS/cm]	8	17
Acidity [mg/L as CaCO3]	< 2	< 2
F [mg/L]	< 0.06	< 0.06
SO4 [mg/L]	< 2	< 2
Tot.Reactive P [mg/L]	0.03	0.03
Ag [mg/L]	< 0.00005	< 0.00005
Al [mg/L]	0.033	0.048
As [mg/L]	0.0255	0.0077
Ba [mg/L]	0.00008	0.00014
Be [mg/L]	< 0.000007	0.000064
B [mg/L]	< 0.002	0.003
Bi [mg/L]	< 0.00001	0.00011
Ca [mg/L]	1.31	2.70
Cd [mg/L]	0.000005	< 0.000003
Co [mg/L]	0.000014	0.000030
Cr [mg/L]	< 0.00008	0.00050
Cr [mg/L]	---	---
Cu [mg/L]	0.0004	0.0008
Cu [mg/L]	---	---
Fe [mg/L]	0.007	---
Fe [mg/L]	---	0.048
K [mg/L]	0.239	0.630
Li [mg/L]	0.0162	0.0128
Mg [mg/L]	0.033	0.153
Mn [mg/L]	0.0316	0.00345
Mn [mg/L]	---	---

OnLine LIMS

00034586669

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10048-AUG23**

Analysis	19: CV5-ORE-HCT-74 Wk#14	20: CV5-ORE-HCT-76 Wk#14
Mo [mg/L]	0.00022	0.00015
Mo [mg/L]	---	---
Na [mg/L]	0.22	0.22
Ni [mg/L]	< 0.0001	0.0011
Pb [mg/L]	< 0.00009	< 0.00009
Sb [mg/L]	0.0253	0.0024
Se [mg/L]	< 0.00004	< 0.00004
Sn [mg/L]	< 0.00006	0.00007
Sn [mg/L]	---	---
Sr [mg/L]	0.00197	0.00697
Sr [mg/L]	---	---
Ti [mg/L]	< 0.00007	< 0.00007
Tl [mg/L]	0.000041	0.000032
U [mg/L]	0.00398	0.00217
U [mg/L]	---	---
V [mg/L]	0.00003	0.00008
W [mg/L]	0.00009	0.00016
Y [mg/L]	< 0.00002	< 0.00002
Zn [mg/L]	0.005	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003458669

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

17-May-2023

Patriot Battery Metals Inc
Attn : Darren Smith

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 04 May 2023
LR Report: **CA10048-MAY23**
Reference: Wk#1 - Patriot WR - Long

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#1	6: CV5-WR-HCT-5 Wk#1	7: CV5-WR-HCT-5 (DUP) Wk#1	8: CV5-WR-HCT-14 Wk#1	9: CV5-WR-HCT-22 Wk#1	10: CV5-WR-HCT-33 Wk#1
Sample Date & Time			04-May-23	04-May-23	04-May-23	04-May-23	04-May-23	04-May-23
HumCell Leachate Vol [mL]	04-May-23	18:10	930	927	957	978	939	956
pH [No unit]	09-May-23	11:00	7.75	8.02	7.84	8.63	7.44	8.57
Alkalinity [mg/L as CaCO3]	09-May-23	11:00	8	9	8	24	7	14
Conductivity [uS/cm]	09-May-23	11:00	50	40	36	81	31	37
Acidity [mg/L as CaCO3]	09-May-23	11:00	< 2	< 2	< 2	< 2	< 2	< 2
F [mg/L]	05-May-23	10:50	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
SO4 [mg/L]	11-May-23	15:21	8	6	5	6	3	< 2
Cl [mg/L]	11-May-23	15:21	7	3	2	10	3	< 1
NO2 [as N mg/L]	09-May-23	12:46	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	09-May-23	12:46	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	09-May-23	12:46	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Tot.Reactive P [mg/L]	12-May-23	09:38	< 0.03	0.05	0.03	< 0.03	< 0.03	< 0.03
Hg [mg/L]	09-May-23	09:56	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	15-May-23	11:06	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	15-May-23	11:06	0.061	0.042	0.040	0.115	0.040	0.060
As [mg/L]	15-May-23	11:06	0.0036	0.324	0.233	0.0817	0.180	0.0041
Ba [mg/L]	15-May-23	11:06	0.00043	0.00048	0.00039	0.00038	0.00014	0.00032
Be [mg/L]	15-May-23	11:06	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	15-May-23	11:06	0.023	0.025	0.027	0.028	0.016	0.014
Bi [mg/L]	15-May-23	11:06	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	15-May-23	11:06	3.71	3.78	3.35	7.08	2.86	4.08
Cd [mg/L]	15-May-23	11:06	< 0.000003	< 0.000003	< 0.000003	< 0.000003	0.000005	< 0.000003
Co [mg/L]	15-May-23	11:06	0.000040	0.000100	0.000079	0.000052	0.000053	0.000042
Cr [mg/L]	15-May-23	11:06	0.00017	0.00038	< 0.00008	0.00012	0.00017	0.00016
Cu [mg/L]	15-May-23	11:06	0.0004	0.0004	0.0003	< 0.0002	0.0004	0.0007
Fe [mg/L]	15-May-23	11:06	0.007	0.008	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	15-May-23	11:06	1.20	0.634	0.604	0.389	0.266	0.551
Li [mg/L]	15-May-23	11:06	0.0463	0.170	0.137	0.0166	0.0229	0.0262
Mg [mg/L]	15-May-23	11:06	0.642	0.577	0.514	0.903	0.368	0.335
Mn [mg/L]	15-May-23	11:06	0.00204	0.00355	0.00368	0.00225	0.00078	0.0113
Mo [mg/L]	15-May-23	11:06	0.00064	0.00026	0.00020	0.00036	0.00083	0.00048
Na [mg/L]	15-May-23	11:06	4.56	2.89	2.58	8.65	3.10	3.46
Ni [mg/L]	15-May-23	11:06	0.0004	0.0018	0.0016	0.0006	0.0005	0.0002

OnLine LIMS

0003336084

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10048-MAY23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#1	6: CV5-WR-HCT-5 Wk#1	7: CV5-WR-HCT-5 (DUP) Wk#1	8: CV5-WR-HCT-14 Wk#1	9: CV5-WR-HCT-22 Wk#1	10: CV5-WR-HCT-33 Wk#1
Pb [mg/L]	15-May-23	11:06	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	15-May-23	11:07	0.0109	0.243	0.141	0.0559	0.0234	0.0142
Se [mg/L]	15-May-23	11:07	0.00045	0.00027	0.00015	0.00026	0.00008	0.00009
Sn [mg/L]	15-May-23	11:07	0.00057	0.00062	0.00014	0.00034	0.00012	0.00095
Sr [mg/L]	15-May-23	11:07	0.0182	0.0146	0.0135	0.0166	0.0102	0.00593
Ti [mg/L]	15-May-23	11:07	0.00035	0.00042	0.00018	0.00013	0.00023	0.00045
Tl [mg/L]	15-May-23	11:07	< 0.000005	0.000005	0.000005	< 0.000005	0.000006	0.000005
U [mg/L]	15-May-23	11:07	0.000263	0.000142	0.000030	0.000416	0.000080	0.00163
V [mg/L]	15-May-23	11:07	0.00066	0.00143	0.00114	0.00591	0.00193	0.00202
W [mg/L]	15-May-23	11:07	0.00063	0.00154	0.00333	0.00051	0.00057	0.00210
Y [mg/L]	15-May-23	11:07	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	15-May-23	11:07	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	15-May-23	11:07	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	16-May-23	15:24	0.00001	0.00001	< 0.00001	< 0.00001	0.00002	0.00001
Cs (tot) [mg/L]	15-May-23	11:07	0.0143	0.0270	0.0270	0.0064	0.0106	0.0114
Dy (tot) [mg/L]	16-May-23	15:24	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Er (tot) [mg/L]	16-May-23	15:24	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Eu (tot) [mg/L]	16-May-23	15:24	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ga (tot) [mg/L]	16-May-23	15:24	< 0.0001	< 0.0001	< 0.0001	0.0004	< 0.0001	0.0001
Gd (tot) [mg/L]	16-May-23	15:24	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	16-May-23	15:24	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	15-May-23	11:07	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	16-May-23	15:25	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
In (tot) [mg/L]	16-May-23	15:25	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ir (tot) [mg/L]	16-May-23	15:25	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
La (tot) [mg/L]	16-May-23	15:25	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Lu (tot) [mg/L]	16-May-23	15:25	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	15-May-23	11:07	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nd (tot) [mg/L]	16-May-23	15:25	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Os (tot) [mg/L]	16-May-23	15:25	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	15-May-23	11:07	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	16-May-23	15:25	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pt (tot) [mg/L]	15-May-23	11:08	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	15-May-23	11:08	0.0139	0.0139	0.0134	0.0029	0.0051	0.0039
Re (tot) [mg/L]	16-May-23	15:25	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	15-May-23	11:08	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	16-May-23	15:25	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	16-May-23	15:25	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ta (tot) [mg/L]	15-May-23	11:08	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	16-May-23	15:25	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Te (tot) [mg/L]	15-May-23	11:08	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	15-May-23	11:08	< 0.0001	0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	16-May-23	15:25	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Yb (tot) [mg/L]	16-May-23	15:25	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001

Analysis	11: CV5-WR-HCT-36 Wk#1	12: CV5-WR-HCT-39 Wk#1	13: CV5-WR-HCT-50 Wk#1	14: CV5-WR-HCT-56 Wk#1	15: CV5-WR-HCT-59 Wk#1	16: CV5-WR-HCT-62 Wk#1	17: CV5-WR-HCT-64 Wk#1	18: CV5-WR-HCT-69 Wk#1
Sample Date & Time	04-May-23	04-May-23	04-May-23	04-May-23	04-May-23	04-May-23	04-May-23	04-May-23
HumCell Leachate Vol [mL]	1004	925	992	932	953	970	947	988
pH [No unit]	7.94	7.30	7.48	7.95	7.12	7.67	7.40	8.17

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0003336084

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10048-MAY23**

Analysis	11: CV5-WR-HCT-36 Wk#1	12: CV5-WR-HCT-39 Wk#1	13: CV5-WR-HCT-50 Wk#1	14: CV5-WR-HCT-56 Wk#1	15: CV5-WR-HCT-59 Wk#1	16: CV5-WR-HCT-62 Wk#1	17: CV5-WR-HCT-64 Wk#1	18: CV5-WR-HCT-69 Wk#1
Alkalinity [mg/L as CaCO3]	26	7	21	13	7	14	12	29
Conductivity [uS/cm]	80	59	164	39	27	65	47	58
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
F [mg/L]	< 0.06	0.21	0.34	< 0.06	< 0.06	< 0.06	0.24	0.19
SO4 [mg/L]	3	16	53	2	4	3	< 2	3
Cl [mg/L]	7	2	5	4	3	10	6	6
NO2 [as N mg/L]	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Tot.Reactive P [mg/L]	6.36	< 0.03	< 0.03	< 0.03	0.04	1.58	0.14	0.10
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.006	0.063	0.095	0.064	0.012	0.002	0.051	0.176
As [mg/L]	19.6	0.0479	0.0386	0.0049	0.306	6.15	0.526	0.236
Ba [mg/L]	0.00304	0.00048	0.00260	0.00095	0.00040	0.00191	0.00014	0.00034
Be [mg/L]	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	0.000007	0.000020	0.000366
B [mg/L]	0.140	0.016	0.025	0.019	0.009	0.015	0.076	0.103
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00001	0.00075
Ca [mg/L]	6.98	4.50	15.9	4.11	2.39	4.80	2.08	3.76
Cd [mg/L]	0.000003	< 0.000003	0.000018	< 0.000003	< 0.000003	< 0.000003	0.000004	< 0.000003
Co [mg/L]	0.000470	0.000081	0.001907	0.000033	0.000179	0.000097	0.000084	0.000090
Cr [mg/L]	0.00029	0.00010	0.00093	0.00011	0.00025	0.00009	0.00021	0.00015
Cu [mg/L]	< 0.0002	0.0004	0.0003	0.0002	0.0002	< 0.0002	0.0009	0.0035
Fe [mg/L]	0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	0.550	1.42	7.65	2.40	0.402	0.505	3.22	1.18
Li [mg/L]	0.0365	0.0769	0.221	0.0391	0.0072	0.0017	0.206	0.0990
Mg [mg/L]	5.73	0.604	2.78	0.398	0.714	2.91	0.219	0.217
Mn [mg/L]	0.00634	0.00235	0.0163	0.0122	0.00188	0.00497	0.00503	0.00290
Mo [mg/L]	0.00028	0.00523	0.00923	0.00056	0.00032	0.00196	0.00127	0.00148
Na [mg/L]	2.90	5.29	6.37	2.40	1.87	3.99	5.64	9.64
Ni [mg/L]	0.188	0.0009	0.0091	0.0003	0.0022	0.0524	0.0007	0.0004
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	3.53	0.0898	0.592	0.0014	0.0125	3.14	0.0546	0.0572
Se [mg/L]	0.00019	0.00049	0.00406	0.00010	0.00009	0.00034	< 0.00004	0.00043
Sn [mg/L]	0.00065	0.00201	0.00026	0.00012	0.00016	0.00029	0.00073	0.00131
Sr [mg/L]	0.0297	0.0192	0.0417	0.00692	0.0174	0.00804	0.00638	0.0119
Ti [mg/L]	0.00009	0.00024	0.00019	0.00028	0.00026	< 0.00005	< 0.00005	0.00013
Tl [mg/L]	0.000018	0.000006	0.000047	0.000009	< 0.000005	0.000006	0.000263	0.000042
U [mg/L]	0.000946	0.00177	0.00558	0.00257	0.000155	0.000117	0.0292	0.101
V [mg/L]	0.00213	0.00078	0.00042	0.00136	0.00100	0.00090	0.00028	0.00089
W [mg/L]	0.00154	0.00094	0.00030	0.00433	0.00443	0.00149	0.0102	0.00867
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00008
Zn [mg/L]	< 0.002	< 0.002	0.002	< 0.002	< 0.002	< 0.002	0.003	< 0.002
Au (tot) [mg/L]	0.00009	< 0.00001	0.00010	0.00005	0.00001	0.00005	0.00001	0.00008
Ce (tot) [mg/L]	< 0.00001	0.00002	0.00001	0.00001	< 0.00001	< 0.00001	< 0.00001	0.00006
Cs (tot) [mg/L]	0.0605	0.0091	0.183	0.0247	0.0226	0.0122	0.0362	0.0096
Dy (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Er (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Eu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ga (tot) [mg/L]	< 0.0001	0.0001	0.0002	< 0.0001	< 0.0001	< 0.0001	0.0003	0.0016
Gd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00003
Ge (tot) [mg/L]	0.0005	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001

OnLine LIMS

0003336084

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10048-MAY23**

Analysis	11: CV5-WR-HCT-36 Wk#1	12: CV5-WR-HCT-39 Wk#1	13: CV5-WR-HCT-50 Wk#1	14: CV5-WR-HCT-56 Wk#1	15: CV5-WR-HCT-59 Wk#1	16: CV5-WR-HCT-62 Wk#1	17: CV5-WR-HCT-64 Wk#1	18: CV5-WR-HCT-69 Wk#1
Hf (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001
Ho (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
In (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ir (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
La (tot) [mg/L]	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001
Lu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0009
Nd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Os (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pt (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	0.0156	0.0107	0.154	0.0061	0.0099	0.0071	0.144	0.0362
Re (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ta (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0003
Tb (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Te (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0004
Tm (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Yb (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001

Analysis	19: CV5-ORE-HCT-74 Wk#1	20: CV5-ORE-HCT-76 Wk#1
Sample Date & Time	04-May-23	04-May-23
HumCell Leachate Vol [mL]	1004	993
pH [No unit]	7.59	8.03
Alkalinity [mg/L as CaCO3]	17	24
Conductivity [uS/cm]	94	74
Acidity [mg/L as CaCO3]	< 2	< 2
F [mg/L]	0.41	0.34
SO4 [mg/L]	< 2	5
Cl [mg/L]	26	11
NO2 [as N mg/L]	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06
Br [mg/L]	< 0.3	< 0.3
Tot.Reactive P [mg/L]	0.68	0.04
Hg [mg/L]	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005
Al [mg/L]	0.096	0.079
As [mg/L]	1.39	0.0813
Ba [mg/L]	0.00023	0.00022
Be [mg/L]	0.000036	0.000148
B [mg/L]	0.075	0.059
Bi [mg/L]	0.00001	0.00028
Ca [mg/L]	0.87	4.11
Cd [mg/L]	< 0.000003	< 0.000003
Co [mg/L]	0.000107	0.000063

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0003336084

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10048-MAY23**

Analysis	19: CV5-ORE-HCT-7 4 Wk#1	20: CV5-ORE-HCT-7 6 Wk#1
Cr [mg/L]	0.00014	0.00022
Cu [mg/L]	0.0015	0.0011
Fe [mg/L]	< 0.007	< 0.007
K [mg/L]	2.46	2.85
Li [mg/L]	0.918	0.312
Mg [mg/L]	0.057	0.290
Mn [mg/L]	0.0116	0.00523
Mo [mg/L]	0.00058	0.00142
Na [mg/L]	16.2	10.3
Ni [mg/L]	0.0004	0.0002
Pb [mg/L]	< 0.00009	< 0.00009
Sb [mg/L]	0.224	0.0188
Se [mg/L]	< 0.00004	0.00008
Sn [mg/L]	0.00248	0.00046
Sr [mg/L]	0.00310	0.0135
Ti [mg/L]	0.00010	0.00006
Tl [mg/L]	0.000256	0.000108
U [mg/L]	0.0539	0.0113
V [mg/L]	0.00021	0.00042
W [mg/L]	0.00569	0.00636
Y [mg/L]	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002
Au (tot) [mg/L]	< 0.00001	< 0.00001
Ce (tot) [mg/L]	< 0.00001	0.00001
Cs (tot) [mg/L]	0.0868	0.0266
Dy (tot) [mg/L]	< 0.0001	< 0.0001
Er (tot) [mg/L]	< 0.0001	< 0.0001
Eu (tot) [mg/L]	< 0.0001	< 0.0001
Ga (tot) [mg/L]	0.0006	0.0006
Gd (tot) [mg/L]	< 0.00001	< 0.00001
Ge (tot) [mg/L]	< 0.0001	< 0.0001
Hf (tot) [mg/L]	0.0001	0.0001
Ho (tot) [mg/L]	< 0.0001	< 0.0001
In (tot) [mg/L]	< 0.0001	< 0.0001
Ir (tot) [mg/L]	< 0.0001	< 0.0001
La (tot) [mg/L]	< 0.0001	< 0.0001
Lu (tot) [mg/L]	< 0.0001	< 0.0001
Nb (tot) [mg/L]	< 0.0001	0.0001
Nd (tot) [mg/L]	< 0.0001	< 0.0001
Os (tot) [mg/L]	< 0.0001	< 0.0001
Pd (tot) [mg/L]	< 0.0001	< 0.0001
Pr (tot) [mg/L]	< 0.0001	< 0.0001
Pt (tot) [mg/L]	< 0.0001	< 0.0001
Rb (tot) [mg/L]	0.186	0.0615
Re (tot) [mg/L]	< 0.0001	< 0.0001
Rh (tot) [mg/L]	< 0.00001	< 0.00001
Sc (tot) [mg/L]	0.0001	< 0.0001
Sm (tot) [mg/L]	< 0.0001	< 0.0001
Ta (tot) [mg/L]	0.0001	< 0.0001
Tb (tot) [mg/L]	< 0.0001	< 0.0001
Te (tot) [mg/L]	< 0.0001	< 0.0001
Th (tot) [mg/L]	< 0.0001	0.0004

OnLine LIMS

0003336084

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10048-MAY23**

Analysis	19: CV5-ORE-HCT-74 Wk#1	20: CV5-ORE-HCT-76 Wk#1
Tm (tot) [mg/L]	< 0.0001	< 0.0001
Yb (tot) [mg/L]	< 0.0001	< 0.0001

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003336084

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

24-October-2023

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 05 October 2023
LR Report: **CA10049-OCT23**
Reference: Wk#23

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#23	6: CV5-DMS-HCT-84 Wk#23
Sample Date & Time			05-Oct-23	05-Oct-23
HumCell Leachate Vol [mL]	11-Oct-23	19:35	982	964
pH [No unit]	11-Oct-23	09:52	6.32	6.42
Alkalinity [mg/L as CaCO3]	11-Oct-23	09:52	< 2	< 2
Conductivity [uS/cm]	11-Oct-23	09:52	2	2
Acidity [mg/L as CaCO3]	12-Oct-23	13:24	2	2
Tot.Reactive P [mg/L]	06-Oct-23	11:15	< 0.03	< 0.03
SO4 [mg/L]	20-Oct-23	14:59	< 2	< 2
Ag [mg/L]	23-Oct-23	15:35	< 0.00005	< 0.00005
Al [mg/L]	23-Oct-23	15:35	0.016	0.018
As [mg/L]	23-Oct-23	15:35	0.0064	0.0048
Ba [mg/L]	23-Oct-23	15:35	< 0.00008	< 0.00008
Be [mg/L]	23-Oct-23	15:35	< 0.000007	0.000007
B [mg/L]	23-Oct-23	15:35	< 0.002	< 0.002
Bi [mg/L]	23-Oct-23	15:35	0.00003	0.00003
Ca [mg/L]	23-Oct-23	15:35	0.35	0.38
Cd [mg/L]	23-Oct-23	15:35	0.000008	< 0.000003
Co [mg/L]	23-Oct-23	15:35	< 0.000004	< 0.000004
Cr [mg/L]	23-Oct-23	15:35	< 0.00008	< 0.00008
Cu [mg/L]	23-Oct-23	15:35	0.0002	0.0027
Fe [mg/L]	23-Oct-23	15:35	< 0.007	< 0.007
K [mg/L]	23-Oct-23	15:35	0.089	0.093
Li [mg/L]	23-Oct-23	15:35	0.0009	0.0010
Mg [mg/L]	23-Oct-23	15:35	0.017	0.017
Mn [mg/L]	23-Oct-23	15:35	0.00094	0.00166
Mo [mg/L]	23-Oct-23	15:35	0.0158	0.00047
Na [mg/L]	23-Oct-23	15:35	0.04	0.03
Ni [mg/L]	23-Oct-23	15:35	< 0.0001	< 0.0001
Pb [mg/L]	23-Oct-23	15:35	< 0.00009	0.00011
Sb [mg/L]	23-Oct-23	15:35	0.0021	0.0020
Se [mg/L]	23-Oct-23	15:35	< 0.00004	< 0.00004
Sn [mg/L]	23-Oct-23	15:35	< 0.00006	< 0.00006
Sr [mg/L]	23-Oct-23	15:35	0.00102	0.00101
Ti [mg/L]	23-Oct-23	15:35	< 0.00007	< 0.00007

OnLine LIMS

0003511188

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : CA10049-OCT23

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#23	6: CV5-DMS-HCT-84 Wk#23
Tl [mg/L]	23-Oct-23	15:35	0.000011	0.000013
U [mg/L]	23-Oct-23	15:35	0.00176	0.00180
V [mg/L]	23-Oct-23	15:35	0.00001	0.00001
W [mg/L]	23-Oct-23	15:35	0.00003	0.00003
Y [mg/L]	23-Oct-23	15:35	< 0.00002	< 0.00002
Zn [mg/L]	23-Oct-23	15:35	< 0.002	0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0003511188

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

26-October-2023

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 05 October 2023
LR Report: **CA10050-OCT23**
Reference: Wk#23

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#23	6: CV5-WR-HCT-5 Wk#23	7: CV5-WR-HCT-5 (DUP) Wk#23	8: CV5-WR-HCT-14 Wk#23
Sample Date & Time			05-Oct-23	05-Oct-23	05-Oct-23	05-Oct-23
HumCell Leachate Vol [mL]	11-Oct-23	19:35	926	906	945	997
pH [No unit]	09-Oct-23	10:05	6.70	6.96	6.80	7.58
Alkalinity [mg/L as CaCO3]	06-Oct-23	12:44	3	5	4	13
Conductivity [uS/cm]	06-Oct-23	12:44	24	19	15	29
Acidity [mg/L as CaCO3]	11-Oct-23	09:53	3	< 2	< 2	< 2
Tot.Reactive P [mg/L]	06-Oct-23	11:15	< 0.03	0.05	0.04	< 0.03
SO4 [mg/L]	24-Oct-23	13:15	6	3	3	< 2
Ag [mg/L]	23-Oct-23	15:37	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	23-Oct-23	15:37	0.030	0.028	0.028	0.101
As [mg/L]	26-Oct-23	11:55	0.0057	0.248	0.168	0.0437
Ba [mg/L]	23-Oct-23	15:37	0.00019	0.00016	0.00012	0.00018
Be [mg/L]	23-Oct-23	15:37	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	23-Oct-23	15:37	0.003	0.002	0.002	< 0.002
Bi [mg/L]	23-Oct-23	15:37	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	23-Oct-23	15:37	3.33	2.76	2.10	5.73
Cd [mg/L]	23-Oct-23	15:37	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	23-Oct-23	15:37	0.000073	0.000136	0.000180	0.000057
Cr [mg/L]	23-Oct-23	15:37	< 0.00008	0.00008	< 0.00008	< 0.00008
Cu [mg/L]	23-Oct-23	15:37	0.0012	0.0005	0.0005	0.0016
Fe [mg/L]	23-Oct-23	15:37	< 0.007	< 0.007	< 0.007	0.011
K [mg/L]	23-Oct-23	15:37	0.292	0.136	0.103	0.048
Li [mg/L]	23-Oct-23	15:37	0.0114	0.0127	0.0100	0.0047
Mg [mg/L]	23-Oct-23	15:37	0.425	0.285	0.229	0.265
Mn [mg/L]	23-Oct-23	15:37	0.00098	0.00131	0.00128	0.00579
Mo [mg/L]	26-Oct-23	11:55	0.00027	0.00005	0.00068	0.00081
Na [mg/L]	23-Oct-23	15:37	0.20	0.08	0.07	0.23
Ni [mg/L]	23-Oct-23	15:37	0.0002	0.0010	0.0007	0.0002

OnLine LIMS

0003514006

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10050-OCT23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#23	6: CV5-WR-HCT-5 Wk#23	7: CV5-WR-HCT-5 (DUP) Wk#23	8: CV5-WR-HCT-14 Wk#23
Pb [mg/L]	23-Oct-23	15:37	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	23-Oct-23	15:37	0.0039	0.0558	0.0310	0.0073
Se [mg/L]	23-Oct-23	15:37	0.00022	0.00008	0.00007	0.00012
Sn [mg/L]	23-Oct-23	15:37	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	23-Oct-23	15:37	0.0115	0.00677	0.00593	0.00521
Ti [mg/L]	23-Oct-23	15:37	0.00013	0.00014	0.00011	0.00041
Tl [mg/L]	23-Oct-23	15:37	< 0.000005	< 0.000005	< 0.000005	< 0.000005
U [mg/L]	26-Oct-23	11:56	0.000068	0.000025	0.00241	0.000703
V [mg/L]	23-Oct-23	15:37	0.00039	0.00061	0.00052	0.00285
W [mg/L]	23-Oct-23	15:37	0.00006	0.00008	0.00008	0.00003
Y [mg/L]	23-Oct-23	15:37	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	23-Oct-23	15:37	< 0.002	< 0.002	< 0.002	< 0.002

Analysis	9: CV5-WR-HCT-22 Wk#23	10: CV5-WR-HCT-33 Wk#23	11: CV5-WR-HCT-36 Wk#23	12: CV5-WR-HCT-39 Wk#23	13: CV5-WR-HCT-50 Wk#23	14: CV5-WR-HCT-56 Wk#23
Sample Date & Time	05-Oct-23	05-Oct-23	05-Oct-23	05-Oct-23	05-Oct-23	05-Oct-23
HumCell Leachate Vol [mL]	1011	981	984	926	971	941
pH [No unit]	6.86	7.08	7.15	6.64	6.66	7.26
Alkalinity [mg/L as CaCO3]	4	5	6	2	4	6
Conductivity [uS/cm]	11	12	19	21	33	24
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	7	< 2
Tot.Reactive P [mg/L]	0.04	< 0.03	0.54	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	< 2	< 2	< 2	6	8	5
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.024	0.074	0.003	0.047	0.024	0.038
As [mg/L]	0.195	0.0038	1.64	0.0316	0.0064	0.0189
Ba [mg/L]	< 0.00008	0.00013	0.00074	0.00030	0.00026	0.00038
Be [mg/L]	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	0.002	< 0.002	0.009	0.002	< 0.002	0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	1.71	2.29	2.84	2.78	5.66	3.94
Cd [mg/L]	0.000004	< 0.000003	< 0.000003	0.000010	0.000027	< 0.000003
Co [mg/L]	0.000137	0.000056	0.000266	0.000183	0.001361	0.000050
Cr [mg/L]	0.00013	< 0.00008	0.00013	0.00010	< 0.00008	< 0.00008
Cu [mg/L]	0.0011	0.0015	< 0.0002	0.0012	0.0004	0.0004
Fe [mg/L]	0.015	0.008	0.007	0.016	< 0.007	< 0.007
K [mg/L]	0.060	0.053	0.056	0.284	0.191	0.348
Li [mg/L]	0.0076	0.0034	0.0031	0.0137	0.0093	0.0050
Mg [mg/L]	0.245	0.108	0.641	0.394	0.135	0.374
Mn [mg/L]	0.00032	0.00661	0.00199	0.00180	0.00558	0.00974

OnLine LIMS

0003514006

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10050-OCT23**

Analysis	9: CV5-WR-HCT-22 Wk#23	10: CV5-WR-HCT-33 Wk#23	11: CV5-WR-HCT-36 Wk#23	12: CV5-WR-HCT-39 Wk#23	13: CV5-WR-HCT-50 Wk#23	14: CV5-WR-HCT-56 Wk#23
Mo [mg/L]	0.00122	0.00013	0.00084	0.00026	0.00039	0.00032
Na [mg/L]	0.15	0.10	0.04	0.17	0.09	0.09
Ni [mg/L]	0.0004	< 0.0001	0.0099	0.0004	0.0010	0.0001
Pb [mg/L]	< 0.00009	< 0.00009	0.00079	0.00019	< 0.00009	< 0.00009
Sb [mg/L]	0.0092	0.0018	0.629	0.0175	0.0286	< 0.0009
Se [mg/L]	0.00004	0.00009	0.00006	0.00009	0.00051	< 0.00004
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00582	0.00231	0.00419	0.00983	0.00529	0.00504
Ti [mg/L]	0.00016	0.00055	< 0.00007	0.00058	0.00023	0.00013
Tl [mg/L]	< 0.000005	0.000005	0.000005	0.000005	0.000020	< 0.000005
U [mg/L]	0.000225	0.000318	0.000032	0.000318	0.00186	0.000517
V [mg/L]	0.00138	0.00064	0.00023	0.00043	0.00008	0.00050
W [mg/L]	0.00004	0.00005	0.00009	0.00005	< 0.00002	0.00009
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	0.003	0.007	< 0.002

Analysis	15: CV5-WR-HCT-59 Wk#23	16: CV5-WR-HCT-62 Wk#23	17: CV5-WR-HCT-64 Wk#23	18: CV5-WR-HCT -69 Wk#23	19: CV5-ORE-HC T-74 Wk#23	20: CV5-ORE-HCT- 76 Wk#23
Sample Date & Time	05-Oct-23	05-Oct-23	05-Oct-23	05-Oct-23	05-Oct-23	05-Oct-23
HumCell Leachate Vol [mL]	982	927	979	989	972	948
pH [No unit]	6.62	7.24	6.82	7.32	6.63	7.05
Alkalinity [mg/L as CaCO3]	2	9	4	7	2	6
Conductivity [uS/cm]	11	25	9	14	4	13
Acidity [mg/L as CaCO3]	3	< 2	< 2	< 2	< 2	< 2
Tot.Reactive P [mg/L]	0.07	0.25	< 0.03	< 0.03	< 0.03	0.03
SO4 [mg/L]	2	2	< 2	< 2	< 2	< 2
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.011	0.001	0.027	0.065	0.020	0.059
As [mg/L]	0.337	0.925	0.0091	0.0055	0.0123	0.0043
Ba [mg/L]	0.00012	0.00050	0.00009	0.00013	< 0.00008	< 0.00008
Be [mg/L]	< 0.000007	< 0.000007	0.000008	0.000089	0.000031	0.000083
B [mg/L]	< 0.002	0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00019	< 0.00001	0.00015
Ca [mg/L]	1.39	3.13	1.40	2.46	0.84	1.99
Cd [mg/L]	< 0.000003	< 0.000003	< 0.000003	0.000004	0.000003	< 0.000003
Co [mg/L]	0.000462	0.000271	0.000016	0.000009	0.000022	0.000009
Cr [mg/L]	0.00012	0.00009	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	0.0005	0.0005	0.0006	0.0006	0.0002	0.0010
Fe [mg/L]	< 0.007	0.007	0.060	< 0.007	< 0.007	< 0.007
K [mg/L]	0.051	0.031	0.284	0.092	0.129	0.398

OnLine LIMS

0003514006

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10050-OCT23**

Analysis	15: CV5-WR-HCT-59 Wk#23	16: CV5-WR-HCT-62 Wk#23	17: CV5-WR-HCT-64 Wk#23	18: CV5-WR-HCT -69 Wk#23	19: CV5-ORE-HC T-74 Wk#23	20: CV5-ORE-HCT- 76 Wk#23
Li [mg/L]	0.0019	0.0005	0.0030	0.0028	0.0090	0.0097
Mg [mg/L]	0.298	0.805	0.076	0.055	0.018	0.115
Mn [mg/L]	0.00101	0.00227	0.00336	0.00292	0.03380	0.00143
Mo [mg/L]	0.00059	0.00202	0.00033	0.00019	0.00052	0.00023
Na [mg/L]	0.05	0.02	0.06	0.15	0.10	0.12
Ni [mg/L]	0.0033	0.0065	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pb [mg/L]	0.00010	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.0063	0.853	0.0021	0.0025	0.0144	0.0015
Se [mg/L]	< 0.00004	0.00013	< 0.00004	< 0.00004	< 0.00004	< 0.00004
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006	0.00008	0.00014
Sr [mg/L]	0.00696	0.00261	0.00253	0.00509	0.00132	0.00506
Ti [mg/L]	0.00016	< 0.00007	< 0.00007	< 0.00007	< 0.00007	< 0.00007
Tl [mg/L]	< 0.000005	< 0.000005	0.000041	0.000005	0.000032	0.000031
U [mg/L]	0.000025	0.000074	0.00127	0.00676	0.00542	0.00117
V [mg/L]	0.00042	0.00022	0.00003	0.00007	< 0.00001	0.00006
W [mg/L]	0.00017	0.00009	0.00005	0.00005	0.00004	0.00008
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	0.002	< 0.002	< 0.002	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003514006

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

21-September-2023

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 07 September 2023
LR Report: **CA10052-SEP23**
Reference: Wk#19

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#19	6: CV5-WR-HCT-5 Wk#19	7: CV5-WR-HCT-5 (DUP) Wk#19	8: CV5-WR-HCT-14 Wk#19
Sample Date & Time			07-Sep-23	07-Sep-23	07-Sep-23	07-Sep-23
HumCell Leachate Vol [mL]	08-Sep-23	10:48	891	884	916	980
pH [No unit]	13-Sep-23	11:09	6.82	7.39	6.84	7.51
Alkalinity [mg/L as CaCO3]	12-Sep-23	10:10	3	4	4	14
Conductivity [uS/cm]	13-Sep-23	11:10	24	19	17	33
Acidity [mg/L as CaCO3]	12-Sep-23	10:11	3	< 2	< 2	< 2
Tot.Reactive P [mg/L]	12-Sep-23	10:46	< 0.03	0.07	0.04	< 0.03
SO4 [mg/L]	08-Sep-23	13:39	6	4	4	3
Ag [mg/L]	15-Sep-23	16:36	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	15-Sep-23	16:36	0.031	0.029	0.036	0.103
As [mg/L]	15-Sep-23	16:36	0.0053	0.310	0.242	0.0525
Ba [mg/L]	15-Sep-23	16:36	0.00028	0.00032	0.00030	0.00023
Be [mg/L]	15-Sep-23	16:36	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	15-Sep-23	16:36	0.004	0.003	0.003	0.003
Bi [mg/L]	15-Sep-23	16:36	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	15-Sep-23	16:36	3.24	3.04	2.52	5.64
Cd [mg/L]	15-Sep-23	16:36	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	15-Sep-23	16:36	0.000068	0.000162	0.000166	0.000083
Cr [mg/L]	15-Sep-23	16:36	< 0.00008	0.00011	0.00012	< 0.00008
Cu [mg/L]	15-Sep-23	16:36	0.0003	0.0003	0.0005	0.0003
Fe [mg/L]	15-Sep-23	16:36	< 0.007	0.012	0.011	0.011
K [mg/L]	15-Sep-23	16:36	0.391	0.192	0.167	0.054
Li [mg/L]	15-Sep-23	16:36	0.0153	0.0172	0.0163	0.0048
Mg [mg/L]	15-Sep-23	16:36	0.615	0.415	0.373	0.316
Mn [mg/L]	15-Sep-23	16:36	0.00125	0.00165	0.00165	0.00566
Mo [mg/L]	15-Sep-23	16:36	0.00054	0.00023	0.00014	0.00019
Na [mg/L]	15-Sep-23	16:36	0.32	0.14	0.14	0.32
Ni [mg/L]	15-Sep-23	16:36	0.0004	0.0010	0.0007	0.0003

OnLine LIMS

0003474490

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10052-SEP23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#19	6: CV5-WR-HCT-5 Wk#19	7: CV5-WR-HCT-5 (DUP) Wk#19	8: CV5-WR-HCT-14 Wk#19
Pb [mg/L]	15-Sep-23	16:36	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	15-Sep-23	16:36	0.0047	0.0571	0.0368	0.0075
Se [mg/L]	15-Sep-23	16:36	0.00025	0.00008	0.00006	0.00014
Sn [mg/L]	15-Sep-23	16:36	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	15-Sep-23	16:36	0.0126	0.00826	0.00802	0.00552
Ti [mg/L]	15-Sep-23	16:36	0.00019	0.00037	0.00040	0.00051
Tl [mg/L]	15-Sep-23	16:36	< 0.000005	0.000006	0.000007	< 0.000005
U [mg/L]	15-Sep-23	16:36	0.000134	0.000054	0.00166	0.00923
V [mg/L]	15-Sep-23	16:36	0.00042	0.00073	0.00073	0.00329
W [mg/L]	15-Sep-23	16:36	0.00011	0.00011	0.00015	0.00016
Y [mg/L]	15-Sep-23	16:36	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	15-Sep-23	16:36	< 0.002	< 0.002	< 0.002	< 0.002

Analysis	9: CV5-WR-HCT-22 Wk#19	10: CV5-WR-HCT-33 Wk#19	11: CV5-WR-HCT-36 Wk#19	12: CV5-WR-HCT-39 Wk#19	13: CV5-WR-HCT-50 Wk#19	14: CV5-WR-HCT-56 Wk#19
Sample Date & Time	07-Sep-23	07-Sep-23	07-Sep-23	07-Sep-23	07-Sep-23	07-Sep-23
HumCell Leachate Vol [mL]	982	1000	934	897	1031	910
pH [No unit]	7.14	7.21	7.34	6.71	7.09	7.25
Alkalinity [mg/L as CaCO3]	3	6	7	2	8	6
Conductivity [uS/cm]	12	16	21	23	49	29
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	< 2
Tot.Reactive P [mg/L]	< 0.03	< 0.03	0.80	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	2	< 2	2	7	11	7
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.233	0.068	0.005	0.130	0.044	0.041
As [mg/L]	0.263	0.0053	2.07	0.0379	0.0133	0.0261
Ba [mg/L]	0.00023	0.00041	0.00085	0.00046	0.00058	0.00064
Be [mg/L]	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	0.003	< 0.002	0.011	0.003	< 0.002	0.003
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	1.95	3.11	3.24	3.22	9.01	4.40
Cd [mg/L]	< 0.000003	< 0.000003	< 0.000003	0.000004	0.000038	< 0.000003
Co [mg/L]	0.000125	0.000059	0.000200	0.000143	0.00228	0.000064
Cr [mg/L]	< 0.00008	< 0.00008	0.00019	0.00012	< 0.00008	0.00036
Cu [mg/L]	0.0003	0.0005	< 0.0002	< 0.0002	0.0003	0.0002
Fe [mg/L]	0.007	< 0.007	0.010	0.020	< 0.007	0.008
K [mg/L]	0.079	0.087	0.061	0.369	0.393	0.610
Li [mg/L]	0.0092	0.0057	0.0037	0.0173	0.0181	0.0080
Mg [mg/L]	0.311	0.186	0.734	0.530	0.287	0.623
Mn [mg/L]	0.00055	0.00737	0.00145	0.00169	0.0102	0.0111

OnLine LIMS

0003474490

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10052-SEP23**

Analysis	9: CV5-WR-HCT-22 Wk#19	10: CV5-WR-HCT-33 Wk#19	11: CV5-WR-HCT-36 Wk#19	12: CV5-WR-HCT-39 Wk#19	13: CV5-WR-HCT-50 Wk#19	14: CV5-WR-HCT-56 Wk#19
Mo [mg/L]	0.00050	0.00008	0.00014	0.00032	0.00054	0.00020
Na [mg/L]	0.24	0.19	0.06	0.28	0.15	0.18
Ni [mg/L]	0.0004	< 0.0001	0.0094	0.0005	0.0019	0.0002
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	0.00025	< 0.00009	< 0.00009
Sb [mg/L]	0.0117	0.0027	0.657	0.0217	0.0721	< 0.0009
Se [mg/L]	0.00005	0.00014	0.00010	0.00016	0.00090	0.00008
Sn [mg/L]	< 0.00006	0.00007	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00704	0.00350	0.00520	0.0119	0.00923	0.00648
Ti [mg/L]	0.00023	0.00015	0.00021	0.00072	0.00012	0.00019
Tl [mg/L]	0.000006	< 0.000005	0.000007	0.000009	0.000028	< 0.000005
U [mg/L]	0.000607	0.000133	0.000141	0.000455	0.00448	0.00124
V [mg/L]	0.00175	0.00094	0.00031	0.00052	0.00016	0.00073
W [mg/L]	0.00007	0.00011	0.00013	0.00020	0.00015	0.00017
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	0.007	< 0.002

Analysis	15: CV5-WR-HCT-59 Wk#19	16: CV5-WR-HCT-62 Wk#19	17: CV5-WR-HCT-64 Wk#19	18: CV5-WR-HCT-69 Wk#19	19: CV5-ORE-HCT-74 Wk#19	20: CV5-ORE-HCT-76 Wk#19
Sample Date & Time	07-Sep-23	07-Sep-23	07-Sep-23	07-Sep-23	07-Sep-23	07-Sep-23
HumCell Leachate Vol [mL]	962	901	917	1009	974	890
pH [No unit]	6.82	7.55	6.93	7.34	6.81	7.04
Alkalinity [mg/L as CaCO3]	2	10	4	8	3	5
Conductivity [uS/cm]	12	27	13	17	7	14
Acidity [mg/L as CaCO3]	3	< 2	< 2	< 2	< 2	< 2
Tot.Reactive P [mg/L]	0.13	0.45	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	3	3	< 2	< 2	< 2	< 2
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.009	0.003	0.042	0.101	0.024	0.115
As [mg/L]	0.489	1.37	0.0136	0.0108	0.0180	0.0069
Ba [mg/L]	0.00022	0.00080	0.00018	0.00030	0.00011	0.00033
Be [mg/L]	< 0.000007	< 0.000007	0.000011	0.000090	< 0.000007	0.000233
B [mg/L]	< 0.002	0.003	< 0.002	0.002	< 0.002	0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00036	< 0.00001	0.00021
Ca [mg/L]	1.64	3.91	1.45	3.18	0.96	1.96
Cd [mg/L]	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	0.000385	0.000237	0.000019	0.000017	0.000010	0.000025
Cr [mg/L]	0.00015	0.00010	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	0.0003	< 0.0002	0.0003	0.0004	< 0.0002	0.0004
Fe [mg/L]	0.009	< 0.007	< 0.007	< 0.007	< 0.007	0.008
K [mg/L]	0.071	0.051	0.386	0.130	0.155	0.514

OnLine LIMS

0003474490

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10052-SEP23**

Analysis	15: CV5-WR-HCT-59 Wk#19	16: CV5-WR-HCT-62 Wk#19	17: CV5-WR-HCT-64 Wk#19	18: CV5-WR-HCT-69 Wk#19	19: CV5-ORE-HCT-74 Wk#19	20: CV5-ORE-HCT-76 Wk#19
Li [mg/L]	0.0025	0.0007	0.0035	0.0037	0.0107	0.0114
Mg [mg/L]	0.421	1.18	0.092	0.076	0.027	0.123
Mn [mg/L]	0.00128	0.00209	0.00323	0.00327	0.0328	0.00229
Mo [mg/L]	0.00101	0.00025	0.00014	0.00013	0.00019	0.00010
Na [mg/L]	0.09	0.04	0.08	0.23	0.15	0.18
Ni [mg/L]	0.0029	0.0080	< 0.0001	0.0001	< 0.0001	< 0.0001
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	0.00018
Sb [mg/L]	0.0076	1.15	0.0034	0.0030	0.0180	0.0019
Se [mg/L]	0.00004	0.00013	< 0.00004	0.00006	< 0.00004	< 0.00004
Sn [mg/L]	< 0.00006	< 0.00006	0.00012	0.00006	< 0.00006	0.00039
Sr [mg/L]	0.00879	0.00384	0.00291	0.00648	0.00162	0.00493
Ti [mg/L]	0.00028	< 0.00007	< 0.00007	< 0.00007	< 0.00007	< 0.00007
Tl [mg/L]	< 0.000005	< 0.000005	0.000056	0.000008	0.000036	0.000050
U [mg/L]	0.000037	0.000139	0.00184	0.00707	0.00265	0.00117
V [mg/L]	0.00058	0.00032	0.00003	0.00013	0.00002	0.00008
W [mg/L]	0.00031	0.00017	0.00008	0.00013	0.00008	0.00009
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003474490

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

17-December-2023

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 07 December 2023
LR Report: **CA10053-DEC23**
Reference: Wk#32

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#32	6: CV5-DMS-HCT-84 Wk#32
Sample Date & Time			07-Dec-23	07-Dec-23
HumCell Leachate Vol [mL]	13-Dec-23	09:05	1030	1006
pH [No unit]	12-Dec-23	09:42	6.28	6.22
Alkalinity [mg/L as CaCO3]	12-Dec-23	09:42	< 2	< 2
Conductivity [uS/cm]	12-Dec-23	09:42	2	2
Acidity [mg/L as CaCO3]	13-Dec-23	10:52	3	2
Tot.Reactive P [mg/L]	08-Dec-23	16:12	< 0.03	< 0.03
SO4 [mg/L]	11-Dec-23	12:55	< 2	< 2
Ag [mg/L]	14-Dec-23	15:18	< 0.00005	< 0.00005
Al [mg/L]	14-Dec-23	15:18	0.014	0.012
As [mg/L]	14-Dec-23	15:18	0.0045	0.0034
Ba [mg/L]	14-Dec-23	15:18	< 0.00008	< 0.00008
Be [mg/L]	14-Dec-23	15:18	< 0.000007	0.000010
B [mg/L]	14-Dec-23	15:18	< 0.002	< 0.002
Bi [mg/L]	14-Dec-23	15:18	0.00003	0.00003
Ca [mg/L]	14-Dec-23	15:18	0.33	0.33
Cd [mg/L]	14-Dec-23	15:18	< 0.000003	< 0.000003
Co [mg/L]	14-Dec-23	15:18	< 0.000004	0.000005
Cr [mg/L]	14-Dec-23	15:18	< 0.00008	< 0.00008
Cu [mg/L]	14-Dec-23	15:18	< 0.0002	< 0.0002
Fe [mg/L]	14-Dec-23	15:18	< 0.007	< 0.007
K [mg/L]	14-Dec-23	15:18	0.058	0.058
Li [mg/L]	14-Dec-23	15:18	0.0007	0.0006
Mg [mg/L]	14-Dec-23	15:18	0.011	0.011
Mn [mg/L]	14-Dec-23	15:18	0.00090	0.00137
Mo [mg/L]	14-Dec-23	15:18	0.00010	< 0.00004
Na [mg/L]	14-Dec-23	15:18	0.04	0.05
Ni [mg/L]	14-Dec-23	15:18	< 0.0001	< 0.0001
Pb [mg/L]	14-Dec-23	15:18	< 0.00009	< 0.00009
Sb [mg/L]	14-Dec-23	15:18	0.0019	0.0015
Se [mg/L]	14-Dec-23	15:18	< 0.00004	< 0.00004
Sn [mg/L]	14-Dec-23	15:18	< 0.00006	< 0.00006
Sr [mg/L]	14-Dec-23	15:18	0.00068	0.00071
Ti [mg/L]	14-Dec-23	15:18	< 0.00007	< 0.00007

OnLine LIMS

0003566233

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : CA10053-DEC23

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#32	6: CV5-DMS-HCT-84 Wk#32
Tl [mg/L]	14-Dec-23	15:18	0.000013	0.000009
U [mg/L]	14-Dec-23	15:18	0.00121	0.00139
V [mg/L]	14-Dec-23	15:18	0.00003	0.00002
W [mg/L]	14-Dec-23	15:18	< 0.00002	0.00002
Y [mg/L]	14-Dec-23	15:18	< 0.00002	< 0.00002
Zn [mg/L]	14-Dec-23	15:18	< 0.002	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003566233

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

21-September-2023

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 07 September 2023
LR Report: **CA10053-SEP23**
Reference: Wk#19

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT -83 Wk#19	6: CV5-DMS-HCT -84 Wk#29
Sample Date & Time			07-Sep-23	07-Sep-23
HumCell Leachate Vol [mL]	08-Sep-23	10:48	970	947
pH [No unit]	12-Sep-23	10:14	6.40	6.52
Alkalinity [mg/L as CaCO3]	12-Sep-23	10:14	< 2	< 2
Conductivity [uS/cm]	12-Sep-23	10:14	2	2
Acidity [mg/L as CaCO3]	13-Sep-23	10:42	3	2
Tot.Reactive P [mg/L]	12-Sep-23	10:46	< 0.03	< 0.03
SO4 [mg/L]	08-Sep-23	13:39	< 2	< 2
Ag [mg/L]	15-Sep-23	16:36	< 0.00005	< 0.00005
Al [mg/L]	15-Sep-23	16:36	0.023	0.024
As [mg/L]	15-Sep-23	16:36	0.0070	0.0070
Ba [mg/L]	15-Sep-23	16:36	0.00014	0.00026
Be [mg/L]	15-Sep-23	16:36	0.000009	0.000009
B [mg/L]	15-Sep-23	16:36	< 0.002	< 0.002
Bi [mg/L]	15-Sep-23	16:36	0.00003	0.00004
Ca [mg/L]	15-Sep-23	16:36	0.48	0.55
Cd [mg/L]	15-Sep-23	16:36	0.000003	0.000003
Co [mg/L]	15-Sep-23	16:36	0.000005	0.000005
Cr [mg/L]	15-Sep-23	16:36	< 0.00008	< 0.00008
Cu [mg/L]	15-Sep-23	16:36	0.0004	0.0002
Fe [mg/L]	15-Sep-23	16:36	< 0.007	< 0.007
K [mg/L]	15-Sep-23	16:36	0.127	0.137
Li [mg/L]	15-Sep-23	16:36	0.0012	0.0013
Mg [mg/L]	15-Sep-23	16:36	0.023	0.028
Mn [mg/L]	15-Sep-23	16:36	0.00154	0.00229
Mo [mg/L]	15-Sep-23	16:36	0.00024	0.00009
Na [mg/L]	15-Sep-23	16:36	0.04	0.05
Ni [mg/L]	15-Sep-23	16:36	< 0.0001	< 0.0001
Pb [mg/L]	15-Sep-23	16:36	< 0.00009	< 0.00009
Sb [mg/L]	15-Sep-23	16:36	0.0020	0.0024
Se [mg/L]	15-Sep-23	16:36	< 0.00004	< 0.00004
Sn [mg/L]	15-Sep-23	16:36	< 0.00006	< 0.00006
Sr [mg/L]	15-Sep-23	16:36	0.00123	0.00150
Ti [mg/L]	15-Sep-23	16:36	< 0.00007	< 0.00007

OnLine LIMS

0003474530

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10053-SEP23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT -83 Wk#19	6: CV5-DMS-HCT -84 Wk#29
Tl [mg/L]	15-Sep-23	16:36	0.000015	0.000015
U [mg/L]	15-Sep-23	16:36	0.00158	0.00202
V [mg/L]	15-Sep-23	16:36	0.00002	0.00003
W [mg/L]	15-Sep-23	16:36	0.00009	0.00006
Y [mg/L]	15-Sep-23	16:36	< 0.00002	< 0.00002
Zn [mg/L]	15-Sep-23	16:36	< 0.002	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003474530

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

17-December-2023

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 07 December 2023
LR Report: **CA10054-DEC23**
Reference: Wk#32

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#32	6: CV5-WR-HCT-5 Wk#32	7: CV5-WR-HCT-5 (DUP) Wk#32	8: CV5-WR-HCT-14 Wk#32	9: CV5-WR-HCT-22 Wk#32
Sample Date & Time			07-Dec-23	07-Dec-23	07-Dec-23	07-Dec-23	07-Dec-23
HumCell Leachate Vol [mL]	13-Dec-23	09:05	980	947	1027	1012	1008
pH [No unit]	12-Dec-23	09:46	6.89	7.03	6.89	7.64	6.86
Alkalinity [mg/L as CaCO3]	12-Dec-23	09:47	3	5	3	12	4
Conductivity [uS/cm]	12-Dec-23	10:51	32	18	20	28	12
Acidity [mg/L as CaCO3]	13-Dec-23	10:53	< 2	< 2	< 2	< 2	< 2
Tot.Reactive P [mg/L]	08-Dec-23	16:12	< 0.03	< 0.03	0.03	< 0.03	< 0.03
SO4 [mg/L]	14-Dec-23	12:39	8	3	2	< 2	< 2
Ag [mg/L]	14-Dec-23	15:18	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	14-Dec-23	15:18	0.023	0.021	0.017	0.086	0.028
As [mg/L]	14-Dec-23	15:18	0.0044	0.193	0.156	0.0391	0.156
Ba [mg/L]	14-Dec-23	15:18	0.00015	0.00017	0.00033	0.00026	< 0.00008
Be [mg/L]	14-Dec-23	15:18	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	14-Dec-23	15:18	0.003	< 0.002	0.002	< 0.002	< 0.002
Bi [mg/L]	14-Dec-23	15:18	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	14-Dec-23	15:18	3.72	2.67	2.60	5.00	1.68
Cd [mg/L]	14-Dec-23	15:18	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	14-Dec-23	15:18	0.000086	0.000248	0.000251	0.000068	0.000254
Cr [mg/L]	14-Dec-23	15:18	< 0.00008	< 0.00008	< 0.00008	< 0.00008	0.00012
Cu [mg/L]	14-Dec-23	15:18	< 0.0002	< 0.0002	< 0.0002	< 0.0002	0.0002
Fe [mg/L]	14-Dec-23	15:18	< 0.007	< 0.007	< 0.007	0.007	0.011
K [mg/L]	14-Dec-23	15:18	0.189	0.091	0.079	0.031	0.039
Li [mg/L]	14-Dec-23	15:18	0.0084	0.0100	0.0072	0.0044	0.0064
Mg [mg/L]	14-Dec-23	15:18	0.334	0.196	0.184	0.220	0.231
Mn [mg/L]	14-Dec-23	15:18	0.00106	0.00142	0.00190	0.00575	0.00079
Mo [mg/L]	14-Dec-23	15:18	0.00082	0.00678	0.00038	0.00010	0.00027
Na [mg/L]	14-Dec-23	15:18	0.15	0.08	0.12	0.20	0.14
Ni [mg/L]	14-Dec-23	15:18	0.0002	0.0015	0.0012	0.0001	0.0006
Pb [mg/L]	14-Dec-23	15:18	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	14-Dec-23	15:18	0.0043	0.0474	0.0407	0.0059	0.0070

OnLine LIMS

0003566230

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10054-DEC23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#32	6: CV5-WR-HCT-5 Wk#32	7: CV5-WR-HCT-5 (DUP) Wk#32	8: CV5-WR-HCT-14 Wk#32	9: CV5-WR-HCT-22 Wk#32
Se [mg/L]	14-Dec-23	15:18	0.00019	< 0.00004	0.00012	0.00009	< 0.00004
Sn [mg/L]	14-Dec-23	15:18	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	14-Dec-23	15:18	0.0115	0.00596	0.00655	0.00484	0.00550
Ti [mg/L]	14-Dec-23	15:18	< 0.00007	0.00008	< 0.00007	0.00025	0.00032
Tl [mg/L]	14-Dec-23	15:18	< 0.000005	0.000006	0.000005	< 0.000005	< 0.000005
U [mg/L]	14-Dec-23	15:18	0.000202	0.00744	0.000155	0.000779	0.000170
V [mg/L]	14-Dec-23	15:18	0.00034	0.00051	0.00045	0.00236	0.00110
W [mg/L]	14-Dec-23	15:18	0.00006	0.00007	0.00009	< 0.00002	0.00003
Y [mg/L]	14-Dec-23	15:18	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	14-Dec-23	15:18	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002

Analysis	10: CV5-WR-HCT-33 Wk#32	11: CV5-WR-HCT-36 Wk#32	12: CV5-WR-HCT-39 Wk#32	13: CV5-WR-HCT-50 Wk#32	14: CV5-WR-HCT-56 Wk#32	15: CV5-WR-HCT-59 Wk#32	16: CV5-WR-HCT-62 Wk#32
Sample Date & Time	07-Dec-23	07-Dec-23	07-Dec-23	07-Dec-23	07-Dec-23	07-Dec-23	07-Dec-23
HumCell Leachate Vol [mL]	954	969	945	983	986	1019	973
pH [No unit]	7.21	7.08	6.56	6.56	7.22	6.60	7.22
Alkalinity [mg/L as CaCO3]	6	6	< 2	2	6	2	7
Conductivity [uS/cm]	14	17	18	41	26	13	21
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	7	< 2	< 2	< 2
Tot.Reactive P [mg/L]	< 0.03	0.34	< 0.03	< 0.03	< 0.03	0.06	0.13
SO4 [mg/L]	< 2	< 2	5	12	5	3	2
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.062	0.004	0.020	0.007	0.035	0.004	0.002
As [mg/L]	0.0043	1.35	0.0222	0.0032	0.0153	0.340	0.658
Ba [mg/L]	0.00013	0.00050	0.00022	0.00044	0.00033	0.00023	0.00030
Be [mg/L]	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	< 0.002	0.005	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	2.40	2.35	2.21	6.25	3.79	1.41	2.86
Cd [mg/L]	< 0.000003	0.000003	0.000005	0.000044	0.000004	< 0.000003	< 0.000003
Co [mg/L]	0.000038	0.000240	0.000267	0.002699	0.000061	0.000597	0.000624
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	0.0004	< 0.0002	0.0003	0.0002	< 0.0002	< 0.0002	< 0.0002
Fe [mg/L]	< 0.007	< 0.007	0.007	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	0.049	0.053	0.193	0.163	0.197	0.039	0.022
Li [mg/L]	0.0036	0.0027	0.0092	0.0109	0.0035	0.0021	0.0005
Mg [mg/L]	0.115	0.501	0.305	0.122	0.255	0.323	0.739
Mn [mg/L]	0.00835	0.00173	0.00150	0.00751	0.00663	0.00167	0.00336
Mo [mg/L]	0.00012	0.00014	0.00120	0.00017	0.00533	< 0.00004	0.00019
Na [mg/L]	0.12	0.06	0.14	0.14	0.08	0.06	0.04
Ni [mg/L]	< 0.0001	0.0072	0.0006	0.0022	0.0002	0.0047	0.0104
Pb [mg/L]	< 0.00009	< 0.00009	0.00010	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.0010	0.485	0.0115	0.0172	< 0.0009	0.0063	0.537

OnLine LIMS

0003566230

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10054-DEC23**

Analysis	10: CV5-WR-HCT-33 Wk#32	11: CV5-WR-HCT-36 Wk#32	12: CV5-WR-HCT-39 Wk#32	13: CV5-WR-HCT-50 Wk#32	14: CV5-WR-HCT-56 Wk#32	15: CV5-WR-HCT-59 Wk#32	16: CV5-WR-HCT-62 Wk#32
Se [mg/L]	0.00005	0.00004	0.00011	0.00054	0.00005	< 0.00004	0.00006
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00221	0.00332	0.00804	0.00599	0.00431	0.00723	0.00194
Ti [mg/L]	< 0.00007	< 0.00007	0.00026	< 0.00007	0.00014	< 0.00007	< 0.00007
Tl [mg/L]	< 0.000005	0.000015	0.000009	0.000017	< 0.000005	< 0.000005	0.000008
U [mg/L]	0.000049	0.000168	0.01691	0.00135	0.00568	0.000027	0.000074
V [mg/L]	0.00065	0.00020	0.00032	0.00004	0.00035	0.00039	0.00014
W [mg/L]	0.00003	0.00008	0.00004	< 0.00002	0.00007	0.00012	0.00006
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	0.013	< 0.002	< 0.002	< 0.002

Analysis	17: CV5-WR-HCT-64 Wk#32	18: CV5-WR-HCT-69 Wk#32	19: CV5-ORE-HCT-74 Wk#32	20: CV5-ORE-HCT-76 Wk#32
Sample Date & Time	07-Dec-23	07-Dec-23	07-Dec-23	07-Dec-23
HumCell Leachate Vol [mL]	1028	1014	1002	1001
pH [No unit]	6.89	7.18	6.72	7.04
Alkalinity [mg/L as CaCO3]	6	5	2	6
Conductivity [uS/cm]	14	14	8	11
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2
Tot.Reactive P [mg/L]	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	< 2	< 2	< 2	< 2
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.026	0.075	0.016	0.039
As [mg/L]	0.0081	0.0051	0.0102	0.0026
Ba [mg/L]	< 0.00008	0.00011	0.00009	< 0.00008
Be [mg/L]	0.000007	0.000076	0.000008	0.000051
B [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	0.00023	< 0.00001	0.00008
Ca [mg/L]	1.99	2.43	0.68	1.84
Cd [mg/L]	< 0.000003	< 0.000003	0.000003	< 0.000003
Co [mg/L]	0.000008	0.000012	0.000018	0.000011
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	< 0.0002	< 0.0002	< 0.0002	0.0002
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	0.203	0.066	0.094	0.247
Li [mg/L]	0.0021	0.0020	0.0068	0.0070
Mg [mg/L]	0.071	0.036	0.011	0.093
Mn [mg/L]	0.00595	0.00279	0.0429	0.00153
Mo [mg/L]	0.00006	0.00005	0.00005	0.00029
Na [mg/L]	0.06	0.15	0.10	0.10
Ni [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.0016	0.0018	0.0102	< 0.0009

OnLine LIMS

0003566230

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10054-DEC23**

Analysis	17: CV5-WR-HCT-64 Wk#32	18: CV5-WR-HCT-69 Wk#32	19: CV5-ORE-HCT-74 Wk#32	20: CV5-ORE-HCT-76 Wk#32
Se [mg/L]	< 0.00004	0.00004	< 0.00004	< 0.00004
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00311	0.00492	0.00099	0.00482
Ti [mg/L]	< 0.00007	< 0.00007	< 0.00007	< 0.00007
Tl [mg/L]	0.000035	0.000005	0.000029	0.000019
U [mg/L]	0.00117	0.00867	0.00121	0.00107
V [mg/L]	0.00003	0.00008	0.00002	0.00005
W [mg/L]	0.00006	0.00005	0.00004	0.00005
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003566230

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Patriot Tailings- Long - (9.5mm fraction size)

20-June-2023

Patriot Battery Metals Inc
Attn : Darren Smith

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 08 June 2023
LR Report: **CA10061-JUN23**
Reference: Wk#6

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-8 3 Wk#6	6: CV5-DMS-HCT-8 4 Wk#6
Sample Date & Time			08-Jun-23	08-Jun-23
HumCell Leachate Vol [mL]	09-Jun-23	19:48	1000	962
pH [No unit]	12-Jun-23	12:03	6.49	6.71
Alkalinity [mg/L as CaCO3]	12-Jun-23	12:03	< 2	2
Conductivity [uS/cm]	12-Jun-23	12:03	3	9
Acidity [mg/L as CaCO3]	12-Jun-23	12:03	2	2
F [mg/L]	12-Jun-23	09:47	< 0.06	< 0.06
SO4 [mg/L]	18-Jun-23	07:00	< 2	< 2
Cl [mg/L]	19-Jun-23	16:15	< 1	< 1
NO2 [as N mg/L]	15-Jun-23	15:42	< 0.03	< 0.03
NO3 [as N mg/L]	15-Jun-23	15:42	< 0.06	< 0.06
Br [mg/L]	15-Jun-23	15:42	< 0.3	< 0.3
Tot.Reactive P [mg/L]	12-Jun-23	08:11	< 0.03	< 0.03
Hg [mg/L]	15-Jun-23	09:39	0.00001	0.00001
Ag [mg/L]	15-Jun-23	09:39	< 0.00005	< 0.00005
Al [mg/L]	15-Jun-23	09:39	0.031	0.031
As [mg/L]	15-Jun-23	09:39	0.0119	0.0278
Ba [mg/L]	15-Jun-23	09:39	0.00013	0.00010
Be [mg/L]	15-Jun-23	09:39	0.000011	0.000007
B [mg/L]	15-Jun-23	09:39	< 0.002	< 0.002
Bi [mg/L]	15-Jun-23	09:39	0.00003	0.00003
Ca [mg/L]	15-Jun-23	09:39	0.49	0.51
Cd [mg/L]	15-Jun-23	09:39	< 0.000003	< 0.000003
Co [mg/L]	15-Jun-23	09:39	0.000012	0.000020
Cr [mg/L]	15-Jun-23	09:39	< 0.00008	< 0.00008
Cu [mg/L]	15-Jun-23	09:39	< 0.0002	< 0.0002
Fe [mg/L]	15-Jun-23	09:39	< 0.007	< 0.007
K [mg/L]	15-Jun-23	09:39	0.252	0.271
Li [mg/L]	15-Jun-23	09:39	0.0050	0.0057
Mg [mg/L]	15-Jun-23	09:39	0.029	0.032

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0003373023

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10061-JUN23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-8 3 Wk#6	6: CV5-DMS-HCT-8 4 Wk#6
Mn [mg/L]	15-Jun-23	09:39	0.00214	0.00159
Mo [mg/L]	15-Jun-23	09:39	0.00081	0.00083
Na [mg/L]	15-Jun-23	09:39	0.12	0.13
Ni [mg/L]	15-Jun-23	09:39	0.0001	0.0001
Pb [mg/L]	15-Jun-23	09:39	< 0.00009	< 0.00009
Sb [mg/L]	15-Jun-23	09:39	0.0037	0.0051
Se [mg/L]	15-Jun-23	09:39	< 0.00004	< 0.00004
Sn [mg/L]	15-Jun-23	09:39	< 0.00006	< 0.00006
Sr [mg/L]	15-Jun-23	09:39	0.00155	0.00155
Ti [mg/L]	15-Jun-23	09:39	< 0.00005	< 0.00005
Tl [mg/L]	15-Jun-23	09:39	0.000021	0.000021
U [mg/L]	15-Jun-23	09:39	0.003984	0.004779
V [mg/L]	15-Jun-23	09:39	0.00002	0.00003
W [mg/L]	15-Jun-23	09:39	0.00017	0.00056
Y [mg/L]	15-Jun-23	09:39	< 0.00002	< 0.00002
Zn [mg/L]	15-Jun-23	09:39	< 0.002	< 0.002
Au (tot) [mg/L]	15-Jun-23	09:39	< 0.00001	< 0.00001
Ce (tot) [mg/L]	15-Jun-23	09:39	< 0.00001	< 0.00001
Cs (tot) [mg/L]	15-Jun-23	09:39	0.0019	0.0019
Dy (tot) [mg/L]	15-Jun-23	09:39	< 0.0001	< 0.0001
Er (tot) [mg/L]	15-Jun-23	09:39	< 0.0001	< 0.0001
Eu (tot) [mg/L]	15-Jun-23	09:39	< 0.0001	< 0.0001
Ga (tot) [mg/L]	15-Jun-23	09:39	< 0.0001	< 0.0001
Gd (tot) [mg/L]	15-Jun-23	09:39	< 0.00001	< 0.00001
Ge (tot) [mg/L]	15-Jun-23	09:39	< 0.0001	< 0.0001
Hf (tot) [mg/L]	15-Jun-23	09:39	< 0.0001	< 0.0001
Ho (tot) [mg/L]	15-Jun-23	09:39	< 0.0001	< 0.0001
In (tot) [mg/L]	15-Jun-23	09:39	< 0.0001	< 0.0001
Ir (tot) [mg/L]	15-Jun-23	09:39	< 0.0001	< 0.0001
La (tot) [mg/L]	15-Jun-23	09:39	< 0.0001	< 0.0001
Lu (tot) [mg/L]	15-Jun-23	09:39	< 0.0001	< 0.0001
Nb (tot) [mg/L]	15-Jun-23	09:39	< 0.0001	< 0.0001
Nd (tot) [mg/L]	15-Jun-23	09:39	< 0.0001	< 0.0001
Os (tot) [mg/L]	15-Jun-23	09:39	< 0.0001	< 0.0001
Pd (tot) [mg/L]	15-Jun-23	09:39	< 0.0001	< 0.0001
Pr (tot) [mg/L]	15-Jun-23	09:39	< 0.0001	< 0.0001
Pt (tot) [mg/L]	15-Jun-23	09:39	< 0.0001	< 0.0001
Rb (tot) [mg/L]	15-Jun-23	09:39	0.0120	0.0126
Re (tot) [mg/L]	15-Jun-23	09:39	< 0.0001	< 0.0001
Rh (tot) [mg/L]	15-Jun-23	09:39	< 0.00001	< 0.00001
Sc (tot) [mg/L]	15-Jun-23	09:39	< 0.0001	< 0.0001
Sm (tot) [mg/L]	15-Jun-23	09:39	< 0.0001	< 0.0001
Ta (tot) [mg/L]	15-Jun-23	09:39	< 0.0001	< 0.0001
Tb (tot) [mg/L]	15-Jun-23	09:39	< 0.0001	< 0.0001
Te (tot) [mg/L]	15-Jun-23	09:39	0.0002	< 0.0001

OnLine LIMS

0003373023

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10061-JUN23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-8 3 Wk#6	6: CV5-DMS-HCT-8 4 Wk#6
Th (tot) [mg/L]	15-Jun-23	09:39	< 0.0001	< 0.0001
Tm (tot) [mg/L]	15-Jun-23	09:39	< 0.0001	< 0.0001
Yb (tot) [mg/L]	15-Jun-23	09:39	< 0.0001	< 0.0001

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003373023

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

20-June-2023

Patriot Battery Metals Inc
Attn : Darren Smith

838 W. Hastings Street, Suite 700, Vancouver
Canada, V6C 0A6
Phone: 647-782-7386, Fax:

Date Rec. : 08 June 2023
LR Report: **CA10062-JUN23**
Reference: Wk#6

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#6	6: CV5-WR-HCT-5 Wk#6	7: CV5-WR-HCT-5 (DUP) Wk#6	8: CV5-WR-HCT-14 Wk#6	9: CV5-WR-HCT-22 Wk#6	10: CV5-WR-HCT-33 Wk#6
Sample Date & Time			08-Jun-23	08-Jun-23	08-Jun-23	08-Jun-23	08-Jun-23	08-Jun-23
HumCell Leachate Vol [mL]	09-Jun-23	19:48	995	951	967	989	982	992
pH [No unit]	12-Jun-23	12:03	6.89	6.89	6.92	8.49	7.01	7.29
Alkalinity [mg/L as CaCO3]	12-Jun-23	12:03	4	5	4	17	4	7
Conductivity [uS/cm]	12-Jun-23	12:03	36	34	25	44	18	15
Acidity [mg/L as CaCO3]	12-Jun-23	12:03	4	< 2	2	< 2	< 2	< 2
F [mg/L]	12-Jun-23	09:47	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
SO4 [mg/L]	18-Jun-23	07:30	8	7	5	3	2	< 2
Cl [mg/L]	18-Jun-23	07:30	< 1	< 1	< 1	< 1	< 1	< 1
NO2 [as N mg/L]	15-Jun-23	15:08	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	15-Jun-23	15:08	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	15-Jun-23	15:08	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Tot.Reactive P [mg/L]	12-Jun-23	08:11	< 0.03	0.09	0.04	< 0.03	0.06	< 0.03
Hg [mg/L]	15-Jun-23	09:39	< 0.00001	< 0.00001	0.00001	< 0.00001	0.00001	< 0.00001
Ag [mg/L]	15-Jun-23	09:39	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	15-Jun-23	09:39	0.036	0.021	0.026	0.122	0.031	0.047
As [mg/L]	15-Jun-23	09:39	0.0054	0.422	0.280	0.0957	0.247	0.0039
Ba [mg/L]	15-Jun-23	09:39	0.00046	0.00037	0.00026	0.00020	0.00012	0.00500
Be [mg/L]	15-Jun-23	09:39	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	15-Jun-23	09:39	0.011	0.010	0.008	0.005	0.006	0.003
Bi [mg/L]	15-Jun-23	09:39	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	15-Jun-23	09:39	3.57	3.64	2.81	6.55	1.92	2.35
Cd [mg/L]	15-Jun-23	09:39	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	15-Jun-23	09:40	0.000095	0.000193	0.000189	0.000048	0.000109	0.000043
Cr [mg/L]	15-Jun-23	09:40	< 0.00008	0.00012	< 0.00008	< 0.00008	0.00010	< 0.00008
Cu [mg/L]	15-Jun-23	09:40	< 0.0002	< 0.0002	0.0010	< 0.0002	< 0.0002	0.0003
Fe [mg/L]	15-Jun-23	09:40	0.009	< 0.007	< 0.007	< 0.007	0.009	< 0.007
K [mg/L]	15-Jun-23	09:40	0.707	0.338	0.304	0.139	0.134	0.180
Li [mg/L]	15-Jun-23	09:40	0.0281	0.0580	0.0441	0.0086	0.0139	0.0103
Mg [mg/L]	15-Jun-23	09:40	0.665	0.729	0.501	0.559	0.290	0.204
Mn [mg/L]	15-Jun-23	09:40	0.00267	0.00331	0.00269	0.00285	0.00081	0.00698
Mo [mg/L]	15-Jun-23	09:40	0.00184	0.00118	0.00123	0.00027	0.00039	0.00044
Na [mg/L]	15-Jun-23	09:40	1.07	0.56	0.51	1.15	0.84	0.62
Ni [mg/L]	15-Jun-23	09:40	0.0004	0.0025	0.0020	0.0003	0.0005	0.0001

OnLine LIMS

0003373036

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10062-JUN23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#6	6: CV5-WR-HCT-5 Wk#6	7: CV5-WR-HCT-5 (DUP) Wk#6	8: CV5-WR-HCT-14 Wk#6	9: CV5-WR-HCT-22 Wk#6	10: CV5-WR-HCT-33 Wk#6
Pb [mg/L]	15-Jun-23	09:40	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	15-Jun-23	09:40	0.0083	0.156	0.0826	0.0246	0.0193	0.0055
Se [mg/L]	15-Jun-23	09:40	0.00019	0.00013	0.00012	0.00035	0.00014	0.00011
Sn [mg/L]	15-Jun-23	09:40	0.00006	0.00011	0.00006	< 0.00006	< 0.00006	0.00009
Sr [mg/L]	15-Jun-23	09:40	0.0172	0.0135	0.0119	0.00987	0.00735	0.00337
Ti [mg/L]	15-Jun-23	09:40	0.00062	0.00032	0.00012	0.00017	0.00062	0.00032
Tl [mg/L]	15-Jun-23	09:40	< 0.000005	0.000006	0.000008	< 0.000005	0.000006	0.000005
U [mg/L]	15-Jun-23	09:40	0.000145	0.000148	0.000480	0.00611	0.000155	0.000108
V [mg/L]	15-Jun-23	09:40	0.00037	0.00078	0.00078	0.00525	0.00148	0.00109
W [mg/L]	15-Jun-23	09:40	0.00268	0.00086	0.00079	0.00009	0.00020	0.00042
Y [mg/L]	15-Jun-23	09:41	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	15-Jun-23	09:41	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0.003
Au (tot) [mg/L]	15-Jun-23	09:41	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	15-Jun-23	09:41	0.00001	< 0.00001	< 0.00001	< 0.00001	0.00003	< 0.00001
Cs (tot) [mg/L]	15-Jun-23	09:41	0.0111	0.0181	0.0173	0.0033	0.0068	0.0066
Dy (tot) [mg/L]	15-Jun-23	09:41	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Er (tot) [mg/L]	15-Jun-23	09:41	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Eu (tot) [mg/L]	15-Jun-23	09:41	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ga (tot) [mg/L]	15-Jun-23	09:41	< 0.0001	< 0.0001	< 0.0001	0.0003	< 0.0001	0.0001
Gd (tot) [mg/L]	15-Jun-23	09:41	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	15-Jun-23	09:41	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	15-Jun-23	09:41	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	15-Jun-23	09:41	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
In (tot) [mg/L]	15-Jun-23	09:41	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ir (tot) [mg/L]	15-Jun-23	09:41	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
La (tot) [mg/L]	15-Jun-23	09:41	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Lu (tot) [mg/L]	15-Jun-23	09:41	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	15-Jun-23	09:41	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nd (tot) [mg/L]	15-Jun-23	09:41	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Os (tot) [mg/L]	15-Jun-23	09:41	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	15-Jun-23	09:41	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	15-Jun-23	09:41	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pt (tot) [mg/L]	15-Jun-23	09:41	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	15-Jun-23	09:41	0.0080	0.0074	0.0064	0.0011	0.0026	0.0013
Re (tot) [mg/L]	15-Jun-23	09:41	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	15-Jun-23	09:41	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	15-Jun-23	09:41	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	15-Jun-23	09:41	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ta (tot) [mg/L]	15-Jun-23	09:41	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	15-Jun-23	09:41	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Te (tot) [mg/L]	15-Jun-23	09:41	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	15-Jun-23	09:41	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	15-Jun-23	09:41	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Yb (tot) [mg/L]	15-Jun-23	09:41	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001

Analysis	11: CV5-WR-HCT-36 Wk#6	12: CV5-WR-HCT-39 Wk#6	13: CV5-WR-HCT-50 Wk#6	14: CV5-WR-HCT-56 Wk#6	15: CV5-WR-HCT-59 Wk#6	16: CV5-WR-HCT-62 Wk#6	17: CV5-WR-HCT-64 Wk#6	18: CV5-WR-HCT-69 Wk#6
Sample Date & Time	08-Jun-23	08-Jun-23	08-Jun-23	08-Jun-23	08-Jun-23	08-Jun-23	08-Jun-23	08-Jun-23
HumCell Leachate Vol [mL]	989	1009	1010	1012	975	997	994	994
pH [No unit]	7.26	6.97	7.34	7.35	6.69	7.38	7.19	7.41

OnLine LIMS

0003373036

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10062-JUN23**

Analysis	11: CV5-WR-HCT-36 Wk#6	12: CV5-WR-HCT-39 Wk#6	13: CV5-WR-HCT-50 Wk#6	14: CV5-WR-HCT-56 Wk#6	15: CV5-WR-HCT-59 Wk#6	16: CV5-WR-HCT-62 Wk#6	17: CV5-WR-HCT-64 Wk#6	18: CV5-WR-HCT-69 Wk#6
Alkalinity [mg/L as CaCO3]	9	5	13	10	2	11	7	10
Conductivity [uS/cm]	29	34	57	26	20	30	18	23
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	3	< 2	< 2	< 2
F [mg/L]	< 0.06	0.15	0.26	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
SO4 [mg/L]	2	10	14	< 2	5	< 2	< 2	< 2
Cl [mg/L]	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
NO2 [as N mg/L]	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Tot.Reactive P [mg/L]	1.64	< 0.03	< 0.03	< 0.03	0.15	0.84	< 0.03	< 0.03
Hg [mg/L]	< 0.00001	0.00001	< 0.00001	< 0.00001	0.00001	0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.004	0.031	0.064	0.037	0.010	0.003	0.029	0.128
As [mg/L]	5.15	0.0487	0.0252	0.0183	0.729	3.16	0.0515	0.0340
Ba [mg/L]	0.00095	0.00051	0.00066	0.00062	0.00029	0.00093	0.00011	0.00040
Be [mg/L]	< 0.000007	0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	0.000133
B [mg/L]	0.029	0.008	0.005	0.008	0.003	0.007	0.005	0.005
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00065
Ca [mg/L]	3.87	4.02	9.27	3.99	2.33	3.76	2.30	4.06
Cd [mg/L]	< 0.000003	0.000005	0.000019	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	0.000285	0.000222	0.00182	0.000066	0.000499	0.000234	0.000028	0.000022
Cr [mg/L]	0.00015	< 0.00008	< 0.00008	< 0.00008	0.00017	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	< 0.0002	0.0003	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	0.0005
Fe [mg/L]	< 0.007	< 0.007	< 0.007	0.008	0.010	< 0.007	< 0.007	< 0.007
K [mg/L]	0.115	0.762	1.36	1.28	0.179	0.122	1.21	0.331
Li [mg/L]	0.0070	0.0405	0.0298	0.0158	0.0046	0.0017	0.0173	0.0102
Mg [mg/L]	1.30	0.631	0.674	0.489	0.654	1.26	0.182	0.164
Mn [mg/L]	0.00303	0.00318	0.0108	0.0155	0.00148	0.00397	0.00500	0.00337
Mo [mg/L]	0.00047	0.00170	0.00142	0.00023	0.00181	0.00066	0.00017	0.00018
Na [mg/L]	0.19	0.97	0.30	1.14	0.36	0.32	0.38	0.58
Ni [mg/L]	0.0308	0.0007	0.0019	0.0002	0.0047	0.0276	0.0001	< 0.0001
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	1.09	0.0563	0.153	< 0.0009	0.0134	2.24	0.0077	0.0137
Se [mg/L]	0.00015	0.00017	0.00116	0.00010	0.00011	0.00022	< 0.00004	0.00014
Sn [mg/L]	0.00008	0.00008	< 0.00006	< 0.00006	< 0.00006	0.00014	0.00008	0.00019
Sr [mg/L]	0.00896	0.0163	0.0135	0.0158	0.0151	0.00493	0.00552	0.00996
Ti [mg/L]	0.00013	0.00023	0.00013	0.00032	0.00026	< 0.00005	< 0.00005	< 0.00005
Tl [mg/L]	0.000007	0.000013	0.000032	0.000009	0.000005	< 0.000005	0.000113	0.000016
U [mg/L]	0.00252	0.000557	0.00320	0.00300	0.000094	0.00132	0.00699	0.0176
V [mg/L]	0.00058	0.00057	0.00031	0.00084	0.00078	0.00046	0.00005	0.00024
W [mg/L]	0.00031	0.00041	0.00014	0.00081	0.00122	0.00038	0.00036	0.00048
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	0.003	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	0.00001	0.00001	< 0.00001	0.00001	0.00001	< 0.00001	< 0.00001	< 0.00001
Cs (tot) [mg/L]	0.0198	0.0058	0.0897	0.0347	0.0140	0.0049	0.0279	0.0048
Dy (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Er (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Eu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ga (tot) [mg/L]	< 0.0001	0.0001	0.0002	< 0.0001	< 0.0001	< 0.0001	0.0003	0.0006
Gd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001

OnLine LIMS

0003373036

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10062-JUN23**

Analysis	11: CV5-WR-HCT-36 Wk#6	12: CV5-WR-HCT-39 Wk#6	13: CV5-WR-HCT-50 Wk#6	14: CV5-WR-HCT-56 Wk#6	15: CV5-WR-HCT-59 Wk#6	16: CV5-WR-HCT-62 Wk#6	17: CV5-WR-HCT-64 Wk#6	18: CV5-WR-HCT-69 Wk#6
Hf (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
In (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ir (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
La (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Lu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0002
Nd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Os (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pt (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	0.0033	0.0056	0.0330	0.0036	0.0048	0.0022	0.0582	0.0118
Re (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ta (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Te (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Yb (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001

Analysis	19: CV5-ORE-HCT-74 Wk#6	20: CV5-ORE-HCT-76 Wk#
Sample Date & Time	08-Jun-23	
HumCell Leachate Vol [mL]	992	994
pH [No unit]	6.99	7.05
Alkalinity [mg/L as CaCO3]	5	11
Conductivity [uS/cm]	11	28
Acidity [mg/L as CaCO3]	< 2	< 2
F [mg/L]	< 0.06	< 0.06
SO4 [mg/L]	< 2	< 2
Cl [mg/L]	< 1	< 1
NO2 [as N mg/L]	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06
Br [mg/L]	< 0.3	< 0.3
Tot.Reactive P [mg/L]	0.06	0.03
Hg [mg/L]	< 0.00001	0.00002
Ag [mg/L]	< 0.00005	< 0.00005
Al [mg/L]	0.034	0.048
As [mg/L]	0.0599	0.0230
Ba [mg/L]	0.00010	0.00015
Be [mg/L]	< 0.000007	0.000059
B [mg/L]	0.004	0.008
Bi [mg/L]	< 0.00001	0.00012
Ca [mg/L]	1.42	3.67
Cd [mg/L]	< 0.000003	< 0.000003
Co [mg/L]	0.000021	0.000020

OnLine LIMS

0003373036

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10062-JUN23**

Analysis	19: CV5-ORE-HCT-74 Wk#6	20: CV5-ORE-HCT-76 Wk#
Cr [mg/L]	< 0.00008	0.00010
Cu [mg/L]	0.0002	0.0011
Fe [mg/L]	< 0.007	< 0.007
K [mg/L]	0.552	1.29
Li [mg/L]	0.0424	0.0293
Mg [mg/L]	0.057	0.234
Mn [mg/L]	0.0246	0.00323
Mo [mg/L]	0.00006	0.00013
Na [mg/L]	0.58	0.62
Ni [mg/L]	0.0001	< 0.0001
Pb [mg/L]	< 0.00009	< 0.00009
Sb [mg/L]	0.0381	0.0053
Se [mg/L]	< 0.00004	0.00005
Sn [mg/L]	0.00016	0.00007
Sr [mg/L]	0.00343	0.0112
Ti [mg/L]	< 0.00005	< 0.00005
Tl [mg/L]	0.000075	0.000060
U [mg/L]	0.0101	0.00384
V [mg/L]	0.00003	0.00015
W [mg/L]	0.00027	0.00046
Y [mg/L]	< 0.00002	< 0.00002
Zn [mg/L]	0.003	< 0.002
Au (tot) [mg/L]	< 0.00001	< 0.00001
Ce (tot) [mg/L]	< 0.00001	0.00001
Cs (tot) [mg/L]	0.0320	0.0171
Dy (tot) [mg/L]	< 0.0001	< 0.0001
Er (tot) [mg/L]	< 0.0001	< 0.0001
Eu (tot) [mg/L]	< 0.0001	< 0.0001
Ga (tot) [mg/L]	0.0004	0.0004
Gd (tot) [mg/L]	< 0.00001	< 0.00001
Ge (tot) [mg/L]	< 0.0001	< 0.0001
Hf (tot) [mg/L]	< 0.0001	< 0.0001
Ho (tot) [mg/L]	< 0.0001	< 0.0001
In (tot) [mg/L]	< 0.0001	< 0.0001
Ir (tot) [mg/L]	< 0.0001	< 0.0001
La (tot) [mg/L]	< 0.0001	< 0.0001
Lu (tot) [mg/L]	< 0.0001	< 0.0001
Nb (tot) [mg/L]	< 0.0001	< 0.0001
Nd (tot) [mg/L]	< 0.0001	< 0.0001
Os (tot) [mg/L]	< 0.0001	< 0.0001
Pd (tot) [mg/L]	< 0.0001	< 0.0001
Pr (tot) [mg/L]	< 0.0001	< 0.0001
Pt (tot) [mg/L]	< 0.0001	< 0.0001
Rb (tot) [mg/L]	0.0461	0.0273
Re (tot) [mg/L]	< 0.0001	< 0.0001
Rh (tot) [mg/L]	< 0.00001	< 0.00001
Sc (tot) [mg/L]	< 0.0001	< 0.0001
Sm (tot) [mg/L]	< 0.0001	< 0.0001
Ta (tot) [mg/L]	< 0.0001	< 0.0001
Tb (tot) [mg/L]	< 0.0001	< 0.0001
Te (tot) [mg/L]	< 0.0001	< 0.0001
Th (tot) [mg/L]	< 0.0001	< 0.0001

OnLine LIMS

0003373036

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10062-JUN23**

Analysis	19: CV5-ORE-HCT-74 Wk#6	20: CV5-ORE-HCT-76 Wk#
Tm (tot) [mg/L]	< 0.0001	< 0.0001
Yb (tot) [mg/L]	< 0.0001	< 0.0001

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0003373036

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Patriot Tailings -Short- (9.5mm fraction size)

27-November-2023

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 09 November 2023
LR Report: **CA10078-NOV23**
Reference: Wk#28

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#28	6: CV5-DMS-HCT-84 Wk#28
Sample Date & Time			09-Nov-23	09-Nov-23
HumCell Leachate Vol [mL]	13-Nov-23	16:20	977	982
pH [No unit]	14-Nov-23	11:16	6.30	6.36
Alkalinity [mg/L as CaCO3]	14-Nov-23	11:16	< 2	< 2
Conductivity [uS/cm]	14-Nov-23	11:16	2	< 2
Acidity [mg/L as CaCO3]	14-Nov-23	11:16	< 2	< 2
Tot.Reactive P [mg/L]	13-Nov-23	09:59	< 0.03	< 0.03
SO4 [mg/L]	22-Nov-23	16:42	< 2	< 2
Ag [mg/L]	17-Nov-23	11:44	< 0.00005	< 0.00005
Al [mg/L]	17-Nov-23	11:44	0.014	0.014
As [mg/L]	21-Nov-23	15:04	0.0050	0.0035
Ba [mg/L]	17-Nov-23	11:44	< 0.00008	< 0.00008
Be [mg/L]	17-Nov-23	11:44	< 0.000007	0.000009
B [mg/L]	17-Nov-23	11:44	< 0.002	< 0.002
Bi [mg/L]	17-Nov-23	11:44	0.00002	0.00003
Ca [mg/L]	17-Nov-23	11:44	0.35	0.39
Cd [mg/L]	17-Nov-23	11:44	0.000003	< 0.000003
Co [mg/L]	17-Nov-23	11:44	< 0.000004	< 0.000004
Cr [mg/L]	17-Nov-23	11:44	< 0.00008	< 0.00008
Cu [mg/L]	17-Nov-23	11:44	< 0.0002	< 0.0002
Fe [mg/L]	17-Nov-23	11:44	< 0.007	< 0.007
K [mg/L]	17-Nov-23	11:44	0.070	0.077
Li [mg/L]	17-Nov-23	11:44	0.0007	0.0008
Mg [mg/L]	17-Nov-23	11:44	0.014	0.017
Mn [mg/L]	17-Nov-23	11:44	0.00079	0.00144
Mo [mg/L]	17-Nov-23	11:44	0.00017	0.00025
Na [mg/L]	17-Nov-23	11:44	0.05	0.04
Ni [mg/L]	17-Nov-23	11:44	< 0.0001	< 0.0001
Pb [mg/L]	17-Nov-23	11:44	0.00029	< 0.00009
Sb [mg/L]	17-Nov-23	11:44	0.0023	0.0015
Se [mg/L]	17-Nov-23	11:44	< 0.00004	< 0.00004
Sn [mg/L]	17-Nov-23	11:44	< 0.00006	< 0.00006
Sr [mg/L]	17-Nov-23	11:44	0.00079	0.00087
Ti [mg/L]	17-Nov-23	11:44	< 0.00007	< 0.00007

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10078-NOV23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#28	6: CV5-DMS-HCT-84 Wk#28
Tl [mg/L]	17-Nov-23	11:44	0.000007	0.000007
U [mg/L]	17-Nov-23	11:44	0.00115	0.00196
V [mg/L]	17-Nov-23	11:44	0.00003	0.00003
W [mg/L]	17-Nov-23	11:44	< 0.00002	0.00003
Y [mg/L]	17-Nov-23	11:44	< 0.00002	< 0.00002
Zn [mg/L]	17-Nov-23	11:44	< 0.002	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003546218

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

27-November-2023

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 09 November 2023
LR Report: **CA10079-NOV23**
Reference: Wk#28

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#28	6: CV5-WR-HCT-5 Wk#28	7: CV5-WR-HCT-5 (DUP) Wk#28	8: CV5-WR-HCT-14 Wk#28
Sample Date & Time			09-Nov-23	09-Nov-23	09-Nov-23	09-Nov-23
HumCell Leachate Vol [mL]	13-Nov-23	16:20	932	919	952	996
pH [No unit]	14-Nov-23	11:19	6.81	7.03	7.03	7.59
Alkalinity [mg/L as CaCO3]	15-Nov-23	10:23	2	4	3	12
Conductivity [uS/cm]	14-Nov-23	11:19	23	17	14	26
Acidity [mg/L as CaCO3]	15-Nov-23	10:23	2	< 2	< 2	< 2
Tot.Reactive P [mg/L]	13-Nov-23	10:00	< 0.03	0.05	0.04	0.03
SO4 [mg/L]	22-Nov-23	16:43	7	3	3	< 2
Ag [mg/L]	17-Nov-23	11:44	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	17-Nov-23	11:44	0.026	0.029	0.032	0.091
As [mg/L]	21-Nov-23	15:05	0.0042	0.211	0.156	0.0349
Ba [mg/L]	17-Nov-23	11:48	0.00019	0.00021	0.00019	0.00011
Be [mg/L]	17-Nov-23	11:48	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	17-Nov-23	11:48	0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	17-Nov-23	11:48	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	17-Nov-23	11:48	3.65	3.04	2.52	5.29
Cd [mg/L]	17-Nov-23	11:48	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	17-Nov-23	11:48	0.000083	0.000168	0.000151	0.000045
Cr [mg/L]	17-Nov-23	11:48	< 0.00008	0.00009	0.00011	< 0.00008
Cu [mg/L]	17-Nov-23	11:48	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Fe [mg/L]	17-Nov-23	11:48	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	17-Nov-23	11:48	0.247	0.117	0.099	0.035
Li [mg/L]	17-Nov-23	11:48	0.0099	0.0105	0.0086	0.0036
Mg [mg/L]	17-Nov-23	11:48	0.348	0.237	0.191	0.196
Mn [mg/L]	17-Nov-23	11:48	0.00117	0.00190	0.00184	0.00577
Mo [mg/L]	17-Nov-23	11:48	0.00023	0.00016	0.00016	0.00008
Na [mg/L]	17-Nov-23	11:48	0.18	0.12	0.08	0.17
Ni [mg/L]	17-Nov-23	11:48	0.0003	0.0011	0.0007	0.0001

OnLine LIMS

0003546352

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10079-NOV23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#28	6: CV5-WR-HCT-5 Wk#28	7: CV5-WR-HCT-5 (DUP) Wk#28	8: CV5-WR-HCT-14 Wk#28
Pb [mg/L]	17-Nov-23	11:48	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	17-Nov-23	11:48	0.0029	0.0454	0.0238	0.0039
Se [mg/L]	17-Nov-23	11:48	0.00016	0.00006	0.00005	0.00010
Sn [mg/L]	17-Nov-23	11:48	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	17-Nov-23	11:48	0.0102	0.00609	0.00550	0.00379
Ti [mg/L]	17-Nov-23	11:48	< 0.00007	0.00013	0.00008	0.00023
Tl [mg/L]	17-Nov-23	11:48	< 0.000005	< 0.000005	< 0.000005	< 0.000005
U [mg/L]	17-Nov-23	11:48	0.000984	0.000028	0.00114	0.000136
V [mg/L]	17-Nov-23	11:48	0.00035	0.00056	0.00049	0.00227
W [mg/L]	17-Nov-23	11:48	0.00005	0.00008	0.00006	< 0.00002
Y [mg/L]	17-Nov-23	11:48	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	17-Nov-23	11:48	< 0.002	< 0.002	< 0.002	< 0.002

Analysis	9: CV5-WR-HCT-22 Wk#28	10: CV5-WR-HCT-33 Wk#28	11: CV5-WR-HCT-36 Wk#28	12: CV5-WR-HCT-39 Wk#28	13: CV5-WR-HCT-50 Wk#28	14: CV5-WR-HCT-56 Wk#28
Sample Date & Time	09-Nov-23	09-Nov-23	09-Nov-23	09-Nov-23	09-Nov-23	09-Nov-23
HumCell Leachate Vol [mL]	972	945	938	929	961	955
pH [No unit]	6.93	7.34	7.23	6.64	6.41	7.40
Alkalinity [mg/L as CaCO3]	4	6	7	2	3	7
Conductivity [uS/cm]	9	13	18	18	31	27
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	7	< 2
Tot.Reactive P [mg/L]	0.05	< 0.03	0.37	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	< 2	< 2	< 2	5	8	5
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.042	0.068	0.003	0.028	0.006	0.042
As [mg/L]	0.157	0.0042	1.42	0.0251	0.0031	0.0176
Ba [mg/L]	0.00008	0.00011	0.00056	0.00022	0.00048	0.00040
Be [mg/L]	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	< 0.002	< 0.002	0.006	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	1.60	2.61	2.74	2.71	5.45	4.80
Cd [mg/L]	0.000007	< 0.000003	< 0.000003	0.000009	0.000042	< 0.000003
Co [mg/L]	0.000184	0.000036	0.000156	0.000196	0.00226	0.000047
Cr [mg/L]	0.00016	< 0.00008	0.00013	0.00009	< 0.00008	< 0.00008
Cu [mg/L]	< 0.0002	0.0005	< 0.0002	< 0.0002	0.0002	< 0.0002
Fe [mg/L]	0.017	< 0.007	< 0.007	0.008	< 0.007	< 0.007
K [mg/L]	0.048	0.056	0.057	0.226	0.129	0.298
Li [mg/L]	0.0067	0.0038	0.0026	0.0110	0.0069	0.0046
Mg [mg/L]	0.223	0.122	0.509	0.339	0.112	0.331
Mn [mg/L]	0.00112	0.00733	0.00142	0.00195	0.00537	0.00755

OnLine LIMS

0003546352

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10079-NOV23**

Analysis	9: CV5-WR-HCT-22 Wk#28	10: CV5-WR-HCT-33 Wk#28	11: CV5-WR-HCT-36 Wk#28	12: CV5-WR-HCT-39 Wk#28	13: CV5-WR-HCT-50 Wk#28	14: CV5-WR-HCT-56 Wk#28
Mo [mg/L]	0.00044	0.00011	0.00007	0.00014	0.00035	0.00009
Na [mg/L]	0.15	0.12	0.05	0.15	0.10	0.11
Ni [mg/L]	0.0005	< 0.0001	0.0062	0.0004	0.0018	0.0001
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.0059	0.0010	0.518	0.0122	0.0118	< 0.0009
Se [mg/L]	0.00005	0.00009	0.00009	0.00010	0.00048	< 0.00004
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00485	0.00224	0.00316	0.00815	0.00451	0.00503
Ti [mg/L]	0.00051	0.00020	< 0.00007	0.00026	< 0.00007	< 0.00007
Tl [mg/L]	< 0.000005	< 0.000005	< 0.000005	0.000006	0.000010	< 0.000005
U [mg/L]	0.000258	0.000124	0.000122	0.000582	0.00117	0.000514
V [mg/L]	0.00123	0.00068	0.00021	0.00039	0.00004	0.00043
W [mg/L]	0.00003	0.00003	0.00007	0.00003	< 0.00002	0.00006
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	0.014	< 0.002

Analysis	15: CV5-WR-HCT-59 Wk#28	16: CV5-WR-HCT-62 Wk#28	17: CV5-WR-HCT-64 Wk#28	18: CV5-WR-HCT-69 Wk#28	19: CV5-ORE-HCT-74 Wk#28	20: CV5-ORE-HCT-76 Wk#28
Sample Date & Time	09-Nov-23	09-Nov-23	09-Nov-23	09-Nov-23	09-Nov-23	09-Nov-23
HumCell Leachate Vol [mL]	996	935	973	1007	981	934
pH [No unit]	6.57	7.29	6.83	7.13	6.78	7.07
Alkalinity [mg/L as CaCO3]	2	7	3	6	3	6
Conductivity [uS/cm]	11	22	5	11	4	10
Acidity [mg/L as CaCO3]	2	< 2	< 2	< 2	< 2	< 2
Tot.Reactive P [mg/L]	0.06	0.20	< 0.03	< 0.03	0.04	0.04
SO4 [mg/L]	2	2	< 2	< 2	< 2	< 2
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.006	0.002	0.025	0.054	0.021	0.073
As [mg/L]	0.234	0.849	0.0064	0.0035	0.0110	0.0029
Ba [mg/L]	0.00015	0.00041	< 0.00008	0.00011	< 0.00008	0.00011
Be [mg/L]	< 0.000007	< 0.000007	< 0.000007	0.000072	< 0.000007	0.000208
B [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00021	< 0.00001	0.00015
Ca [mg/L]	1.51	3.26	1.00	2.24	0.85	1.86
Cd [mg/L]	< 0.000003	< 0.000003	< 0.000003	0.000003	< 0.000003	< 0.000003
Co [mg/L]	0.000536	0.000375	< 0.000004	0.000006	0.000005	0.000013
Cr [mg/L]	0.00011	0.00014	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	0.0005
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	0.038	0.030	0.193	0.071	0.122	0.322

OnLine LIMS

0003546352

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10079-NOV23**

Analysis	15: CV5-WR-HCT-59 Wk#28	16: CV5-WR-HCT-62 Wk#28	17: CV5-WR-HCT-64 Wk#28	18: CV5-WR-HCT-69 Wk#28	19: CV5-ORE-HCT-74 Wk#28	20: CV5-ORE-HCT-76 Wk#28
Li [mg/L]	0.0016	0.0005	0.0020	0.0021	0.0082	0.0081
Mg [mg/L]	0.270	0.846	0.048	0.039	0.016	0.100
Mn [mg/L]	0.00132	0.00217	0.00269	0.00258	0.0423	0.00185
Mo [mg/L]	0.00006	0.00020	0.00008	0.00041	0.00007	0.00010
Na [mg/L]	0.06	0.04	0.06	0.14	0.16	0.17
Ni [mg/L]	0.0045	0.0076	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	0.00013	< 0.00009
Sb [mg/L]	0.0044	0.627	0.0012	0.0013	0.0109	< 0.0009
Se [mg/L]	< 0.00004	0.00013	< 0.00004	< 0.00004	< 0.00004	< 0.00004
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00671	0.00254	0.00151	0.00396	0.00116	0.00409
Ti [mg/L]	< 0.00007	< 0.00007	< 0.00007	< 0.00007	< 0.00007	< 0.00007
Tl [mg/L]	< 0.000005	0.000018	0.000026	< 0.000005	0.000030	0.000026
U [mg/L]	0.000016	0.00430	0.000642	0.00437	0.00173	0.000839
V [mg/L]	0.00031	0.00022	0.00003	0.00006	0.00004	0.00008
W [mg/L]	0.00011	0.00007	0.00003	0.00004	0.00005	0.00006
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	0.002	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003546352

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

02-August-2023

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 13 July 2023
LR Report: **CA10101-JUL23**
Reference: Wk#11 - Patriot Tailings -Short- (9.5mm fraction size)

Copy: #2

CERTIFICATE OF ANALYSIS
Final Report - Revised

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#11	6: CV5-DMS-HCT-84 Wk#11
Sample Date & Time			13-Jul-23	13-Jul-23
HumCell Leachate Vol [mL]	14-Jul-23	08:16	973	961
pH [No unit]	14-Jul-23	15:31	6.42	6.47
Alkalinity [mg/L as CaCO3]	14-Jul-23	15:31	< 2	< 2
Conductivity [uS/cm]	14-Jul-23	15:31	2	3
Acidity [mg/L as CaCO3]	14-Jul-23	15:31	3	3
Tot.Reactive P [mg/L]	25-Jul-23	15:45	< 0.03	< 0.03
SO4 [mg/L]	13-Jul-23	16:26	< 2	< 2
Ag [mg/L]	01-Aug-23	11:32	< 0.00005	< 0.00005
Al [mg/L]	01-Aug-23	11:32	0.009	0.013
As [mg/L]	01-Aug-23	11:32	0.0158	0.0076
Ba [mg/L]	01-Aug-23	11:32	< 0.00008	< 0.00008
Be [mg/L]	01-Aug-23	11:32	0.000018	0.000034
B [mg/L]	01-Aug-23	11:32	< 0.002	< 0.002
Bi [mg/L]	01-Aug-23	11:32	0.00001	0.00002
Ca [mg/L]	01-Aug-23	11:32	0.37	0.43
Cd [mg/L]	01-Aug-23	11:32	< 0.000003	< 0.000003
Co [mg/L]	01-Aug-23	11:32	0.000040	0.000011
Cr [mg/L]	01-Aug-23	11:32	< 0.00008	< 0.00008
Cu [mg/L]	01-Aug-23	11:32	< 0.0002	< 0.0002
Fe [mg/L]	01-Aug-23	11:32	< 0.007	< 0.007
K [mg/L]	01-Aug-23	11:32	0.168	0.184
Li [mg/L]	01-Aug-23	11:32	0.0027	0.0028
Mg [mg/L]	01-Aug-23	11:32	0.021	0.026
Mn [mg/L]	01-Aug-23	11:32	0.00138	0.00193
Mo [mg/L]	01-Aug-23	11:32	0.00006	0.00005
Na [mg/L]	01-Aug-23	11:32	0.03	0.05
Ni [mg/L]	01-Aug-23	11:32	0.0001	< 0.0001
Pb [mg/L]	01-Aug-23	11:32	< 0.00009	< 0.00009
Sb [mg/L]	01-Aug-23	11:32	0.0034	0.0027
Se [mg/L]	01-Aug-23	11:32	0.00005	< 0.00004
Sn [mg/L]	01-Aug-23	11:32	< 0.00006	< 0.00006

OnLine LIMS

0003420971

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : CA10101-JUL23

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#11	6: CV5-DMS-HCT-84 Wk#11
Sr [mg/L]	01-Aug-23	11:32	0.00094	0.00110
Ti [mg/L]	01-Aug-23	11:32	< 0.00007	< 0.00007
Tl [mg/L]	01-Aug-23	11:32	0.000025	0.000023
U [mg/L]	01-Aug-23	11:32	0.00111	0.00172
V [mg/L]	01-Aug-23	11:32	0.00004	0.00004
W [mg/L]	01-Aug-23	11:32	0.00008	0.00009
Y [mg/L]	01-Aug-23	11:32	< 0.00002	< 0.00002
Zn [mg/L]	01-Aug-23	11:32	< 0.002	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003420971

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Patriot Tailings- Long - (9.5mm fraction size)

30-May-2023

Patriot Battery Metals Inc
Attn : Darren Smith

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 11 May 2023
LR Report: **CA10101-MAY23**
Reference: Wk#2

Copy: #2

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-8 3 Wk#2	6: CV5-DMS-HCT-8 4 Wk#2
Sample Date & Time			11-May-23	11-May-23
HumCell Leachate Vol [mL]	12-May-23	09:23	977	964
pH [No unit]	15-May-23	11:39	6.79	6.89
Alkalinity [mg/L as CaCO3]	15-May-23	11:39	2	3
Conductivity [uS/cm]	15-May-23	11:39	8	8
Acidity [mg/L as CaCO3]	15-May-23	11:39	< 2	< 2
F [mg/L]	12-May-23	09:05	< 0.06	< 0.06
SO4 [mg/L]	18-May-23	13:28	< 2	< 2
Cl [mg/L]	18-May-23	13:28	< 1	< 1
NO2 [as N mg/L]	21-May-23	08:11	< 0.03	< 0.03
NO3 [as N mg/L]	21-May-23	08:11	< 0.06	< 0.06
Br [mg/L]	21-May-23	08:11	< 0.3	< 0.3
Tot.Reactive P [mg/L]	12-May-23	13:28	< 0.03	< 0.03
Hg [mg/L]	15-May-23	15:14	< 0.00001	< 0.00001
Ag [mg/L]	15-May-23	15:14	< 0.00005	< 0.00005
Al [mg/L]	15-May-23	15:14	0.046	0.048
As [mg/L]	15-May-23	15:14	0.0719	0.0308
Ba [mg/L]	15-May-23	15:14	0.00016	0.00013
Be [mg/L]	15-May-23	15:14	0.000025	0.000027
B [mg/L]	15-May-23	15:14	0.004	0.004
Bi [mg/L]	15-May-23	15:14	0.00008	0.00008
Ca [mg/L]	15-May-23	15:14	0.76	0.81
Cd [mg/L]	15-May-23	15:14	0.000003	< 0.000003
Co [mg/L]	15-May-23	15:14	0.000037	0.000033
Cr [mg/L]	15-May-23	15:14	< 0.00008	< 0.00008
Cu [mg/L]	15-May-23	15:14	0.0005	0.0008
Fe [mg/L]	15-May-23	15:14	< 0.007	< 0.007
K [mg/L]	15-May-23	15:14	0.517	0.518
Li [mg/L]	15-May-23	15:14	0.0236	0.0226
Mg [mg/L]	15-May-23	15:14	0.052	0.050

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0003349143

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10101-MAY23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-8 3 Wk#2	6: CV5-DMS-HCT-8 4 Wk#2
Mn [mg/L]	15-May-23	15:14	0.00181	0.00207
Mo [mg/L]	15-May-23	15:14	0.00059	0.00058
Na [mg/L]	15-May-23	15:14	0.58	0.54
Ni [mg/L]	15-May-23	15:14	0.0002	0.0002
Pb [mg/L]	15-May-23	15:14	< 0.00009	< 0.00009
Sb [mg/L]	15-May-23	15:14	0.0082	0.0060
Se [mg/L]	15-May-23	15:14	0.00009	0.00011
Sn [mg/L]	15-May-23	15:14	0.00020	0.00017
Sr [mg/L]	15-May-23	15:14	0.00209	0.00219
Ti [mg/L]	15-May-23	15:14	< 0.00005	< 0.00005
Tl [mg/L]	15-May-23	15:14	0.000030	0.000035
U [mg/L]	15-May-23	15:14	0.011333	0.010037
V [mg/L]	15-May-23	15:14	0.00008	0.00008
W [mg/L]	15-May-23	15:14	0.00070	0.00063
Y [mg/L]	15-May-23	15:14	< 0.00002	< 0.00002
Zn [mg/L]	15-May-23	15:14	0.007	0.006
Au (tot) [mg/L]	15-May-23	15:14	< 0.00001	< 0.00001
Ce (tot) [mg/L]	30-May-23	13:17	0.00002	0.00003
Cs (tot) [mg/L]	15-May-23	15:14	0.0026	0.0027
Dy (tot) [mg/L]	30-May-23	13:17	< 0.0001	< 0.0001
Er (tot) [mg/L]	30-May-23	13:17	< 0.0001	< 0.0001
Eu (tot) [mg/L]	30-May-23	13:17	< 0.0001	< 0.0001
Ga (tot) [mg/L]	30-May-23	13:17	0.0002	0.0001
Gd (tot) [mg/L]	30-May-23	13:17	< 0.00001	< 0.00001
Ge (tot) [mg/L]	30-May-23	13:17	< 0.0001	< 0.0001
Hf (tot) [mg/L]	15-May-23	15:14	< 0.0001	< 0.0001
Ho (tot) [mg/L]	30-May-23	13:17	< 0.0001	< 0.0001
In (tot) [mg/L]	30-May-23	13:17	< 0.0001	< 0.0001
Ir (tot) [mg/L]	30-May-23	13:17	< 0.0001	< 0.0001
La (tot) [mg/L]	30-May-23	13:17	< 0.0001	< 0.0001
Lu (tot) [mg/L]	30-May-23	13:17	< 0.0001	< 0.0001
Nb (tot) [mg/L]	15-May-23	15:14	< 0.0001	< 0.0001
Nd (tot) [mg/L]	30-May-23	13:18	< 0.0001	< 0.0001
Os (tot) [mg/L]	30-May-23	13:18	< 0.0001	< 0.0001
Pd (tot) [mg/L]	15-May-23	15:14	< 0.0001	< 0.0001
Pr (tot) [mg/L]	30-May-23	13:18	< 0.0001	< 0.0001
Pt (tot) [mg/L]	15-May-23	15:14	< 0.0001	< 0.0001
Rb (tot) [mg/L]	15-May-23	15:14	0.0236	0.0244
Re (tot) [mg/L]	30-May-23	13:18	< 0.0001	< 0.0001
Rh (tot) [mg/L]	15-May-23	15:14	< 0.00001	< 0.00001
Sc (tot) [mg/L]	30-May-23	13:18	< 0.0001	< 0.0001
Sm (tot) [mg/L]	30-May-23	13:18	< 0.0001	< 0.0001
Ta (tot) [mg/L]	15-May-23	15:14	< 0.0001	< 0.0001
Tb (tot) [mg/L]	30-May-23	13:18	< 0.0001	< 0.0001
Te (tot) [mg/L]	15-May-23	15:14	< 0.0001	< 0.0001

OnLine LIMS

0003349143

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10101-MAY23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-8 3 Wk#2	6: CV5-DMS-HCT-8 4 Wk#2
Th (tot) [mg/L]	15-May-23	15:14	< 0.0001	< 0.0001
Tm (tot) [mg/L]	30-May-23	13:18	< 0.0001	< 0.0001
Yb (tot) [mg/L]	30-May-23	13:18	< 0.0001	< 0.0001

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003349143

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

24-August-2023

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 10 August 2023
LR Report: **CA10102-AUG23**
Reference: Wk#15 - Patriot WR

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#15	6: CV5-WR-HCT-5 Wk#15	7: CV5-WR-HCT-5 (DUP) Wk#15	8: CV5-WR-HCT-14 Wk#15	9: CV5-WR-HCT-22 Wk#15	10: CV5-WR-HCT-33 Wk#15
Sample Date & Time			10-Aug-23	10-Aug-23	10-Aug-23	10-Aug-23	10-Aug-23	10-Aug-23
HumCell Leachate Vol [mL]	11-Aug-23	16:51	901	895	898	904	904	981
pH [No unit]	18-Aug-23	11:13	6.54	6.76	6.75	7.90	6.72	7.51
Alkalinity [mg/L as CaCO3]	15-Aug-23	09:24	4	6	7	24	5	11
Conductivity [uS/cm]	14-Aug-23	10:31	38	24	24	32	14	18
Acidity [mg/L as CaCO3]	18-Aug-23	11:14	10	2	3	< 2	< 2	< 2
F [mg/L]	16-Aug-23	09:27	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
SO4 [mg/L]	18-Aug-23	16:09	10	4	4	3	2	< 2
Cl [mg/L]	18-Aug-23	16:09	3	< 1	< 1	< 1	< 1	< 1
NO2 [as N mg/L]	17-Aug-23	12:08	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	17-Aug-23	12:08	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	17-Aug-23	12:08	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Tot.Reactive P [mg/L]	11-Aug-23	09:56	< 0.03	0.08	0.06	0.04	0.09	< 0.03
Hg [mg/L]	18-Aug-23	12:15	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	22-Aug-23	16:45	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	22-Aug-23	16:45	0.030	0.019	0.029	0.113	0.039	0.069
As [mg/L]	22-Aug-23	16:45	0.0049	0.379	0.317	0.0677	0.342	0.0056
Ba [mg/L]	22-Aug-23	16:45	0.00045	0.00025	0.00024	0.00018	0.00015	0.00024
Be [mg/L]	22-Aug-23	16:45	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	22-Aug-23	16:45	0.006	0.004	0.004	< 0.002	0.004	< 0.002
Bi [mg/L]	22-Aug-23	16:45	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	22-Aug-23	16:45	4.41	3.38	3.10	6.35	1.86	3.27
Cd [mg/L]	22-Aug-23	16:45	0.000005	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	22-Aug-23	16:45	0.000114	0.000133	0.000119	0.000078	0.000159	0.000086
Cr [mg/L]	22-Aug-23	16:45	< 0.00008	< 0.00008	< 0.00008	< 0.00008	0.00011	0.00009
Cu [mg/L]	22-Aug-23	16:45	0.0010	0.0005	< 0.0002	0.0003	0.0002	0.0004
Fe [mg/L]	22-Aug-23	16:45	0.008	< 0.007	< 0.007	0.016	0.015	< 0.007
K [mg/L]	22-Aug-23	16:45	0.592	0.273	0.246	0.076	0.114	0.110
Li [mg/L]	22-Aug-23	16:45	0.0268	0.0300	0.0283	0.0054	0.0151	0.0060
Mg [mg/L]	22-Aug-23	16:45	1.02	0.624	0.531	0.386	0.374	0.196
Mn [mg/L]	22-Aug-23	16:45	0.00151	0.00139	0.00138	0.00476	0.00076	0.00719
Mo [mg/L]	22-Aug-23	16:45	0.00044	0.00006	0.00005	0.00015	0.00052	0.00016
Na [mg/L]	22-Aug-23	16:46	0.58	0.22	0.22	0.46	0.49	0.22
Ni [mg/L]	22-Aug-23	16:46	0.0003	0.0009	0.0006	0.0002	0.0004	0.0001

OnLine LIMS

0003443804

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : CA10102-AUG23

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#15	6: CV5-WR-HCT-5 Wk#15	7: CV5-WR-HCT-5 (DUP) Wk#15	8: CV5-WR-HCT-1 4 Wk#15	9: CV5-WR-HCT-2 2 Wk#15	10: CV5-WR-HCT-3 3 Wk#15
Pb [mg/L]	22-Aug-23	16:46	0.00026	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	22-Aug-23	16:46	0.0075	0.0903	0.0729	0.0117	0.0199	0.0035
Se [mg/L]	22-Aug-23	16:46	0.00041	0.00013	0.00010	0.00012	0.00009	0.00011
Sn [mg/L]	22-Aug-23	16:46	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	0.00007
Sr [mg/L]	22-Aug-23	16:46	0.0198	0.0105	0.0105	0.00701	0.00785	0.00398
Ti [mg/L]	22-Aug-23	16:46	0.00017	0.00010	0.00015	0.00044	0.00056	0.00024
Tl [mg/L]	22-Aug-23	16:46	< 0.000005	< 0.000005	0.000005	< 0.000005	0.000006	< 0.000005
U [mg/L]	22-Aug-23	16:46	0.000120	0.000228	0.000044	0.000115	0.000204	0.000053
V [mg/L]	22-Aug-23	16:46	0.00037	0.00076	0.00074	0.00381	0.00173	0.00099
W [mg/L]	22-Aug-23	16:46	0.00017	0.00021	0.00024	0.00005	0.00009	0.00009
Y [mg/L]	22-Aug-23	16:46	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	22-Aug-23	16:46	0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	22-Aug-23	16:46	0.00003	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	22-Aug-23	16:46	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00003	< 0.00001
Cs (tot) [mg/L]	22-Aug-23	16:46	0.0096	0.0139	0.0144	0.0022	0.0064	0.0055
Dy (tot) [mg/L]	22-Aug-23	16:46	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Er (tot) [mg/L]	22-Aug-23	16:46	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Eu (tot) [mg/L]	22-Aug-23	16:46	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ga (tot) [mg/L]	18-Aug-23	12:15	< 0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001
Gd (tot) [mg/L]	22-Aug-23	16:46	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	22-Aug-23	16:46	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	22-Aug-23	16:46	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	22-Aug-23	16:46	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
In (tot) [mg/L]	18-Aug-23	12:15	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ir (tot) [mg/L]	22-Aug-23	16:46	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
La (tot) [mg/L]	22-Aug-23	16:46	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Lu (tot) [mg/L]	22-Aug-23	16:46	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	22-Aug-23	16:46	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nd (tot) [mg/L]	22-Aug-23	16:46	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Os (tot) [mg/L]	22-Aug-23	16:46	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	22-Aug-23	16:46	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	22-Aug-23	16:46	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pt (tot) [mg/L]	22-Aug-23	16:46	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	22-Aug-23	16:46	0.0083	0.0072	0.0065	0.0007	0.0029	0.0010
Re (tot) [mg/L]	22-Aug-23	16:46	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	22-Aug-23	16:46	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	18-Aug-23	12:15	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	22-Aug-23	16:47	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ta (tot) [mg/L]	22-Aug-23	16:47	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	18-Aug-23	12:15	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Te (tot) [mg/L]	22-Aug-23	16:47	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	22-Aug-23	16:47	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	18-Aug-23	12:15	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Yb (tot) [mg/L]	22-Aug-23	16:47	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001

Analysis	11: CV5-WR-HCT-3 6 Wk#15	12: CV5-WR-HCT-3 9 Wk#15	13: CV5-WR-HCT-5 0 Wk#15	14: CV5-WR-HCT-5 6 Wk#15	15: CV5-WR-HCT-5 9 Wk#15	16: CV5-WR-HCT-6 2 Wk#15	17: CV5-WR-HCT-6 4 Wk#15	18: CV5-WR-HCT-6 9 Wk#15
Sample Date & Time	10-Aug-23	10-Aug-23	10-Aug-23	10-Aug-23	10-Aug-23	10-Aug-23	10-Aug-23	10-Aug-23
HumCell Leachate Vol [mL]	933	900	1008	897	896	899	902	987
pH [No unit]	7.49	6.40	7.37	7.26	7.00	7.38	6.63	7.28

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

OnLine LIMS

0003443804

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : CA10102-AUG23

Analysis	11: CV5-WR-HCT-3 6 Wk#15	12: CV5-WR-HCT-3 9 Wk#15	13: CV5-WR-HCT-5 0 Wk#15	14: CV5-WR-HCT-5 6 Wk#15	15: CV5-WR-HCT-5 9 Wk#15	16: CV5-WR-HCT-6 2 Wk#15	17: CV5-WR-HCT-6 4 Wk#15	18: CV5-WR-HCT-6 9 Wk#15
Alkalinity [mg/L as CaCO3]	11	4	18	9	4	12	4	10
Conductivity [uS/cm]	20	29	48	30	29	31	6	18
Acidity [mg/L as CaCO3]	< 2	3	< 2	< 2	3	< 2	2	< 2
F [mg/L]	< 0.06	0.15	0.30	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
SO4 [mg/L]	< 2	9	8	6	5	2	< 2	< 2
Cl [mg/L]	< 1	< 1	< 1	< 1	1	< 1	< 1	< 1
NO2 [as N mg/L]	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Tot.Reactive P [mg/L]	0.81	< 0.03	< 0.03	< 0.03	0.35	0.65	< 0.03	< 0.03
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.004	0.043	0.057	0.037	0.017	0.002	0.085	0.093
As [mg/L]	2.42	0.0391	0.0206	0.0276	1.07	2.07	0.0152	0.0136
Ba [mg/L]	0.00080	0.00036	0.00050	0.00076	0.00031	0.00099	0.00008	0.00024
Be [mg/L]	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	0.000114	0.000090
B [mg/L]	0.015	0.003	< 0.002	0.004	0.002	0.004	< 0.002	0.003
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00036
Ca [mg/L]	3.32	3.78	9.19	4.08	3.44	4.43	1.00	3.60
Cd [mg/L]	< 0.000003	0.000006	0.000028	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	0.000202	0.000186	0.00146	0.000069	0.000370	0.000162	0.000044	0.000053
Cr [mg/L]	0.00014	< 0.00008	< 0.00008	< 0.00008	0.00032	0.00013	0.00016	< 0.00008
Cu [mg/L]	< 0.0002	< 0.0002	< 0.0002	0.0002	< 0.0002	0.0002	< 0.0002	0.0003
Fe [mg/L]	< 0.007	0.011	< 0.007	< 0.007	0.020	< 0.007	0.050	< 0.007
K [mg/L]	0.072	0.393	0.533	1.02	0.154	0.085	0.540	0.176
Li [mg/L]	0.0044	0.0220	0.0116	0.0154	0.0045	0.0008	0.0040	0.0048
Mg [mg/L]	0.685	0.555	0.275	0.774	0.837	1.23	0.075	0.097
Mn [mg/L]	0.00146	0.00168	0.00841	0.0114	0.00136	0.00165	0.00266	0.00382
Mo [mg/L]	0.00014	0.00030	0.00074	0.00018	0.00007	0.00022	< 0.00004	0.00016
Na [mg/L]	0.08	0.37	0.16	0.34	0.22	0.06	0.10	0.29
Ni [mg/L]	0.0091	0.0004	0.0011	0.0001	0.0024	0.0072	< 0.0001	< 0.0001
Pb [mg/L]	< 0.00009	0.00014	0.00012	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.854	0.0300	0.0698	< 0.0009	0.0165	1.98	0.0019	0.0051
Se [mg/L]	0.00011	0.00015	0.00075	0.00011	0.00012	0.00020	< 0.00004	0.00009
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	0.00014
Sr [mg/L]	0.00592	0.0141	0.00962	0.00701	0.0194	0.00498	0.00206	0.00783
Ti [mg/L]	0.00009	0.00071	0.00009	0.00009	0.00018	< 0.00007	< 0.00007	< 0.00007
Tl [mg/L]	0.000007	0.000006	0.000028	< 0.000005	< 0.000005	< 0.000005	0.000089	0.000010
U [mg/L]	0.00299	0.000546	0.0101	0.000654	0.000104	0.000168	0.00133	0.00987
V [mg/L]	0.00032	0.00047	0.00025	0.00085	0.00081	0.00040	0.00007	0.00015
W [mg/L]	0.00015	0.00014	0.00007	0.00028	0.00079	0.00023	0.00009	0.00015
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	0.005	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	< 0.00001	< 0.00001	0.00001	< 0.00001	< 0.00001	0.00002	< 0.00001	< 0.00001
Ce (tot) [mg/L]	< 0.00001	0.00004	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Cs (tot) [mg/L]	0.0135	0.0032	0.0567	0.0288	0.0143	0.0045	0.0142	0.0034
Dy (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Er (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Eu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ga (tot) [mg/L]	< 0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001	< 0.0001	0.0002	0.0003
Gd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001

OnLine LIMS

0003443804

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10102-AUG23**

Analysis	11: CV5-WR-HCT-36 Wk#15	12: CV5-WR-HCT-39 Wk#15	13: CV5-WR-HCT-50 Wk#15	14: CV5-WR-HCT-56 Wk#15	15: CV5-WR-HCT-59 Wk#15	16: CV5-WR-HCT-62 Wk#15	17: CV5-WR-HCT-64 Wk#15	18: CV5-WR-HCT-69 Wk#15
Hf (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
In (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ir (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
La (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Lu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Os (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pt (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	0.0026	0.0036	0.0196	0.0034	0.0058	0.0024	0.0381	0.0078
Re (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ta (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0003	< 0.0001
Tb (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Te (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Yb (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001

Analysis	19: CV5-ORE-HCT-74 Wk#15	20: CV5-ORE-HCT-76 Wk#15
Sample Date & Time	10-Aug-23	10-Aug-23
HumCell Leachate Vol [mL]	991	923
pH [No unit]	6.87	7.55
Alkalinity [mg/L as CaCO3]	4	8
Conductivity [uS/cm]	8	15
Acidity [mg/L as CaCO3]	< 2	< 2
F [mg/L]	< 0.06	< 0.06
SO4 [mg/L]	< 2	< 2
Cl [mg/L]	< 1	< 1
NO2 [as N mg/L]	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06
Br [mg/L]	< 0.3	< 0.3
Tot.Reactive P [mg/L]	< 0.03	< 0.03
Hg [mg/L]	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005
Al [mg/L]	0.028	0.049
As [mg/L]	0.0270	0.0068
Ba [mg/L]	0.00008	0.00024
Be [mg/L]	< 0.000007	0.000044
B [mg/L]	< 0.002	0.002
Bi [mg/L]	< 0.00001	0.00012
Ca [mg/L]	1.36	2.50
Cd [mg/L]	< 0.000003	< 0.000003
Co [mg/L]	0.000043	0.000035

OnLine LIMS

0003443804

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10102-AUG23**

Analysis	19: CV5-ORE-HCT-74 Wk#15	20: CV5-ORE-HCT-76 Wk#15
Cr [mg/L]	< 0.00008	< 0.00008
Cu [mg/L]	< 0.0002	0.0004
Fe [mg/L]	< 0.007	< 0.007
K [mg/L]	0.231	0.606
Li [mg/L]	0.0161	0.0121
Mg [mg/L]	0.032	0.138
Mn [mg/L]	0.0391	0.00224
Mo [mg/L]	< 0.00004	0.00009
Na [mg/L]	0.19	0.19
Ni [mg/L]	< 0.0001	< 0.0001
Pb [mg/L]	< 0.00009	< 0.00009
Sb [mg/L]	0.0260	0.0018
Se [mg/L]	< 0.00004	< 0.00004
Sn [mg/L]	< 0.00006	< 0.00006
Sr [mg/L]	0.00219	0.00666
Ti [mg/L]	< 0.00007	< 0.00007
Tl [mg/L]	0.000042	0.000033
U [mg/L]	0.00362	0.00163
V [mg/L]	< 0.00001	0.00008
W [mg/L]	0.00009	0.00013
Y [mg/L]	< 0.00002	< 0.00002
Zn [mg/L]	0.004	< 0.002
Au (tot) [mg/L]	< 0.00001	< 0.00001
Ce (tot) [mg/L]	< 0.00001	< 0.00001
Cs (tot) [mg/L]	0.0153	0.0095
Dy (tot) [mg/L]	< 0.0001	< 0.0001
Er (tot) [mg/L]	< 0.0001	< 0.0001
Eu (tot) [mg/L]	< 0.0001	< 0.0001
Ga (tot) [mg/L]	0.0003	0.0002
Gd (tot) [mg/L]	< 0.00001	< 0.00001
Ge (tot) [mg/L]	< 0.0001	< 0.0001
Hf (tot) [mg/L]	< 0.0001	< 0.0001
Ho (tot) [mg/L]	< 0.0001	< 0.0001
In (tot) [mg/L]	< 0.0001	< 0.0001
Ir (tot) [mg/L]	< 0.0001	< 0.0001
La (tot) [mg/L]	< 0.0001	< 0.0001
Lu (tot) [mg/L]	< 0.0001	< 0.0001
Nb (tot) [mg/L]	< 0.0001	< 0.0001
Nd (tot) [mg/L]	< 0.0001	< 0.0001
Os (tot) [mg/L]	< 0.0001	< 0.0001
Pd (tot) [mg/L]	< 0.0001	< 0.0001
Pr (tot) [mg/L]	< 0.0001	< 0.0001
Pt (tot) [mg/L]	< 0.0001	< 0.0001
Rb (tot) [mg/L]	0.0259	0.0170
Re (tot) [mg/L]	< 0.0001	< 0.0001
Rh (tot) [mg/L]	< 0.00001	< 0.00001
Sc (tot) [mg/L]	< 0.0001	< 0.0001
Sm (tot) [mg/L]	< 0.0001	< 0.0001
Ta (tot) [mg/L]	< 0.0001	< 0.0001
Tb (tot) [mg/L]	< 0.0001	< 0.0001
Te (tot) [mg/L]	< 0.0001	< 0.0001
Th (tot) [mg/L]	< 0.0001	< 0.0001

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10102-AUG23**

Analysis	19: CV5-ORE-HCT-74 Wk#15	20: CV5-ORE-HCT-76 Wk#15
Tm (tot) [mg/L]	< 0.0001	< 0.0001
Yb (tot) [mg/L]	< 0.0001	< 0.0001

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

02-August-2023

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 13 July 2023
LR Report: **CA10102-JUL23**
Reference: Wk#11 - Patriot WR

Copy: #2

CERTIFICATE OF ANALYSIS

Final Report - Revised

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#11	6: CV5-WR-HCT-5 Wk#11	7: CV5-WR-HCT-5 (DUP) Wk#11	8: CV5-WR-HCT-14 Wk#11
Sample Date & Time			13-Jul-23	13-Jul-23	13-Jul-23	13-Jul-23
HumCell Leachate Vol [mL]	14-Jul-23	08:16	902	914	974	987
pH [No unit]	17-Jul-23	13:44	7.00	7.25	7.15	7.86
Alkalinity [mg/L as CaCO3]	17-Jul-23	13:44	3	5	4	14
Conductivity [uS/cm]	17-Jul-23	13:44	29	22	20	38
Acidity [mg/L as CaCO3]	17-Jul-23	13:44	2	< 2	< 2	< 2
SO4 [mg/L]	13-Jul-23	16:27	7	4	3	3
Tot.Reactive P [mg/L]	25-Jul-23	15:45	< 0.03	0.06	0.04	< 0.03
Ag [mg/L]	01-Aug-23	11:33	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	01-Aug-23	11:33	0.057	0.050	0.041	0.124
As [mg/L]	01-Aug-23	11:33	0.0054	0.411	0.249	0.0716
Ba [mg/L]	01-Aug-23	11:33	0.00041	0.00038	0.00030	0.00019
Be [mg/L]	01-Aug-23	11:33	0.000007	0.000008	0.000008	0.000008
B [mg/L]	01-Aug-23	11:33	0.008	0.005	0.005	0.002
Bi [mg/L]	01-Aug-23	11:33	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	01-Aug-23	11:33	3.20	2.99	2.40	6.08
Cd [mg/L]	01-Aug-23	11:33	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	01-Aug-23	11:33	0.000110	0.000309	0.000355	0.000124
Cr [mg/L]	01-Aug-23	11:33	0.00013	0.00039	0.00030	0.00024
Cu [mg/L]	01-Aug-23	11:33	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Fe [mg/L]	01-Aug-23	11:33	0.036	0.040	0.041	0.067
K [mg/L]	01-Aug-23	11:33	0.509	0.227	0.174	0.076
Li [mg/L]	01-Aug-23	11:33	0.0253	0.0305	0.0277	0.0077
Mg [mg/L]	01-Aug-23	11:33	0.556	0.529	0.414	0.453
Mn [mg/L]	01-Aug-23	11:33	0.00201	0.00306	0.00347	0.00473
Mo [mg/L]	01-Aug-23	11:33	0.00011	0.00004	< 0.00004	0.00007
Na [mg/L]	01-Aug-23	11:33	0.55	0.20	0.19	0.62
Ni [mg/L]	01-Aug-23	11:33	0.0002	0.0015	0.0010	0.0003

OnLine LIMS

0003420990

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10102-JUL23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#11	6: CV5-WR-HCT-5 Wk#11	7: CV5-WR-HCT-5 (DUP) Wk#11	8: CV5-WR-HCT-14 Wk#11
Pb [mg/L]	01-Aug-23	11:33	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	02-Aug-23	14:05	0.0060	0.100	0.0709	0.0141
Se [mg/L]	01-Aug-23	11:33	0.00021	0.00013	0.00010	0.00018
Sn [mg/L]	01-Aug-23	11:33	< 0.00006	< 0.00006	< 0.00006	0.00007
Sr [mg/L]	01-Aug-23	11:33	0.0138	0.00916	0.00804	0.00698
Ti [mg/L]	01-Aug-23	11:33	0.00194	0.00147	0.00219	0.00306
Tl [mg/L]	01-Aug-23	11:33	0.000013	0.000017	0.000018	0.000013
U [mg/L]	01-Aug-23	11:33	0.000031	0.000013	0.000019	0.000035
V [mg/L]	01-Aug-23	11:33	0.00050	0.00099	0.00081	0.00443
W [mg/L]	01-Aug-23	11:33	0.00029	0.00025	0.00038	0.00018
Y [mg/L]	01-Aug-23	11:33	< 0.00002	< 0.00002	< 0.00002	0.00003
Zn [mg/L]	01-Aug-23	11:33	< 0.002	< 0.002	< 0.002	< 0.002

Analysis	9: CV5-WR-HCT-22 Wk#11	10: CV5-WR-HCT-33 Wk#11	11: CV5-WR-HCT-36 Wk#11	12: CV5-WR-HCT-39 Wk#11	13: CV5-WR-HCT-50 Wk#11	14: CV5-WR-HCT-56 Wk#11
Sample Date & Time	13-Jul-23	13-Jul-23	13-Jul-23	13-Jul-23	13-Jul-23	13-Jul-23
HumCell Leachate Vol [mL]	999	1003	980	959	1002	981
pH [No unit]	6.97	7.34	7.34	6.72	7.44	7.65
Alkalinity [mg/L as CaCO3]	4	8	7	2	13	8
Conductivity [uS/cm]	14	20	24	26	58	27
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	< 2
SO4 [mg/L]	< 2	< 2	< 2	7	10	4
Tot.Reactive P [mg/L]	0.04	< 0.03	1.08	< 0.03	< 0.03	< 0.03
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.057	0.033	0.022	0.050	0.031	0.056
As [mg/L]	0.289	0.0053	2.95	0.0330	0.0242	0.0180
Ba [mg/L]	0.00013	0.00023	0.00079	0.00038	0.00052	0.00110
Be [mg/L]	0.000009	0.000010	0.000014	0.000013	0.000010	0.000007
B [mg/L]	0.005	< 0.002	0.026	0.004	< 0.002	0.004
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	1.69	3.21	3.33	2.78	9.20	3.64
Cd [mg/L]	< 0.000003	< 0.000003	< 0.000003	< 0.000003	0.000007	< 0.000003
Co [mg/L]	0.000264	0.000070	0.000331	0.000165	0.00104	0.000085
Cr [mg/L]	0.00044	< 0.00008	0.00104	0.00016	< 0.00008	0.00016
Cu [mg/L]	< 0.0002	0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Fe [mg/L]	0.047	0.013	0.050	0.024	< 0.007	0.030
K [mg/L]	0.087	0.138	0.061	0.406	0.751	0.652
Li [mg/L]	0.0160	0.0115	0.0062	0.0238	0.0208	0.0115
Mg [mg/L]	0.336	0.261	0.944	0.460	0.433	0.444
Mn [mg/L]	0.00135	0.00686	0.00314	0.00220	0.00837	0.0118

OnLine LIMS

0003420990

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10102-JUL23**

Analysis	9: CV5-WR-HCT-22 Wk#11	10: CV5-WR-HCT-33 Wk#11	11: CV5-WR-HCT-36 Wk#11	12: CV5-WR-HCT-39 Wk#11	13: CV5-WR-HCT-50 Wk#11	14: CV5-WR-HCT-56 Wk#11
Mo [mg/L]	0.00029	0.00006	< 0.00004	0.00035	0.00075	0.00013
Na [mg/L]	0.46	0.36	0.06	0.38	0.16	0.25
Ni [mg/L]	0.0006	0.0001	0.0123	0.0003	0.0010	0.0001
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	0.00014	< 0.00009	< 0.00009
Sb [mg/L]	0.0198	0.0049	0.831	0.0293	0.0867	< 0.0009
Se [mg/L]	0.00007	0.00013	0.00009	0.00015	0.00082	0.00009
Sn [mg/L]	< 0.00006	0.00006	0.00007	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00638	0.00421	0.00598	0.0102	0.0103	0.00515
Ti [mg/L]	0.00177	0.00091	0.00068	0.00096	0.00027	0.00262
Tl [mg/L]	0.000014	0.000013	0.000016	0.000018	0.000035	0.000011
U [mg/L]	0.000051	0.000032	0.000090	0.000176	0.001201	0.000233
V [mg/L]	0.00184	0.00126	0.00041	0.00054	0.00032	0.00080
W [mg/L]	0.00017	0.00027	0.00029	0.00022	0.00021	0.00043
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002

Analysis	15: CV5-WR-HCT-59 Wk#11	16: CV5-WR-HCT-62 Wk#11	17: CV5-WR-HCT-64 Wk#11	18: CV5-WR-HCT-69 Wk#11	19: CV5-ORE-HCT-74 Wk#11	20: CV5-ORE-HCT-76 Wk#11
Sample Date & Time	13-Jul-23	13-Jul-23	13-Jul-23	13-Jul-23	13-Jul-23	13-Jul-23
HumCell Leachate Vol [mL]	1001	998	1001	1005	1009	966
pH [No unit]	6.85	7.40	7.17	7.61	6.96	7.22
Alkalinity [mg/L as CaCO3]	3	10	7	10	3	7
Conductivity [uS/cm]	20	31	15	22	8	17
Acidity [mg/L as CaCO3]	3	< 2	< 2	< 2	< 2	< 2
SO4 [mg/L]	4	2	< 2	< 2	< 2	< 2
Tot.Reactive P [mg/L]	0.22	0.89	< 0.03	< 0.03	< 0.03	< 0.03
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.023	0.006	0.025	0.061	0.026	0.207
As [mg/L]	0.854	2.53	0.0261	0.0168	0.0302	0.0115
Ba [mg/L]	0.00021	0.00098	0.00009	0.00017	< 0.00008	0.00045
Be [mg/L]	0.000008	< 0.000007	0.000025	0.000424	0.000268	0.000527
B [mg/L]	0.002	0.005	< 0.002	0.003	< 0.002	0.004
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00018	< 0.00001	0.00007
Ca [mg/L]	2.22	3.87	2.22	3.72	1.09	2.53
Cd [mg/L]	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	0.000615	0.000395	0.000017	0.000010	0.000008	0.000040
Cr [mg/L]	0.00086	0.00012	< 0.00008	0.00012	< 0.00008	< 0.00008
Cu [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	0.0002
Fe [mg/L]	0.031	0.007	< 0.007	< 0.007	< 0.007	0.019
K [mg/L]	0.129	0.068	0.708	0.210	0.271	0.763

OnLine LIMS

0003420990

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10102-JUL23**

Analysis	15: CV5-WR-HCT-59 Wk#11	16: CV5-WR-HCT-62 Wk#11	17: CV5-WR-HCT-64 Wk#11	18: CV5-WR-HCT-69 Wk#11	19: CV5-ORE-HCT-74 Wk#11	20: CV5-ORE-HCT-76 Wk#11
Li [mg/L]	0.0060	0.0012	0.0090	0.0078	0.0277	0.0197
Mg [mg/L]	0.687	1.30	0.149	0.121	0.034	0.180
Mn [mg/L]	0.00173	0.00388	0.00477	0.00269	0.0223	0.00348
Mo [mg/L]	0.00007	0.00020	0.00006	0.00007	< 0.00004	0.00005
Na [mg/L]	0.19	0.08	0.12	0.34	0.24	0.23
Ni [mg/L]	0.0041	0.0204	< 0.0001	< 0.0001	< 0.0001	0.0005
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.0152	2.01	0.0045	0.0053	0.0294	0.0031
Se [mg/L]	0.00008	0.00016	0.00004	0.00013	< 0.00004	0.00005
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	0.00010	0.00014	0.00039
Sr [mg/L]	0.0128	0.00429	0.00425	0.00784	0.00180	0.00669
Ti [mg/L]	0.00089	< 0.00007	< 0.00007	< 0.00007	< 0.00007	< 0.00007
Tl [mg/L]	0.000011	0.000012	0.000103	0.000020	0.000063	0.000096
U [mg/L]	0.000007	0.000042	0.00126	0.00456	0.00222	0.000840
V [mg/L]	0.00093	0.00041	0.00005	0.00020	0.00002	0.00009
W [mg/L]	0.00088	0.00037	0.00022	0.00021	0.00013	0.00028
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003420990

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

30-May-2023

Patriot Battery Metals Inc
Attn : Darren Smith

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 11 May 2023
LR Report: **CA10102-MAY23**
Reference: Wk#2

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#2	6: CV5-WR-HCT-5 Wk#2	7: CV5-WR-HCT-5 (DUP) Wk#2	8: CV5-WR-HCT-14 Wk#2	9: CV5-WR-HCT-22 Wk#2	10: CV5-WR-HCT-33 Wk#2
Sample Date & Time			11-May-23	11-May-23	11-May-23	11-May-23	11-May-23	11-May-23
HumCell Leachate Vol [mL]	12-May-23	09:24	968	932	975	1005	955	996
pH [No unit]	15-May-23	11:39	7.22	7.25	7.17	8.65	7.22	8.53
Alkalinity [mg/L as CaCO3]	15-May-23	11:39	6	7	6	23	6	11
Conductivity [uS/cm]	15-May-23	11:39	46	37	38	59	30	30
Acidity [mg/L as CaCO3]	15-May-23	11:39	4	< 2	< 2	< 2	< 2	< 2
F [mg/L]	12-May-23	13:34	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
SO4 [mg/L]	18-May-23	13:28	9	8	8	4	4	< 2
Cl [mg/L]	18-May-23	13:28	4	1	3	3	3	< 1
NO2 [as N mg/L]	21-May-23	08:11	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	21-May-23	08:11	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	21-May-23	08:11	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Tot.Reactive P [mg/L]	19-May-23	08:06	0.03	0.16	0.07	0.05	0.12	0.09
Hg [mg/L]	15-May-23	15:16	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	15-May-23	15:16	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	15-May-23	15:16	0.049	0.029	0.031	0.142	0.029	0.053
As [mg/L]	15-May-23	15:16	0.0064	0.545	0.325	0.106	0.281	0.0085
Ba [mg/L]	15-May-23	15:16	0.00035	0.00049	0.00039	0.00029	0.00014	0.00027
Be [mg/L]	15-May-23	15:16	0.000009	< 0.000007	< 0.000007	< 0.000007	0.000008	< 0.000007
B [mg/L]	15-May-23	15:16	0.024	0.025	0.022	0.014	0.014	0.013
Bi [mg/L]	15-May-23	15:16	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	15-May-23	15:16	3.43	3.72	3.28	6.23	2.43	3.13
Cd [mg/L]	15-May-23	15:16	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	15-May-23	15:16	0.000051	0.000142	0.000146	0.000045	0.000092	0.000044
Cr [mg/L]	15-May-23	15:16	< 0.00008	0.00009	< 0.00008	< 0.00008	0.00009	< 0.00008
Cu [mg/L]	15-May-23	15:16	< 0.0002	0.0002	< 0.0002	< 0.0002	< 0.0002	0.0006
Fe [mg/L]	15-May-23	15:16	0.007	0.008	< 0.007	< 0.007	0.007	0.008
K [mg/L]	15-May-23	15:16	1.08	0.603	0.565	0.234	0.235	0.390
Li [mg/L]	15-May-23	15:16	0.0472	0.103	0.119	0.0123	0.0230	0.0219
Mg [mg/L]	15-May-23	15:16	0.635	0.601	0.640	0.668	0.367	0.266
Mn [mg/L]	15-May-23	15:16	0.00208	0.00341	0.00356	0.00178	0.00094	0.01114
Mo [mg/L]	15-May-23	15:16	0.00063	0.00183	0.00018	0.00027	0.00075	0.00048
Na [mg/L]	15-May-23	15:16	3.46	1.80	2.04	3.69	2.58	2.12
Ni [mg/L]	15-May-23	15:17	0.0002	0.0021	0.0017	0.0003	0.0005	0.0002

OnLine LIMS

0003349165

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10102-MAY23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#2	6: CV5-WR-HCT-5 Wk#2	7: CV5-WR-HCT-5 (DUP) Wk#2	8: CV5-WR-HCT-14 Wk#2	9: CV5-WR-HCT-22 Wk#2	10: CV5-WR-HCT-33 Wk#2
Pb [mg/L]	15-May-23	15:17	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	15-May-23	15:17	0.0081	0.232	0.120	0.0357	0.0224	0.0105
Se [mg/L]	15-May-23	15:17	0.00055	0.00030	0.00028	0.00036	0.00018	0.00017
Sn [mg/L]	15-May-23	15:17	0.00030	0.00020	0.00011	0.00019	0.00011	0.00039
Sr [mg/L]	15-May-23	15:17	0.01901	0.01716	0.01544	0.01214	0.00998	0.00449
Ti [mg/L]	15-May-23	15:17	0.00044	0.00019	0.00018	0.00012	0.00021	0.00049
Tl [mg/L]	15-May-23	15:17	0.000020	0.000011	0.000010	0.000007	0.000009	0.000008
U [mg/L]	15-May-23	15:17	0.002292	0.003907	0.000156	0.000620	0.000114	0.000751
V [mg/L]	15-May-23	15:17	0.00055	0.00131	0.00111	0.00644	0.00199	0.00174
W [mg/L]	15-May-23	15:17	0.00073	0.00124	0.00261	0.00031	0.00062	0.00176
Y [mg/L]	15-May-23	15:17	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	15-May-23	15:17	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	15-May-23	15:17	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	30-May-23	13:19	0.00001	0.00001	< 0.00001	< 0.00001	0.00003	0.00001
Cs (tot) [mg/L]	15-May-23	15:17	0.0134	0.0260	0.0268	0.0046	0.0100	0.0101
Dy (tot) [mg/L]	30-May-23	13:23	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Er (tot) [mg/L]	30-May-23	13:23	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Eu (tot) [mg/L]	30-May-23	13:23	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ga (tot) [mg/L]	30-May-23	13:23	< 0.0001	< 0.0001	< 0.0001	0.0003	< 0.0001	0.0001
Gd (tot) [mg/L]	30-May-23	13:23	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	30-May-23	13:23	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	15-May-23	15:17	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	30-May-23	13:23	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
In (tot) [mg/L]	30-May-23	13:23	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ir (tot) [mg/L]	30-May-23	13:23	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
La (tot) [mg/L]	30-May-23	13:23	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Lu (tot) [mg/L]	30-May-23	13:23	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	15-May-23	15:17	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nd (tot) [mg/L]	30-May-23	13:23	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Os (tot) [mg/L]	30-May-23	13:23	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	15-May-23	15:17	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	30-May-23	13:23	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pt (tot) [mg/L]	15-May-23	15:17	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	15-May-23	15:17	0.0122	0.0127	0.0121	0.0019	0.0041	0.0026
Re (tot) [mg/L]	30-May-23	13:23	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	15-May-23	15:17	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	30-May-23	13:24	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	30-May-23	13:24	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ta (tot) [mg/L]	15-May-23	15:17	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	30-May-23	13:24	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Te (tot) [mg/L]	15-May-23	15:17	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	15-May-23	15:17	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	30-May-23	13:24	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Yb (tot) [mg/L]	30-May-23	13:24	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001

Analysis	11: CV5-WR-HCT-36 Wk#2	12: CV5-WR-HCT-39 Wk#2	13: CV5-WR-HCT-50 Wk#2	14: CV5-WR-HCT-56 Wk#2	15: CV5-WR-HCT-59 Wk#2	16: CV5-WR-HCT-62 Wk#2	17: CV5-WR-HCT-64 Wk#2	18: CV5-WR-HCT-69 Wk#2
Sample Date & Time	11-May-23	11-May-23	11-May-23	11-May-23	11-May-23	11-May-23	11-May-23	11-May-23
HumCell Leachate Vol [mL]	1002	1003	1009	978	1009	1011	1001	998
pH [No unit]	7.72	7.22	7.58	8.82	7.11	7.92	7.48	8.22

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0003349165

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10102-MAY23**

Analysis	11: CV5-WR-HCT-36 Wk#2	12: CV5-WR-HCT-39 Wk#2	13: CV5-WR-HCT-50 Wk#2	14: CV5-WR-HCT-56 Wk#2	15: CV5-WR-HCT-59 Wk#2	16: CV5-WR-HCT-62 Wk#2	17: CV5-WR-HCT-64 Wk#2	18: CV5-WR-HCT-69 Wk#2
Alkalinity [mg/L as CaCO3]	21	7	23	12	5	21	12	20
Conductivity [uS/cm]	62	59	108	38	23	60	28	36
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
F [mg/L]	< 0.06	0.23	0.40	< 0.06	< 0.06	0.07	0.16	< 0.06
SO4 [mg/L]	3	18	31	2	5	3	< 2	< 2
Cl [mg/L]	1	< 1	< 1	2	< 1	5	2	< 1
NO2 [as N mg/L]	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Tot.Reactive P [mg/L]	4.30	0.05	< 0.03	< 0.03	0.12	2.03	0.13	0.08
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.004	0.051	0.086	0.061	0.010	0.002	0.052	0.156
As [mg/L]	14.6	0.0661	0.0332	0.0095	0.501	8.41	0.306	0.136
Ba [mg/L]	0.00226	0.00063	0.00167	0.00087	0.00039	0.00227	0.00018	0.00033
Be [mg/L]	0.000009	0.000011	0.000010	< 0.000007	< 0.000007	< 0.000007	0.000029	0.000332
B [mg/L]	0.079	0.016	0.015	0.018	0.008	0.019	0.037	0.027
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00061
Ca [mg/L]	5.74	4.72	12.8	3.69	2.23	5.00	1.96	4.18
Cd [mg/L]	0.000004	0.000005	0.000029	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	0.000484	0.000142	0.002873	0.000036	0.000373	0.000225	0.000057	0.000060
Cr [mg/L]	0.00012	< 0.00008	< 0.00008	< 0.00008	0.00018	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	< 0.0002	< 0.0002	< 0.0002	0.0004	0.0004	< 0.0002	0.0003	0.0013
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007	0.008	< 0.007	< 0.007	< 0.007
K [mg/L]	0.331	1.42	4.64	2.30	0.314	0.429	2.60	0.798
Li [mg/L]	0.0235	0.0654	0.111	0.0394	0.0068	0.0023	0.0942	0.0406
Mg [mg/L]	3.80	0.776	1.80	0.373	0.725	3.35	0.207	0.235
Mn [mg/L]	0.00572	0.00317	0.01815	0.01430	0.00225	0.00629	0.00432	0.00326
Mo [mg/L]	0.00024	0.00366	0.00617	0.00057	0.00029	0.00167	0.00065	0.00040
Na [mg/L]	1.27	3.74	2.26	2.01	1.18	2.87	2.59	3.33
Ni [mg/L]	0.118	0.0009	0.0069	0.0002	0.0030	0.0833	0.0002	0.0002
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	1.95	0.0903	0.371	0.0012	0.0135	3.86	0.0315	0.0236
Se [mg/L]	0.00027	0.00051	0.00238	0.00025	0.00017	0.00041	0.00017	0.00036
Sn [mg/L]	0.00033	0.00034	0.00018	0.00009	0.00012	0.00015	0.00035	0.00056
Sr [mg/L]	0.02110	0.02104	0.02803	0.00604	0.01682	0.00906	0.00597	0.01264
Ti [mg/L]	0.00011	0.00025	0.00007	0.00042	0.00019	< 0.00005	< 0.00005	< 0.00005
Tl [mg/L]	0.000019	0.000021	0.000059	0.000008	0.000007	0.000006	0.000227	0.000030
U [mg/L]	0.001522	0.000421	0.004679	0.002203	0.000206	0.000437	0.021712	0.040880
V [mg/L]	0.00136	0.00078	0.00034	0.00130	0.00096	0.00092	0.00019	0.00058
W [mg/L]	0.00120	0.00098	0.00032	0.00390	0.00369	0.00146	0.00428	0.00239
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00003
Zn [mg/L]	< 0.002	< 0.002	0.002	< 0.002	0.002	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	0.00009	< 0.00001	0.00014	0.00004	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	< 0.00001	0.00002	0.00001	0.00002	< 0.00001	< 0.00001	< 0.00001	0.00003
Cs (tot) [mg/L]	0.0422	0.0093	0.147	0.0255	0.0188	0.0121	0.0374	0.0087
Dy (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Er (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Eu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ga (tot) [mg/L]	< 0.0001	0.0001	0.0002	< 0.0001	< 0.0001	< 0.0001	0.0004	0.0012
Gd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00002
Ge (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001

OnLine LIMS

0003349165

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10102-MAY23**

Analysis	11: CV5-WR-HCT-36 Wk#2	12: CV5-WR-HCT-39 Wk#2	13: CV5-WR-HCT-50 Wk#2	14: CV5-WR-HCT-56 Wk#2	15: CV5-WR-HCT-59 Wk#2	16: CV5-WR-HCT-62 Wk#2	17: CV5-WR-HCT-64 Wk#2	18: CV5-WR-HCT-69 Wk#2
Hf (tot) [mg/L]	< 0.0001	0.0001	0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
In (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ir (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
La (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001
Lu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0003
Nd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Os (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pt (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	0.0094	0.0102	0.0995	0.0055	0.0081	0.0068	0.117	0.0272
Re (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ta (tot) [mg/L]	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001
Tb (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Te (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Yb (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001

Analysis	19: CV5-ORE-HCT-74 Wk#2	20: CV5-ORE-HCT-76 Wk#2
Sample Date & Time	11-May-23	11-May-23
HumCell Leachate Vol [mL]	1010	1009
pH [No unit]	7.53	8.00
Alkalinity [mg/L as CaCO3]	12	22
Conductivity [uS/cm]	29	41
Acidity [mg/L as CaCO3]	< 2	< 2
F [mg/L]	0.21	0.24
SO4 [mg/L]	< 2	< 2
Cl [mg/L]	2	1
NO2 [as N mg/L]	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06
Br [mg/L]	< 0.3	< 0.3
Tot.Reactive P [mg/L]	0.44	0.09
Hg [mg/L]	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005
Al [mg/L]	0.069	0.104
As [mg/L]	0.494	0.0794
Ba [mg/L]	0.00009	0.00027
Be [mg/L]	0.000028	0.000112
B [mg/L]	0.025	0.032
Bi [mg/L]	0.00001	0.00023
Ca [mg/L]	0.72	3.29
Cd [mg/L]	< 0.000003	0.000004
Co [mg/L]	0.000048	0.000043

OnLine LIMS

0003349165

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10102-MAY23**

Analysis	19: CV5-ORE-HCT-74 Wk#2	20: CV5-ORE-HCT-76 Wk#2
Cr [mg/L]	< 0.00008	< 0.00008
Cu [mg/L]	0.0006	0.0007
Fe [mg/L]	< 0.007	< 0.007
K [mg/L]	1.40	2.24
Li [mg/L]	0.272	0.124
Mg [mg/L]	0.036	0.245
Mn [mg/L]	0.01185	0.00379
Mo [mg/L]	0.00045	0.00072
Na [mg/L]	4.74	4.34
Ni [mg/L]	0.0002	0.0001
Pb [mg/L]	< 0.00009	< 0.00009
Sb [mg/L]	0.112	0.0131
Se [mg/L]	0.00010	0.00024
Sn [mg/L]	0.00108	0.00030
Sr [mg/L]	0.00192	0.01087
Ti [mg/L]	< 0.00005	< 0.00005
Tl [mg/L]	0.000138	0.000096
U [mg/L]	0.038139	0.018474
V [mg/L]	0.00016	0.00036
W [mg/L]	0.00155	0.00283
Y [mg/L]	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002
Au (tot) [mg/L]	< 0.00001	< 0.00001
Ce (tot) [mg/L]	< 0.00001	0.00001
Cs (tot) [mg/L]	0.0530	0.0242
Dy (tot) [mg/L]	< 0.0001	< 0.0001
Er (tot) [mg/L]	< 0.0001	< 0.0001
Eu (tot) [mg/L]	< 0.0001	< 0.0001
Ga (tot) [mg/L]	0.0007	0.0006
Gd (tot) [mg/L]	< 0.00001	< 0.00001
Ge (tot) [mg/L]	< 0.0001	< 0.0001
Hf (tot) [mg/L]	< 0.0001	< 0.0001
Ho (tot) [mg/L]	< 0.0001	< 0.0001
In (tot) [mg/L]	< 0.0001	< 0.0001
Ir (tot) [mg/L]	< 0.0001	< 0.0001
La (tot) [mg/L]	< 0.0001	< 0.0001
Lu (tot) [mg/L]	< 0.0001	< 0.0001
Nb (tot) [mg/L]	< 0.0001	< 0.0001
Nd (tot) [mg/L]	< 0.0001	< 0.0001
Os (tot) [mg/L]	< 0.0001	< 0.0001
Pd (tot) [mg/L]	< 0.0001	< 0.0001
Pr (tot) [mg/L]	< 0.0001	< 0.0001
Pt (tot) [mg/L]	< 0.0001	< 0.0001
Rb (tot) [mg/L]	0.111	0.0491
Re (tot) [mg/L]	< 0.0001	< 0.0001
Rh (tot) [mg/L]	< 0.00001	< 0.00001
Sc (tot) [mg/L]	< 0.0001	< 0.0001
Sm (tot) [mg/L]	< 0.0001	< 0.0001
Ta (tot) [mg/L]	< 0.0001	< 0.0001
Tb (tot) [mg/L]	< 0.0001	< 0.0001
Te (tot) [mg/L]	< 0.0001	< 0.0001
Th (tot) [mg/L]	< 0.0001	< 0.0001

OnLine LIMS

0003349165

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10102-MAY23**

Analysis	19: CV5-ORE-HCT-74 Wk#2	20: CV5-ORE-HCT-76 Wk#2
Tm (tot) [mg/L]	< 0.0001	< 0.0001
Yb (tot) [mg/L]	< 0.0001	< 0.0001

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003349165

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

24-August-2023

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 10 August 2023
LR Report: **CA10103-AUG23**
Reference: Wk#15 - Patriot Tailings -Short- (9.5mm fraction size)

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HC T-83 Wk#15	6: CV5-DMS-HC T-84 Wk#15
Sample Date & Time			10-Aug-23	10-Aug-23
HumCell Leachate Vol [mL]	11-Aug-23	16:51	964	948
pH [No unit]	14-Aug-23	10:32	6.32	6.25
Alkalinity [mg/L as CaCO3]	14-Aug-23	10:32	< 2	< 2
Conductivity [uS/cm]	14-Aug-23	10:32	2	3
Acidity [mg/L as CaCO3]	14-Aug-23	10:32	2	3
F [mg/L]	16-Aug-23	09:27	0.33	< 0.06
SO4 [mg/L]	18-Aug-23	16:12	< 2	< 2
Cl [mg/L]	18-Aug-23	16:12	< 1	< 1
NO2 [as N mg/L]	17-Aug-23	12:09	< 0.03	< 0.03
NO3 [as N mg/L]	17-Aug-23	12:09	< 0.06	< 0.06
Br [mg/L]	17-Aug-23	12:09	< 0.3	< 0.3
Tot.Reactive P [mg/L]	11-Aug-23	09:57	< 0.03	< 0.03
Hg [mg/L]	18-Aug-23	12:15	< 0.00001	< 0.00001
Ag [mg/L]	22-Aug-23	16:48	< 0.00005	< 0.00005
Al [mg/L]	22-Aug-23	16:48	0.023	0.031
As [mg/L]	22-Aug-23	16:48	0.0109	0.0063
Ba [mg/L]	22-Aug-23	16:48	< 0.00008	< 0.00008
Be [mg/L]	22-Aug-23	16:48	< 0.000007	< 0.000007
B [mg/L]	22-Aug-23	16:48	< 0.002	< 0.002
Bi [mg/L]	22-Aug-23	16:48	0.00003	0.00003
Ca [mg/L]	22-Aug-23	16:48	0.49	0.49
Cd [mg/L]	22-Aug-23	16:48	< 0.000003	< 0.000003
Co [mg/L]	22-Aug-23	16:48	0.000063	0.000019
Cr [mg/L]	22-Aug-23	16:48	< 0.00008	< 0.00008
Cu [mg/L]	22-Aug-23	16:48	< 0.0002	< 0.0002

OnLine LIMS

0003443955

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10103-AUG23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HC T-83 Wk#15	6: CV5-DMS-HC T-84 Wk#15
Fe [mg/L]	22-Aug-23	16:48	< 0.007	< 0.007
K [mg/L]	22-Aug-23	16:48	0.160	0.156
Li [mg/L]	22-Aug-23	16:48	0.0015	0.0015
Mg [mg/L]	22-Aug-23	16:48	0.023	0.024
Mn [mg/L]	22-Aug-23	16:48	0.00144	0.00237
Mo [mg/L]	22-Aug-23	16:48	0.00060	0.00019
Na [mg/L]	22-Aug-23	16:48	0.05	0.05
Ni [mg/L]	22-Aug-23	16:48	< 0.0001	< 0.0001
Pb [mg/L]	22-Aug-23	16:48	< 0.00009	< 0.00009
Sb [mg/L]	22-Aug-23	16:48	0.0031	0.0022
Se [mg/L]	22-Aug-23	16:48	< 0.00004	< 0.00004
Sn [mg/L]	22-Aug-23	16:48	< 0.00006	< 0.00006
Sr [mg/L]	22-Aug-23	16:48	0.00138	0.00133
Ti [mg/L]	22-Aug-23	16:48	< 0.00007	< 0.00007
Tl [mg/L]	22-Aug-23	16:48	0.000014	0.000017
U [mg/L]	22-Aug-23	16:48	0.00691	0.00252
V [mg/L]	22-Aug-23	16:48	0.00004	0.00002
W [mg/L]	22-Aug-23	16:48	0.00006	0.00007
Y [mg/L]	22-Aug-23	16:48	< 0.00002	< 0.00002
Zn [mg/L]	22-Aug-23	16:48	< 0.002	< 0.002
Au (tot) [mg/L]	22-Aug-23	16:48	< 0.00001	< 0.00001
Ce (tot) [mg/L]	22-Aug-23	16:48	< 0.00001	< 0.00001
Cs (tot) [mg/L]	22-Aug-23	16:48	0.0019	0.0020
Dy (tot) [mg/L]	22-Aug-23	16:48	< 0.0001	< 0.0001
Er (tot) [mg/L]	22-Aug-23	16:48	< 0.0001	< 0.0001
Eu (tot) [mg/L]	22-Aug-23	16:48	< 0.0001	< 0.0001
Ga (tot) [mg/L]	18-Aug-23	12:14	< 0.0001	< 0.0001
Gd (tot) [mg/L]	22-Aug-23	16:48	< 0.00001	< 0.00001
Ge (tot) [mg/L]	22-Aug-23	16:48	< 0.0001	< 0.0001
Hf (tot) [mg/L]	22-Aug-23	16:48	< 0.0001	< 0.0001
Ho (tot) [mg/L]	22-Aug-23	16:48	< 0.0001	< 0.0001
In (tot) [mg/L]	18-Aug-23	12:14	< 0.0001	< 0.0001
Ir (tot) [mg/L]	22-Aug-23	16:48	< 0.0001	< 0.0001
La (tot) [mg/L]	22-Aug-23	16:48	< 0.0001	< 0.0001
Lu (tot) [mg/L]	22-Aug-23	16:48	< 0.0001	< 0.0001
Nb (tot) [mg/L]	22-Aug-23	16:48	< 0.0001	< 0.0001
Nd (tot) [mg/L]	22-Aug-23	16:48	< 0.0001	< 0.0001
Os (tot) [mg/L]	22-Aug-23	16:48	< 0.0001	< 0.0001
Pd (tot) [mg/L]	22-Aug-23	16:48	< 0.0001	< 0.0001
Pr (tot) [mg/L]	22-Aug-23	16:48	< 0.0001	< 0.0001
Pt (tot) [mg/L]	22-Aug-23	16:48	< 0.0001	< 0.0001
Rb (tot) [mg/L]	22-Aug-23	16:48	0.0097	0.0098

OnLine LIMS

00034439S5

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10103-AUG23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HC T-83 Wk#15	6: CV5-DMS-HC T-84 Wk#15
Re (tot) [mg/L]	22-Aug-23	16:48	< 0.0001	< 0.0001
Rh (tot) [mg/L]	22-Aug-23	16:48	< 0.00001	< 0.00001
Sc (tot) [mg/L]	18-Aug-23	12:14	< 0.0001	< 0.0001
Sm (tot) [mg/L]	22-Aug-23	16:48	< 0.0001	< 0.0001
Ta (tot) [mg/L]	22-Aug-23	16:48	< 0.0001	< 0.0001
Tb (tot) [mg/L]	18-Aug-23	12:14	< 0.0001	< 0.0001
Te (tot) [mg/L]	22-Aug-23	16:48	< 0.0001	< 0.0001
Th (tot) [mg/L]	22-Aug-23	16:48	< 0.0001	< 0.0001
Tm (tot) [mg/L]	18-Aug-23	12:14	< 0.0001	< 0.0001
Yb (tot) [mg/L]	22-Aug-23	16:48	< 0.0001	< 0.0001

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003443955

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Patriot Tailings -Short- (9.5mm fraction size)

10-November-2023

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 12 October 2023
LR Report: **CA10105-OCT23**
Reference: Wk#24

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#24	6: CV5-DMS-HCT-84 Wk#24
Sample Date & Time			12-Oct-23	12-Oct-23
HumCell Leachate Vol [mL]	13-Oct-23	18:23	1003	985
pH [No unit]	16-Oct-23	13:14	6.49	6.30
Alkalinity [mg/L as CaCO3]	16-Oct-23	13:14	< 2	< 2
Conductivity [uS/cm]	17-Oct-23	15:55	< 2	< 2
Acidity [mg/L as CaCO3]	17-Oct-23	15:55	3	2
Tot.Reactive P [mg/L]	16-Oct-23	08:55	< 0.03	< 0.03
SO4 [mg/L]	23-Oct-23	14:55	< 2	< 2
Ag [mg/L]	17-Oct-23	13:08	< 0.00005	< 0.00005
Al [mg/L]	17-Oct-23	13:08	0.019	0.020
As [mg/L]	17-Oct-23	13:08	0.0070	0.0053
Ba [mg/L]	17-Oct-23	13:08	0.00011	0.00012
Be [mg/L]	17-Oct-23	13:08	< 0.000007	< 0.000007
B [mg/L]	17-Oct-23	13:08	< 0.002	< 0.002
Bi [mg/L]	17-Oct-23	13:08	0.00002	0.00004
Ca [mg/L]	17-Oct-23	13:08	0.45	0.52
Cd [mg/L]	17-Oct-23	13:08	< 0.000003	< 0.000003
Co [mg/L]	17-Oct-23	13:08	< 0.000004	0.000010
Cr [mg/L]	17-Oct-23	13:08	< 0.00008	< 0.00008
Cu [mg/L]	17-Oct-23	13:08	0.0006	0.0002
Fe [mg/L]	17-Oct-23	13:08	< 0.007	< 0.007
K [mg/L]	17-Oct-23	13:08	0.104	0.118
Li [mg/L]	17-Oct-23	13:08	0.0011	0.0013
Mg [mg/L]	17-Oct-23	13:08	0.023	0.025
Mn [mg/L]	17-Oct-23	13:08	0.00145	0.00262
Mo [mg/L]	17-Oct-23	13:08	0.00023	0.00148
Na [mg/L]	17-Oct-23	13:08	0.15	0.26
Na [mg/L]	10-Nov-23	11:44	0.01	0.01
Ni [mg/L]	17-Oct-23	13:08	0.0001	0.0001
Pb [mg/L]	17-Oct-23	13:08	< 0.00009	< 0.00009
Sb [mg/L]	17-Oct-23	13:08	0.0025	0.0025
Se [mg/L]	17-Oct-23	13:08	< 0.00004	< 0.00004
Sn [mg/L]	17-Oct-23	13:08	< 0.00006	0.00007
Sr [mg/L]	17-Oct-23	13:08	0.00116	0.00136

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0003529725

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10105-OCT23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#24	6: CV5-DMS-HCT-84 Wk#24
Ti [mg/L]	17-Oct-23	13:08	< 0.00007	< 0.00007
Tl [mg/L]	17-Oct-23	13:08	0.000009	0.000011
U [mg/L]	17-Oct-23	13:08	0.00159	0.00222
V [mg/L]	17-Oct-23	13:08	0.00002	0.00002
W [mg/L]	17-Oct-23	13:08	0.00003	0.00004
Y [mg/L]	17-Oct-23	13:08	< 0.00002	< 0.00002
Zn [mg/L]	17-Oct-23	13:08	< 0.002	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003529725

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Patriot Tailings -Short- (9.5mm fraction size)

18-October-2023

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 21 September 2023
LR Report: **CA10167-SEP23**
Reference: Wk#21

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#21	6: CV5-DMS-HCT-84 Wk#21
Sample Date & Time			21-Sep-23	21-Sep-23
HumCell Leachate Vol [mL]	22-Sep-23	16:51	974	964
pH [No unit]	27-Sep-23	10:18	6.52	6.28
Alkalinity [mg/L as CaCO3]	26-Sep-23	10:59	< 2	< 2
Conductivity [uS/cm]	26-Sep-23	10:59	2	2
Acidity [mg/L as CaCO3]	26-Sep-23	10:59	2	3
Tot.Reactive P [mg/L]	25-Sep-23	08:47	< 0.03	< 0.03
SO4 [mg/L]	16-Oct-23	12:29	< 2	< 2
Ag [mg/L]	29-Sep-23	15:44	< 0.00005	< 0.00005
Al [mg/L]	29-Sep-23	15:44	0.021	0.021
As [mg/L]	29-Sep-23	15:44	0.0070	0.0063
Ba [mg/L]	29-Sep-23	15:44	0.00013	0.00016
Be [mg/L]	29-Sep-23	15:44	0.000007	< 0.000007
B [mg/L]	29-Sep-23	15:44	< 0.002	< 0.002
Bi [mg/L]	29-Sep-23	15:44	0.00003	0.00003
Ca [mg/L]	29-Sep-23	15:44	0.43	0.44
Cd [mg/L]	29-Sep-23	15:44	0.000003	< 0.000003
Co [mg/L]	29-Sep-23	15:44	< 0.000004	0.000008
Cr [mg/L]	29-Sep-23	15:44	0.00008	0.00016
Cu [mg/L]	29-Sep-23	15:44	0.0003	0.0004
Fe [mg/L]	29-Sep-23	15:44	0.007	0.011
K [mg/L]	29-Sep-23	15:44	0.102	0.109
Li [mg/L]	29-Sep-23	15:44	0.0013	0.0014
Mg [mg/L]	29-Sep-23	15:44	0.019	0.021
Mn [mg/L]	29-Sep-23	15:44	0.00134	0.00247
Mo [mg/L]	29-Sep-23	15:44	0.00551	0.00017
Na [mg/L]	29-Sep-23	15:44	0.05	0.05
Ni [mg/L]	29-Sep-23	15:44	< 0.0001	< 0.0001
Pb [mg/L]	29-Sep-23	15:44	< 0.00009	< 0.00009
Sb [mg/L]	29-Sep-23	15:44	0.0021	0.0021
Se [mg/L]	29-Sep-23	15:44	< 0.00004	< 0.00004
Sn [mg/L]	29-Sep-23	15:44	< 0.00006	< 0.00006
Sr [mg/L]	29-Sep-23	15:44	0.00100	0.00110
Ti [mg/L]	29-Sep-23	15:44	< 0.00007	< 0.00007

OnLine LIMS

0003504126

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : CA10167-SEP23

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#21	6: CV5-DMS-HCT-84 Wk#21
Tl [mg/L]	29-Sep-23	15:44	0.000011	0.000010
U [mg/L]	29-Sep-23	15:44	0.00147	0.00173
V [mg/L]	29-Sep-23	15:44	0.00003	0.00004
W [mg/L]	29-Sep-23	15:44	0.00003	0.00003
Y [mg/L]	29-Sep-23	15:44	< 0.00002	< 0.00002
Zn [mg/L]	29-Sep-23	15:44	< 0.002	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003504126

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

17-May-2023

Patriot Battery Metals Inc
Attn : Darren Smith

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 27 April 2023
LR Report: **CA10170-APR23**
Reference: Wk#0 - Patriot Tailings- Long - (9.5mm fraction size)

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-8 3 Wk#0	6: CV5-DMS-HCT-8 4 Wk#0
Sample Date & Time			27-Apr-23	27-Apr-23
HumCell Leachate Vol [mL]	29-Apr-23	09:24	936	939
pH [No unit]	28-Apr-23	11:09	7.34	7.37
Alkalinity [mg/L as CaCO3]	28-Apr-23	11:09	6	6
Conductivity [uS/cm]	28-Apr-23	11:09	28	30
Acidity [mg/L as CaCO3]	28-Apr-23	11:09	< 2	< 2
F [mg/L]	11-May-23	13:42	0.13	0.13
SO4 [mg/L]	08-May-23	10:36	3	3
Cl [mg/L]	09-May-23	13:39	3	3
NO2 [as N mg/L]	07-May-23	10:27	< 0.03	< 0.03
NO3 [as N mg/L]	07-May-23	10:27	< 0.06	< 0.06
Br [mg/L]	07-May-23	10:27	< 0.3	< 0.3
Diss.Reactive P [mg/L]	05-May-23	09:24	0.05	0.03
Hg [mg/L]	29-Apr-23	09:24	< 0.00001	< 0.00001
Ag [mg/L]	03-May-23	15:42	< 0.00005	< 0.00005
Al [mg/L]	03-May-23	15:42	0.068	0.076
As [mg/L]	03-May-23	15:42	0.106	0.0887
Ba [mg/L]	03-May-23	15:42	0.00037	0.00027
Be [mg/L]	03-May-23	15:42	0.000068	0.000035
B [mg/L]	03-May-23	15:42	0.006	0.007
Bi [mg/L]	03-May-23	15:42	0.00013	0.00009
Ca [mg/L]	03-May-23	15:42	2.72	2.71
Cd [mg/L]	03-May-23	15:42	0.000005	0.000004
Co [mg/L]	03-May-23	15:42	0.000119	0.000113
Cr [mg/L]	03-May-23	15:42	0.00019	0.00015
Cu [mg/L]	03-May-23	15:42	0.0017	0.0019
Fe [mg/L]	03-May-23	15:42	0.007	< 0.007
K [mg/L]	03-May-23	15:42	1.37	1.50

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10170-APR23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-8 3 Wk#0	6: CV5-DMS-HCT-8 4 Wk#0
Li [mg/L]	03-May-23	15:42	0.0802	0.0799
Mg [mg/L]	03-May-23	15:42	0.141	0.133
Mn [mg/L]	03-May-23	15:42	0.00382	0.00335
Mo [mg/L]	03-May-23	15:42	0.00275	0.00259
Na [mg/L]	03-May-23	15:42	2.45	2.37
Ni [mg/L]	03-May-23	15:42	0.0007	0.0008
Pb [mg/L]	03-May-23	15:42	0.00014	< 0.00009
Sb [mg/L]	03-May-23	15:42	0.0083	0.0066
Se [mg/L]	03-May-23	15:42	0.00020	0.00024
Sn [mg/L]	03-May-23	15:42	0.00064	0.00038
Sr [mg/L]	03-May-23	15:42	0.00684	0.00655
Ti [mg/L]	03-May-23	15:42	0.00012	0.00005
Tl [mg/L]	03-May-23	15:42	0.000068	0.000076
U [mg/L]	03-May-23	15:42	0.0141	0.0136
V [mg/L]	03-May-23	15:42	0.00026	0.00028
W [mg/L]	03-May-23	15:42	0.00177	0.00187
Y [mg/L]	03-May-23	15:42	< 0.00002	< 0.00002
Zn [mg/L]	03-May-23	15:42	< 0.002	< 0.002
Au (tot) [mg/L]	11-May-23	15:11	0.00088	< 0.00001
Ce (tot) [mg/L]	08-May-23	09:46	0.00006	0.00004
Cs (tot) [mg/L]	03-May-23	15:42	0.0057	0.0066
Dy (tot) [mg/L]	08-May-23	09:47	< 0.0001	< 0.0001
Er (tot) [mg/L]	08-May-23	09:47	< 0.0001	< 0.0001
Eu (tot) [mg/L]	08-May-23	09:47	< 0.0001	< 0.0001
Ga (tot) [mg/L]	08-May-23	09:47	0.0002	0.0002
Gd (tot) [mg/L]	08-May-23	09:47	< 0.00001	< 0.00001
Ge (tot) [mg/L]	16-May-23	15:26	< 0.0001	< 0.0001
Hf (tot) [mg/L]	03-May-23	15:42	< 0.0001	< 0.0001
Ho (tot) [mg/L]	08-May-23	09:47	< 0.0001	< 0.0001
In (tot) [mg/L]	08-May-23	09:47	< 0.0001	< 0.0001
Ir (tot) [mg/L]	16-May-23	15:26	< 0.0001	< 0.0001
La (tot) [mg/L]	08-May-23	09:47	< 0.0001	< 0.0001
Lu (tot) [mg/L]	08-May-23	09:47	< 0.0001	< 0.0001
Nb (tot) [mg/L]	03-May-23	15:42	< 0.0001	0.0001
Nd (tot) [mg/L]	08-May-23	09:47	< 0.0001	< 0.0001
Os (tot) [mg/L]	16-May-23	15:27	< 0.0001	< 0.0001
Pd (tot) [mg/L]	03-May-23	15:43	< 0.0001	< 0.0001
Pr (tot) [mg/L]	08-May-23	09:47	< 0.0001	< 0.0001
Pt (tot) [mg/L]	03-May-23	15:51	< 0.0001	< 0.0001
Rb (tot) [mg/L]	03-May-23	15:51	0.0568	0.0648
Re (tot) [mg/L]	16-May-23	15:27	< 0.0001	< 0.0001
Rh (tot) [mg/L]	03-May-23	15:51	< 0.00001	< 0.00001
Sc (tot) [mg/L]	08-May-23	09:47	< 0.0001	< 0.0001
Sm (tot) [mg/L]	08-May-23	09:47	< 0.0001	< 0.0001
Ta (tot) [mg/L]	16-May-23	15:27	< 0.0001	< 0.0001

OnLine LIMS

0003336092

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10170-APR23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-8 3 Wk#0	6: CV5-DMS-HCT-8 4 Wk#0
Tb (tot) [mg/L]	08-May-23	09:47	< 0.0001	< 0.0001
Te (tot) [mg/L]	03-May-23	15:51	< 0.0001	< 0.0001
Th (tot) [mg/L]	03-May-23	15:51	< 0.0001	< 0.0001
Tm (tot) [mg/L]	08-May-23	09:47	< 0.0001	< 0.0001
Yb (tot) [mg/L]	08-May-23	09:47	< 0.0001	< 0.0001

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0003336092

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

16-January-2024

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 21 December 2023
LR Report: **CA10174-DEC23**
Reference: Wk#34

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#34	6: CV5-DMS-HCT-84 Wk#34
Sample Date & Time			21-Dec-23	21-Dec-23
HumCell Leachate Vol [mL]	28-Dec-23	13:50	996	993
pH [No unit]	22-Dec-23	13:32	6.10	6.25
Alkalinity [mg/L as CaCO3]	22-Dec-23	13:32	< 2	< 2
Conductivity [uS/cm]	22-Dec-23	13:32	2	2
Acidity [mg/L as CaCO3]	22-Dec-23	13:32	< 2	< 2
Tot.Reactive P [mg/L]	27-Dec-23	10:00	< 0.03	< 0.03
SO4 [mg/L]	29-Dec-23	13:31	< 2	< 2
Ag [mg/L]	02-Jan-24	14:44	< 0.00005	< 0.00005
Al [mg/L]	02-Jan-24	14:44	0.012	0.011
As [mg/L]	02-Jan-24	14:44	0.0044	0.0029
Ba [mg/L]	02-Jan-24	14:44	< 0.00008	< 0.00008
Be [mg/L]	02-Jan-24	14:44	0.000007	< 0.000007
B [mg/L]	02-Jan-24	14:44	< 0.002	< 0.002
Bi [mg/L]	02-Jan-24	14:44	0.00002	0.00003
Ca [mg/L]	02-Jan-24	14:44	0.32	0.34
Cd [mg/L]	02-Jan-24	14:44	< 0.000003	< 0.000003
Co [mg/L]	02-Jan-24	14:44	< 0.000004	< 0.000004
Cr [mg/L]	02-Jan-24	14:44	< 0.00008	< 0.00008
Cu [mg/L]	02-Jan-24	14:44	< 0.0002	< 0.0002
Fe [mg/L]	02-Jan-24	14:44	< 0.007	< 0.007
K [mg/L]	02-Jan-24	14:44	0.048	0.049
Li [mg/L]	02-Jan-24	14:44	0.0005	0.0005
Mg [mg/L]	02-Jan-24	14:44	0.013	0.012
Mn [mg/L]	02-Jan-24	14:44	0.00094	0.00121
Mo [mg/L]	02-Jan-24	14:44	0.00045	< 0.00004
Na [mg/L]	02-Jan-24	14:44	0.02	0.01
Ni [mg/L]	02-Jan-24	14:44	< 0.0001	< 0.0001
Pb [mg/L]	02-Jan-24	14:44	< 0.00009	< 0.00009
Sb [mg/L]	02-Jan-24	14:44	0.0016	0.0013
Se [mg/L]	02-Jan-24	14:44	< 0.00004	< 0.00004
Sn [mg/L]	02-Jan-24	14:44	< 0.00006	< 0.00006
Sr [mg/L]	02-Jan-24	14:44	0.00082	0.00082
Ti [mg/L]	02-Jan-24	14:44	< 0.00007	< 0.00007

OnLine LIMS

0003592785

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10174-DEC23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#34	6: CV5-DMS-HCT-84 Wk#34
Tl [mg/L]	02-Jan-24	14:44	0.000006	0.000007
U [mg/L]	02-Jan-24	14:44	0.000896	0.00126
V [mg/L]	02-Jan-24	14:44	0.00002	0.00001
W [mg/L]	02-Jan-24	14:44	< 0.00002	< 0.00002
Y [mg/L]	02-Jan-24	14:44	< 0.00002	< 0.00002
Zn [mg/L]	02-Jan-24	14:44	0.005	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003592785

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

16-January-2024

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 21 December 2023
LR Report: **CA10175-DEC23**
Reference: Wk#34

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#34	6: CV5-WR-HCT-5 Wk#34	7: CV5-WR-HCT-5 (DUP) Wk#34	8: CV5-WR-HCT-14 Wk#34
Sample Date & Time			21-Dec-23	21-Dec-23	21-Dec-23	21-Dec-23
HumCell Leachate Vol [mL]	28-Dec-23	13:50	970	946	991	994
pH [No unit]	28-Dec-23	11:01	6.54	6.75	6.57	7.42
Alkalinity [mg/L as CaCO3]	27-Dec-23	13:20	2	3	3	12
Conductivity [uS/cm]	28-Dec-23	11:03	31	21	19	32
Acidity [mg/L as CaCO3]	27-Dec-23	13:21	< 2	< 2	< 2	< 2
Tot.Reactive P [mg/L]	27-Dec-23	10:00	< 0.03	0.03	< 0.03	< 0.03
SO4 [mg/L]	29-Dec-23	13:35	10	5	3	2
Ag [mg/L]	02-Jan-24	14:31	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	02-Jan-24	14:31	0.022	0.020	0.019	0.096
As [mg/L]	02-Jan-24	14:31	0.0031	0.173	0.114	0.0392
Ba [mg/L]	02-Jan-24	14:31	0.00023	0.00017	0.00014	0.00019
Be [mg/L]	02-Jan-24	14:31	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	02-Jan-24	14:31	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	02-Jan-24	14:31	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	02-Jan-24	14:31	4.01	2.79	2.09	5.37
Cd [mg/L]	02-Jan-24	14:31	< 0.000003	0.000003	< 0.000003	< 0.000003
Co [mg/L]	02-Jan-24	14:31	0.000191	0.000218	0.000234	0.000057
Cr [mg/L]	02-Jan-24	14:31	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	02-Jan-24	14:31	0.0002	< 0.0002	< 0.0002	< 0.0002
Fe [mg/L]	02-Jan-24	14:31	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	02-Jan-24	14:31	0.153	0.076	0.055	0.026
Li [mg/L]	02-Jan-24	14:31	0.0063	0.0084	0.0062	0.0041
Mg [mg/L]	02-Jan-24	14:31	0.284	0.181	0.144	0.212
Mn [mg/L]	02-Jan-24	14:32	0.00094	0.00143	0.00142	0.00532
Mo [mg/L]	02-Jan-24	14:32	0.00125	0.0115	0.00026	0.00054
Na [mg/L]	02-Jan-24	14:32	0.18	0.06	0.04	0.15
Ni [mg/L]	02-Jan-24	14:32	0.0006	0.0017	0.0010	0.0002

OnLine LIMS

0003592810

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10175-DEC23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#34	6: CV5-WR-HCT-5 Wk#34	7: CV5-WR-HCT-5 (DUP) Wk#34	8: CV5-WR-HCT-14 Wk#34
Pb [mg/L]	02-Jan-24	14:32	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	02-Jan-24	14:32	0.0028	0.0443	0.0244	0.0047
Se [mg/L]	02-Jan-24	14:32	0.00015	< 0.00004	0.00005	0.00007
Sn [mg/L]	02-Jan-24	14:32	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	02-Jan-24	14:32	0.0108	0.00591	0.00473	0.00444
Ti [mg/L]	02-Jan-24	14:32	0.00010	0.00010	< 0.00007	0.00024
Tl [mg/L]	02-Jan-24	14:32	< 0.000005	< 0.000005	< 0.000005	< 0.000005
U [mg/L]	02-Jan-24	14:32	0.000589	0.000899	0.00357	0.000160
V [mg/L]	02-Jan-24	14:32	0.00028	0.00041	0.00039	0.00247
W [mg/L]	02-Jan-24	14:32	0.00003	0.00006	0.00005	< 0.00002
Y [mg/L]	02-Jan-24	14:32	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	02-Jan-24	14:32	< 0.002	< 0.002	< 0.002	< 0.002

Analysis	9: CV5-WR-HCT-22 Wk#34	10: CV5-WR-HCT-33 Wk#34	11: CV5-WR-HCT-36 Wk#34	12: CV5-WR-HCT-39 Wk#34	13: CV5-WR-HCT-50 Wk#34	14: CV5-WR-HCT-56 Wk#34
Sample Date & Time	21-Dec-23	21-Dec-23	21-Dec-23	21-Dec-23	21-Dec-23	21-Dec-23
HumCell Leachate Vol [mL]	985	991	993	981	999	998
pH [No unit]	6.76	7.08	7.02	6.37	6.59	6.93
Alkalinity [mg/L as CaCO3]	3	6	5	2	3	6
Conductivity [uS/cm]	12	17	17	22	37	32
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	< 2
Tot.Reactive P [mg/L]	< 0.03	< 0.03	0.33	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	< 2	< 2	2	6	9	6
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.016	0.056	0.002	0.012	0.006	0.036
As [mg/L]	0.135	0.0037	1.13	0.0193	0.0027	0.0137
Ba [mg/L]	< 0.00008	0.00018	0.00045	0.00017	0.00034	0.00051
Be [mg/L]	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	< 0.002	< 0.002	0.004	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	1.60	2.53	2.10	2.42	4.95	4.29
Cd [mg/L]	< 0.000003	< 0.000003	0.000004	0.000004	0.000028	0.000006
Co [mg/L]	0.000114	0.000041	0.000334	0.000139	0.00153	0.000065
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	0.0008	0.0004	< 0.0002	< 0.0002	0.0002	< 0.0002
Fe [mg/L]	< 0.007	< 0.007	< 0.007	0.007	< 0.007	< 0.007
K [mg/L]	0.029	0.038	0.035	0.156	0.117	0.174
Li [mg/L]	0.0053	0.0031	0.0022	0.0076	0.0076	0.0029
Mg [mg/L]	0.190	0.104	0.463	0.307	0.081	0.224
Mn [mg/L]	0.00055	0.00864	0.00231	0.00152	0.00646	0.00665

OnLine LIMS

0003592810

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10175-DEC23**

Analysis	9: CV5-WR-HCT-22 Wk#34	10: CV5-WR-HCT-33 Wk#34	11: CV5-WR-HCT-36 Wk#34	12: CV5-WR-HCT-39 Wk#34	13: CV5-WR-HCT-50 Wk#34	14: CV5-WR-HCT-56 Wk#34
Mo [mg/L]	0.00087	0.00013	0.00873	0.00054	0.00018	0.0117
Na [mg/L]	0.08	0.08	0.02	0.10	0.06	0.10
Ni [mg/L]	0.0004	< 0.0001	0.0109	0.0005	0.0014	0.0002
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.0058	0.0013	0.401	0.0129	0.0155	< 0.0009
Se [mg/L]	< 0.00004	0.00004	< 0.00004	0.00005	0.00038	0.00005
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00483	0.00241	0.00265	0.00770	0.00435	0.00480
Ti [mg/L]	0.00013	0.00017	< 0.00007	0.00008	< 0.00007	0.00012
Tl [mg/L]	< 0.000005	< 0.000005	< 0.000005	< 0.000005	0.000010	< 0.000005
U [mg/L]	0.000883	0.000023	0.000194	0.00254	0.00112	0.000391
V [mg/L]	0.00104	0.00061	0.00017	0.00027	0.00004	0.00034
W [mg/L]	0.00005	0.00003	0.00006	0.00003	< 0.00002	0.00007
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	0.007	< 0.002

Analysis	15: CV5-WR-HCT-59 Wk#34	16: CV5-WR-HCT-62 Wk#34	17: CV5-WR-HCT-64 Wk#34	18: CV5-WR-HCT-69 Wk#34	19: CV5-ORE-HCT-74 Wk#34	20: CV5-ORE-HCT-76 Wk#34
Sample Date & Time	21-Dec-23	21-Dec-23	21-Dec-23	21-Dec-23	21-Dec-23	21-Dec-23
HumCell Leachate Vol [mL]	996	1000	992	995	990	1000
pH [No unit]	6.49	7.17	6.99	7.16	6.55	7.15
Alkalinity [mg/L as CaCO3]	2	9	5	5	2	8
Conductivity [uS/cm]	13	28	12	13	5	17
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	< 2
Tot.Reactive P [mg/L]	0.06	0.27	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	3	4	< 2	< 2	< 2	< 2
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.003	< 0.001	0.024	0.073	0.017	0.028
As [mg/L]	0.266	0.941	0.0072	0.0041	0.0109	0.0029
Ba [mg/L]	0.00015	0.00043	< 0.00008	0.00012	< 0.00008	0.00009
Be [mg/L]	< 0.000007	< 0.000007	< 0.000007	0.000075	< 0.000007	0.000032
B [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00015	< 0.00001	0.00007
Ca [mg/L]	1.56	3.52	1.92	2.46	0.81	2.89
Cd [mg/L]	< 0.000003	0.000005	< 0.000003	0.000004	< 0.000003	< 0.000003
Co [mg/L]	0.000762	0.000971	0.000019	0.000010	0.000008	0.000012
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Fe [mg/L]	< 0.007	< 0.007	< 0.007	0.009	< 0.007	< 0.007
K [mg/L]	0.030	0.019	0.179	0.061	0.095	0.273

OnLine LIMS

0003592810

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10175-DEC23**

Analysis	15: CV5-WR-HCT-59 Wk#34	16: CV5-WR-HCT-62 Wk#34	17: CV5-WR-HCT-64 Wk#34	18: CV5-WR-HCT-69 Wk#34	19: CV5-ORE-HCT-74 Wk#34	20: CV5-ORE-HCT-76 Wk#34
Li [mg/L]	0.0018	0.0005	0.0018	0.0018	0.0071	0.0074
Mg [mg/L]	0.313	0.969	0.059	0.033	0.013	0.121
Mn [mg/L]	0.00204	0.00353	0.00455	0.00270	0.0532	0.00162
Mo [mg/L]	0.00025	0.0113	0.00046	0.00010	0.00018	0.00009
Na [mg/L]	0.03	0.03	0.04	0.11	0.08	0.15
Ni [mg/L]	0.0068	0.0175	0.0002	0.0002	< 0.0001	0.0001
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.0052	0.703	0.0015	0.0017	0.0113	0.0012
Se [mg/L]	< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00737	0.00253	0.00281	0.00449	0.00128	0.00628
Ti [mg/L]	< 0.00007	< 0.00007	< 0.00007	< 0.00007	< 0.00007	< 0.00007
Tl [mg/L]	< 0.000005	< 0.000005	0.000028	< 0.000005	0.000027	0.000017
U [mg/L]	0.000010	0.00154	0.00105	0.00362	0.00104	0.00160
V [mg/L]	0.00034	0.00014	0.00003	0.00008	0.00002	0.00005
W [mg/L]	0.00010	0.00008	0.00005	0.00004	0.00005	0.00006
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003592810

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

05-December-2023

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 23 November 2023
LR Report: **CA10195-NOV23**
Reference: Wk#30

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HC T-83 Wk#30	6: CV5-DMS-HC T-84 Wk#30
Sample Date & Time			23-Nov-23	23-Nov-23
HumCell Leachate Vol [mL]	24-Nov-23	09:02	1007	990
pH [No unit]	29-Nov-23	12:17	6.80	6.01
Alkalinity [mg/L as CaCO3]	27-Nov-23	15:15	< 2	< 2
Conductivity [uS/cm]	27-Nov-23	15:15	3	2
Acidity [mg/L as CaCO3]	27-Nov-23	15:15	2	< 2
F [mg/L]	27-Nov-23	09:16	< 0.06	< 0.06
Tot.Reactive P [mg/L]	24-Nov-23	09:30	< 0.03	< 0.03
SO4 [mg/L]	04-Dec-23	16:28	< 2	< 2
Cl [mg/L]	04-Dec-23	16:28	< 1	< 1
NO2 [as N mg/L]	27-Nov-23	13:40	< 0.03	< 0.03
NO3 [as N mg/L]	27-Nov-23	13:40	< 0.06	< 0.06
Br [mg/L]	27-Nov-23	13:40	< 0.3	< 0.3
Hg [mg/L]	29-Nov-23	12:13	< 0.00001	< 0.00001
Ag [mg/L]	29-Nov-23	12:13	< 0.00005	< 0.00005
Al [mg/L]	29-Nov-23	12:13	0.014	0.013
As [mg/L]	29-Nov-23	12:13	0.0046	0.0031
Ba [mg/L]	29-Nov-23	12:13	0.00008	0.00008
Be [mg/L]	29-Nov-23	12:13	< 0.000007	0.000011
B [mg/L]	29-Nov-23	12:13	< 0.002	< 0.002
Bi [mg/L]	29-Nov-23	12:13	0.00003	0.00003
Ca [mg/L]	29-Nov-23	12:13	0.38	0.39
Cd [mg/L]	29-Nov-23	12:13	< 0.000003	< 0.000003
Co [mg/L]	29-Nov-23	12:13	0.000011	< 0.000004
Cr [mg/L]	29-Nov-23	12:13	< 0.00008	< 0.00008
Cu [mg/L]	29-Nov-23	12:13	< 0.0002	< 0.0002
Fe [mg/L]	29-Nov-23	12:13	< 0.007	< 0.007
K [mg/L]	29-Nov-23	12:13	0.076	0.073

OnLine LIMS

0003554613

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10195-NOV23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#30	6: CV5-DMS-HCT-84 Wk#30
Li [mg/L]	29-Nov-23	12:13	0.0007	0.0011
Mg [mg/L]	29-Nov-23	12:13	0.017	0.021
Mn [mg/L]	29-Nov-23	12:13	0.00080	0.00145
Mo [mg/L]	29-Nov-23	12:13	0.00019	0.00006
Na [mg/L]	29-Nov-23	12:13	0.02	0.03
Ni [mg/L]	29-Nov-23	12:13	< 0.0001	< 0.0001
Pb [mg/L]	29-Nov-23	12:13	< 0.00009	< 0.00009
Sb [mg/L]	29-Nov-23	12:13	0.0016	0.0014
Se [mg/L]	29-Nov-23	12:13	< 0.00004	< 0.00004
Sn [mg/L]	29-Nov-23	12:13	< 0.00006	< 0.00006
Sr [mg/L]	29-Nov-23	12:13	0.00091	0.00085
Ti [mg/L]	29-Nov-23	12:13	< 0.00007	< 0.00007
Tl [mg/L]	29-Nov-23	12:13	0.000005	0.000009
U [mg/L]	29-Nov-23	12:13	0.00388	0.00140
V [mg/L]	29-Nov-23	12:13	0.00003	0.00002
W [mg/L]	29-Nov-23	12:13	< 0.00002	0.00006
Y [mg/L]	29-Nov-23	12:13	< 0.00002	< 0.00002
Zn [mg/L]	29-Nov-23	12:13	< 0.002	< 0.002
Au (tot) [mg/L]	29-Nov-23	12:13	< 0.00001	< 0.00001
Ce (tot) [mg/L]	29-Nov-23	12:13	< 0.00001	< 0.00001
Cs (tot) [mg/L]	29-Nov-23	12:13	0.0014	0.0015
Dy (tot) [mg/L]	29-Nov-23	12:13	< 0.0001	< 0.0001
Er (tot) [mg/L]	29-Nov-23	12:13	< 0.0001	< 0.0001
Eu (tot) [mg/L]	29-Nov-23	12:13	< 0.0001	< 0.0001
Ga (tot) [mg/L]	30-Nov-23	16:31	< 0.0001	< 0.0001
Gd (tot) [mg/L]	29-Nov-23	12:13	< 0.00001	< 0.00001
Ge (tot) [mg/L]	29-Nov-23	12:13	< 0.0001	< 0.0001
Hf (tot) [mg/L]	29-Nov-23	12:13	< 0.0001	< 0.0001
Ho (tot) [mg/L]	29-Nov-23	12:13	< 0.0001	< 0.0001
In (tot) [mg/L]	30-Nov-23	16:31	< 0.0001	< 0.0001
Ir (tot) [mg/L]	29-Nov-23	12:14	< 0.0001	< 0.0001
La (tot) [mg/L]	29-Nov-23	12:14	< 0.0001	< 0.0001
Lu (tot) [mg/L]	29-Nov-23	12:14	< 0.0001	< 0.0001
Nb (tot) [mg/L]	29-Nov-23	12:14	< 0.0001	< 0.0001
Nd (tot) [mg/L]	29-Nov-23	12:14	< 0.0001	< 0.0001
Os (tot) [mg/L]	29-Nov-23	12:14	< 0.0001	< 0.0001
Pd (tot) [mg/L]	29-Nov-23	12:14	< 0.0001	< 0.0001
Pr (tot) [mg/L]	29-Nov-23	12:14	< 0.0001	< 0.0001
Pt (tot) [mg/L]	29-Nov-23	12:14	< 0.0001	< 0.0001
Rb (tot) [mg/L]	29-Nov-23	12:14	0.0048	0.0049
Re (tot) [mg/L]	29-Nov-23	12:14	< 0.0001	< 0.0001
Rh (tot) [mg/L]	29-Nov-23	12:14	< 0.00001	< 0.00001

OnLine LIMS

0003554613

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10195-NOV23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HC T-83 Wk#30	6: CV5-DMS-HC T-84 Wk#30
Sc (tot) [mg/L]	30-Nov-23	16:31	< 0.0001	< 0.0001
Sm (tot) [mg/L]	29-Nov-23	12:14	< 0.0001	< 0.0001
Ta (tot) [mg/L]	29-Nov-23	12:14	< 0.0001	< 0.0001
Tb (tot) [mg/L]	30-Nov-23	16:31	< 0.0001	< 0.0001
Te (tot) [mg/L]	29-Nov-23	12:14	< 0.0001	< 0.0001
Th (tot) [mg/L]	29-Nov-23	12:14	< 0.0001	< 0.0001
Tm (tot) [mg/L]	30-Nov-23	16:31	< 0.0001	< 0.0001
Yb (tot) [mg/L]	29-Nov-23	12:14	< 0.0001	< 0.0001

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003554613

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

06-December-2023

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700, Vancouver
Canada, V6C 0A6
Phone: 647-782-7386, Fax:

Date Rec. : 23 November 2023
LR Report: **CA10196-NOV23**
Reference: Wk#30

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#30	6: CV5-WR-HCT-5 Wk#30	7: CV5-WR-HCT-5 (DUP) Wk#30	8: CV5-WR-HCT-14 Wk#30
Sample Date & Time			23-Nov-23	23-Nov-23	23-Nov-23	23-Nov-23
HumCell Leachate Vol [mL]	24-Nov-23	09:02	913	898	927	976
pH [No unit]	29-Nov-23	12:18	6.60	6.75	6.83	7.40
Alkalinity [mg/L as CaCO3]	28-Nov-23	10:00	3	4	3	11
Conductivity [uS/cm]	27-Nov-23	15:19	31	24	17	29
Acidity [mg/L as CaCO3]	27-Nov-23	15:19	3	< 2	< 2	< 2
F [mg/L]	27-Nov-23	09:16	< 0.06	0.14	< 0.06	< 0.06
Tot.Reactive P [mg/L]	24-Nov-23	09:31	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	04-Dec-23	16:28	9	3	4	2
Cl [mg/L]	04-Dec-23	16:28	< 1	< 1	< 1	< 1
NO2 [as N mg/L]	27-Nov-23	13:40	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	27-Nov-23	13:40	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	27-Nov-23	13:40	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	29-Nov-23	12:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	29-Nov-23	12:13	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	29-Nov-23	12:13	0.025	0.027	0.024	0.093
As [mg/L]	29-Nov-23	12:13	0.0038	0.152	0.204	0.0371
Ba [mg/L]	29-Nov-23	12:13	0.00032	0.00027	0.00034	0.00015
Be [mg/L]	29-Nov-23	12:13	0.000011	< 0.000007	0.000010	< 0.000007
B [mg/L]	29-Nov-23	12:13	0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	29-Nov-23	12:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	29-Nov-23	12:13	4.36	2.55	3.19	5.41
Cd [mg/L]	29-Nov-23	12:13	0.000004	< 0.000003	0.000004	< 0.000003
Co [mg/L]	29-Nov-23	12:13	0.000103	0.000188	0.000198	0.000052
Cr [mg/L]	29-Nov-23	12:13	< 0.00008	0.00008	< 0.00008	< 0.00008
Cu [mg/L]	29-Nov-23	12:13	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Fe [mg/L]	29-Nov-23	12:13	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	29-Nov-23	12:13	0.264	0.108	0.135	0.042

OnLine LIMS

0003555511

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10196-NOV23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#30	6: CV5-WR-HCT-5 Wk#30	7: CV5-WR-HCT-5 (DUP) Wk#30	8: CV5-WR-HCT-14 Wk#30
Li [mg/L]	29-Nov-23	12:13	0.0111	0.0099	0.0115	0.0045
Mg [mg/L]	29-Nov-23	12:13	0.429	0.227	0.263	0.240
Mn [mg/L]	29-Nov-23	12:13	0.00151	0.00189	0.00216	0.00537
Mo [mg/L]	29-Nov-23	12:13	0.00014	0.00007	0.00007	0.00018
Na [mg/L]	29-Nov-23	12:13	0.20	0.08	0.08	0.19
Ni [mg/L]	29-Nov-23	12:13	0.0003	0.0007	0.0012	0.0001
Pb [mg/L]	29-Nov-23	12:13	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	29-Nov-23	12:13	0.0027	0.0246	0.0435	0.0053
Se [mg/L]	29-Nov-23	12:13	0.00023	0.00009	0.00005	0.00009
Sn [mg/L]	29-Nov-23	12:13	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	29-Nov-23	12:13	0.0119	0.00601	0.00641	0.00401
Ti [mg/L]	29-Nov-23	12:13	0.00018	0.00015	0.00019	0.00026
Tl [mg/L]	29-Nov-23	12:13	< 0.000005	< 0.000005	0.000007	< 0.000005
U [mg/L]	29-Nov-23	12:13	0.00189	0.000297	0.000123	0.000635
V [mg/L]	29-Nov-23	12:13	0.00029	0.00045	0.00057	0.00243
W [mg/L]	29-Nov-23	12:13	0.00009	0.00005	0.00005	0.00003
Y [mg/L]	29-Nov-23	12:13	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	29-Nov-23	12:13	< 0.002	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	29-Nov-23	12:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	29-Nov-23	12:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Cs (tot) [mg/L]	29-Nov-23	12:13	0.0070	0.0087	0.0089	0.0015
Dy (tot) [mg/L]	29-Nov-23	12:13	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Er (tot) [mg/L]	29-Nov-23	12:13	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Eu (tot) [mg/L]	29-Nov-23	12:13	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ga (tot) [mg/L]	30-Nov-23	16:24	< 0.0001	< 0.0001	< 0.0001	0.0001
Gd (tot) [mg/L]	29-Nov-23	12:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	29-Nov-23	12:13	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	29-Nov-23	12:13	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	29-Nov-23	12:13	< 0.0001	< 0.0001	< 0.0001	< 0.0001
In (tot) [mg/L]	30-Nov-23	16:24	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ir (tot) [mg/L]	29-Nov-23	12:13	< 0.0001	< 0.0001	< 0.0001	< 0.0001
La (tot) [mg/L]	29-Nov-23	12:13	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Lu (tot) [mg/L]	29-Nov-23	12:13	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	29-Nov-23	12:13	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nd (tot) [mg/L]	29-Nov-23	12:13	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Os (tot) [mg/L]	29-Nov-23	12:13	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	29-Nov-23	12:13	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	29-Nov-23	12:13	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pt (tot) [mg/L]	29-Nov-23	12:13	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	29-Nov-23	12:13	0.0044	0.0032	0.0037	0.0004
Re (tot) [mg/L]	29-Nov-23	12:13	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	29-Nov-23	12:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001

OnLine LIMS

0003555511

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10196-NOV23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#30	6: CV5-WR-HCT-5 Wk#30	7: CV5-WR-HCT-5 (DUP) Wk#30	8: CV5-WR-HCT-14 Wk#30
Sc (tot) [mg/L]	30-Nov-23	16:24	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	29-Nov-23	12:13	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ta (tot) [mg/L]	29-Nov-23	12:13	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	30-Nov-23	16:24	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Te (tot) [mg/L]	29-Nov-23	12:13	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	29-Nov-23	12:13	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	30-Nov-23	16:24	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Yb (tot) [mg/L]	29-Nov-23	12:13	< 0.0001	< 0.0001	< 0.0001	< 0.0001

Analysis	9: CV5-WR-HCT-22 Wk#30	10: CV5-WR-HCT-33 Wk#30	11: CV5-WR-HCT-36 Wk#30	12: CV5-WR-HCT-39 Wk#30	13: CV5-WR-HCT-50 Wk#30	14: CV5-WR-HCT-56 Wk#30	15: CV5-WR-HCT-59 Wk#30
Sample Date & Time	23-Nov-23	23-Nov-23	23-Nov-23	23-Nov-23	23-Nov-23	23-Nov-23	23-Nov-23
HumCell Leachate Vol [mL]	989	948	958	947	985	937	951
pH [No unit]	6.79	7.19	7.11	6.54	6.51	7.66	6.54
Alkalinity [mg/L as CaCO3]	3	6	5	2	3	5	2
Conductivity [uS/cm]	11	15	18	20	40	25	14
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	7	< 2	3
F [mg/L]	< 0.06	< 0.06	< 0.06	0.16	0.20	< 0.06	< 0.06
Tot.Reactive P [mg/L]	0.05	< 0.03	0.38	< 0.03	< 0.03	< 0.03	0.06
SO4 [mg/L]	< 2	< 2	2	6	13	5	4
Cl [mg/L]	< 1	< 1	< 1	< 1	2	< 1	< 1
NO2 [as N mg/L]	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.023	0.064	0.002	0.021	0.008	0.038	0.008
As [mg/L]	0.180	0.0041	1.19	0.0217	0.0035	0.0159	0.319
Ba [mg/L]	0.00013	0.00018	0.00067	0.00031	0.00057	0.00039	0.00016
Be [mg/L]	< 0.000007	0.000008	0.000012	0.000012	0.000010	0.000008	< 0.000007
B [mg/L]	< 0.002	< 0.002	0.005	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	1.66	2.78	2.76	2.76	7.19	4.49	2.10
Cd [mg/L]	0.000013	< 0.000003	0.000016	0.000010	0.000049	< 0.000003	0.000003
Co [mg/L]	0.000148	0.000041	0.000245	0.000254	0.00251	0.000055	0.000519
Cr [mg/L]	0.00008	< 0.00008	0.00008	< 0.00008	< 0.00008	< 0.00008	0.00009
Cu [mg/L]	< 0.0002	0.0005	0.0003	0.0002	0.0003	< 0.0002	0.0004
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	0.051	0.062	0.068	0.234	0.195	0.284	0.051
Li [mg/L]	0.0074	0.0044	0.0029	0.0113	0.0106	0.0050	0.0021

OnLine LIMS

00035555111

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10196-NOV23**

Analysis	9: CV5-WR-HCT-22 Wk#30	10: CV5-WR-HCT-33 Wk#30	11: CV5-WR-HCT-36 Wk#30	12: CV5-WR-HCT-39 Wk#30	13: CV5-WR-HCT-50 Wk#30	14: CV5-WR-HCT-56 Wk#30	15: CV5-WR-HCT-59 Wk#30
Mg [mg/L]	0.259	0.141	0.604	0.379	0.161	0.329	0.398
Mn [mg/L]	0.00072	0.00863	0.00169	0.00190	0.00743	0.00692	0.00152
Mo [mg/L]	0.00023	0.00026	0.00004	0.00016	0.00067	0.00016	0.00016
Na [mg/L]	0.12	0.11	0.03	0.13	0.13	0.09	0.07
Ni [mg/L]	0.0004	< 0.0001	0.0075	0.0004	0.0020	0.0001	0.0037
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.0081	0.0013	0.518	0.0124	0.0163	< 0.0009	0.0051
Se [mg/L]	0.00006	0.00012	0.00008	0.00011	0.00083	0.00006	0.00004
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00522	0.00240	0.00342	0.00862	0.00613	0.00446	0.00878
Ti [mg/L]	0.00021	< 0.00007	< 0.00007	0.00021	< 0.00007	< 0.00007	0.00022
Tl [mg/L]	0.000009	< 0.000005	0.000009	0.000005	0.000020	< 0.000005	< 0.000005
U [mg/L]	0.000222	0.00463	0.000060	0.00133	0.00140	0.000975	0.000016
V [mg/L]	0.00121	0.00063	0.00017	0.00031	0.00007	0.00037	0.00032
W [mg/L]	0.00003	0.00003	0.00008	0.00003	0.00040	0.00009	0.00017
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	0.002	0.015	< 0.002	< 0.002
Au (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00002	0.00002	< 0.00001	< 0.00001
Cs (tot) [mg/L]	0.0040	0.0029	0.0123	0.0020	0.0244	0.0186	0.0065
Dy (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Er (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Eu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ga (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Gd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
In (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ir (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
La (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Lu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Os (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pt (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	0.0013	0.0006	0.0024	0.0022	0.0068	0.0012	0.0020
Re (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001

OnLine LIMS

0003555511

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10196-NOV23**

Analysis	9: CV5-WR-HCT-22 Wk#30	10: CV5-WR-HCT-33 Wk#30	11: CV5-WR-HCT-36 Wk#30	12: CV5-WR-HCT-39 Wk#30	13: CV5-WR-HCT-50 Wk#30	14: CV5-WR-HCT-56 Wk#30	15: CV5-WR-HCT-59 Wk#30
Sm (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ta (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Te (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Yb (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001

Analysis	16: CV5-WR-HCT-62 Wk#30	17: CV5-WR-HCT-64 Wk#30	18: CV5-WR-HCT-69 Wk#30	19: CV5-ORE-HCT-74 Wk#30	20: CV5-ORE-HCT-76 Wk#30
Sample Date & Time	23-Nov-23	23-Nov-23	23-Nov-23	23-Nov-23	23-Nov-23
HumCell Leachate Vol [mL]	916	993	998	997	982
pH [No unit]	7.26	6.88	7.01	6.59	7.02
Alkalinity [mg/L as CaCO3]	7	5	7	3	6
Conductivity [uS/cm]	23	9	13	5	12
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2
F [mg/L]	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Tot.Reactive P [mg/L]	0.17	< 0.03	< 0.03	0.03	< 0.03
SO4 [mg/L]	3	< 2	< 2	< 2	< 2
Cl [mg/L]	< 1	< 1	< 1	< 1	< 1
NO2 [as N mg/L]	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.002	0.024	0.061	0.014	0.041
As [mg/L]	0.735	0.0075	0.0053	0.0103	0.0031
Ba [mg/L]	0.00052	0.00014	0.00020	< 0.00008	0.00018
Be [mg/L]	< 0.000007	0.000013	0.000154	0.000017	0.000085
B [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	< 0.00001	0.00018	< 0.00001	0.00010
Ca [mg/L]	3.63	1.91	2.86	0.87	2.30
Cd [mg/L]	< 0.000003	< 0.000003	0.000013	< 0.000003	0.000005
Co [mg/L]	0.000400	0.000030	0.000019	0.000013	0.000032
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	< 0.00008	0.00009
Cu [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	0.039	0.259	0.090	0.121	0.335
Li [mg/L]	0.0019	0.0029	0.0022	0.0079	0.0082
Mg [mg/L]	0.985	0.084	0.048	0.018	0.127

OnLine LIMS

0003555511

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10196-NOV23**

Analysis	16: CV5-WR-HCT-62 Wk#30	17: CV5-WR-HCT-64 Wk#30	18: CV5-WR-HCT-69 Wk#30	19: CV5-ORE-HCT-74 Wk#30	20: CV5-ORE-HCT-76 Wk#30
Mn [mg/L]	0.00264	0.00469	0.00346	0.0440	0.00188
Mo [mg/L]	0.00009	0.00010	0.00007	< 0.00004	0.00008
Na [mg/L]	0.03	0.05	0.14	0.09	0.09
Ni [mg/L]	0.0075	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pb [mg/L]	< 0.00009	< 0.00009	0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.631	0.0019	0.0026	0.0105	0.0013
Se [mg/L]	0.00010	< 0.00004	< 0.00004	< 0.00004	< 0.00004
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00239	0.00284	0.00511	0.00126	0.00534
Ti [mg/L]	< 0.00007	< 0.00007	< 0.00007	< 0.00007	< 0.00007
Tl [mg/L]	< 0.000005	0.000045	0.000012	0.000027	0.000033
U [mg/L]	0.00117	0.00395	0.00503	0.00195	0.000969
V [mg/L]	0.00018	0.00002	0.00008	0.00003	0.00008
W [mg/L]	0.00008	0.00005	0.00005	0.00003	0.00006
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Cs (tot) [mg/L]	0.0028	0.0079	0.0019	0.0096	0.0061
Dy (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Er (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Eu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ga (tot) [mg/L]	< 0.0001	< 0.0001	0.0001	0.0001	0.0002
Gd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
In (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ir (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
La (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Lu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Os (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pt (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	0.0013	0.0173	0.0040	0.0131	0.0103
Re (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001

OnLine LIMS

0003555511

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10196-NOV23**

Analysis	16: CV5-WR-HCT-62 Wk#30	17: CV5-WR-HCT-64 Wk#30	18: CV5-WR-HCT-69 Wk#30	19: CV5-ORE-HCT-74 Wk#30	20: CV5-ORE-HCT-76 Wk#30
Ta (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Te (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Yb (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003555511

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

10-May-2023

Patriot Battery Metals Inc
Attn : Darren Smith

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 27 April 2023
LR Report: **CA10198-APR23**
Reference: Wk#0 - Patriot WR - Long

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#0	6: CV5-WR-HCT-5 Wk#0	7: CV5-WR-HCT-5 (DUP) Wk#0	8: CV5-WR-HCT-14 Wk#0	9: CV5-WR-HCT-22 Wk#0
Sample Date & Time			27-Apr-23	27-Apr-23	27-Apr-23	27-Apr-23	27-Apr-23
HumCell Leachate Vol [mL]	29-Apr-23	09:24	836	816	824	829	821
pH [No unit]	01-May-23	13:38	8.80	8.33	8.32	8.12	7.65
Alkalinity [mg/L as CaCO3]	01-May-23	13:38	15	12	14	22	11
Conductivity [uS/cm]	01-May-23	13:38	45	36	33	86	28
Acidity [mg/L as CaCO3]	01-May-23	13:38	< 2	< 2	< 2	< 2	< 2
F [mg/L]	01-May-23	09:54	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
SO4 [mg/L]	08-May-23	09:25	3	3	< 2	2	< 2
Cl [mg/L]	09-May-23	13:39	4	3	2	22	2
NO2 [as N mg/L]	07-May-23	10:28	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	07-May-23	10:28	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	07-May-23	10:28	< 0.3	< 0.3	< 0.3	0.5	< 0.3
Tot.Reactive P [mg/L]	05-May-23	09:25	< 0.03	< 0.03	0.03	< 0.03	< 0.03
Hg [mg/L]	02-May-23	15:28	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	05-May-23	10:28	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	05-May-23	10:28	0.172	0.118	0.154	0.131	0.090
As [mg/L]	05-May-23	10:28	0.0027	0.0461	0.0373	0.0115	0.0195
Ba [mg/L]	05-May-23	10:28	0.00054	0.00039	0.00041	0.00031	0.00022
Be [mg/L]	05-May-23	10:28	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	05-May-23	10:28	0.012	0.010	0.014	0.013	0.007
Bi [mg/L]	05-May-23	10:28	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	05-May-23	10:28	5.08	4.25	4.23	6.75	3.56
Cd [mg/L]	05-May-23	10:28	< 0.000003	< 0.000003	0.000004	< 0.000003	< 0.000003
Co [mg/L]	05-May-23	10:28	0.000031	0.000043	0.000063	0.000028	0.000028
Cr [mg/L]	05-May-23	10:28	0.00009	0.00017	0.00025	< 0.00008	0.00010
Cu [mg/L]	05-May-23	10:28	0.0009	0.0006	0.0014	0.0005	0.0004
Fe [mg/L]	05-May-23	10:28	< 0.007	< 0.007	0.007	< 0.007	< 0.007
K [mg/L]	05-May-23	10:28	1.21	0.804	0.767	0.490	0.292
Li [mg/L]	05-May-23	10:28	0.0302	0.103	0.109	0.0161	0.0148
Mg [mg/L]	05-May-23	10:28	0.545	0.346	0.308	0.700	0.237

OnLine LIMS

0003328028

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10198-APR23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#0	6: CV5-WR-HCT-5 Wk#0	7: CV5-WR-HCT-5 (DUP) Wk#0	8: CV5-WR-HCT-14 Wk#0	9: CV5-WR-HCT-22 Wk#0
Mn [mg/L]	05-May-23	10:28	0.00069	0.00079	0.00081	0.00133	0.00034
Mo [mg/L]	08-May-23	16:22	0.00035	0.00018	0.00036	0.00023	0.00024
Na [mg/L]	05-May-23	10:29	3.03	2.00	1.96	11.0	2.31
Ni [mg/L]	05-May-23	10:29	0.0002	0.0006	0.0009	0.0003	0.0002
Pb [mg/L]	05-May-23	10:29	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	05-May-23	10:29	0.0030	0.0300	0.0177	0.0046	0.0034
Se [mg/L]	05-May-23	10:29	0.00036	0.00014	0.00007	0.00008	< 0.00004
Sn [mg/L]	05-May-23	10:29	0.00273	0.00138	0.00037	0.00058	0.00024
Sr [mg/L]	05-May-23	10:29	0.0188	0.0107	0.0103	0.0151	0.00902
Ti [mg/L]	05-May-23	10:29	0.00035	0.00015	0.00020	< 0.00005	0.00013
Tl [mg/L]	05-May-23	10:29	0.000006	0.000018	0.000019	< 0.000005	0.000013
U [mg/L]	05-May-23	10:29	0.000305	0.00496	0.00348	0.000038	0.000041
V [mg/L]	05-May-23	10:29	0.00085	0.00100	0.00115	0.00219	0.00105
W [mg/L]	05-May-23	10:29	0.00054	0.00119	0.00153	0.00020	0.00022
Y [mg/L]	05-May-23	10:29	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	05-May-23	10:29	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	08-May-23	16:22	0.00011	0.00002	0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	08-May-23	09:37	0.00001	< 0.00001	0.00001	< 0.00001	0.00001
Cs (tot) [mg/L]	05-May-23	10:29	0.0184	0.0344	0.0349	0.0082	0.0172
Dy (tot) [mg/L]	08-May-23	09:37	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Er (tot) [mg/L]	08-May-23	09:37	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Eu (tot) [mg/L]	08-May-23	09:37	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ga (tot) [mg/L]	08-May-23	09:37	0.0002	< 0.0001	< 0.0001	0.0005	< 0.0001
Gd (tot) [mg/L]	08-May-23	09:37	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	08-May-23	16:22	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	05-May-23	10:29	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	08-May-23	09:37	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
In (tot) [mg/L]	08-May-23	09:37	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ir (tot) [mg/L]	08-May-23	16:22	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
La (tot) [mg/L]	08-May-23	09:37	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Lu (tot) [mg/L]	08-May-23	09:37	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	05-May-23	10:29	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nd (tot) [mg/L]	08-May-23	09:37	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Os (tot) [mg/L]	08-May-23	16:23	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	05-May-23	10:29	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	08-May-23	09:37	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pt (tot) [mg/L]	05-May-23	10:30	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	05-May-23	10:30	0.0174	0.0222	0.0209	0.0037	0.0072
Re (tot) [mg/L]	08-May-23	16:23	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	05-May-23	10:30	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	08-May-23	09:37	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	08-May-23	09:37	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ta (tot) [mg/L]	05-May-23	10:30	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	08-May-23	09:37	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Te (tot) [mg/L]	05-May-23	10:30	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001

OnLine LIMS

0003328028

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10198-APR23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#0	6: CV5-WR-HCT-5 Wk#0	7: CV5-WR-HCT-5 (DUP) Wk#0	8: CV5-WR-HCT-14 Wk#0	9: CV5-WR-HCT-22 Wk#0
Th (tot) [mg/L]	05-May-23	10:30	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	08-May-23	09:37	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Yb (tot) [mg/L]	08-May-23	09:38	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001

Analysis	10: CV5-WR-HCT-33 Wk#0	11: CV5-WR-HCT-36 Wk#0	12: CV5-WR-HCT-39 Wk#0	13: CV5-WR-HCT-50 Wk#0	14: CV5-WR-HCT-56 Wk#0	15: CV5-WR-HCT-59 Wk#0	16: CV5-WR-HCT-62 Wk#0
Sample Date & Time	27-Apr-23	27-Apr-23	27-Apr-23	27-Apr-23	27-Apr-23	27-Apr-23	27-Apr-23
HumCell Leachate Vol [mL]	845	823	830	803	876	827	844
pH [No unit]	8.36	8.49	7.34	7.37	8.82	7.31	8.56
Alkalinity [mg/L as CaCO3]	15	17	8	14	17	9	16
Conductivity [uS/cm]	40	37	33	114	45	27	53
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	< 2	< 2
F [mg/L]	< 0.06	< 0.06	0.17	0.20	< 0.06	< 0.06	< 0.06
SO4 [mg/L]	< 2	< 2	5	37	< 2	3	< 2
Cl [mg/L]	2	< 1	2	8	3	< 1	7
NO2 [as N mg/L]	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Tot.Reactive P [mg/L]	0.05	0.05	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.165	0.023	0.084	0.087	0.161	0.038	0.010
As [mg/L]	0.0041	0.195	0.0095	0.0207	0.0023	0.0432	0.185
Ba [mg/L]	0.00041	0.00100	0.00030	0.00156	0.00161	0.00045	0.00071
Be [mg/L]	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	0.006	0.056	0.005	0.008	0.009	0.007	0.011
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	4.93	3.81	2.14	8.57	5.04	2.62	5.58
Cd [mg/L]	< 0.000003	0.000006	< 0.000003	0.000005	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	0.000050	0.000046	0.000023	0.000493	0.000034	0.000063	0.000072
Cr [mg/L]	< 0.00008	0.00376	0.00012	< 0.00008	< 0.00008	0.00050	0.00047
Cu [mg/L]	0.0009	0.0004	0.0002	0.0004	0.0005	0.0006	0.0005
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	0.014	0.012
K [mg/L]	0.597	0.585	1.49	7.66	3.15	0.631	0.390
Li [mg/L]	0.0167	0.0232	0.0459	0.189	0.0269	0.0060	0.0019
Mg [mg/L]	0.319	1.48	0.241	1.37	0.363	0.490	1.49
Mn [mg/L]	0.00254	0.00145	0.00085	0.00607	0.00268	0.00082	0.00205
Mo [mg/L]	0.00029	0.0123	0.00178	0.00395	0.00092	0.00033	0.00148
Na [mg/L]	2.85	2.22	3.58	8.00	2.30	2.27	3.11
Ni [mg/L]	0.0002	0.0021	0.0003	0.0087	0.0003	0.0029	0.0032
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.0030	0.161	0.0051	0.0443	< 0.0009	0.0023	0.0590
Se [mg/L]	< 0.00004	< 0.00004	0.00022	0.00430	0.00006	0.00010	0.00004

OnLine LIMS

0003328028

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10198-APR23**

Analysis	10: CV5-WR-HCT-33 Wk#0	11: CV5-WR-HCT-36 Wk#0	12: CV5-WR-HCT-39 Wk#0	13: CV5-WR-HCT-50 Wk#0	14: CV5-WR-HCT-56 Wk#0	15: CV5-WR-HCT-59 Wk#0	16: CV5-WR-HCT-62 Wk#0
Sn [mg/L]	0.00224	0.00272	0.00082	0.00038	0.00027	0.00046	0.00146
Sr [mg/L]	0.00702	0.0130	0.00739	0.0233	0.00859	0.0154	0.00688
Ti [mg/L]	0.00032	0.00006	0.00021	0.00022	0.00017	0.00028	< 0.00005
Tl [mg/L]	0.000010	0.000019	0.000022	0.000070	0.000005	0.000015	0.000013
U [mg/L]	0.000829	0.000117	0.000466	0.000327	0.00223	0.000152	0.000796
V [mg/L]	0.00196	0.00121	0.00036	0.00015	0.00141	0.00061	0.00042
W [mg/L]	0.00061	0.00104	0.00045	0.00031	0.00391	0.00221	0.00077
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	< 0.00001	< 0.00001	0.00003	0.00002	< 0.00001	< 0.00001	< 0.00001
Cs (tot) [mg/L]	0.0070	0.0655	0.0127	0.155	0.0207	0.0361	0.0114
Dy (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Er (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Eu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ga (tot) [mg/L]	0.0002	0.0001	0.0002	0.0002	0.0002	< 0.0001	< 0.0001
Gd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
In (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ir (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
La (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Lu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Os (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pt (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	0.0043	0.0172	0.0182	0.171	0.0094	0.0152	0.0073
Re (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001
Sm (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ta (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Te (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Yb (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001

OnLine LIMS

0003328028

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10198-APR23**

Analysis	17: CV5-WR-HCT-64 Wk#0	18: CV5-WR-HCT-69 Wk#0	19: CV5-ORE-HCT-74 Wk#0	20: CV5-ORE-HCT-76 Wk#0
Sample Date & Time	27-Apr-23	27-Apr-23	27-Apr-23	27-Apr-23
HumCell Leachate Vol [mL]	820	847	827	801
pH [No unit]	8.31	9.09	7.90	8.67
Alkalinity [mg/L as CaCO3]	13	29	11	22
Conductivity [uS/cm]	53	114	154	117
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2
F [mg/L]	0.27	0.33	0.44	0.42
SO4 [mg/L]	< 2	7	< 2	6
Cl [mg/L]	10	22	44	27
NO2 [as N mg/L]	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	< 0.3	< 0.3	< 0.3	< 0.3
Tot.Reactive P [mg/L]	0.21	0.21	0.34	0.13
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.193	0.257	0.135	0.189
As [mg/L]	0.340	0.210	0.933	0.0315
Ba [mg/L]	0.00024	0.00052	0.00011	0.00026
Be [mg/L]	0.000026	0.000437	0.000031	0.000091
B [mg/L]	0.045	0.083	0.038	0.035
Bi [mg/L]	< 0.00001	0.00100	0.00004	0.00034
Ca [mg/L]	2.08	3.63	1.04	4.45
Cd [mg/L]	< 0.000003	0.000003	0.000004	< 0.000003
Co [mg/L]	0.000104	0.000181	0.000080	0.000058
Cr [mg/L]	0.00011	0.00013	0.00009	< 0.00008
Cu [mg/L]	0.0028	0.0089	0.0022	0.0021
Fe [mg/L]	< 0.007	0.011	< 0.007	< 0.007
K [mg/L]	4.47	1.86	3.30	3.81
Li [mg/L]	0.153	0.134	0.867	0.484
Mg [mg/L]	0.151	0.212	0.048	0.313
Mn [mg/L]	0.00219	0.00182	0.00575	0.00204
Mo [mg/L]	0.00109	0.00224	0.00271	0.00146
Na [mg/L]	5.69	20.2	21.6	13.9
Ni [mg/L]	0.0005	0.0005	0.0002	0.0001
Pb [mg/L]	< 0.00009	0.00011	< 0.00009	< 0.00009
Sb [mg/L]	0.0082	0.0200	0.0427	0.0039
Se [mg/L]	< 0.00004	0.00067	< 0.00004	0.00008
Sn [mg/L]	0.00208	0.00485	0.00470	0.00055
Sr [mg/L]	0.00464	0.0121	0.00345	0.0159
Ti [mg/L]	0.00006	0.00017	0.00007	< 0.00005
Tl [mg/L]	0.000328	0.000076	0.000335	0.000171
U [mg/L]	0.00175	0.0303	0.00718	0.000677
V [mg/L]	0.00021	0.00143	0.00017	0.00029
W [mg/L]	0.00682	0.00714	0.00335	0.00249
Y [mg/L]	< 0.00002	0.00018	< 0.00002	< 0.00002

OnLine LIMS

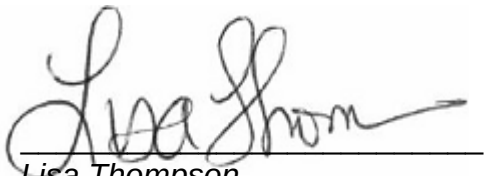
0003328028

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10198-APR23**

Analysis	17: CV5-WR-HCT-64 Wk#0	18: CV5-WR-HCT-69 Wk#0	19: CV5-ORE-HCT-74 Wk#0	20: CV5-ORE-HCT-76 Wk#0
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	< 0.00001	0.00011	< 0.00001	< 0.00001
Cs (tot) [mg/L]	0.0438	0.0143	0.156	0.0347
Dy (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Er (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Eu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ga (tot) [mg/L]	0.0006	0.0016	0.0005	0.0008
Gd (tot) [mg/L]	< 0.00001	0.00007	< 0.00001	< 0.00001
Ge (tot) [mg/L]	< 0.0001	0.0002	0.0001	< 0.0001
Hf (tot) [mg/L]	< 0.0001	0.0006	0.0001	< 0.0001
Ho (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
In (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ir (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
La (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Lu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	0.0001	0.0028	0.0002	< 0.0001
Nd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Os (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pt (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	0.259	0.0709	0.316	0.115
Re (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	0.0001
Sm (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ta (tot) [mg/L]	< 0.0001	0.0003	< 0.0001	< 0.0001
Tb (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Te (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	< 0.0001	0.0003	< 0.0001	< 0.0001
Tm (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Yb (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001



Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003328028

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

23-August-2023

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 27 July 2023
LR Report: **CA10203-JUL23**
Reference: Wk#13 - Patriot Tailings -Short- (9.5mm fraction size)

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#13	6: CV5-DMS-HCT-84 Wk#13
Sample Date & Time			27-Jul-23	27-Jul-23
HumCell Leachate Vol [mL]	15-Aug-23	10:20	975	959
pH [No unit]	31-Jul-23	13:38	6.55	6.55
Alkalinity [mg/L as CaCO3]	31-Jul-23	13:38	< 2	< 2
Conductivity [uS/cm]	31-Jul-23	13:38	4	4
Acidity [mg/L as CaCO3]	31-Jul-23	13:38	4	3
Tot.Reactive P [mg/L]	31-Jul-23	11:38	< 0.03	< 0.03
SO4 [mg/L]	31-Jul-23	19:30	< 2	< 2
Ag [mg/L]	04-Aug-23	16:52	< 0.00005	< 0.00005
Al [mg/L]	04-Aug-23	16:52	0.025	0.022
As [mg/L]	04-Aug-23	16:52	0.0124	0.0067
Ba [mg/L]	04-Aug-23	16:52	< 0.00008	< 0.00008
Be [mg/L]	04-Aug-23	16:52	< 0.000007	0.000008
B [mg/L]	04-Aug-23	16:52	< 0.002	< 0.002
Bi [mg/L]	04-Aug-23	16:52	0.00002	0.00003
Ca [mg/L]	04-Aug-23	16:52	0.43	0.40
Cd [mg/L]	04-Aug-23	16:52	< 0.000003	< 0.000003
Co [mg/L]	04-Aug-23	16:52	0.000023	0.000031
Cr [mg/L]	04-Aug-23	16:52	---	---
Cr [mg/L]	23-Aug-23	09:35	0.00008	< 0.00008
Cu [mg/L]	04-Aug-23	16:52	0.0009	< 0.0002
Cu [mg/L]	23-Aug-23	09:35	0.0010	< 0.0002
Fe [mg/L]	04-Aug-23	16:52	---	---
Fe [mg/L]	23-Aug-23	09:35	< 0.007	< 0.007
K [mg/L]	04-Aug-23	16:52	0.132	0.115
Li [mg/L]	04-Aug-23	16:52	0.0015	0.0015
Mg [mg/L]	04-Aug-23	16:52	0.019	0.020
Mn [mg/L]	04-Aug-23	16:52	0.00258	0.00332
Mo [mg/L]	04-Aug-23	16:52	0.00036	0.00045
Na [mg/L]	04-Aug-23	16:52	0.05	0.04
Ni [mg/L]	04-Aug-23	16:52	---	0.0003
Ni [mg/L]	23-Aug-23	09:35	0.0001	0.0002

OnLine LIMS

0003443012

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : CA10203-JUL23

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#13	6: CV5-DMS-HCT-84 Wk#13
Pb [mg/L]	04-Aug-23	16:52	< 0.00009	< 0.00009
Sb [mg/L]	04-Aug-23	16:52	0.0029	0.0022
Se [mg/L]	04-Aug-23	16:52	< 0.00004	< 0.00004
Sn [mg/L]	04-Aug-23	16:52	< 0.00006	< 0.00006
Sr [mg/L]	04-Aug-23	16:52	0.00111	0.00105
Ti [mg/L]	04-Aug-23	16:52	< 0.00007	< 0.00007
Tl [mg/L]	04-Aug-23	16:52	0.000014	0.000026
U [mg/L]	04-Aug-23	16:52	0.00437	0.00326
V [mg/L]	04-Aug-23	16:52	0.00003	0.00003
W [mg/L]	04-Aug-23	16:52	0.00005	0.00010
Y [mg/L]	04-Aug-23	16:52	< 0.00002	< 0.00002
Zn [mg/L]	04-Aug-23	16:52	0.002	< 0.002
Zn [mg/L]	23-Aug-23	09:35	0.002	0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003443012

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

11-September-2023

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 27 July 2023
LR Report: **CA10204-JUL23**
Reference: Wk#13 - Patriot WR

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#13	6: CV5-WR-HCT-5 Wk#13	7: CV5-WR-HCT-5 (DUP) Wk#13	8: CV5-WR-HCT-14 Wk#13	9: CV5-WR-HCT-22 Wk#13	10: CV5-WR-HCT-33 Wk#13
Sample Date & Time			27-Jul-23	27-Jul-23	27-Jul-23	27-Jul-23	27-Jul-23	27-Jul-23
HumCell Leachate Vol [mL]	15-Aug-23	10:20	963	945	977	994	986	978
pH [No unit]	02-Aug-23	09:53	7.00	7.18	7.08	7.70	6.96	7.39
Alkalinity [mg/L as CaCO3]	31-Jul-23	13:44	3	6	5	15	4	7
Conductivity [uS/cm]	31-Jul-23	13:44	26	23	18	32	13	18
Acidity [mg/L as CaCO3]	02-Aug-23	10:42	2	< 2	< 2	< 2	< 2	< 2
Tot.Reactive P [mg/L]	31-Jul-23	11:38	< 0.03	0.06	0.04	< 0.03	0.06	< 0.03
SO4 [mg/L]	01-Aug-23	17:09	7	4	3	3	2	< 2
Ag [mg/L]	04-Aug-23	16:53	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	04-Aug-23	16:53	0.029	0.021	0.026	0.083	0.026	0.055
As [mg/L]	04-Aug-23	16:53	0.0051	0.359	0.228	0.0589	0.238	0.0057
Ba [mg/L]	04-Aug-23	16:53	0.00022	0.00027	0.00016	0.00013	< 0.00008	0.00016
Be [mg/L]	04-Aug-23	16:53	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	04-Aug-23	16:53	0.005	0.004	0.003	< 0.002	0.004	< 0.002
Bi [mg/L]	04-Aug-23	16:53	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	04-Aug-23	16:53	3.03	2.76	2.01	4.87	1.29	2.72
Cd [mg/L]	04-Aug-23	16:53	< 0.000003	< 0.000003	< 0.000003	0.000003	< 0.000003	< 0.000003
Co [mg/L]	04-Aug-23	16:53	0.000116	0.000131	0.000267	0.000061	0.000140	0.000048
Cr [mg/L]	04-Aug-23	16:53	0.00158	< 0.00008	---	0.00014	0.00034	< 0.00008
Cr [mg/L]	31-Aug-23	14:59	---	---	0.00065	---	---	---
Cu [mg/L]	04-Aug-23	16:53	0.0011	0.0002	---	0.0002	0.0004	0.0005
Cu [mg/L]	31-Aug-23	14:59	---	---	0.0026	---	---	---
Fe [mg/L]	24-Aug-23	13:45	< 0.007	0.007	< 0.007	---	0.008	< 0.007
Fe [mg/L]	31-Aug-23	CHECK	---	---	---	0.015	---	---
K [mg/L]	04-Aug-23	16:53	0.356	0.156	0.106	0.043	0.058	0.085
Li [mg/L]	04-Aug-23	16:53	0.0133	0.0174	0.0130	0.0043	0.0088	0.0062
Mg [mg/L]	04-Aug-23	16:53	0.374	0.356	0.235	0.274	0.205	0.171
Mn [mg/L]	04-Aug-23	16:53	0.00642	0.00200	0.0146	0.00438	0.00209	0.00597
Mn [mg/L]	31-Aug-23	14:59	---	---	---	---	---	---
Mo [mg/L]	04-Aug-23	16:53	0.00029	0.00046	---	0.00016	0.00040	0.00014
Mo [mg/L]	31-Aug-23	14:59	---	---	0.00253	---	---	---
Na [mg/L]	04-Aug-23	16:53	0.33	0.13	0.12	0.37	0.30	0.21
Ni [mg/L]	04-Aug-23	16:53	0.0021	0.0011	0.0201	0.0010	0.0014	0.0002
Ni [mg/L]	31-Aug-23	14:59	---	---	---	---	---	---

OnLine LIMS

0003461844

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : CA10204-JUL23

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#13	6: CV5-WR-HCT-5 Wk#13	7: CV5-WR-HCT-5 (DUP) Wk#13	8: CV5-WR-HCT-1 4 Wk#13	9: CV5-WR-HCT-2 2 Wk#13	10: CV5-WR-HCT-3 3 Wk#13
Pb [mg/L]	04-Aug-23	16:53	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	18-Aug-23	13:33	0.0047	0.0853	0.0469	0.0114	0.0132	0.0037
Se [mg/L]	04-Aug-23	16:53	0.00021	0.00009	0.00007	0.00010	< 0.00004	0.00012
Sn [mg/L]	04-Aug-23	16:53	0.00014	< 0.00006	---	< 0.00006	< 0.00006	0.00018
Sn [mg/L]	31-Aug-23	14:59	---	---	0.00017	---	---	---
Sr [mg/L]	04-Aug-23	16:53	0.01233	0.00816	0.00599	0.00527	0.00490	0.00327
Ti [mg/L]	04-Aug-23	16:53	0.00020	0.00027	0.00015	0.00032	0.00046	0.00019
Tl [mg/L]	04-Aug-23	16:53	< 0.000005	< 0.000005	0.000005	< 0.000005	0.000005	< 0.000005
U [mg/L]	04-Aug-23	16:53	0.000127	0.000053	0.000087	0.000085	0.000321	0.000179
V [mg/L]	04-Aug-23	16:53	0.00039	0.00074	0.00058	0.00319	0.00129	0.00093
W [mg/L]	04-Aug-23	16:53	0.00010	0.00015	0.00015	0.00004	0.00008	0.00010
Y [mg/L]	04-Aug-23	16:53	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	04-Aug-23	16:53	< 0.002	0.002	< 0.002	< 0.002	< 0.002	< 0.002

Analysis	11: CV5-WR-HCT-3 6 Wk#13	12: CV5-WR-HCT-3 9 Wk#13	13: CV5-WR-HCT-5 0 Wk#13	14: CV5-WR-HCT-5 6 Wk#13	15: CV5-WR-HCT-5 9 Wk#13	16: CV5-WR-HCT-6 2 Wk#13	17: CV5-WR-HCT-6 4 Wk#13	18: CV5-WR-HCT-6 9 Wk#13
Sample Date & Time	27-Jul-23	27-Jul-23	27-Jul-23	27-Jul-23	27-Jul-23	27-Jul-23	27-Jul-23	27-Jul-23
HumCell Leachate Vol [mL]	953	952	1004	980	983	980	1001	998
pH [No unit]	7.35	6.61	7.31	7.31	6.70	7.42	7.10	7.43
Alkalinity [mg/L as CaCO3]	7	2	11	7	2	9	6	8
Conductivity [uS/cm]	24	23	50	18	17	30	14	15
Acidity [mg/L as CaCO3]	< 2	2	< 2	< 2	3	< 2	< 2	< 2
Tot.Reactive P [mg/L]	0.91	< 0.03	< 0.03	< 0.03	0.21	0.54	< 0.03	< 0.03
SO4 [mg/L]	2	7	10	4	4	3	< 2	< 2
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.005	0.028	0.079	0.044	0.008	0.002	0.032	0.065
As [mg/L]	2.70	0.0349	0.0235	0.0223	0.803	1.74	0.0212	0.0096
Ba [mg/L]	0.00079	0.00024	0.00043	0.00054	0.00021	0.00075	0.00011	0.00015
Be [mg/L]	< 0.000007	0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	0.000016	0.000155
B [mg/L]	0.019	0.003	< 0.002	0.004	0.002	0.003	< 0.002	0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00040
Ca [mg/L]	3.00	2.98	8.72	3.89	2.14	3.89	2.09	2.47
Cd [mg/L]	< 0.000003	0.000005	0.000020	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	0.000211	0.000181	0.000933	0.000087	0.000667	0.000308	0.000021	0.000092
Cr [mg/L]	0.00058	0.00026	0.00010	0.00055	0.00008	---	< 0.00008	---
Cr [mg/L]	---	---	---	---	---	0.00011	---	< 0.00008
Cu [mg/L]	0.0011	---	0.0003	0.0032	< 0.0002	---	< 0.0002	0.0009
Cu [mg/L]	---	0.0003	---	---	---	0.0003	---	---
Fe [mg/L]	0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
Fe [mg/L]	---	---	---	---	---	---	---	---
K [mg/L]	0.050	0.336	0.581	0.615	0.093	0.040	0.495	0.107
Li [mg/L]	0.0042	0.0171	0.0133	0.0080	0.0036	0.0006	0.0051	0.0040
Mg [mg/L]	0.615	0.401	0.303	0.402	0.503	0.875	0.109	0.072
Mn [mg/L]	---	0.00498	0.00668	0.0164	0.00147	0.00937	0.00571	0.00905
Mn [mg/L]	0.00395	---	---	---	---	---	---	---
Mo [mg/L]	---	0.00079	0.00064	0.00078	0.00162	0.00033	0.00012	0.00084
Mo [mg/L]	0.00464	---	---	---	---	---	---	---
Na [mg/L]	0.07	0.31	0.15	0.22	0.14	0.04	0.10	0.20
Ni [mg/L]	0.0142	---	0.0010	0.0212	0.0057	0.0139	0.0001	0.0015
Ni [mg/L]	---	0.0018	---	---	---	---	---	---

OnLine LIMS

0003461844

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10204-JUL23**

Analysis	11: CV5-WR-HCT-36 Wk#13	12: CV5-WR-HCT-39 Wk#13	13: CV5-WR-HCT-50 Wk#13	14: CV5-WR-HCT-56 Wk#13	15: CV5-WR-HCT-59 Wk#13	16: CV5-WR-HCT-62 Wk#13	17: CV5-WR-HCT-64 Wk#13	18: CV5-WR-HCT-69 Wk#13
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	0.00012
Sb [mg/L]	0.832	0.0274	0.0769	< 0.0009	0.0139	1.45	0.0037	0.0038
Se [mg/L]	0.00010	0.00006	0.00085	< 0.00004	< 0.00004	0.00016	< 0.00004	< 0.00004
Sn [mg/L]	0.00012	0.00007	< 0.00006	0.00012	< 0.00006	---	0.00008	0.00018
Sn [mg/L]	---	---	---	---	---	< 0.00006	---	---
Sr [mg/L]	0.00550	0.01099	0.00944	0.00574	0.01197	0.00395	0.00373	0.00543
Ti [mg/L]	< 0.00007	0.00017	0.00019	0.00010	0.00015	< 0.00007	< 0.00007	< 0.00007
Tl [mg/L]	< 0.000005	0.000007	0.000026	< 0.000005	< 0.000005	< 0.000005	0.000066	0.000010
U [mg/L]	0.000040	0.000420	0.00236	0.00243	0.000187	0.000147	0.00247	0.00980
V [mg/L]	0.00033	0.00045	0.00030	0.00066	0.00074	0.00039	0.00003	0.00009
W [mg/L]	0.00017	0.00013	0.00008	0.00018	0.00050	0.00018	0.00012	0.00012
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	0.004	< 0.002	0.002	< 0.002	0.003	0.004

Analysis	19: CV5-ORE-HCT-74 Wk#13	20: CV5-ORE-HCT-76 Wk#13
Sample Date & Time	27-Jul-23	27-Jul-23
HumCell Leachate Vol [mL]	995	1011
pH [No unit]	6.97	7.24
Alkalinity [mg/L as CaCO3]	4	8
Conductivity [uS/cm]	9	18
Acidity [mg/L as CaCO3]	< 2	< 2
Tot.Reactive P [mg/L]	< 0.03	< 0.03
SO4 [mg/L]	< 2	< 2
Ag [mg/L]	< 0.00005	< 0.00005
Al [mg/L]	0.027	0.039
As [mg/L]	0.0222	0.0098
Ba [mg/L]	< 0.00008	0.00009
Be [mg/L]	< 0.000007	0.000032
B [mg/L]	< 0.002	0.003
Bi [mg/L]	< 0.00001	0.00010
Ca [mg/L]	1.21	2.73
Cd [mg/L]	0.000003	< 0.000003
Co [mg/L]	0.000029	0.000039
Cr [mg/L]	0.00018	0.00059
Cr [mg/L]	---	---
Cu [mg/L]	0.0016	0.0015
Cu [mg/L]	---	---
Fe [mg/L]	< 0.007	< 0.007
Fe [mg/L]	---	---
K [mg/L]	0.199	0.549
Li [mg/L]	0.0158	0.0126
Mg [mg/L]	0.031	0.140
Mn [mg/L]	0.0307	0.00465
Mn [mg/L]	---	---
Mo [mg/L]	0.00068	0.00035
Mo [mg/L]	---	---
Na [mg/L]	0.18	0.18
Ni [mg/L]	0.0017	0.0015
Ni [mg/L]	---	---

OnLine LIMS

0003461844

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10204-JUL23**

Analysis	19: CV5-ORE-HCT-74 Wk#13	20: CV5-ORE-HCT-76 Wk#13
Pb [mg/L]	< 0.00009	< 0.00009
Sb [mg/L]	0.0238	0.0030
Se [mg/L]	< 0.00004	< 0.00004
Sn [mg/L]	0.00008	0.00009
Sn [mg/L]	---	---
Sr [mg/L]	0.00185	0.00739
Ti [mg/L]	< 0.00007	< 0.00007
Tl [mg/L]	0.000042	0.000033
U [mg/L]	0.00470	0.00432
V [mg/L]	0.00002	0.00008
W [mg/L]	0.00009	0.00021
Y [mg/L]	< 0.00002	< 0.00002
Zn [mg/L]	0.005	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003461844

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Patriot Tailings- Long - (9.5mm fraction size)

13-June-2023

Patriot Battery Metals Inc
Attn : Darren Smith

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 25 May 2023
LR Report: **CA10206-MAY23**
Reference: Wk#4

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-8 3 Wk#4	6: CV5-DMS-HCT-8 4 Wk#4
Sample Date & Time			25-May-23	25-May-23
HumCell Leachate Vol [mL]	29-May-23	16:20	997	973
pH [No unit]	31-May-23	12:01	6.66	6.95
Alkalinity [mg/L as CaCO3]	31-May-23	12:01	2	2
Conductivity [uS/cm]	31-May-23	12:01	5	4
Acidity [mg/L as CaCO3]	31-May-23	12:01	2	< 2
F [mg/L]	29-May-23	09:08	< 0.06	< 0.06
SO4 [mg/L]	31-May-23	13:35	< 2	< 2
Cl [mg/L]	31-May-23	13:35	< 1	< 1
NO2 [as N mg/L]	05-Jun-23	15:40	< 0.03	< 0.03
NO3 [as N mg/L]	05-Jun-23	15:40	< 0.06	< 0.06
Br [mg/L]	02-Jun-23	16:33	< 0.3	< 0.3
Tot.Reactive P [mg/L]	26-May-23	09:32	< 0.03	< 0.03
Hg [mg/L]	29-May-23	16:20	< 0.00001	< 0.00001
Ag [mg/L]	30-May-23	16:09	< 0.00005	< 0.00005
Al [mg/L]	30-May-23	16:09	0.033	0.042
As [mg/L]	30-May-23	16:09	0.0449	0.0188
Ba [mg/L]	30-May-23	16:09	0.00013	0.00011
Be [mg/L]	30-May-23	16:09	0.000013	0.000018
B [mg/L]	30-May-23	16:09	0.004	< 0.002
Bi [mg/L]	30-May-23	16:09	0.00004	0.00006
Ca [mg/L]	30-May-23	16:09	0.59	0.61
Cd [mg/L]	30-May-23	16:09	< 0.000003	0.000003
Co [mg/L]	30-May-23	16:09	0.000022	0.000020
Cr [mg/L]	30-May-23	16:09	< 0.00008	< 0.00008
Cu [mg/L]	30-May-23	16:09	0.0006	0.0010
Fe [mg/L]	30-May-23	16:09	< 0.007	< 0.007
K [mg/L]	30-May-23	16:09	0.352	0.359
Li [mg/L]	30-May-23	16:09	0.0103	0.0103
Mg [mg/L]	30-May-23	16:09	0.037	0.036

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0003364216

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10206-MAY23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-8 3 Wk#4	6: CV5-DMS-HCT-8 4 Wk#4
Mn [mg/L]	30-May-23	16:09	0.00182	0.00176
Mo [mg/L]	30-May-23	16:09	0.00052	0.00017
Na [mg/L]	30-May-23	16:09	0.25	0.25
Ni [mg/L]	30-May-23	16:09	0.0002	0.0002
Pb [mg/L]	30-May-23	16:09	< 0.00009	< 0.00009
Sb [mg/L]	30-May-23	16:09	0.0062	0.0050
Se [mg/L]	30-May-23	16:09	< 0.00004	< 0.00004
Sn [mg/L]	30-May-23	16:09	0.00007	0.00009
Sr [mg/L]	30-May-23	16:09	0.00164	0.00164
Ti [mg/L]	30-May-23	16:09	< 0.00005	0.00006
Tl [mg/L]	30-May-23	16:09	0.000024	0.000022
U [mg/L]	30-May-23	16:09	0.00588	0.00604
V [mg/L]	30-May-23	16:09	0.00006	0.00006
W [mg/L]	30-May-23	16:09	0.00028	0.00029
Y [mg/L]	30-May-23	16:09	< 0.00002	< 0.00002
Zn [mg/L]	30-May-23	16:09	0.003	< 0.002
Au (tot) [mg/L]	13-Jun-23	09:28	0.00001	< 0.00001
Ce (tot) [mg/L]	30-May-23	16:09	0.00002	0.00002
Cs (tot) [mg/L]	30-May-23	16:09	0.0022	0.0021
Dy (tot) [mg/L]	09-Jun-23	14:42	< 0.0001	< 0.0001
Er (tot) [mg/L]	09-Jun-23	14:42	< 0.0001	< 0.0001
Eu (tot) [mg/L]	09-Jun-23	14:42	< 0.0001	< 0.0001
Ga (tot) [mg/L]	09-Jun-23	14:42	< 0.0001	0.0001
Gd (tot) [mg/L]	09-Jun-23	14:42	< 0.00001	< 0.00001
Ge (tot) [mg/L]	30-May-23	16:09	< 0.0001	< 0.0001
Hf (tot) [mg/L]	30-May-23	16:09	< 0.0001	< 0.0001
Ho (tot) [mg/L]	09-Jun-23	14:42	< 0.0001	< 0.0001
In (tot) [mg/L]	09-Jun-23	14:42	< 0.0001	< 0.0001
Ir (tot) [mg/L]	30-May-23	16:09	< 0.0001	< 0.0001
La (tot) [mg/L]	09-Jun-23	14:42	< 0.0001	< 0.0001
Lu (tot) [mg/L]	09-Jun-23	14:42	< 0.0001	< 0.0001
Nb (tot) [mg/L]	30-May-23	16:09	< 0.0001	< 0.0001
Nd (tot) [mg/L]	09-Jun-23	14:42	< 0.0001	< 0.0001
Os (tot) [mg/L]	30-May-23	16:09	< 0.0001	< 0.0001
Pd (tot) [mg/L]	30-May-23	16:09	< 0.0001	< 0.0001
Pr (tot) [mg/L]	09-Jun-23	14:42	< 0.0001	< 0.0001
Pt (tot) [mg/L]	30-May-23	16:09	< 0.0001	< 0.0001
Rb (tot) [mg/L]	30-May-23	16:09	0.0164	0.0173
Re (tot) [mg/L]	30-May-23	16:09	< 0.0001	< 0.0001
Rh (tot) [mg/L]	30-May-23	16:09	< 0.00001	< 0.00001
Sc (tot) [mg/L]	09-Jun-23	14:42	< 0.0001	< 0.0001
Sm (tot) [mg/L]	09-Jun-23	14:42	< 0.0001	< 0.0001
Ta (tot) [mg/L]	13-Jun-23	09:29	< 0.0001	< 0.0001
Tb (tot) [mg/L]	09-Jun-23	14:42	< 0.0001	< 0.0001
Te (tot) [mg/L]	30-May-23	16:12	< 0.0001	< 0.0001

OnLine LIMS

0003364216

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10206-MAY23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-8 3 Wk#4	6: CV5-DMS-HCT-8 4 Wk#4
Th (tot) [mg/L]	30-May-23	16:12	< 0.0001	< 0.0001
Tm (tot) [mg/L]	09-Jun-23	14:42	< 0.0001	< 0.0001
Yb (tot) [mg/L]	09-Jun-23	14:42	< 0.0001	< 0.0001

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003364216

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

13-June-2023

Patriot Battery Metals Inc
Attn : Darren Smith

838 W. Hastings Street, Suite 700, Vancouver
Canada, V6C 0A6
Phone: 647-782-7386, Fax:

Date Rec. : 25 May 2023
LR Report: **CA10207-MAY23**
Reference: Wk#4

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#4	6: CV5-WR-HCT-5 Wk#4	7: CV5-WR-HCT-5 (DUP) Wk#4	8: CV5-WR-HCT-14 Wk#4	9: CV5-WR-HCT-22 Wk#4
Sample Date & Time			25-May-23	25-May-23	25-May-23	25-May-23	25-May-23
HumCell Leachate Vol [mL]	29-May-23	16:20	962	922	971	997	974
pH [No unit]	31-May-23	12:01	7.04	7.35	7.36	8.51	7.18
Alkalinity [mg/L as CaCO3]	31-May-23	12:01	4	7	7	21	6
Conductivity [uS/cm]	31-May-23	12:01	40	38	31	46	20
Acidity [mg/L as CaCO3]	31-May-23	12:01	3	< 2	< 2	< 2	< 2
F [mg/L]	29-May-23	11:08	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
SO4 [mg/L]	31-May-23	13:37	11	10	7	4	3
Cl [mg/L]	31-May-23	13:37	1	< 1	< 1	< 1	< 1
NO2 [as N mg/L]	05-Jun-23	15:40	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	05-Jun-23	15:40	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	05-Jun-23	14:22	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Tot.Reactive P [mg/L]	26-May-23	14:58	< 0.03	0.14	0.12	0.07	0.11
Hg [mg/L]	29-May-23	16:20	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	30-May-23	16:17	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	30-May-23	16:17	0.033	0.020	0.029	0.098	0.024
As [mg/L]	30-May-23	16:17	0.0052	0.582	0.383	0.111	0.343
Ba [mg/L]	30-May-23	16:17	0.00043	0.00049	0.00045	0.00026	0.00015
Be [mg/L]	30-May-23	16:17	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	30-May-23	16:17	0.019	0.020	0.018	0.012	0.013
Bi [mg/L]	30-May-23	16:17	< 0.00001	0.00003	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	30-May-23	16:17	4.04	4.32	3.94	6.79	2.39
Cd [mg/L]	30-May-23	16:17	0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	30-May-23	16:17	0.000080	0.000201	0.000217	0.000061	0.000114
Cr [mg/L]	30-May-23	16:17	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	30-May-23	16:17	0.0003	0.0005	0.0003	0.0004	0.0003
Fe [mg/L]	30-May-23	16:17	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	30-May-23	16:17	0.945	0.541	0.438	0.176	0.182
Li [mg/L]	30-May-23	16:17	0.0432	0.109	0.0806	0.0103	0.0189
Mg [mg/L]	30-May-23	16:17	0.780	0.846	0.619	0.618	0.330

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10207-MAY23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#4	6: CV5-WR-HCT-5 Wk#4	7: CV5-WR-HCT-5 (DUP) Wk#4	8: CV5-WR-HCT-14 Wk#4	9: CV5-WR-HCT-22 Wk#4
Mn [mg/L]	30-May-23	16:17	0.00228	0.00365	0.00448	0.00412	0.00081
Mo [mg/L]	30-May-23	16:17	0.00041	0.00025	0.00016	0.00034	0.00046
Na [mg/L]	30-May-23	16:17	2.24	1.29	1.01	2.17	1.38
Ni [mg/L]	30-May-23	16:17	0.0005	0.0028	0.0023	0.0006	0.0007
Pb [mg/L]	30-May-23	16:17	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	01-Jun-23	12:54	0.0079	0.173	0.118	0.0329	0.0260
Se [mg/L]	30-May-23	16:17	0.00035	0.00019	0.00014	0.00030	0.00008
Sn [mg/L]	30-May-23	16:17	0.00008	0.00012	0.00006	0.00009	< 0.00006
Sr [mg/L]	30-May-23	16:17	0.02196	0.0192	0.0162	0.0120	0.00946
Ti [mg/L]	30-May-23	16:17	0.00028	0.00023	0.00039	0.00022	0.00030
Tl [mg/L]	30-May-23	16:17	< 0.000005	0.000008	0.000008	0.000009	0.000008
U [mg/L]	30-May-23	16:17	0.000182	0.00391	0.000156	0.00370	0.000354
V [mg/L]	30-May-23	16:17	0.00047	0.00112	0.00104	0.00606	0.00201
W [mg/L]	30-May-23	16:17	0.00045	0.00082	0.00152	0.00019	0.00033
Y [mg/L]	30-May-23	16:17	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	30-May-23	16:17	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	13-Jun-23	09:29	0.00007	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	30-May-23	16:17	0.00001	0.00001	0.00001	< 0.00001	0.00003
Cs (tot) [mg/L]	30-May-23	16:17	0.0129	0.0249	0.0237	0.0039	0.0086
Dy (tot) [mg/L]	09-Jun-23	14:43	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Er (tot) [mg/L]	09-Jun-23	14:43	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Eu (tot) [mg/L]	09-Jun-23	14:43	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ga (tot) [mg/L]	09-Jun-23	14:43	< 0.0001	< 0.0001	< 0.0001	0.0003	< 0.0001
Gd (tot) [mg/L]	09-Jun-23	14:43	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	30-May-23	16:17	0.0001	0.0001	< 0.0001	0.0001	< 0.0001
Hf (tot) [mg/L]	30-May-23	16:17	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	09-Jun-23	14:43	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
In (tot) [mg/L]	09-Jun-23	14:43	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ir (tot) [mg/L]	30-May-23	16:17	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
La (tot) [mg/L]	09-Jun-23	14:43	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Lu (tot) [mg/L]	09-Jun-23	14:43	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	30-May-23	16:17	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nd (tot) [mg/L]	09-Jun-23	14:43	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Os (tot) [mg/L]	30-May-23	16:17	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	30-May-23	16:17	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	09-Jun-23	14:43	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pt (tot) [mg/L]	30-May-23	16:17	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	30-May-23	16:17	0.0105	0.0113	0.0099	0.0012	0.0034
Re (tot) [mg/L]	30-May-23	16:17	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	30-May-23	16:17	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	09-Jun-23	14:43	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	09-Jun-23	14:43	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ta (tot) [mg/L]	13-Jun-23	09:29	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	09-Jun-23	14:43	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Te (tot) [mg/L]	30-May-23	16:17	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001

OnLine LIMS

0003364226

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10207-MAY23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#4	6: CV5-WR-HCT-5 Wk#4	7: CV5-WR-HCT-5 (DUP) Wk#4	8: CV5-WR-HCT-14 Wk#4	9: CV5-WR-HCT-22 Wk#4
Th (tot) [mg/L]	30-May-23	16:17	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	09-Jun-23	14:43	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Yb (tot) [mg/L]	09-Jun-23	14:43	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001

Analysis	10: CV5-WR-HCT-33 Wk#4	11: CV5-WR-HCT-36 Wk#4	12: CV5-WR-HCT-39 Wk#4	13: CV5-WR-HCT-50 Wk#4	14: CV5-WR-HCT-56 Wk#4	15: CV5-WR-HCT-59 Wk#4	16: CV5-WR-HCT-62 Wk#4
Sample Date & Time	25-May-23	25-May-23	25-May-23	25-May-23	25-May-23	25-May-23	25-May-23
HumCell Leachate Vol [mL]	998	992	972	1001	966	996	1001
pH [No unit]	7.61	7.74	7.02	7.46	7.27	6.80	7.64
Alkalinity [mg/L as CaCO3]	10	17	4	15	11	4	14
Conductivity [uS/cm]	22	47	34	59	31	25	37
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	4	< 2
F [mg/L]	< 0.06	< 0.06	0.19	0.31	< 0.06	< 0.06	< 0.06
SO4 [mg/L]	< 2	3	11	15	< 2	5	< 2
Cl [mg/L]	< 1	< 1	< 1	< 1	< 1	< 1	< 1
NO2 [as N mg/L]	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Tot.Reactive P [mg/L]	< 0.03	3.07	< 0.03	< 0.03	0.04	0.19	1.30
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.061	0.003	0.038	0.072	0.046	0.007	0.001
As [mg/L]	0.0054	10.6	0.0538	0.0289	0.0145	0.836	4.82
Ba [mg/L]	0.00025	0.00191	0.00046	0.00098	0.00070	0.00037	0.00189
Be [mg/L]	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	0.009	0.058	0.012	0.009	0.012	0.008	0.013
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	3.41	5.54	4.07	9.84	3.93	2.66	4.38
Cd [mg/L]	< 0.000003	< 0.000003	< 0.000003	0.000012	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	0.000041	0.000479	0.000204	0.00132	0.000046	0.000470	0.000270
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008	0.00010	< 0.00008
Cu [mg/L]	0.0006	0.0004	0.0004	0.0003	0.0003	0.0003	0.0003
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007	0.007	< 0.007	< 0.007
K [mg/L]	0.310	0.204	0.940	2.09	1.41	0.265	0.207
Li [mg/L]	0.0173	0.0146	0.0507	0.0464	0.0204	0.0065	0.0014
Mg [mg/L]	0.292	2.45	0.619	0.832	0.340	0.769	1.81
Mn [mg/L]	0.00907	0.00432	0.00301	0.0105	0.0168	0.00157	0.00445
Mo [mg/L]	0.00015	0.00008	0.00164	0.00209	0.00028	0.00047	0.00065
Na [mg/L]	1.20	0.54	1.66	0.54	0.91	0.71	0.83
Ni [mg/L]	0.0002	0.0860	0.0008	0.0021	0.0002	0.0051	0.0498
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.0083	1.72	0.0545	0.201	< 0.0009	0.0162	2.89
Se [mg/L]	0.00009	0.00014	0.00020	0.00128	0.00006	0.00009	0.00023

OnLine LIMS

0003364226

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10207-MAY23**

Analysis	10: CV5-WR-HCT-33 Wk#4	11: CV5-WR-HCT-36 Wk#4	12: CV5-WR-HCT-39 Wk#4	13: CV5-WR-HCT-50 Wk#4	14: CV5-WR-HCT-56 Wk#4	15: CV5-WR-HCT-59 Wk#4	16: CV5-WR-HCT-62 Wk#4
Sn [mg/L]	0.00011	0.00010	0.00016	0.00011	0.00007	< 0.00006	0.00007
Sr [mg/L]	0.00513	0.0161	0.0172	0.0161	0.00588	0.0190	0.00647
Ti [mg/L]	0.00034	0.00007	0.00016	0.00016	0.00042	0.00010	< 0.00005
Tl [mg/L]	0.000005	0.000010	0.000011	0.000035	< 0.000005	0.000008	< 0.000005
U [mg/L]	0.00171	0.000270	0.000512	0.00244	0.000540	0.00185	0.000134
V [mg/L]	0.00181	0.00105	0.00066	0.00033	0.00109	0.00104	0.00064
W [mg/L]	0.00086	0.00058	0.00041	0.00020	0.00147	0.00231	0.00067
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	0.002	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	< 0.00001	0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	0.00001	< 0.00001	0.00002	< 0.00001	0.00002	< 0.00001	< 0.00001
Cs (tot) [mg/L]	0.0100	0.0307	0.0069	0.106	0.0264	0.0187	0.0070
Dy (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Er (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Eu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ga (tot) [mg/L]	0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001	< 0.0001
Gd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	0.0001	0.0001	< 0.0001	< 0.0001	0.0001	0.0001	< 0.0001
Hf (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
In (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ir (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
La (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Lu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Os (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pt (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	0.0021	0.0062	0.0071	0.0493	0.0040	0.0071	0.0035
Re (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ta (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Te (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Yb (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001

OnLine LIMS

0003364226

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10207-MAY23**

Analysis	17: CV5-WR-HCT-64 Wk#4	18: CV5-WR-HCT-69 Wk#4	19: CV5-ORE-HCT-74 Wk#4	20: CV5-ORE-HCT-76 Wk#4
Sample Date & Time	25-May-23	25-May-23	25-May-23	25-May-23
HumCell Leachate Vol [mL]	1001	996	1006	968
pH [No unit]	7.31	7.66	7.19	7.52
Alkalinity [mg/L as CaCO3]	10	13	7	16
Conductivity [uS/cm]	19	27	14	32
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2
F [mg/L]	< 0.06	< 0.06	< 0.06	0.06
SO4 [mg/L]	< 2	< 2	< 2	< 2
Cl [mg/L]	< 1	< 1	< 1	< 1
NO2 [as N mg/L]	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	< 0.3	< 0.3	< 0.3	< 0.3
Tot.Reactive P [mg/L]	0.04	0.03	0.12	0.06
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.034	0.125	0.044	0.067
As [mg/L]	0.113	0.0588	0.119	0.0471
Ba [mg/L]	0.00033	0.00028	0.00015	0.00026
Be [mg/L]	0.000018	0.000250	0.000012	0.000091
B [mg/L]	0.013	0.012	0.009	0.016
Bi [mg/L]	< 0.00001	0.00059	< 0.00001	0.00016
Ca [mg/L]	2.53	4.71	1.31	4.27
Cd [mg/L]	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	0.000049	0.000034	0.000042	0.000030
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	0.0003	0.0009	0.0003	0.0005
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	1.95	0.498	0.863	1.91
Li [mg/L]	0.0368	0.0171	0.0846	0.0586
Mg [mg/L]	0.209	0.210	0.048	0.270
Mn [mg/L]	0.00493	0.00357	0.0219	0.00397
Mo [mg/L]	0.00045	0.00020	0.00025	0.00017
Na [mg/L]	0.93	1.15	1.20	1.43
Ni [mg/L]	0.0003	0.0002	0.0002	0.0006
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.0126	0.0123	0.0494	0.0069
Se [mg/L]	0.00004	0.00023	< 0.00004	0.00005
Sn [mg/L]	0.00008	0.00023	0.00026	0.00012
Sr [mg/L]	0.00638	0.0126	0.00290	0.0136
Ti [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Tl [mg/L]	0.000145	0.000021	0.000101	0.000074
U [mg/L]	0.0102	0.0273	0.0152	0.00609
V [mg/L]	0.00009	0.00037	0.00005	0.00025
W [mg/L]	0.00087	0.00103	0.00040	0.00088
Y [mg/L]	< 0.00002	0.00002	< 0.00002	< 0.00002

OnLine LIMS

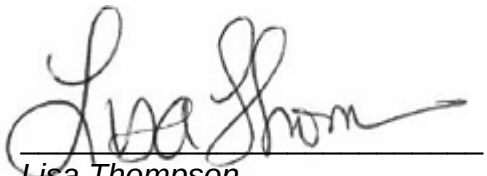
0003364226

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10207-MAY23**

Analysis	17: CV5-WR-HCT-64 Wk#4	18: CV5-WR-HCT-69 Wk#4	19: CV5-ORE-HCT-74 Wk#4	20: CV5-ORE-HCT-76 Wk#4
Zn [mg/L]	0.003	< 0.002	0.003	< 0.002
Au (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	< 0.00001	0.00002	< 0.00001	0.00002
Cs (tot) [mg/L]	0.0312	0.0067	0.0420	0.0232
Dy (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Er (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Eu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ga (tot) [mg/L]	0.0003	0.0008	0.0005	0.0005
Gd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	0.0002	0.0001	< 0.0001	0.0001
Hf (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
In (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ir (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
La (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Lu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	< 0.0001	0.0002	< 0.0001	< 0.0001
Nd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Os (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pt (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	0.0895	0.0178	0.0745	0.0418
Re (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ta (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Te (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Yb (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001



Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003364226

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

07-September-2023

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 24 August 2023
LR Report: **CA10212-AUG23**
Reference: Wk#17

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#17	6: CV5-WR-HCT-5 Wk#17	7: CV5-WR-HCT-5 (DUP) Wk#17	8: CV5-WR-HCT-14 Wk#17
Sample Date & Time			24-Aug-23	24-Aug-23	24-Aug-23	24-Aug-23
HumCell Leachate Vol [mL]	25-Aug-23	16:31	917	909	921	1002
pH [No unit]	28-Aug-23	13:52	6.85	7.14	7.02	7.89
Alkalinity [mg/L as CaCO3]	29-Aug-23	12:40	3	4	4	13
Conductivity [uS/cm]	30-Aug-23	14:38	29	23	18	34
Acidity [mg/L as CaCO3]	29-Aug-23	12:40	3	< 2	< 2	< 2
Tot.Reactive P [mg/L]	28-Aug-23	11:09	< 0.03	0.06	0.06	< 0.03
SO4 [mg/L]	01-Sep-23	14:00	7	4	3	< 2
Ag [mg/L]	31-Aug-23	15:09	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	31-Aug-23	15:09	0.033	0.021	0.027	0.117
As [mg/L]	31-Aug-23	15:09	0.0049	0.357	0.250	0.0593
Ba [mg/L]	31-Aug-23	15:09	0.00030	0.00027	0.00025	0.00013
Be [mg/L]	31-Aug-23	15:09	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	31-Aug-23	15:09	0.005	0.003	0.003	< 0.002
Bi [mg/L]	31-Aug-23	15:09	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	31-Aug-23	15:09	3.56	3.34	2.58	6.10
Cd [mg/L]	31-Aug-23	15:09	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	31-Aug-23	15:09	0.000122	0.000163	0.000175	0.000054
Cr [mg/L]	31-Aug-23	15:09	< 0.00008	0.00010	< 0.00008	< 0.00008
Cu [mg/L]	31-Aug-23	15:09	< 0.0002	< 0.0002	< 0.0002	0.0002
Fe [mg/L]	31-Aug-23	15:09	< 0.007	< 0.007	0.009	0.010
K [mg/L]	31-Aug-23	15:09	0.394	0.196	0.165	0.063
Li [mg/L]	31-Aug-23	15:09	0.0164	0.0200	0.0167	0.0052
Mg [mg/L]	31-Aug-23	15:09	0.589	0.449	0.365	0.328
Mn [mg/L]	31-Aug-23	15:09	0.00146	0.00208	0.00339	0.00520
Mo [mg/L]	31-Aug-23	15:09	0.00025	0.00020	0.00008	0.00034
Na [mg/L]	31-Aug-23	15:09	0.31	0.11	0.10	0.32
Ni [mg/L]	31-Aug-23	15:09	0.0004	0.0010	0.0009	< 0.0001

OnLine LIMS

0003458914

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10212-AUG23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#17	6: CV5-WR-HCT-5 Wk#17	7: CV5-WR-HCT-5 (DUP) Wk#17	8: CV5-WR-HCT-14 Wk#17
Pb [mg/L]	31-Aug-23	15:09	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	31-Aug-23	15:09	0.0049	0.0818	0.0493	0.0099
Se [mg/L]	31-Aug-23	15:09	0.00025	0.00013	0.00010	0.00013
Sn [mg/L]	31-Aug-23	15:09	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	31-Aug-23	15:09	0.0140	0.00958	0.00785	0.00606
Ti [mg/L]	31-Aug-23	15:09	0.00019	0.00016	0.00017	0.00043
Tl [mg/L]	31-Aug-23	15:09	< 0.000005	0.000006	0.000008	< 0.000005
U [mg/L]	31-Aug-23	15:09	0.00345	0.000229	0.000097	0.000224
V [mg/L]	31-Aug-23	15:09	0.00040	0.00079	0.00066	0.00355
W [mg/L]	31-Aug-23	15:09	0.00011	0.00025	0.00017	0.00005
Y [mg/L]	31-Aug-23	15:09	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	31-Aug-23	15:09	< 0.002	< 0.002	< 0.002	< 0.002

Analysis	9: CV5-WR-HCT-22 Wk#17	10: CV5-WR-HCT-33 Wk#17	11: CV5-WR-HCT-36 Wk#17	12: CV5-WR-HCT-39 Wk#17	13: CV5-WR-HCT-50 Wk#17	14: CV5-WR-HCT-56 Wk#17
Sample Date & Time	24-Aug-23	24-Aug-23	24-Aug-23	24-Aug-23	24-Aug-23	24-Aug-23
HumCell Leachate Vol [mL]	960	995	984	925	962	961
pH [No unit]	7.02	7.24	7.36	6.75	7.12	7.46
Alkalinity [mg/L as CaCO3]	4	7	7	2	6	9
Conductivity [uS/cm]	12	18	23	23	43	26
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	4	< 2
Tot.Reactive P [mg/L]	0.05	< 0.03	0.95	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	< 2	< 2	< 2	6	8	4
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.027	0.070	0.003	0.040	0.038	0.038
As [mg/L]	0.286	0.0055	2.75	0.0366	0.0128	0.0220
Ba [mg/L]	0.00009	0.00021	0.00098	0.00034	0.00034	0.00051
Be [mg/L]	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	0.003	< 0.002	0.015	0.003	< 0.002	0.003
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	1.72	3.23	3.32	3.02	6.88	4.09
Cd [mg/L]	< 0.000003	< 0.000003	< 0.000003	0.000007	0.000022	< 0.000003
Co [mg/L]	0.000123	0.000043	0.000263	0.000155	0.00110	0.000059
Cr [mg/L]	0.00010	< 0.00008	< 0.00008	0.00009	< 0.00008	< 0.00008
Cu [mg/L]	< 0.0002	0.0004	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Fe [mg/L]	0.009	< 0.007	< 0.007	0.008	< 0.007	< 0.007
K [mg/L]	0.084	0.100	0.070	0.332	0.289	0.551
Li [mg/L]	0.0115	0.0065	0.0044	0.0180	0.0089	0.0078
Mg [mg/L]	0.307	0.190	0.845	0.445	0.192	0.493
Mn [mg/L]	0.00050	0.00753	0.00186	0.00200	0.00576	0.0136

OnLine LIMS

0003458914

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10212-AUG23**

Analysis	9: CV5-WR-HCT-22 Wk#17	10: CV5-WR-HCT-33 Wk#17	11: CV5-WR-HCT-36 Wk#17	12: CV5-WR-HCT-39 Wk#17	13: CV5-WR-HCT-50 Wk#17	14: CV5-WR-HCT-56 Wk#17
Mo [mg/L]	0.00034	0.00133	0.00021	0.00024	0.00071	0.00022
Na [mg/L]	0.25	0.18	0.03	0.24	0.08	0.13
Ni [mg/L]	0.0003	< 0.0001	0.0127	0.0003	0.0008	< 0.0001
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	0.00011	< 0.00009	< 0.00009
Sb [mg/L]	0.0134	0.0032	0.826	0.0235	0.0824	< 0.0009
Se [mg/L]	0.00007	0.00014	0.00009	0.00013	0.00084	0.00007
Sn [mg/L]	< 0.00006	0.00007	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00651	0.00361	0.00565	0.0110	0.00638	0.00582
Ti [mg/L]	0.00021	0.00028	0.00009	0.00048	0.00016	0.00018
Tl [mg/L]	0.000006	< 0.000005	0.000006	0.000007	0.000018	< 0.000005
U [mg/L]	0.000199	0.000120	0.000042	0.000384	0.00290	0.000892
V [mg/L]	0.00170	0.00098	0.00035	0.00048	0.00015	0.00069
W [mg/L]	0.00007	0.00016	0.00016	0.00009	0.00006	0.00027
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	0.005	< 0.002

Analysis	15: CV5-WR-HCT-59 Wk#17	16: CV5-WR-HCT-62 Wk#17	17: CV5-WR-HCT-64 Wk#17	18: CV5-WR-HCT-69 Wk#17	19: CV5-ORE-HCT-74 Wk#17	20: CV5-ORE-HCT-76 Wk#17
Sample Date & Time	24-Aug-23	24-Aug-23	24-Aug-23	24-Aug-23	24-Aug-23	24-Aug-23
HumCell Leachate Vol [mL]	968	943	981	997	998	935
pH [No unit]	6.86	7.35	7.14	7.39	6.89	7.28
Alkalinity [mg/L as CaCO3]	3	8	6	7	3	6
Conductivity [uS/cm]	14	25	13	17	7	15
Acidity [mg/L as CaCO3]	2	< 2	< 2	< 2	< 2	< 2
Tot.Reactive P [mg/L]	0.21	0.37	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	< 2	< 2	< 2	< 2	< 2	< 2
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.009	0.002	0.031	0.105	0.032	0.058
As [mg/L]	0.750	1.25	0.0183	0.0104	0.0201	0.0062
Ba [mg/L]	0.00019	0.00077	0.00012	0.00022	0.00011	0.00011
Be [mg/L]	0.000013	< 0.000007	< 0.000007	0.000135	< 0.000007	0.000100
B [mg/L]	< 0.002	0.002	< 0.002	< 0.002	< 0.002	0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00039	< 0.00001	0.00015
Ca [mg/L]	1.85	3.61	2.22	3.18	1.21	2.44
Cd [mg/L]	0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	0.000003
Co [mg/L]	0.000469	0.000293	0.000025	0.000016	0.000011	0.000017
Cr [mg/L]	0.00019	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	< 0.0002	< 0.0002	< 0.0002	0.0003	< 0.0002	0.0002
Fe [mg/L]	0.009	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	0.095	0.048	0.454	0.141	0.194	0.528

OnLine LIMS

0003458914

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10212-AUG23**

Analysis	15: CV5-WR-HCT-59 Wk#17	16: CV5-WR-HCT-62 Wk#17	17: CV5-WR-HCT-64 Wk#17	18: CV5-WR-HCT-69 Wk#17	19: CV5-ORE-HCT-74 Wk#17	20: CV5-ORE-HCT-76 Wk#17
Li [mg/L]	0.0035	0.0007	0.0049	0.0042	0.0145	0.0129
Mg [mg/L]	0.478	0.861	0.127	0.080	0.028	0.136
Mn [mg/L]	0.00150	0.00324	0.00480	0.00355	0.0395	0.00219
Mo [mg/L]	0.00020	0.00024	0.00009	0.00006	0.00014	0.00267
Na [mg/L]	0.08	0.01	0.08	0.23	0.15	0.16
Ni [mg/L]	0.0032	0.0095	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pb [mg/L]	0.00014	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.0119	1.07	0.0034	0.0035	0.0220	0.0020
Se [mg/L]	0.00009	0.00011	0.00004	0.00008	< 0.00004	< 0.00004
Sn [mg/L]	< 0.00006	< 0.00006	0.00007	< 0.00006	< 0.00006	0.00008
Sr [mg/L]	0.00973	0.00339	0.00391	0.00661	0.00184	0.00616
Ti [mg/L]	0.00030	< 0.00007	< 0.00007	< 0.00007	< 0.00007	< 0.00007
Tl [mg/L]	< 0.000005	< 0.000005	0.000057	0.000010	0.000038	0.000036
U [mg/L]	0.000500	0.00511	0.00286	0.00792	0.00298	0.00260
V [mg/L]	0.00074	0.00033	0.00004	0.00014	0.00003	0.00008
W [mg/L]	0.00045	0.00015	0.00012	0.00012	0.00007	0.00016
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003458914

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Patriot Tailings -Short- (9.5mm fraction size)

08-September-2023

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 24 August 2023
LR Report: **CA10213-AUG23**
Reference: Wk#17

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#17	6: CV5-DMS-HCT-84 Wk#17
Sample Date & Time			24-Aug-23	24-Aug-23
HumCell Leachate Vol [mL]	25-Aug-23	16:31	970	938
pH [No unit]	25-Aug-23	15:12	6.42	6.39
Alkalinity [mg/L as CaCO3]	25-Aug-23	15:12	< 2	< 2
Conductivity [uS/cm]	25-Aug-23	15:12	3	3
Acidity [mg/L as CaCO3]	25-Aug-23	15:12	2	2
F [mg/L]	***	***	***	***
Tot.Reactive P [mg/L]	28-Aug-23	11:09	< 0.03	< 0.03
SO4 [mg/L]	01-Sep-23	14:00	< 2	< 2
Ag [mg/L]	08-Sep-23	10:43	< 0.00005	< 0.00005
Al [mg/L]	08-Sep-23	10:43	0.025	0.024
As [mg/L]	08-Sep-23	10:43	0.0094	0.0059
Ba [mg/L]	08-Sep-23	10:43	< 0.00008	0.00012
Be [mg/L]	08-Sep-23	10:43	0.000015	0.000010
B [mg/L]	08-Sep-23	10:43	< 0.002	< 0.002
Bi [mg/L]	08-Sep-23	10:43	0.00003	0.00004
Ca [mg/L]	08-Sep-23	10:43	0.43	0.42
Cd [mg/L]	08-Sep-23	10:43	< 0.000003	< 0.000003
Co [mg/L]	08-Sep-23	10:43	0.000006	0.000007
Cr [mg/L]	08-Sep-23	10:43	< 0.00008	< 0.00008
Cu [mg/L]	08-Sep-23	10:43	< 0.0002	< 0.0002
Fe [mg/L]	08-Sep-23	10:43	< 0.007	< 0.007
K [mg/L]	08-Sep-23	10:43	0.126	0.127
Li [mg/L]	08-Sep-23	10:43	0.0013	0.0013
Mg [mg/L]	08-Sep-23	10:43	0.020	0.022
Mn [mg/L]	08-Sep-23	10:43	0.00147	0.00215
Mo [mg/L]	08-Sep-23	10:43	0.00035	0.00039
Na [mg/L]	08-Sep-23	10:43	0.04	0.05
Ni [mg/L]	08-Sep-23	10:43	< 0.0001	< 0.0001
Pb [mg/L]	08-Sep-23	10:43	< 0.00009	< 0.00009
Sb [mg/L]	08-Sep-23	10:43	0.0024	0.0022
Se [mg/L]	08-Sep-23	10:43	< 0.00004	< 0.00004
Sn [mg/L]	08-Sep-23	10:43	< 0.00006	< 0.00006
Sr [mg/L]	08-Sep-23	10:43	0.00106	0.00111

OnLine LIMS

0003459712

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10213-AUG23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#17	6: CV5-DMS-HCT-84 Wk#17
Ti [mg/L]	08-Sep-23	10:43	< 0.00007	< 0.00007
Tl [mg/L]	08-Sep-23	10:43	0.000015	0.000012
U [mg/L]	08-Sep-23	10:43	0.00152	0.00178
V [mg/L]	08-Sep-23	10:43	0.00002	0.00004
W [mg/L]	08-Sep-23	10:43	0.00003	0.00003
Y [mg/L]	08-Sep-23	10:43	< 0.00002	< 0.00002
Zn [mg/L]	08-Sep-23	10:43	< 0.002	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003459712

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Patriot Tailings -Short- (9.5mm fraction size)

23-November-2023

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 26 October 2023
LR Report: **CA10220-OCT23**
Reference: Wk#26

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HC T-83 Wk#26	6: CV5-DMS-HC T-84 Wk#26
Sample Date & Time			26-Oct-23	26-Oct-23
HumCell Leachate Vol [mL]	01-Nov-23	10:05	1001	991
pH [No unit]	13-Nov-23	11:22	6.74	6.51
Alkalinity [mg/L as CaCO3]	09-Nov-23	09:59	< 2	< 2
Conductivity [uS/cm]	09-Nov-23	09:59	3	2
Acidity [mg/L as CaCO3]	09-Nov-23	09:59	2	2
Tot.Reactive P [mg/L]	30-Oct-23	09:25	< 0.03	< 0.03
SO4 [mg/L]	17-Nov-23	11:27	< 2	< 2
Ag [mg/L]	03-Nov-23	12:34	< 0.00005	< 0.00005
Al [mg/L]	03-Nov-23	12:34	0.016	0.014
As [mg/L]	03-Nov-23	12:34	0.0056	0.0040
Ba [mg/L]	22-Nov-23	16:16	< 0.00008	< 0.00008
Be [mg/L]	03-Nov-23	12:34	0.000010	0.000013
B [mg/L]	03-Nov-23	12:34	< 0.002	< 0.002
Bi [mg/L]	03-Nov-23	12:34	0.00001	0.00002
Ca [mg/L]	03-Nov-23	12:34	0.39	0.46
Cd [mg/L]	03-Nov-23	12:34	< 0.000003	< 0.000003
Co [mg/L]	03-Nov-23	12:34	0.000013	0.000031
Cr [mg/L]	03-Nov-23	12:34	< 0.00008	< 0.00008
Cu [mg/L]	03-Nov-23	12:34	< 0.0002	< 0.0002
Fe [mg/L]	06-Nov-23	12:37	0.009	< 0.007
K [mg/L]	03-Nov-23	12:34	0.102	0.113
Li [mg/L]	03-Nov-23	12:34	0.0006	0.0006
Mg [mg/L]	03-Nov-23	12:34	0.019	0.037
Mn [mg/L]	06-Nov-23	12:37	0.00117	0.00211
Mo [mg/L]	03-Nov-23	12:34	0.00025	0.00013
Na [mg/L]	22-Nov-23	16:16	0.04	0.04
Ni [mg/L]	03-Nov-23	12:34	< 0.0001	< 0.0001

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0003541797

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10220-OCT23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HC T-83 Wk#26	6: CV5-DMS-HC T-84 Wk#26
Pb [mg/L]	03-Nov-23	12:34	< 0.00009	< 0.00009
Sb [mg/L]	03-Nov-23	12:34	0.0018	0.0016
Se [mg/L]	22-Nov-23	16:16	< 0.00004	< 0.00004
Sn [mg/L]	03-Nov-23	12:34	< 0.00006	< 0.00006
Sr [mg/L]	03-Nov-23	12:34	0.00107	0.00167
Ti [mg/L]	03-Nov-23	12:34	< 0.00007	< 0.00007
Tl [mg/L]	03-Nov-23	12:34	0.000011	0.000012
U [mg/L]	03-Nov-23	12:34	0.00191	0.00124
V [mg/L]	03-Nov-23	12:34	< 0.00001	< 0.00001
W [mg/L]	03-Nov-23	12:34	< 0.00002	0.00003
Y [mg/L]	03-Nov-23	12:34	< 0.00002	0.00002
Zn [mg/L]	03-Nov-23	12:34	< 0.002	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003541797

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

04-December-2023

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 26 October 2023
LR Report: **CA10221-OCT23**
Reference: Wk#26

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#26	6: CV5-WR-HCT-5 Wk#26	7: CV5-WR-HCT-5 (DUP) Wk#26	8: CV5-WR-HCT-14 Wk#26
Sample Date & Time			26-Oct-23	26-Oct-23	26-Oct-23	26-Oct-23
HumCell Leachate Vol [mL]	01-Nov-23	10:06	943	909	962	995
pH [No unit]	09-Nov-23	09:57	6.60	6.72	6.72	7.45
Alkalinity [mg/L as CaCO3]	09-Nov-23	09:57	2	3	2	12
Conductivity [uS/cm]	09-Nov-23	09:57	27	17	14	27
Acidity [mg/L as CaCO3]	09-Nov-23	09:57	3	< 2	< 2	< 2
Tot.Reactive P [mg/L]	03-Nov-23	08:01	< 0.03	0.09	< 0.03	< 0.03
SO4 [mg/L]	17-Nov-23	11:27	8	4	3	< 2
Ag [mg/L]	03-Nov-23	12:36	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	03-Nov-23	12:36	0.025	0.023	0.024	0.081
As [mg/L]	22-Nov-23	10:56	0.0041	0.207	0.153	0.0377
Ba [mg/L]	03-Nov-23	12:36	0.00020	0.00019	0.00016	0.00024
Be [mg/L]	03-Nov-23	12:36	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	03-Nov-23	12:36	0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	03-Nov-23	12:36	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	03-Nov-23	12:36	3.64	2.80	2.17	5.15
Cd [mg/L]	03-Nov-23	12:36	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	03-Nov-23	12:36	0.000082	0.000151	0.000160	0.000044
Cr [mg/L]	03-Nov-23	12:36	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	03-Nov-23	12:36	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Fe [mg/L]	03-Nov-23	12:36	< 0.007	< 0.007	< 0.007	0.008
K [mg/L]	03-Nov-23	12:36	0.265	0.135	0.106	0.058
Li [mg/L]	03-Nov-23	12:36	0.0089	0.0094	0.0081	0.0037
Mg [mg/L]	03-Nov-23	12:36	0.388	0.235	0.199	0.225
Mn [mg/L]	03-Nov-23	12:36	0.00114	0.00145	0.00142	0.00558
Mo [mg/L]	03-Nov-23	12:36	0.00013	0.00009	0.00005	0.00038
Na [mg/L]	03-Nov-23	12:36	0.20	0.11	0.10	0.27
Ni [mg/L]	03-Nov-23	12:36	0.0003	0.0011	0.0007	0.0001

OnLine LIMS

0003552854

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10221-OCT23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#26	6: CV5-WR-HCT-5 Wk#26	7: CV5-WR-HCT-5 (DUP) Wk#26	8: CV5-WR-HCT-14 Wk#26
Pb [mg/L]	03-Nov-23	12:36	0.00042	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	22-Nov-23	10:57	0.0030	0.0407	0.0268	0.0052
Se [mg/L]	03-Nov-23	12:36	0.00022	0.00008	0.00008	0.00017
Sn [mg/L]	03-Nov-23	12:36	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	03-Nov-23	12:36	0.0117	0.00628	0.00566	0.00462
Ti [mg/L]	03-Nov-23	12:36	0.00011	0.00011	0.00007	0.00016
Tl [mg/L]	03-Nov-23	12:36	< 0.000005	< 0.000005	0.000005	< 0.000005
U [mg/L]	22-Nov-23	10:57	0.000918	0.000527	0.000042	0.000237
V [mg/L]	03-Nov-23	12:36	0.00030	0.00048	0.00044	0.00233
W [mg/L]	03-Nov-23	12:36	0.00005	0.00006	0.00006	0.00003
Y [mg/L]	03-Nov-23	12:36	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	03-Nov-23	12:36	< 0.002	< 0.002	< 0.002	< 0.002

Analysis	9: CV5-WR-HCT-22 Wk#26	10: CV5-WR-HCT-33 Wk#26	11: CV5-WR-HCT-36 Wk#26	12: CV5-WR-HCT-39 Wk#26	13: CV5-WR-HCT-50 Wk#26	14: CV5-WR-HCT-56 Wk#26	15: CV5-WR-HCT-59 Wk#26
Sample Date & Time	26-Oct-23	26-Oct-23	26-Oct-23	26-Oct-23	26-Oct-23	26-Oct-23	26-Oct-23
HumCell Leachate Vol [mL]	1008	961	977	969	1006	972	1008
pH [No unit]	6.77	7.22	7.20	6.47	6.44	7.10	6.77
Alkalinity [mg/L as CaCO3]	3	7	6	< 2	< 2	6	2
Conductivity [uS/cm]	9	15	18	18	21	26	13
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	6	< 2	3
Tot.Reactive P [mg/L]	< 0.03	< 0.03	0.42	< 0.03	< 0.03	< 0.03	0.06
SO4 [mg/L]	< 2	< 2	< 2	5	5	5	3
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.023	0.063	0.005	0.022	0.009	0.036	0.005
As [mg/L]	0.150	0.0046	1.21	0.0238	0.0035	0.0168	0.341
Ba [mg/L]	0.00010	0.00019	0.00062	0.00023	0.00021	0.00048	0.00028
Be [mg/L]	< 0.000007	< 0.000007	< 0.000007	0.000008	0.000008	< 0.000007	< 0.000007
B [mg/L]	< 0.002	< 0.002	0.005	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	1.45	2.81	2.70	2.49	3.62	4.36	1.40
Cd [mg/L]	< 0.000003	0.000003	< 0.000003	0.000009	0.000021	< 0.000003	< 0.000003
Co [mg/L]	0.000140	0.000037	0.000243	0.000216	0.00104	0.000063	0.000488
Cr [mg/L]	< 0.00008	< 0.00008	0.00010	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	< 0.0002	0.0005	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Fe [mg/L]	< 0.007	0.009	0.011	< 0.007	< 0.007	0.007	0.007
K [mg/L]	0.058	0.077	0.073	0.233	0.129	0.316	0.070
Li [mg/L]	0.0055	0.0034	0.0020	0.0090	0.0051	0.0040	0.0019
Mg [mg/L]	0.197	0.117	0.512	0.324	0.079	0.328	0.301
Mn [mg/L]	0.00050	0.00884	0.00275	0.00214	0.00353	0.00786	0.00155

OnLine LIMS

0003552854

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10221-OCT23**

Analysis	9: CV5-WR-HCT-22 Wk#26	10: CV5-WR-HCT-33 Wk#26	11: CV5-WR-HCT-36 Wk#26	12: CV5-WR-HCT-39 Wk#26	13: CV5-WR-HCT-50 Wk#26	14: CV5-WR-HCT-56 Wk#26	15: CV5-WR-HCT-59 Wk#26
Mo [mg/L]	0.00035	0.00012	0.00012	0.00016	0.00014	0.00014	0.00208
Na [mg/L]	0.15	0.17	0.11	0.16	0.09	0.16	0.17
Ni [mg/L]	0.0004	< 0.0001	0.0081	0.0004	0.0008	0.0002	0.0044
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	0.00023	< 0.00009	< 0.00009
Sb [mg/L]	0.0062	0.0015	0.413	0.0131	0.0135	< 0.0009	0.0057
Se [mg/L]	0.00007	0.00017	0.00010	0.00011	0.00040	0.00012	0.00011
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00477	0.00258	0.00351	0.00838	0.00335	0.00535	0.00701
Ti [mg/L]	0.00012	0.00017	< 0.00007	0.00018	0.00010	< 0.00007	< 0.00007
Tl [mg/L]	0.000005	0.000005	0.000006	0.000008	0.000010	< 0.000005	0.000005
U [mg/L]	0.000163	0.000340	0.00302	0.000484	0.00163	0.000451	0.000024
V [mg/L]	0.00111	0.00061	0.00016	0.00033	0.00004	0.00043	0.00039
W [mg/L]	0.00004	0.00005	0.00008	0.00004	< 0.00002	0.00007	0.00016
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	0.006	< 0.002	0.003

Analysis	16: CV5-WR-HCT-62 Wk#26	17: CV5-WR-HCT-64 Wk#26	18: CV5-WR-HCT-69 Wk#26	19: CV5-ORE-HCT-74 Wk#26	20: CV5-ORE-HCT-76 Wk#26
Sample Date & Time	26-Oct-23	26-Oct-23	26-Oct-23	26-Oct-23	26-Oct-23
HumCell Leachate Vol [mL]	970	1001	1007	1014	997
pH [No unit]	7.30	7.06	7.34	6.84	7.11
Alkalinity [mg/L as CaCO3]	8	7	9	3	8
Conductivity [uS/cm]	25	14	20	8	16
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	5	< 2
Tot.Reactive P [mg/L]	0.20	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	2	< 2	< 2	< 2	< 2
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.003	0.025	0.109	0.026	0.031
As [mg/L]	0.869	0.0097	0.0063	0.0123	0.0029
Ba [mg/L]	0.00052	0.00025	0.00017	0.00017	0.00026
Be [mg/L]	< 0.000007	0.000015	0.000083	0.000007	0.000057
B [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	< 0.00001	0.00034	< 0.00001	0.00010
Ca [mg/L]	3.20	1.97	2.91	0.92	2.04
Cd [mg/L]	< 0.000003	< 0.000003	0.000003	< 0.000003	0.000003
Co [mg/L]	0.000380	0.000018	0.000017	0.000013	0.000053
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007	0.007
K [mg/L]	0.045	0.288	0.119	0.159	0.340

OnLine LIMS

0003552854

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10221-OCT23**

Analysis	16: CV5-WR-HCT-62 Wk#26	17: CV5-WR-HCT-64 Wk#26	18: CV5-WR-HCT-69 Wk#26	19: CV5-ORE-HCT-74 Wk#26	20: CV5-ORE-HCT-76 Wk#26
Li [mg/L]	0.0005	0.0023	0.0025	0.0075	0.0066
Mg [mg/L]	0.792	0.081	0.051	0.022	0.108
Mn [mg/L]	0.00265	0.00509	0.00279	0.0423	0.00198
Mo [mg/L]	0.00012	< 0.00004	0.00039	0.00025	0.00016
Na [mg/L]	0.09	0.18	0.20	0.20	0.23
Ni [mg/L]	0.0080	< 0.0001	< 0.0001	< 0.0001	0.0001
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	0.00012
Sb [mg/L]	0.633	0.0017	0.0020	0.0119	0.0011
Se [mg/L]	0.00014	0.00014	0.00010	0.00011	0.00011
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	0.00007	< 0.00006
Sr [mg/L]	0.00264	0.00329	0.00550	0.00152	0.00520
Ti [mg/L]	< 0.00007	< 0.00007	< 0.00007	< 0.00007	< 0.00007
Tl [mg/L]	< 0.000005	0.000036	0.000009	0.000035	0.000043
U [mg/L]	0.000075	0.00108	0.00476	0.00128	0.00347
V [mg/L]	0.00022	< 0.00001	0.00009	< 0.00001	0.00001
W [mg/L]	0.00009	0.00006	0.00007	0.00005	0.00007
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003552854

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Patriot Tailings -Short- (9.5mm fraction size)

01-November-2023

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 28 September 2023
LR Report: **CA10222-SEP23**
Reference: Wk#22

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#22	6: CV5-DMS-HCT-84 Wk#22
Sample Date & Time			28-Sep-23	28-Sep-23
HumCell Leachate Vol [mL]	28-Sep-23	16:56	987	975
pH [No unit]	29-Sep-23	12:04	6.39	6.50
Alkalinity [mg/L as CaCO3]	29-Sep-23	12:04	< 2	< 2
Conductivity [uS/cm]	29-Sep-23	12:04	2	2
Acidity [mg/L as CaCO3]	02-Oct-23	12:58	2	2
Tot.Reactive P [mg/L]	02-Oct-23	09:34	0.04	< 0.03
SO4 [mg/L]	16-Oct-23	11:53	< 2	< 2
Ag [mg/L]	06-Oct-23	14:40	< 0.00005	< 0.00005
Al [mg/L]	06-Oct-23	14:40	0.018	0.017
As [mg/L]	06-Oct-23	14:40	0.0068	0.0057
Ba [mg/L]	06-Oct-23	14:40	< 0.00008	< 0.00008
Be [mg/L]	06-Oct-23	14:40	0.000008	0.000008
B [mg/L]	06-Oct-23	14:40	< 0.002	< 0.002
Bi [mg/L]	06-Oct-23	14:40	0.00003	0.00004
Ca [mg/L]	06-Oct-23	14:40	0.41	0.44
Cd [mg/L]	06-Oct-23	14:40	< 0.000003	---
Cd [mg/L]	30-Oct-23	16:23	---	0.000003
Co [mg/L]	06-Oct-23	14:40	0.000005	---
Co [mg/L]	30-Oct-23	16:23	---	0.000009
Cr [mg/L]	06-Oct-23	14:40	< 0.00008	< 0.00008
Cu [mg/L]	06-Oct-23	14:40	0.0003	0.0008
Fe [mg/L]	06-Oct-23	14:40	< 0.007	< 0.007
K [mg/L]	06-Oct-23	14:40	0.111	0.104
Li [mg/L]	06-Oct-23	14:40	0.0014	0.0014
Mg [mg/L]	06-Oct-23	14:40	0.019	---
Mg [mg/L]	30-Oct-23	16:23	---	0.022
Mn [mg/L]	06-Oct-23	14:40	0.00121	---
Mn [mg/L]	30-Oct-23	16:23	---	0.00218
Mo [mg/L]	06-Oct-23	14:40	0.00035	0.00016
Na [mg/L]	06-Oct-23	14:40	0.04	0.08
Ni [mg/L]	06-Oct-23	14:40	< 0.0001	0.0002
Pb [mg/L]	06-Oct-23	14:40	< 0.00009	0.00053
Pb [mg/L]	30-Oct-23	16:23	---	---

OnLine LIMS

0003519643

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10222-SEP23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#22	6: CV5-DMS-HCT-84 Wk#22
Sb [mg/L]	06-Oct-23	14:40	0.0020	0.0022
Se [mg/L]	06-Oct-23	14:40	< 0.00004	< 0.00004
Sn [mg/L]	06-Oct-23	14:40	< 0.00006	< 0.00006
Sr [mg/L]	06-Oct-23	14:40	0.00098	0.00120
Ti [mg/L]	06-Oct-23	14:40	< 0.00007	< 0.00007
Tl [mg/L]	06-Oct-23	14:40	0.000012	0.000012
U [mg/L]	06-Oct-23	14:40	0.00129	0.00167
V [mg/L]	06-Oct-23	14:40	0.00002	0.00002
W [mg/L]	06-Oct-23	14:40	0.00006	0.00004
Y [mg/L]	06-Oct-23	14:40	< 0.00002	< 0.00002
Zn [mg/L]	06-Oct-23	14:40	< 0.002	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003519643

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

02-November-2023

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700, Vancouver
Canada, V6C 0A6
Phone: 647-782-7386, Fax:

Date Rec. : 28 September 2023
LR Report: **CA10223-SEP23**
Reference: Wk#22

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#22	6: CV5-WR-HCT-5 Wk#22	7: CV5-WR-HCT-5 (DUP) Wk#22	8: CV5-WR-HCT-14 Wk#22
Sample Date & Time			28-Sep-23	28-Sep-23	28-Sep-23	28-Sep-23
HumCell Leachate Vol [mL]	28-Sep-23	16:56	916	906	949	986
pH [No unit]	02-Oct-23	12:07	6.79	7.01	6.98	7.72
Alkalinity [mg/L as CaCO3]	02-Oct-23	12:59	2	4	3	15
Conductivity [uS/cm]	29-Sep-23	11:49	24	19	16	31
Acidity [mg/L as CaCO3]	02-Oct-23	12:59	< 2	< 2	< 2	< 2
Tot.Reactive P [mg/L]	05-Oct-23	10:54	< 0.03	0.07	0.03	0.56
SO4 [mg/L]	16-Oct-23	11:53	6	4	3	< 2
Ag [mg/L]	06-Oct-23	14:40	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	06-Oct-23	14:40	0.028	0.028	0.030	0.103
As [mg/L]	06-Oct-23	14:40	0.0051	0.271	0.186	0.0521
Ba [mg/L]	06-Oct-23	14:40	0.00019	0.00021	0.00018	0.00014
Be [mg/L]	06-Oct-23	14:40	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	06-Oct-23	14:40	0.003	0.002	< 0.002	< 0.002
Bi [mg/L]	06-Oct-23	14:40	0.00002	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	06-Oct-23	14:40	3.29	2.99	2.36	5.66
Cd [mg/L]	06-Oct-23	14:40	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	06-Oct-23	14:40	0.000079	0.000142	0.000182	0.000061
Cr [mg/L]	06-Oct-23	14:40	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	06-Oct-23	14:40	< 0.0002	0.0004	0.0007	0.0006
Fe [mg/L]	06-Oct-23	14:40	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	06-Oct-23	14:40	0.310	0.157	0.120	0.058
Li [mg/L]	13-Oct-23	14:40	0.0117	0.0126	0.0104	0.0052
Mg [mg/L]	06-Oct-23	14:41	0.425	0.313	0.256	0.292
Mn [mg/L]	06-Oct-23	14:41	0.00117	0.00176	0.00157	0.00525
Mo [mg/L]	06-Oct-23	14:41	0.00019	0.00036	0.00021	0.00019
Na [mg/L]	06-Oct-23	14:41	0.21	0.08	0.07	0.28
Ni [mg/L]	06-Oct-23	14:41	0.0002	0.0010	0.0007	0.0002

OnLine LIMS

0003521073

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10223-SEP23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#22	6: CV5-WR-HCT-5 Wk#22	7: CV5-WR-HCT-5 (DUP) Wk#22	8: CV5-WR-HCT-14 Wk#22
Pb [mg/L]	06-Oct-23	14:41	< 0.00009	< 0.00009	< 0.00009	0.00011
Sb [mg/L]	13-Oct-23	14:40	0.0037	0.0571	0.0301	0.0071
Se [mg/L]	06-Oct-23	14:41	0.00019	0.00008	0.00005	0.00013
Sn [mg/L]	06-Oct-23	14:41	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	06-Oct-23	14:41	0.0117	0.00779	0.00673	0.00546
Ti [mg/L]	06-Oct-23	14:41	0.00013	0.00020	0.00017	0.00021
Tl [mg/L]	06-Oct-23	14:41	< 0.000005	0.000006	0.000010	< 0.000005
U [mg/L]	25-Oct-23	13:02	0.000115	0.000319	0.000890	0.000054
V [mg/L]	06-Oct-23	14:41	0.00037	0.00070	0.00055	0.00334
W [mg/L]	06-Oct-23	14:41	0.00009	0.00010	0.00010	0.00003
Y [mg/L]	06-Oct-23	14:41	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	06-Oct-23	14:41	< 0.002	< 0.002	< 0.002	< 0.002

Analysis	9: CV5-WR-HCT-22 Wk#22	10: CV5-WR-HCT-33 Wk#22	11: CV5-WR-HCT-36 Wk#22	12: CV5-WR-HCT-39 Wk#22	13: CV5-WR-HCT-50 Wk#22	14: CV5-WR-HCT-56 Wk#22
Sample Date & Time	28-Sep-23	28-Sep-23	28-Sep-23	28-Sep-23	28-Sep-23	28-Sep-23
HumCell Leachate Vol [mL]	990	988	939	907	948	936
pH [No unit]	6.91	7.27	7.24	6.70	6.98	7.27
Alkalinity [mg/L as CaCO3]	10	6	6	2	4	6
Conductivity [uS/cm]	11	14	20	23	34	25
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	6	< 2
Tot.Reactive P [mg/L]	< 0.03	< 0.03	< 0.03	< 0.03	0.28	< 0.03
SO4 [mg/L]	< 2	< 2	< 2	6	7	5
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.021	0.063	0.003	0.044	0.032	0.033
As [mg/L]	0.192	0.0043	1.72	0.0330	0.0079	0.0189
Ba [mg/L]	< 0.00008	0.00024	0.00068	0.00028	0.00028	0.00044
Be [mg/L]	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	< 0.002	< 0.002	0.009	< 0.002	< 0.002	0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	1.65	2.49	2.99	2.84	5.48	3.86
Cd [mg/L]	< 0.000003	< 0.000003	< 0.000003	0.000007	0.000022	< 0.000003
Co [mg/L]	0.000139	0.000055	0.000226	0.000144	0.00108	0.000059
Cr [mg/L]	< 0.00008	< 0.00008	0.00012	0.00008	< 0.00008	< 0.00008
Cu [mg/L]	0.0009	0.0007	0.0004	0.0007	0.0006	0.0005
Fe [mg/L]	< 0.007	< 0.007	< 0.007	0.014	< 0.007	< 0.007
K [mg/L]	0.064	0.065	0.056	0.297	0.217	0.376
Li [mg/L]	0.0075	0.0043	0.0036	0.0137	0.0101	0.0054
Mg [mg/L]	0.240	0.119	0.648	0.404	0.146	0.395
Mn [mg/L]	0.00047	0.00725	0.00158	0.00170	0.00496	0.00919

OnLine LIMS

0003521073

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10223-SEP23**

Analysis	9: CV5-WR-HCT-22 Wk#22	10: CV5-WR-HCT-33 Wk#22	11: CV5-WR-HCT-36 Wk#22	12: CV5-WR-HCT-39 Wk#22	13: CV5-WR-HCT-50 Wk#22	14: CV5-WR-HCT-56 Wk#22
Mo [mg/L]	0.00049	0.00017	0.00008	0.00031	0.00086	0.00028
Na [mg/L]	0.14	0.12	0.03	0.22	0.08	0.10
Ni [mg/L]	0.0005	0.0001	0.0092	0.0003	0.0010	0.0002
Pb [mg/L]	0.00009	< 0.00009	< 0.00009	0.00018	< 0.00009	< 0.00009
Sb [mg/L]	0.0085	0.0018	0.576	0.0167	0.0314	< 0.0009
Se [mg/L]	0.00004	0.00010	0.00007	0.00012	0.00058	0.00006
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00572	0.00260	0.00437	0.0103	0.00513	0.00541
Ti [mg/L]	0.00014	0.00022	< 0.00007	0.00052	0.00015	0.00013
Tl [mg/L]	0.000006	< 0.000005	0.000005	0.000008	0.000017	< 0.000005
U [mg/L]	0.000210	0.000038	0.000177	0.000341	0.00163	0.00299
V [mg/L]	0.00136	0.00067	0.00024	0.00047	0.00011	0.00053
W [mg/L]	0.00004	0.00006	0.00011	0.00007	0.00004	0.00020
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	0.005	< 0.002

Analysis	15: CV5-WR-HCT-59 Wk#22	16: CV5-WR-HCT-62 Wk#22	17: CV5-WR-HCT-64 Wk#22	18: CV5-WR-HCT-69 Wk#22	19: CV5-ORE-HCT-74 Wk#22	20: CV5-ORE-HCT-76 Wk#22
Sample Date & Time	28-Sep-23	28-Sep-23	28-Sep-23	28-Sep-23	28-Sep-23	28-Sep-23
HumCell Leachate Vol [mL]	981	910	951	996	983	933
pH [No unit]	6.56	7.43	6.98	7.27	6.79	7.26
Alkalinity [mg/L as CaCO3]	5	8	4	7	2	7
Conductivity [uS/cm]	11	25	8	20	7	13
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	< 2
Tot.Reactive P [mg/L]	0.08	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	2	2	< 2	< 2	< 2	< 2
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.018	0.002	0.030	0.083	0.027	0.082
As [mg/L]	0.340	1.09	0.0096	0.0071	0.0122	0.0055
Ba [mg/L]	0.00177	0.00060	< 0.00008	0.00015	0.00015	0.00014
Be [mg/L]	< 0.000007	< 0.000007	0.000011	0.000078	< 0.000007	0.000138
B [mg/L]	< 0.002	0.003	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00022	0.00001	0.00016
Ca [mg/L]	1.48	3.62	1.32	2.60	0.97	2.16
Cd [mg/L]	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	0.000459	0.000294	0.000026	0.000057	0.000012	0.000020
Cr [mg/L]	0.00014	0.00009	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	0.0008	< 0.0002	0.0004	0.0003	< 0.0002	0.0003
Fe [mg/L]	0.008	< 0.007	< 0.007	< 0.007	0.009	< 0.007
K [mg/L]	0.056	0.046	0.312	0.104	0.151	0.441

OnLine LIMS

0003521073

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10223-SEP23**

Analysis	15: CV5-WR-HCT-59 Wk#22	16: CV5-WR-HCT-62 Wk#22	17: CV5-WR-HCT-64 Wk#22	18: CV5-WR-HCT-69 Wk#22	19: CV5-ORE-HCT-74 Wk#22	20: CV5-ORE-HCT-76 Wk#22
Li [mg/L]	0.0028	0.0005	0.0041	0.0035	0.0106	0.0104
Mg [mg/L]	0.321	0.943	0.081	0.054	0.023	0.126
Mn [mg/L]	0.00166	0.00247	0.00326	0.00291	0.0392	0.00182
Mo [mg/L]	0.00017	0.00200	0.00026	0.00062	0.00031	0.00031
Na [mg/L]	0.05	0.04	0.06	0.16	0.12	0.13
Ni [mg/L]	0.0036	0.0080	0.0002	0.0002	0.0001	0.0001
Pb [mg/L]	0.00012	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.0057	0.861	0.0018	0.0023	0.0136	0.0018
Se [mg/L]	< 0.00004	0.00015	< 0.00004	0.00005	< 0.00004	< 0.00004
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006	0.00010	0.00012
Sr [mg/L]	0.00733	0.00316	0.00246	0.00515	0.00164	0.00554
Ti [mg/L]	0.00028	< 0.00007	< 0.00007	< 0.00007	< 0.00007	< 0.00007
Tl [mg/L]	0.000005	0.000005	0.000043	0.000009	0.000041	0.000040
U [mg/L]	0.000048	0.000168	0.00514	0.00942	0.00257	0.00169
V [mg/L]	0.00050	0.00027	0.00002	0.00010	0.00002	0.00007
W [mg/L]	0.00024	0.00162	0.00008	0.00009	0.00006	0.00008
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	0.003	< 0.002	< 0.002	< 0.002	0.004	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003521073

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

16-January-2024

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 28 December 2023
LR Report: **CA10234-DEC23**
Reference: Wk#35

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HC T-83 Wk#35	6: CV5-DMS-HC T-84 Wk#35
Sample Date & Time			28-Dec-23	28-Dec-23
HumCell Leachate Vol [mL]	29-Dec-23	10:12	988	989
pH [No unit]	02-Jan-24	11:05	6.47	6.39
Alkalinity [mg/L as CaCO3]	02-Jan-24	11:05	< 2	< 2
Conductivity [uS/cm]	02-Jan-24	11:05	2	2
Acidity [mg/L as CaCO3]	02-Jan-24	11:05	2	2
F [mg/L]	03-Jan-24	13:38	< 0.06	< 0.06
Tot.Reactive P [mg/L]	05-Jan-24	09:08	< 0.03	< 0.03
SO4 [mg/L]	03-Jan-24	12:07	< 2	< 2
Cl [mg/L]	03-Jan-24	12:07	< 1	< 1
NO2 [as N mg/L]	02-Jan-24	15:48	< 0.03	< 0.03
NO3 [as N mg/L]	02-Jan-24	15:48	< 0.06	< 0.06
Br [mg/L]	02-Jan-24	15:48	< 0.3	< 0.3
Hg [mg/L]	03-Jan-24	10:40	< 0.00001	< 0.00001
Ag [mg/L]	03-Jan-24	11:24	< 0.00005	< 0.00005
Al [mg/L]	03-Jan-24	11:24	0.016	0.016
As [mg/L]	03-Jan-24	11:24	0.0046	0.0033
Ba [mg/L]	03-Jan-24	11:24	< 0.00008	0.00024
Be [mg/L]	03-Jan-24	11:24	< 0.000007	0.000009
B [mg/L]	03-Jan-24	11:24	< 0.002	< 0.002
Bi [mg/L]	03-Jan-24	11:24	0.00003	0.00004
Ca [mg/L]	03-Jan-24	11:24	0.42	0.38
Cd [mg/L]	03-Jan-24	11:24	0.000005	0.000003
Co [mg/L]	03-Jan-24	11:24	0.000004	< 0.000004
Cr [mg/L]	03-Jan-24	11:24	< 0.00008	< 0.00008
Cu [mg/L]	03-Jan-24	11:24	< 0.0002	< 0.0002
Fe [mg/L]	03-Jan-24	11:24	< 0.007	< 0.007
K [mg/L]	03-Jan-24	11:24	0.066	0.060

OnLine LIMS

0003592790

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10234-DEC23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HC T-83 Wk#35	6: CV5-DMS-HC T-84 Wk#35
Li [mg/L]	03-Jan-24	11:24	0.0006	0.0006
Mg [mg/L]	03-Jan-24	11:24	0.015	0.016
Mn [mg/L]	03-Jan-24	11:24	0.00082	0.00141
Mo [mg/L]	03-Jan-24	11:24	0.00911	0.0118
Na [mg/L]	03-Jan-24	11:24	0.04	0.04
Ni [mg/L]	03-Jan-24	11:24	0.0001	< 0.0001
Pb [mg/L]	03-Jan-24	11:24	< 0.00009	< 0.00009
Sb [mg/L]	03-Jan-24	11:24	0.0015	0.0014
Se [mg/L]	03-Jan-24	11:24	< 0.00004	< 0.00004
Sn [mg/L]	03-Jan-24	11:24	< 0.00006	< 0.00006
Sr [mg/L]	03-Jan-24	11:24	0.00098	0.00157
Ti [mg/L]	03-Jan-24	11:24	< 0.00007	< 0.00007
Tl [mg/L]	03-Jan-24	11:24	0.000007	0.000011
U [mg/L]	03-Jan-24	11:24	0.00107	0.00136
V [mg/L]	03-Jan-24	11:24	0.00003	0.00003
W [mg/L]	03-Jan-24	11:24	< 0.00002	< 0.00002
Y [mg/L]	03-Jan-24	11:24	< 0.00002	< 0.00002
Zn [mg/L]	03-Jan-24	11:24	< 0.002	< 0.002
Au (tot) [mg/L]	03-Jan-24	11:24	< 0.00001	< 0.00001
Ce (tot) [mg/L]	04-Jan-24	13:47	< 0.00001	< 0.00001
Cs (tot) [mg/L]	03-Jan-24	11:24	0.0015	0.0015
Dy (tot) [mg/L]	04-Jan-24	13:47	< 0.0001	< 0.0001
Er (tot) [mg/L]	04-Jan-24	13:47	< 0.0001	< 0.0001
Eu (tot) [mg/L]	04-Jan-24	13:47	< 0.0001	< 0.0001
Ga (tot) [mg/L]	04-Jan-24	13:47	< 0.0001	< 0.0001
Gd (tot) [mg/L]	04-Jan-24	13:47	< 0.00001	< 0.00001
Ge (tot) [mg/L]	03-Jan-24	11:24	< 0.0001	< 0.0001
Hf (tot) [mg/L]	03-Jan-24	11:24	< 0.0001	< 0.0001
Ho (tot) [mg/L]	04-Jan-24	13:47	< 0.0001	< 0.0001
In (tot) [mg/L]	04-Jan-24	13:47	< 0.0001	< 0.0001
Ir (tot) [mg/L]	03-Jan-24	11:24	< 0.0001	< 0.0001
La (tot) [mg/L]	04-Jan-24	13:47	< 0.0001	< 0.0001
Lu (tot) [mg/L]	04-Jan-24	13:47	< 0.0001	< 0.0001
Nb (tot) [mg/L]	03-Jan-24	11:24	< 0.0001	< 0.0001
Nd (tot) [mg/L]	04-Jan-24	13:47	< 0.0001	< 0.0001
Os (tot) [mg/L]	03-Jan-24	11:24	< 0.0001	< 0.0001
Pd (tot) [mg/L]	03-Jan-24	11:24	< 0.0001	< 0.0001
Pr (tot) [mg/L]	04-Jan-24	13:47	< 0.0001	< 0.0001
Pt (tot) [mg/L]	03-Jan-24	11:24	< 0.0001	< 0.0001
Rb (tot) [mg/L]	03-Jan-24	11:24	0.0047	0.0044
Re (tot) [mg/L]	03-Jan-24	11:24	< 0.0001	< 0.0001
Rh (tot) [mg/L]	03-Jan-24	11:24	< 0.00001	< 0.00001

OnLine LIMS

00035927790

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10234-DEC23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HC T-83 Wk#35	6: CV5-DMS-HC T-84 Wk#35
Sc (tot) [mg/L]	04-Jan-24	13:47	< 0.0001	< 0.0001
Sm (tot) [mg/L]	04-Jan-24	13:47	< 0.0001	< 0.0001
Ta (tot) [mg/L]	03-Jan-24	11:24	< 0.0001	< 0.0001
Tb (tot) [mg/L]	04-Jan-24	13:47	< 0.0001	< 0.0001
Te (tot) [mg/L]	03-Jan-24	11:24	< 0.0001	< 0.0001
Th (tot) [mg/L]	03-Jan-24	11:24	< 0.0001	< 0.0001
Tm (tot) [mg/L]	04-Jan-24	13:47	< 0.0001	< 0.0001
Yb (tot) [mg/L]	04-Jan-24	13:47	< 0.0001	< 0.0001

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003592790

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

16-January-2024

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 28 December 2023
LR Report: **CA10235-DEC23**
Reference: Wk#35

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#35	6: CV5-WR-HCT-5 Wk#35	7: CV5-WR-HCT-5 (DUP) Wk#35	8: CV5-WR-HCT-14 Wk#35
Sample Date & Time			28-Dec-23	28-Dec-23	28-Dec-23	28-Dec-23
HumCell Leachate Vol [mL]	29-Dec-23	10:12	971	914	975	988
pH [No unit]	04-Jan-24	11:54	6.79	7.02	6.98	7.71
Alkalinity [mg/L as CaCO3]	02-Jan-24	11:21	3	5	4	13
Conductivity [uS/cm]	02-Jan-24	11:22	34	22	18	33
Acidity [mg/L as CaCO3]	04-Jan-24	12:02	< 2	< 2	< 2	< 2
F [mg/L]	03-Jan-24	13:38	< 0.06	< 0.06	< 0.06	< 0.06
Tot.Reactive P [mg/L]	05-Jan-24	09:08	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	04-Jan-24	16:12	10	4	3	2
Cl [mg/L]	04-Jan-24	16:30	< 1	< 1	< 1	< 1
NO2 [as N mg/L]	03-Jan-24	14:14	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	03-Jan-24	14:14	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	03-Jan-24	14:14	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	03-Jan-24	10:40	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	03-Jan-24	11:22	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	03-Jan-24	11:22	0.023	0.024	0.024	0.106
As [mg/L]	03-Jan-24	11:22	0.0043	0.178	0.120	0.0414
Ba [mg/L]	03-Jan-24	11:22	0.00022	0.00026	0.00015	0.00018
Be [mg/L]	03-Jan-24	11:22	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	03-Jan-24	11:22	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	03-Jan-24	11:22	< 0.00001	< 0.00001	< 0.00001	0.00002
Ca [mg/L]	03-Jan-24	11:22	4.56	3.25	2.47	5.71
Cd [mg/L]	03-Jan-24	11:22	< 0.000003	< 0.000003	< 0.000003	0.000005
Co [mg/L]	03-Jan-24	11:22	0.000098	0.000243	0.000235	0.000061
Cr [mg/L]	03-Jan-24	11:22	< 0.00008	0.00010	< 0.00008	< 0.00008
Cu [mg/L]	03-Jan-24	11:22	< 0.0002	0.0004	< 0.0002	0.0004
Fe [mg/L]	03-Jan-24	11:22	< 0.007	< 0.007	< 0.007	0.008
K [mg/L]	03-Jan-24	11:22	0.165	0.087	0.068	0.040

OnLine LIMS

0003592822

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10235-DEC23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#35	6: CV5-WR-HCT-5 Wk#35	7: CV5-WR-HCT-5 (DUP) Wk#35	8: CV5-WR-HCT-14 Wk#35
Li [mg/L]	03-Jan-24	11:22	0.0067	0.0082	0.0070	0.0044
Mg [mg/L]	03-Jan-24	11:22	0.303	0.192	0.159	0.236
Mn [mg/L]	03-Jan-24	11:22	0.00119	0.00167	0.00175	0.00585
Mo [mg/L]	03-Jan-24	11:22	0.00033	0.00016	0.00009	0.00034
Na [mg/L]	03-Jan-24	11:22	0.12	0.06	0.05	0.22
Ni [mg/L]	03-Jan-24	11:22	0.0004	0.0015	0.0010	0.0003
Pb [mg/L]	03-Jan-24	11:22	< 0.00009	< 0.00009	< 0.00009	0.00256
Sb [mg/L]	03-Jan-24	11:22	0.0031	0.0450	0.0239	0.0046
Se [mg/L]	03-Jan-24	11:22	0.00020	< 0.00004	< 0.00004	0.00010
Sn [mg/L]	03-Jan-24	11:22	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	03-Jan-24	11:22	0.0116	0.00615	0.00516	0.00473
Ti [mg/L]	03-Jan-24	11:22	< 0.00007	0.00021	< 0.00007	0.00018
Tl [mg/L]	03-Jan-24	11:22	< 0.000005	0.000006	0.000006	0.000006
U [mg/L]	03-Jan-24	11:22	0.00344	0.000021	0.000045	0.00310
V [mg/L]	03-Jan-24	11:23	0.00030	0.00052	0.00042	0.00289
W [mg/L]	03-Jan-24	11:23	0.00004	0.00006	0.00006	0.00003
Y [mg/L]	03-Jan-24	11:23	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	03-Jan-24	11:23	< 0.002	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	03-Jan-24	11:23	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	04-Jan-24	13:48	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Cs (tot) [mg/L]	03-Jan-24	11:23	0.0059	0.0083	0.0078	0.0016
Dy (tot) [mg/L]	04-Jan-24	13:48	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Er (tot) [mg/L]	04-Jan-24	13:48	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Eu (tot) [mg/L]	04-Jan-24	13:48	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ga (tot) [mg/L]	04-Jan-24	13:48	< 0.0001	< 0.0001	< 0.0001	0.0002
Gd (tot) [mg/L]	04-Jan-24	13:48	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	03-Jan-24	11:23	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	03-Jan-24	11:23	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	04-Jan-24	13:48	< 0.0001	< 0.0001	< 0.0001	< 0.0001
In (tot) [mg/L]	04-Jan-24	13:48	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ir (tot) [mg/L]	03-Jan-24	11:23	< 0.0001	< 0.0001	< 0.0001	< 0.0001
La (tot) [mg/L]	04-Jan-24	13:48	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Lu (tot) [mg/L]	04-Jan-24	13:48	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	03-Jan-24	11:23	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nd (tot) [mg/L]	04-Jan-24	13:48	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Os (tot) [mg/L]	03-Jan-24	11:23	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	03-Jan-24	11:23	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	04-Jan-24	13:48	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pt (tot) [mg/L]	03-Jan-24	11:23	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	03-Jan-24	11:23	0.0035	0.0030	0.0025	0.0004
Re (tot) [mg/L]	03-Jan-24	11:23	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	03-Jan-24	11:23	< 0.00001	< 0.00001	< 0.00001	< 0.00001

OnLine LIMS

0003592822

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10235-DEC23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#35	6: CV5-WR-HCT-5 Wk#35	7: CV5-WR-HCT-5 (DUP) Wk#35	8: CV5-WR-HCT-14 Wk#35
Sc (tot) [mg/L]	04-Jan-24	13:48	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	04-Jan-24	13:48	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ta (tot) [mg/L]	03-Jan-24	11:23	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	04-Jan-24	13:48	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Te (tot) [mg/L]	03-Jan-24	11:23	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	03-Jan-24	11:23	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	04-Jan-24	13:48	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Yb (tot) [mg/L]	04-Jan-24	13:48	< 0.0001	< 0.0001	< 0.0001	< 0.0001

Analysis	9: CV5-WR-HCT-22 Wk#35	10: CV5-WR-HCT-33 Wk#35	11: CV5-WR-HCT-36 Wk#35	12: CV5-WR-HCT-39 Wk#35	13: CV5-WR-HCT-50 Wk#35	14: CV5-WR-HCT-56 Wk#35
Sample Date & Time	28-Dec-23	28-Dec-23	28-Dec-23	28-Dec-23	28-Dec-23	28-Dec-23
HumCell Leachate Vol [mL]	1001	988	1000	998	1005	971
pH [No unit]	6.98	7.19	7.25	6.73	6.92	7.19
Alkalinity [mg/L as CaCO3]	6	8	7	3	7	7
Conductivity [uS/cm]	13	18	20	23	58	29
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	2	6	< 2
F [mg/L]	< 0.06	< 0.06	< 0.06	0.11	0.22	< 0.06
Tot.Reactive P [mg/L]	< 0.03	< 0.03	0.44	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	< 2	< 2	< 2	6	14	6
Cl [mg/L]	< 1	< 1	< 1	< 1	4	< 1
NO2 [as N mg/L]	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.022	0.053	0.001	0.013	0.017	0.037
As [mg/L]	0.133	0.0040	1.58	0.0232	0.0046	0.0128
Ba [mg/L]	0.00026	0.00016	0.00062	0.00020	0.00056	0.00039
Be [mg/L]	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	< 0.002	< 0.002	0.005	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	1.94	3.07	2.66	2.84	8.93	4.46
Cd [mg/L]	< 0.000003	< 0.000003	0.000005	0.000004	0.000039	< 0.000003
Co [mg/L]	0.000158	0.000053	0.000369	0.000130	0.00229	0.000067
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	< 0.0002	0.0004	< 0.0002	< 0.0002	0.0003	< 0.0002
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	0.038	0.049	0.045	0.178	0.221	0.169
Li [mg/L]	0.0060	0.0039	0.0026	0.0080	0.0145	0.0026

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0003592822

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10235-DEC23**

Analysis	9: CV5-WR-HCT-22 Wk#35	10: CV5-WR-HCT-33 Wk#35	11: CV5-WR-HCT-36 Wk#35	12: CV5-WR-HCT-39 Wk#35	13: CV5-WR-HCT-50 Wk#35	14: CV5-WR-HCT-56 Wk#35
Mg [mg/L]	0.235	0.117	0.583	0.341	0.145	0.210
Mn [mg/L]	0.00097	0.00982	0.00200	0.00186	0.0111	0.00677
Mo [mg/L]	0.00320	0.00022	0.00011	0.00030	0.00027	0.00031
Na [mg/L]	0.10	0.09	0.03	0.10	0.12	0.06
Ni [mg/L]	0.0005	0.0001	0.0134	0.0004	0.0018	0.0002
Pb [mg/L]	< 0.00009	< 0.00009	0.00031	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.0057	0.0018	0.514	0.0154	0.0233	< 0.0009
Se [mg/L]	0.00004	0.00009	0.00006	0.00006	0.00065	0.00006
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00590	0.00318	0.00347	0.00819	0.00745	0.00459
Ti [mg/L]	0.00016	< 0.00007	< 0.00007	0.00010	< 0.00007	0.00008
Tl [mg/L]	< 0.000005	< 0.000005	0.000005	0.000006	0.000024	< 0.000005
U [mg/L]	0.000218	0.000038	0.00148	0.000418	0.00257	0.000397
V [mg/L]	0.00114	0.00065	0.00018	0.00033	0.00007	0.00032
W [mg/L]	0.00003	0.00004	0.00007	0.00004	< 0.00002	0.00011
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	0.007	< 0.002
Au (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00001	0.00001	< 0.00001
Cs (tot) [mg/L]	0.0040	0.0031	0.0114	0.0019	0.0365	0.0170
Dy (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Er (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Eu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ga (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Gd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
In (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ir (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
La (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Lu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Os (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pt (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	0.0014	0.0006	0.0021	0.0020	0.0097	0.0009
Re (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001

OnLine LIMS

0003592822

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10235-DEC23**

Analysis	9: CV5-WR-HCT-22 Wk#35	10: CV5-WR-HCT-33 Wk#35	11: CV5-WR-HCT-36 Wk#35	12: CV5-WR-HCT-39 Wk#35	13: CV5-WR-HCT-50 Wk#35	14: CV5-WR-HCT-56 Wk#35
Sm (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ta (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Te (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Yb (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001

Analysis	15: CV5-WR-HCT-59 Wk#35	16: CV5-WR-HCT-62 Wk#35	17: CV5-WR-HCT-64 Wk#35	18: CV5-WR-HCT-69 Wk#35	19: CV5-ORE-HCT-74 Wk#35	20: CV5-ORE-HCT-76 Wk#35
Sample Date & Time	28-Dec-23	28-Dec-23	28-Dec-23	28-Dec-23	28-Dec-23	28-Dec-23
HumCell Leachate Vol [mL]	964	953	1003	1012	1015	1002
pH [No unit]	6.74	7.17	7.11	7.12	6.73	7.18
Alkalinity [mg/L as CaCO3]	3	7	5	6	3	6
Conductivity [uS/cm]	15	23	12	14	6	18
Acidity [mg/L as CaCO3]	3	< 2	< 2	< 2	< 2	< 2
F [mg/L]	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Tot.Reactive P [mg/L]	0.04	0.14	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	3	3	< 2	< 2	< 2	< 2
Cl [mg/L]	< 1	< 1	< 1	< 1	< 1	< 1
NO2 [as N mg/L]	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.005	0.001	0.027	0.064	0.018	0.029
As [mg/L]	0.277	0.652	0.0069	0.0042	0.0099	0.0035
Ba [mg/L]	0.00083	0.00033	0.00009	0.00011	0.00021	< 0.00008
Be [mg/L]	< 0.000007	0.000011	0.000007	0.000069	< 0.000007	0.000103
B [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00016	< 0.00001	0.00007
Ca [mg/L]	1.74	2.97	1.98	2.46	0.93	2.99
Cd [mg/L]	< 0.000003	0.000003	< 0.000003	< 0.000003	< 0.000003	0.000003
Co [mg/L]	0.000794	0.000695	0.000012	0.000006	0.000024	0.000012
Cr [mg/L]	< 0.00008	0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	< 0.0002	< 0.0002	< 0.0002	0.0003	0.0010	< 0.0002
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007	0.040	< 0.007
K [mg/L]	0.037	0.019	0.194	0.065	0.106	0.259
Li [mg/L]	0.0019	0.0004	0.0019	0.0017	0.0078	0.0073
Mg [mg/L]	0.336	0.717	0.060	0.033	0.015	0.124

OnLine LIMS

0003592822

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10235-DEC23**

Analysis	15: CV5-WR-HCT-59 Wk#35	16: CV5-WR-HCT-62 Wk#35	17: CV5-WR-HCT-64 Wk#35	18: CV5-WR-HCT-69 Wk#35	19: CV5-ORE-HCT-74 Wk#35	20: CV5-ORE-HCT-76 Wk#35
Mn [mg/L]	0.00194	0.00323	0.00533	0.00287	0.0651	0.00166
Mo [mg/L]	0.00010	0.00021	0.00022	0.00021	0.00022	0.00408
Na [mg/L]	0.04	0.02	0.04	0.12	0.10	0.09
Ni [mg/L]	0.0071	0.0111	0.0001	0.0002	0.0002	0.0001
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.0049	0.489	0.0013	0.0015	0.0104	0.0014
Se [mg/L]	< 0.00004	0.00008	< 0.00004	< 0.00004	< 0.00004	< 0.00004
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00839	0.00200	0.00285	0.00428	0.00173	0.00703
Ti [mg/L]	0.00017	< 0.00007	< 0.00007	< 0.00007	< 0.00007	< 0.00007
Tl [mg/L]	< 0.000005	< 0.000005	0.000034	0.000005	0.000032	0.000016
U [mg/L]	0.000094	0.00122	0.000864	0.00346	0.00106	0.00142
V [mg/L]	0.00038	0.00015	0.00004	0.00007	0.00002	0.00006
W [mg/L]	0.00011	0.00007	0.00006	0.00004	0.00004	0.00007
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Cs (tot) [mg/L]	0.0076	0.0021	0.0075	0.0016	0.0106	0.0060
Dy (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Er (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Eu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ga (tot) [mg/L]	< 0.0001	< 0.0001	0.0001	0.0002	0.0001	0.0002
Gd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
In (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ir (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
La (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Lu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Os (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pt (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	0.0021	0.0008	0.0157	0.0034	0.0139	0.0089
Re (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001

OnLine LIMS

0003592822

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10235-DEC23**

Analysis	15: CV5-WR-HCT-59 Wk#35	16: CV5-WR-HCT-62 Wk#35	17: CV5-WR-HCT-64 Wk#35	18: CV5-WR-HCT-69 Wk#35	19: CV5-ORE-HCT-74 Wk#35	20: CV5-ORE-HCT-76 Wk#35
Ta (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Te (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Yb (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003592822

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Patriot Tailings -Short- (9.5mm fraction size)

17-December-2023

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 30 November 2023
LR Report: **CA10255-NOV23**
Reference: Wk#31

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#31	6: CV5-DMS-HCT-84 Wk#31
Sample Date & Time			30-Nov-23	30-Nov-23
HumCell Leachate Vol [mL]	04-Dec-23	15:36	1005	1006
pH [No unit]	04-Dec-23	16:00	6.29	6.25
Alkalinity [mg/L as CaCO3]	01-Dec-23	10:32	< 2	< 2
Conductivity [uS/cm]	04-Dec-23	16:00	3	2
Acidity [mg/L as CaCO3]	04-Dec-23	16:00	3	3
Tot.Reactive P [mg/L]	04-Dec-23	09:17	< 0.03	< 0.03
SO4 [mg/L]	08-Dec-23	11:29	< 2	< 2
Ag [mg/L]	05-Dec-23	12:13	< 0.00005	< 0.00005
Al [mg/L]	05-Dec-23	12:13	0.012	0.013
As [mg/L]	05-Dec-23	12:13	0.0046	0.0034
Ba [mg/L]	05-Dec-23	12:13	< 0.00008	< 0.00008
Be [mg/L]	05-Dec-23	12:13	< 0.000007	0.000010
B [mg/L]	05-Dec-23	12:13	< 0.002	< 0.002
Bi [mg/L]	05-Dec-23	12:13	0.00002	0.00003
Ca [mg/L]	05-Dec-23	12:13	0.35	0.36
Cd [mg/L]	05-Dec-23	12:13	< 0.000003	0.000003
Co [mg/L]	05-Dec-23	12:13	0.000005	0.000006
Cr [mg/L]	05-Dec-23	12:13	< 0.00008	< 0.00008
Cu [mg/L]	05-Dec-23	12:13	< 0.0002	0.0004
Fe [mg/L]	05-Dec-23	12:13	< 0.007	< 0.007
K [mg/L]	05-Dec-23	12:13	0.067	0.065
Li [mg/L]	05-Dec-23	12:13	0.0006	0.0007
Mg [mg/L]	05-Dec-23	12:13	0.015	0.014
Mn [mg/L]	05-Dec-23	12:13	0.00081	0.00132
Mo [mg/L]	05-Dec-23	12:13	0.00239	0.00020
Na [mg/L]	05-Dec-23	12:13	0.04	0.04
Ni [mg/L]	05-Dec-23	12:13	< 0.0001	< 0.0001
Pb [mg/L]	05-Dec-23	12:13	< 0.00009	< 0.00009
Sb [mg/L]	05-Dec-23	12:13	0.0019	0.0018
Se [mg/L]	05-Dec-23	12:13	< 0.00004	< 0.00004
Sn [mg/L]	05-Dec-23	12:13	< 0.00006	< 0.00006
Sr [mg/L]	05-Dec-23	12:13	0.00091	0.00092
Ti [mg/L]	05-Dec-23	12:13	< 0.00007	< 0.00007

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0003566219

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10255-NOV23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#31	6: CV5-DMS-HCT-84 Wk#31
Tl [mg/L]	05-Dec-23	12:13	0.000007	0.000010
U [mg/L]	05-Dec-23	12:13	0.00128	0.00127
V [mg/L]	05-Dec-23	12:13	0.00003	0.00002
W [mg/L]	05-Dec-23	12:13	< 0.00002	< 0.00002
Y [mg/L]	05-Dec-23	12:13	< 0.00002	< 0.00002
Zn [mg/L]	05-Dec-23	12:13	< 0.002	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003566219

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

17-December-2023

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700, Vancouver
Canada, V6C 0A6
Phone: 647-782-7386, Fax:

Date Rec. : 30 November 2023
LR Report: **CA10256-NOV23**
Reference: Wk#31

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#31	6: CV5-WR-HCT-5 Wk#31	7: CV5-WR-HCT-5 (DUP) Wk#31	8: CV5-WR-HCT-14 Wk#31	9: CV5-WR-HCT-22 Wk#31
Sample Date & Time			30-Nov-23	30-Nov-23	30-Nov-23	30-Nov-23	30-Nov-23
HumCell Leachate Vol [mL]	04-Dec-23	15:36	946	927	956	984	994
pH [No unit]	04-Dec-23	16:01	6.95	7.08	6.97	7.30	6.68
Alkalinity [mg/L as CaCO3]	04-Dec-23	16:02	3	4	3	10	3
Conductivity [uS/cm]	04-Dec-23	13:12	28	21	14	27	10
Acidity [mg/L as CaCO3]	04-Dec-23	16:02	< 2	< 2	< 2	< 2	< 2
Tot.Reactive P [mg/L]	04-Dec-23	09:17	< 0.03	0.04	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	08-Dec-23	11:29	9	4	3	< 2	< 2
Ag [mg/L]	05-Dec-23	12:13	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	05-Dec-23	12:13	0.023	0.021	0.022	0.085	0.023
As [mg/L]	05-Dec-23	12:13	0.0040	0.212	0.144	0.0353	0.153
Ba [mg/L]	05-Dec-23	12:13	0.00025	0.00019	0.00025	0.00012	0.00010
Be [mg/L]	05-Dec-23	12:13	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	05-Dec-23	12:13	0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	05-Dec-23	12:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	05-Dec-23	12:13	4.19	3.06	2.05	4.86	1.34
Cd [mg/L]	05-Dec-23	12:13	0.000003	< 0.000003	< 0.000003	0.000005	< 0.000003
Co [mg/L]	05-Dec-23	12:13	0.000097	0.000190	0.000153	0.000051	0.000132
Cr [mg/L]	05-Dec-23	12:13	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	05-Dec-23	12:13	< 0.0002	< 0.0002	< 0.0002	0.0003	< 0.0002
Fe [mg/L]	05-Dec-23	12:13	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	05-Dec-23	12:13	0.225	0.115	0.080	0.038	0.042
Li [mg/L]	05-Dec-23	12:13	0.0094	0.0109	0.0084	0.0040	0.0063
Mg [mg/L]	05-Dec-23	12:13	0.384	0.240	0.181	0.211	0.208
Mn [mg/L]	05-Dec-23	12:13	0.00131	0.00135	0.00138	0.00517	0.00039
Mo [mg/L]	05-Dec-23	12:13	0.00027	0.00006	0.00018	0.00036	0.00029
Na [mg/L]	05-Dec-23	12:13	0.14	0.07	0.05	0.22	0.11
Ni [mg/L]	05-Dec-23	12:13	0.0003	0.0012	0.0008	0.0001	0.0003
Pb [mg/L]	05-Dec-23	12:13	0.00013	< 0.00009	< 0.00009	0.00018	0.00010
Sb [mg/L]	05-Dec-23	12:13	0.0036	0.0486	0.0247	0.0046	0.0067

OnLine LIMS

0003566226

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10256-NOV23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#31	6: CV5-WR-HCT-5 Wk#31	7: CV5-WR-HCT-5 (DUP) Wk#31	8: CV5-WR-HCT-14 Wk#31	9: CV5-WR-HCT-22 Wk#31
Se [mg/L]	05-Dec-23	12:13	0.00014	0.00004	< 0.00004	0.00018	< 0.00004
Sn [mg/L]	05-Dec-23	12:13	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	05-Dec-23	12:13	0.0118	0.00652	0.00502	0.00399	0.00448
Ti [mg/L]	05-Dec-23	12:13	0.00013	0.00008	< 0.00007	0.00023	0.00019
Tl [mg/L]	05-Dec-23	12:13	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005
U [mg/L]	05-Dec-23	12:13	0.00377	0.000040	0.000145	0.00209	0.000166
V [mg/L]	05-Dec-23	12:13	0.00030	0.00056	0.00042	0.00235	0.00115
W [mg/L]	05-Dec-23	12:13	0.00004	0.00006	0.00006	< 0.00002	0.00003
Y [mg/L]	05-Dec-23	12:13	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	05-Dec-23	12:13	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002

Analysis	10: CV5-WR-HCT-33 Wk#31	11: CV5-WR-HCT-36 Wk#31	12: CV5-WR-HCT-39 Wk#31	13: CV5-WR-HCT-50 Wk#31	14: CV5-WR-HCT-56 Wk#31	15: CV5-WR-HCT-59 Wk#31	16: CV5-WR-HCT-62 Wk#31
Sample Date & Time	30-Nov-23	30-Nov-23	30-Nov-23	30-Nov-23	30-Nov-23	30-Nov-23	30-Nov-23
HumCell Leachate Vol [mL]	995	987	962	999	965	998	950
pH [No unit]	7.18	7.14	6.39	6.30	7.04	6.38	7.04
Alkalinity [mg/L as CaCO3]	5	4	< 2	2	5	4	7
Conductivity [uS/cm]	15	17	19	37	25	13	24
Acidity [mg/L as CaCO3]	< 2	<2	4	9	< 2	3	< 2
Tot.Reactive P [mg/L]	< 0.03	0.33	< 0.03	< 0.03	< 0.03	0.05	0.15
SO4 [mg/L]	< 2	< 2	6	12	5	3	3
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.050	0.003	0.020	0.007	0.034	0.004	< 0.001
As [mg/L]	0.0038	1.26	0.0218	0.0027	0.0149	0.313	0.709
Ba [mg/L]	0.00019	0.00051	0.00037	0.00033	0.00036	0.00013	0.00034
Be [mg/L]	< 0.000007	< 0.000007	0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	< 0.002	0.005	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	2.40	2.40	2.36	5.88	4.00	1.39	2.92
Cd [mg/L]	< 0.000003	< 0.000003	0.000006	0.000038	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	0.000043	0.000230	0.000140	0.002093	0.000078	0.000428	0.000417
Cr [mg/L]	< 0.00008	0.00010	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	0.0004	< 0.0002	< 0.0002	0.0003	< 0.0002	< 0.0002	< 0.0002
Fe [mg/L]	< 0.007	< 0.007	0.014	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	0.054	0.056	0.195	0.151	0.232	0.038	0.027
Li [mg/L]	0.0041	0.0027	0.0104	0.0090	0.0039	0.0019	0.0005
Mg [mg/L]	0.121	0.519	0.317	0.122	0.287	0.292	0.799
Mn [mg/L]	0.00872	0.00176	0.00222	0.00623	0.00656	0.00117	0.00255
Mo [mg/L]	0.00025	0.00025	0.00015	0.00121	0.00017	0.00086	0.00051
Na [mg/L]	0.09	0.02	0.11	0.08	0.12	0.05	< 0.01
Ni [mg/L]	< 0.0001	0.0070	0.0003	0.0017	0.0001	0.0031	0.0075
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.0014	0.519	0.0133	0.0164	< 0.0009	0.0054	0.604

OnLine LIMS

0003566226

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10256-NOV23**

Analysis	10: CV5-WR-HCT-33 Wk#31	11: CV5-WR-HCT-36 Wk#31	12: CV5-WR-HCT-39 Wk#31	13: CV5-WR-HCT-50 Wk#31	14: CV5-WR-HCT-56 Wk#31	15: CV5-WR-HCT-59 Wk#31	16: CV5-WR-HCT-62 Wk#31
Se [mg/L]	0.00010	< 0.00004	0.00007	0.00053	0.00008	< 0.00004	0.00012
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00219	0.00324	0.00756	0.00524	0.00442	0.00641	0.00204
Ti [mg/L]	< 0.00007	< 0.00007	0.00022	< 0.00007	0.00009	0.00009	< 0.00007
Tl [mg/L]	< 0.000005	0.000005	0.000006	0.000014	< 0.000005	< 0.000005	< 0.000005
U [mg/L]	0.000031	0.00151	0.000251	0.00132	0.000301	0.000009	0.000121
V [mg/L]	0.00060	0.00018	0.00033	0.00004	0.00036	0.00032	0.00017
W [mg/L]	0.00006	0.00007	0.00004	< 0.00002	0.00006	0.00011	0.00006
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	0.011	< 0.002	< 0.002	< 0.002

Analysis	17: CV5-WR-HCT-64 Wk#31	18: CV5-WR-HCT-69 Wk#31	19: CV5-ORE-HCT-74 Wk#31	20: CV5-ORE-HCT-76 Wk#31
Sample Date & Time	30-Nov-23	30-Nov-23	30-Nov-23	30-Nov-23
HumCell Leachate Vol [mL]	996	1005	1009	1003
pH [No unit]	6.65	6.90	6.44	6.89
Alkalinity [mg/L as CaCO3]	4	5	2	6
Conductivity [uS/cm]	9	13	5	13
Acidity [mg/L as CaCO3]	< 2	< 2	<2	< 2
Tot.Reactive P [mg/L]	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	< 2	< 2	< 2	< 2
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.023	0.063	0.017	0.035
As [mg/L]	0.0074	0.0051	0.0101	0.0028
Ba [mg/L]	< 0.00008	0.00015	< 0.00008	0.00009
Be [mg/L]	0.000011	0.000090	< 0.000007	0.000059
B [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	0.00025	< 0.00001	0.00009
Ca [mg/L]	1.28	2.50	0.66	2.32
Cd [mg/L]	< 0.000003	< 0.000003	0.000003	< 0.000003
Co [mg/L]	0.000007	0.000014	0.000011	0.000010
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	< 0.0002	< 0.0002	0.0004	< 0.0002
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	0.187	0.082	0.099	0.303
Li [mg/L]	0.0022	0.0021	0.0073	0.0081
Mg [mg/L]	0.056	0.040	0.013	0.120
Mn [mg/L]	0.00310	0.00273	0.0364	0.00168
Mo [mg/L]	0.00009	0.00024	0.00013	0.00019
Na [mg/L]	0.04	0.14	0.08	0.08
Ni [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.0017	0.0023	0.0108	0.0012

OnLine LIMS

0003566226

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10256-NOV23**

Analysis	17: CV5-WR-HCT-64 Wk#31	18: CV5-WR-HCT-69 Wk#31	19: CV5-ORE-HCT-74 Wk#31	20: CV5-ORE-HCT-76 Wk#31
Se [mg/L]	< 0.00004	< 0.00004	< 0.00004	0.00005
Sn [mg/L]	< 0.00006	< 0.00006	0.00012	< 0.00006
Sr [mg/L]	0.00197	0.00460	0.00100	0.00561
Ti [mg/L]	< 0.00007	< 0.00007	< 0.00007	< 0.00007
Tl [mg/L]	0.000028	0.000006	0.000024	0.000023
U [mg/L]	0.000962	0.00426	0.00128	0.00456
V [mg/L]	0.00002	0.00007	< 0.00001	0.00005
W [mg/L]	0.00005	0.00005	0.00003	0.00006
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003566226

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

12-September-2023

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 31 August 2023
LR Report: **CA10267-AUG23**
Reference: Wk#18

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#18	6: CV5-WR-HCT-5 Wk#18	7: CV5-WR-HCT-5 (DUP) Wk#18	8: CV5-WR-HCT-1 4 Wk#18	9: CV5-WR-HCT-2 2 Wk#18
Sample Date & Time			31-Aug-23	31-Aug-23	31-Aug-23	31-Aug-23	31-Aug-23
HumCell Leachate Vol [mL]	01-Sep-23	17:05	903	899	924	999	984
pH [No unit]	06-Sep-23	10:16	7.13	7.33	7.13	7.97	7.24
Alkalinity [mg/L as CaCO3]	06-Sep-23	10:16	4	6	4	16	6
Conductivity [uS/cm]	06-Sep-23	10:16	28	24	20	33	15
Acidity [mg/L as CaCO3]	06-Sep-23	10:16	3	< 2	< 2	< 2	< 2
F [mg/L]	05-Sep-23	09:32	< 0.06	0.08	< 0.06	< 0.06	< 0.06
Tot.Reactive P [mg/L]	05-Sep-23	09:55	< 0.03	0.12	0.06	< 0.03	0.09
SO4 [mg/L]	06-Sep-23	16:10	7	4	3	2	< 2
Cl [mg/L]	06-Sep-23	16:10	< 1	< 1	< 1	< 1	< 1
NO2 [as N mg/L]	06-Sep-23	12:57	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	06-Sep-23	12:57	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	06-Sep-23	12:57	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	11-Sep-23	10:32	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	06-Sep-23	16:06	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	06-Sep-23	16:06	0.030	0.026	0.031	0.096	0.029
As [mg/L]	06-Sep-23	16:06	0.0076	0.467	0.300	0.0549	0.318
Ba [mg/L]	06-Sep-23	16:06	0.00026	0.00039	0.00026	0.00019	0.00015
Be [mg/L]	06-Sep-23	16:06	< 0.000007	< 0.000007	< 0.000007	0.000007	0.000008
B [mg/L]	06-Sep-23	16:06	0.006	0.006	0.004	< 0.002	0.004
Bi [mg/L]	06-Sep-23	16:06	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	06-Sep-23	16:06	3.85	3.78	2.71	5.92	2.24
Cd [mg/L]	06-Sep-23	16:06	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	06-Sep-23	16:06	0.000071	0.000144	0.000156	0.000055	0.000127
Cr [mg/L]	06-Sep-23	16:06	0.00011	0.00011	0.00014	0.00012	0.00015
Cu [mg/L]	06-Sep-23	16:06	< 0.0002	0.0002	0.0012	0.0002	< 0.0002
Fe [mg/L]	06-Sep-23	16:06	0.007	< 0.007	0.007	0.012	0.010
K [mg/L]	06-Sep-23	16:06	0.425	0.225	0.168	0.062	0.096
Li [mg/L]	08-Sep-23	11:46	0.0133	0.0196	0.0151	0.0049	0.0108
Mg [mg/L]	06-Sep-23	16:06	0.600	0.471	0.351	0.304	0.339

OnLine LIMS

0003464141

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10267-AUG23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#18	6: CV5-WR-HCT-5 Wk#18	7: CV5-WR-HCT-5 (DUP) Wk#18	8: CV5-WR-HCT-14 Wk#18	9: CV5-WR-HCT-22 Wk#18
Mn [mg/L]	06-Sep-23	16:06	0.00158	0.00180	0.00192	0.00545	0.00064
Mo [mg/L]	06-Sep-23	16:06	0.00053	0.00044	0.00025	0.00014	0.00036
Na [mg/L]	06-Sep-23	16:06	0.35	0.18	0.14	0.32	0.28
Ni [mg/L]	06-Sep-23	16:06	0.0003	0.0012	0.0008	0.0002	0.0004
Pb [mg/L]	06-Sep-23	16:06	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	06-Sep-23	16:06	0.0069	0.110	0.0531	0.0100	0.0149
Se [mg/L]	06-Sep-23	16:07	0.00027	0.00011	0.00009	0.00010	0.00005
Sn [mg/L]	06-Sep-23	16:07	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	06-Sep-23	16:07	0.0143	0.00992	0.00829	0.00566	0.00753
Ti [mg/L]	06-Sep-23	16:07	0.00029	0.00014	0.00017	0.00054	0.00043
Tl [mg/L]	06-Sep-23	16:07	< 0.000005	0.000006	0.000006	< 0.000005	0.000005
U [mg/L]	08-Sep-23	11:46	0.000230	0.000369	0.000328	0.000181	0.000216
V [mg/L]	06-Sep-23	16:07	0.00059	0.00105	0.00094	0.00326	0.00197
W [mg/L]	06-Sep-23	16:07	0.00061	0.00141	0.00066	0.00013	0.00005
Y [mg/L]	06-Sep-23	16:07	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	06-Sep-23	16:07	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	06-Sep-23	16:07	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	06-Sep-23	16:07	0.00001	< 0.00001	< 0.00001	< 0.00001	0.00004
Cs (tot) [mg/L]	06-Sep-23	16:07	0.0093	0.0144	0.0134	0.0021	0.0066
Dy (tot) [mg/L]	06-Sep-23	16:07	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Er (tot) [mg/L]	06-Sep-23	16:07	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Eu (tot) [mg/L]	06-Sep-23	16:07	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ga (tot) [mg/L]	11-Sep-23	10:57	< 0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001
Gd (tot) [mg/L]	06-Sep-23	16:07	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	06-Sep-23	16:07	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	06-Sep-23	16:07	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	06-Sep-23	16:07	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
In (tot) [mg/L]	11-Sep-23	10:57	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ir (tot) [mg/L]	06-Sep-23	16:08	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
La (tot) [mg/L]	06-Sep-23	16:08	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Lu (tot) [mg/L]	06-Sep-23	16:08	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	06-Sep-23	16:08	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nd (tot) [mg/L]	06-Sep-23	16:08	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Os (tot) [mg/L]	06-Sep-23	16:08	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	06-Sep-23	16:08	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	06-Sep-23	16:08	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pt (tot) [mg/L]	06-Sep-23	16:08	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	06-Sep-23	16:08	0.0063	0.0058	0.0046	0.0005	0.0024
Re (tot) [mg/L]	06-Sep-23	16:08	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	06-Sep-23	16:08	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	11-Sep-23	10:57	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	06-Sep-23	16:08	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ta (tot) [mg/L]	06-Sep-23	16:08	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	11-Sep-23	10:57	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Te (tot) [mg/L]	06-Sep-23	16:08	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001

OnLine LIMS

0003464141

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10267-AUG23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#18	6: CV5-WR-HCT-5 Wk#18	7: CV5-WR-HCT-5 (DUP) Wk#18	8: CV5-WR-HCT-14 Wk#18	9: CV5-WR-HCT-22 Wk#18
Th (tot) [mg/L]	06-Sep-23	16:08	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	11-Sep-23	10:57	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Yb (tot) [mg/L]	06-Sep-23	16:08	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001

Analysis	10: CV5-WR-HCT-33 Wk#18	11: CV5-WR-HCT-36 Wk#18	12: CV5-WR-HCT-39 Wk#18	13: CV5-WR-HCT-50 Wk#18	14: CV5-WR-HCT-56 Wk#18	15: CV5-WR-HCT-59 Wk#18	16: CV5-WR-HCT-62 Wk#18
Sample Date & Time	31-Aug-23	31-Aug-23	31-Aug-23	31-Aug-23	31-Aug-23	31-Aug-23	31-Aug-23
HumCell Leachate Vol [mL]	997	986	936	924	945	979	937
pH [No unit]	7.51	7.53	7.02	7.20	7.61	6.92	7.74
Alkalinity [mg/L as CaCO3]	8	10	3	6	8	3	11
Conductivity [uS/cm]	20	27	23	52	28	14	28
Acidity [mg/L as CaCO3]	< 2	6	< 2	8	< 2	2	< 2
F [mg/L]	< 0.06	< 0.06	0.19	0.25	< 0.06	< 0.06	< 0.06
Tot.Reactive P [mg/L]	< 0.03	1.21	< 0.03	< 0.03	< 0.03	0.19	0.56
SO4 [mg/L]	< 2	< 2	6	11	5	< 2	2
Cl [mg/L]	< 1	< 1	< 1	4	< 1	< 1	< 1
NO2 [as N mg/L]	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.067	0.002	0.054	0.046	0.039	0.008	0.003
As [mg/L]	0.0057	3.45	0.0428	0.0127	0.0270	0.681	1.79
Ba [mg/L]	0.00031	0.00117	0.00050	0.00059	0.00061	0.00022	0.00096
Be [mg/L]	< 0.000007	< 0.000007	0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	< 0.002	0.016	0.003	< 0.002	0.003	< 0.002	0.003
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	3.80	3.96	3.20	8.68	4.33	1.90	4.24
Cd [mg/L]	< 0.000003	< 0.000003	0.000004	0.000030	< 0.000003	< 0.000003	0.000004
Co [mg/L]	0.000079	0.000241	0.000149	0.001284	0.000058	0.000366	0.000300
Cr [mg/L]	< 0.00008	0.00017	0.00014	< 0.00008	< 0.00008	0.00012	0.00014
Cu [mg/L]	0.0006	< 0.0002	< 0.0002	0.0003	0.0003	< 0.0002	0.0002
Fe [mg/L]	0.007	< 0.007	0.015	< 0.007	< 0.007	0.007	< 0.007
K [mg/L]	0.106	0.081	0.347	0.358	0.562	0.100	0.060
Li [mg/L]	0.0064	0.0044	0.0164	0.0133	0.0072	0.0031	0.0006
Mg [mg/L]	0.203	1.02	0.463	0.258	0.503	0.470	1.14
Mn [mg/L]	0.0109	0.00161	0.00205	0.00675	0.0130	0.00140	0.00272
Mo [mg/L]	0.00015	0.00010	0.00029	0.00084	0.00018	0.00011	0.00016
Na [mg/L]	0.22	0.07	0.26	0.16	0.17	0.11	0.05
Ni [mg/L]	0.0001	0.0152	0.0004	0.0011	0.0001	0.0030	0.0117
Pb [mg/L]	< 0.00009	< 0.00009	0.00014	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.0032	1.05	0.0289	0.0820	< 0.0009	0.0141	1.31
Se [mg/L]	0.00015	0.00008	0.00014	0.00116	< 0.00004	< 0.00004	0.00014
Sn [mg/L]	0.00007	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	0.00015

OnLine LIMS

0003464141

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10267-AUG23**

Analysis	10: CV5-WR-HCT-3 3 Wk#18	11: CV5-WR-HCT-3 6 Wk#18	12: CV5-WR-HCT-3 9 Wk#18	13: CV5-WR-HCT-5 0 Wk#18	14: CV5-WR-HCT-5 6 Wk#18	15: CV5-WR-HCT-5 9 Wk#18	16: CV5-WR-HCT-6 2 Wk#18
Sr [mg/L]	0.00414	0.00645	0.0117	0.00832	0.00620	0.00988	0.00422
Ti [mg/L]	0.00028	< 0.00007	0.00071	0.00016	0.00011	0.00013	< 0.00007
Tl [mg/L]	< 0.000005	0.000005	0.000006	0.000020	< 0.000005	< 0.000005	< 0.000005
U [mg/L]	0.000075	0.000233	0.000404	0.00293	0.000674	0.000012	0.000103
V [mg/L]	0.00099	0.00040	0.00060	0.00018	0.00079	0.00075	0.00037
W [mg/L]	0.00007	0.00020	0.00013	0.00004	0.00016	0.00033	0.00016
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	0.006	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	< 0.00001	< 0.00001	0.00004	< 0.00001	0.00002	< 0.00001	< 0.00001
Cs (tot) [mg/L]	0.0058	0.0158	0.0032	0.0445	0.0282	0.0121	0.0037
Dy (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Er (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Eu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ga (tot) [mg/L]	0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001
Gd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
In (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ir (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
La (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Lu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Os (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pt (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	0.0009	0.0026	0.0031	0.0124	0.0020	0.0038	0.0014
Re (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ta (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Te (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Yb (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001

Analysis	17: CV5-WR-HCT-6 4 Wk#18	18: CV5-WR-HCT-6 9 Wk#18	19: CV5-ORE-HCT-74 Wk#18	20: CV5-ORE-HCT-76 Wk#18
Sample Date & Time	31-Aug-23	31-Aug-23	31-Aug-23	31-Aug-23

OnLine LIMS

00034641 41

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10267-AUG23**

Analysis	17: CV5-WR-HCT-64 Wk#18	18: CV5-WR-HCT-69 Wk#18	19: CV5-ORE-HCT-74 Wk#18	20: CV5-ORE-HCT-76 Wk#18
HumCell Leachate Vol [mL]	988	992	998	971
pH [No unit]	7.22	7.46	6.98	7.46
Alkalinity [mg/L as CaCO3]	6	16	3	12
Conductivity [uS/cm]	14	16	8	17
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2
F [mg/L]	< 0.06	< 0.06	< 0.06	< 0.06
Tot.Reactive P [mg/L]	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	< 2	< 2	< 2	< 2
Cl [mg/L]	< 1	< 1	< 1	< 1
NO2 [as N mg/L]	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	< 0.00001	0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.034	0.093	0.027	0.038
As [mg/L]	0.0191	0.0110	0.0203	0.0080
Ba [mg/L]	0.00019	0.00029	0.00013	0.00015
Be [mg/L]	0.000010	0.000081	< 0.000007	0.000057
B [mg/L]	< 0.002	0.004	< 0.002	0.003
Bi [mg/L]	< 0.00001	0.00038	< 0.00001	0.00010
Ca [mg/L]	2.55	3.15	1.22	2.96
Cd [mg/L]	< 0.000003	0.000005	< 0.000003	< 0.000003
Co [mg/L]	0.000013	0.000017	0.000007	0.000007
Cr [mg/L]	0.00010	0.00008	0.00009	0.00009
Cu [mg/L]	0.0002	0.0004	< 0.0002	0.0002
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	0.462	0.142	0.193	0.544
Li [mg/L]	0.0044	0.0032	0.0128	0.0126
Mg [mg/L]	0.129	0.074	0.030	0.162
Mn [mg/L]	0.00571	0.00318	0.0446	0.00214
Mo [mg/L]	0.00080	0.00138	0.00018	0.00012
Na [mg/L]	0.12	0.26	0.18	0.18
Ni [mg/L]	< 0.0001	0.0002	< 0.0001	< 0.0001
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.0033	0.0034	0.0216	0.0025
Se [mg/L]	< 0.00004	< 0.00004	< 0.00004	< 0.00004
Sn [mg/L]	0.00011	0.00006	0.00018	< 0.00006
Sr [mg/L]	0.00425	0.00619	0.00202	0.00757
Ti [mg/L]	< 0.00007	0.00013	< 0.00007	< 0.00007
Tl [mg/L]	0.000054	0.000010	0.000034	0.000031
U [mg/L]	0.00263	0.00825	0.00242	0.00180
V [mg/L]	0.00005	0.00017	0.00007	0.00010
W [mg/L]	0.00009	0.00137	0.00031	0.00027
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	0.004	< 0.002

OnLine LIMS

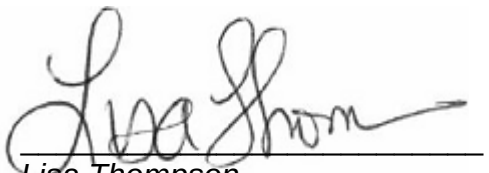
0003464141

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10267-AUG23**

Analysis	17: CV5-WR-HCT-64 Wk#18	18: CV5-WR-HCT-69 Wk#18	19: CV5-ORE-HCT-74 Wk#18	20: CV5-ORE-HCT-76 Wk#18
Au (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Cs (tot) [mg/L]	0.0141	0.0028	0.0142	0.0092
Dy (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Er (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Eu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ga (tot) [mg/L]	0.0002	0.0002	0.0003	0.0002
Gd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
In (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ir (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
La (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Lu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Os (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pt (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	0.0287	0.0058	0.0197	0.0148
Re (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ta (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Te (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Yb (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001



Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003464141

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Patriot Tailings- Long - (9.5mm fraction size)

12-September-2023

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 31 August 2023
LR Report: **CA10268-AUG23**
Reference: Wk#18

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#18	6: CV5-DMS-HCT-84 Wk#18
Sample Date & Time			31-Aug-23	31-Aug-23
HumCell Leachate Vol [mL]	01-Sep-23	17:06	970	964
pH [No unit]	05-Sep-23	13:52	6.77	6.40
Alkalinity [mg/L as CaCO3]	05-Sep-23	13:52	<2	< 2
Conductivity [uS/cm]	05-Sep-23	13:52	4	2
Acidity [mg/L as CaCO3]	05-Sep-23	13:52	2	2
F [mg/L]	05-Sep-23	09:32	< 0.06	< 0.06
Tot.Reactive P [mg/L]	05-Sep-23	09:55	< 0.03	< 0.03
SO4 [mg/L]	06-Sep-23	16:11	< 2	< 2
Cl [mg/L]	06-Sep-23	16:11	< 1	< 1
NO2 [as N mg/L]	06-Sep-23	12:57	< 0.03	< 0.03
NO3 [as N mg/L]	06-Sep-23	12:57	< 0.06	< 0.06
Br [mg/L]	06-Sep-23	12:57	< 0.3	< 0.3
Hg [mg/L]	11-Sep-23	10:32	< 0.00001	< 0.00001
Ag [mg/L]	06-Sep-23	16:09	< 0.00005	< 0.00005
Al [mg/L]	06-Sep-23	16:09	0.042	0.010
As [mg/L]	06-Sep-23	16:09	0.0132	0.0031
Ba [mg/L]	06-Sep-23	16:09	0.00015	< 0.00008
Be [mg/L]	06-Sep-23	16:09	0.000010	0.000011
B [mg/L]	06-Sep-23	16:09	< 0.002	< 0.002
Bi [mg/L]	06-Sep-23	16:09	0.00006	0.00002
Ca [mg/L]	06-Sep-23	16:09	0.74	0.29
Cd [mg/L]	06-Sep-23	16:09	0.000003	0.000003
Co [mg/L]	06-Sep-23	16:09	< 0.000004	0.000005
Cr [mg/L]	06-Sep-23	16:09	0.00009	< 0.00008
Cu [mg/L]	06-Sep-23	16:09	< 0.0002	< 0.0002
Fe [mg/L]	06-Sep-23	16:09	< 0.007	< 0.007
K [mg/L]	06-Sep-23	16:09	0.160	0.096
Li [mg/L]	06-Sep-23	16:09	0.0014	0.0009
Mg [mg/L]	06-Sep-23	16:09	0.031	0.013

OnLine LIMS

0003464143

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10268-AUG23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#18	6: CV5-DMS-HCT-84 Wk#18
Mn [mg/L]	06-Sep-23	16:09	0.00199	0.00198
Mo [mg/L]	06-Sep-23	16:09	0.00052	0.00007
Na [mg/L]	06-Sep-23	16:09	0.07	0.04
Ni [mg/L]	06-Sep-23	16:09	< 0.0001	< 0.0001
Pb [mg/L]	06-Sep-23	16:09	< 0.00009	< 0.00009
Sb [mg/L]	06-Sep-23	16:09	0.0038	< 0.0009
Se [mg/L]	06-Sep-23	16:09	< 0.00004	< 0.00004
Sn [mg/L]	06-Sep-23	16:09	< 0.00006	< 0.00006
Sr [mg/L]	06-Sep-23	16:09	0.00187	0.00073
Ti [mg/L]	06-Sep-23	16:09	< 0.00007	< 0.00007
Tl [mg/L]	06-Sep-23	16:09	0.000014	0.000012
U [mg/L]	06-Sep-23	16:09	0.00228	0.00103
V [mg/L]	06-Sep-23	16:09	0.00006	0.00005
W [mg/L]	06-Sep-23	16:09	0.00016	0.00007
Y [mg/L]	06-Sep-23	16:09	< 0.00002	< 0.00002
Zn [mg/L]	06-Sep-23	16:09	< 0.002	< 0.002
Au (tot) [mg/L]	06-Sep-23	16:09	< 0.00001	< 0.00001
Ce (tot) [mg/L]	06-Sep-23	16:09	< 0.00001	< 0.00001
Cs (tot) [mg/L]	06-Sep-23	16:09	0.0024	0.0016
Dy (tot) [mg/L]	06-Sep-23	16:09	< 0.0001	< 0.0001
Er (tot) [mg/L]	06-Sep-23	16:09	< 0.0001	< 0.0001
Eu (tot) [mg/L]	06-Sep-23	16:09	< 0.0001	< 0.0001
Ga (tot) [mg/L]	11-Sep-23	10:56	< 0.0001	< 0.0001
Gd (tot) [mg/L]	06-Sep-23	16:09	< 0.00001	< 0.00001
Ge (tot) [mg/L]	06-Sep-23	16:09	< 0.0001	< 0.0001
Hf (tot) [mg/L]	06-Sep-23	16:09	< 0.0001	< 0.0001
Ho (tot) [mg/L]	06-Sep-23	16:09	< 0.0001	< 0.0001
In (tot) [mg/L]	11-Sep-23	10:56	< 0.0001	< 0.0001
Ir (tot) [mg/L]	06-Sep-23	16:09	< 0.0001	< 0.0001
La (tot) [mg/L]	06-Sep-23	16:09	< 0.0001	< 0.0001
Lu (tot) [mg/L]	06-Sep-23	16:09	< 0.0001	< 0.0001
Nb (tot) [mg/L]	06-Sep-23	16:09	< 0.0001	< 0.0001
Nd (tot) [mg/L]	06-Sep-23	16:09	< 0.0001	< 0.0001
Os (tot) [mg/L]	06-Sep-23	16:09	< 0.0001	< 0.0001
Pd (tot) [mg/L]	06-Sep-23	16:09	< 0.0001	< 0.0001
Pr (tot) [mg/L]	06-Sep-23	16:09	< 0.0001	< 0.0001
Pt (tot) [mg/L]	06-Sep-23	16:09	< 0.0001	< 0.0001
Rb (tot) [mg/L]	06-Sep-23	16:09	0.0093	0.0057
Re (tot) [mg/L]	06-Sep-23	16:09	< 0.0001	< 0.0001
Rh (tot) [mg/L]	06-Sep-23	16:09	< 0.00001	< 0.00001
Sc (tot) [mg/L]	11-Sep-23	10:57	< 0.0001	< 0.0001
Sm (tot) [mg/L]	06-Sep-23	16:10	< 0.0001	< 0.0001
Ta (tot) [mg/L]	06-Sep-23	16:10	< 0.0001	< 0.0001
Tb (tot) [mg/L]	11-Sep-23	10:57	< 0.0001	< 0.0001
Te (tot) [mg/L]	06-Sep-23	16:10	< 0.0001	< 0.0001

OnLine LIMS

0003464143

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10268-AUG23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#18	6: CV5-DMS-HCT-84 Wk#18
Th (tot) [mg/L]	06-Sep-23	16:10	< 0.0001	< 0.0001
Tm (tot) [mg/L]	11-Sep-23	10:57	< 0.0001	< 0.0001
Yb (tot) [mg/L]	06-Sep-23	16:10	< 0.0001	< 0.0001

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003464143

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

27-April-2023

Patriot Battery Metals Inc
Attn : Darren Smith

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone:
Fax:

Date Rec. : 05 April 2023
LR Report: **CA11002-APR23**

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HC T-83	6: CV5-DMS-HC T-84
Sample Date & Time			N/A	N/A
Sample weight [g]	18-Apr-23	16:34	1.98	2.09
Initial pH	18-Apr-23	16:34	9.23	8.72
Vol H2SO4 [mL]	18-Apr-23	16:34	0.25	0.25
H2SO4 [Normality]	18-Apr-23	16:34	1.00	1.00
NP [t CaCO3/1000 t]	18-Apr-23	16:34	6.3	6.0
AP [t CaCO3/1000 t]	19-Apr-23	16:48	1.25	1.25
NNP [kg CaCO3/ tonne]	19-Apr-23	16:48	5.0	4.8
S [%]	19-Apr-23	16:41	< 0.005	< 0.005
Acid Leachable SO4-S [%]	19-Apr-23	16:47	<0.04	<0.04
Sulphide [%]	19-Apr-23	16:47	< 0.04	< 0.04
C [%]	19-Apr-23	16:41	0.019	0.015
CO3 (HCl) as %CO3 [%]	19-Apr-23	16:41	< 0.04	< 0.04

MA110 ACISOL 1.0

Gross NP (kg CaCO3/tonne) Section 7.3
AP (kg CaCO3/tonne) = Total S x 31.25

ASTM E1918 - S and C speciation

Catharine Arnold

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003314511

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

27-April-2023

Patriot Battery Metals Inc
Attn : Darren Smith

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone:
Fax:

Date Rec. : 05 April 2023
LR Report: **CA11003-APR23**

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HC T-83	6: CV5-DMS-HC T-84
Sample Date & Time					N/A	N/A
Hg [ug/g]	13-Apr-23	10:52	13-Apr-23	13:11	< 0.05	< 0.05
Ag [µg/g]	13-Apr-23	19:08	14-Apr-23	15:17	< 0.5	< 0.5
Al [µg/g]	13-Apr-23	19:08	14-Apr-23	15:17	1400	1400
As [µg/g]	13-Apr-23	19:08	14-Apr-23	15:17	11	7.9
B [µg/g]	13-Apr-23	19:08	14-Apr-23	15:17	2	2
Ba [µg/g]	13-Apr-23	19:08	14-Apr-23	15:17	1.8	1.6
Be [µg/g]	13-Apr-23	19:08	14-Apr-23	15:17	1.8	1.3
Bi [µg/g]	13-Apr-23	19:08	14-Apr-23	15:17	8.9	3.3
Ca [µg/g]	13-Apr-23	19:08	14-Apr-23	15:17	730	590
Cd [µg/g]	13-Apr-23	19:08	14-Apr-23	15:17	0.04	0.03
Co [µg/g]	13-Apr-23	19:08	14-Apr-23	15:17	0.28	0.30
Cr [µg/g]	13-Apr-23	19:08	14-Apr-23	15:17	79	82
Cu [µg/g]	13-Apr-23	19:08	14-Apr-23	15:17	1.3	1.5
Fe [µg/g]	13-Apr-23	19:08	14-Apr-23	15:17	1300	1300
K [µg/g]	13-Apr-23	19:08	14-Apr-23	15:17	1100	1100
Li [µg/g]	13-Apr-23	19:08	14-Apr-23	15:17	20	15
Mg [µg/g]	13-Apr-23	19:08	14-Apr-23	15:17	92	88
Mn [µg/g]	13-Apr-23	19:08	14-Apr-23	15:17	44	33
Mo [µg/g]	13-Apr-23	19:08	14-Apr-23	15:17	0.2	0.2
Na [µg/g]	13-Apr-23	19:08	14-Apr-23	15:17	480	470
Ni [µg/g]	13-Apr-23	19:08	14-Apr-23	15:17	2.0	2.1
P [µg/g]	13-Apr-23	19:08	14-Apr-23	15:17	210	180
Pb [µg/g]	13-Apr-23	19:08	14-Apr-23	15:17	1.9	1.5
Sb [µg/g]	13-Apr-23	19:08	14-Apr-23	15:17	2.3	1.4
Se [µg/g]	13-Apr-23	19:08	14-Apr-23	15:17	< 0.1	< 0.1
Sn [µg/g]	13-Apr-23	19:08	14-Apr-23	15:17	< 5	< 5
Sr [µg/g]	13-Apr-23	19:08	14-Apr-23	15:17	2.9	2.4
Ti [µg/g]	13-Apr-23	19:08	14-Apr-23	15:17	1.3	0.92

OnLine LIMS

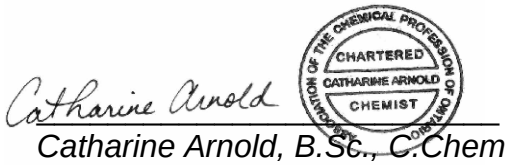
0003314526

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11003-APR23**

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HC T-83	6: CV5-DMS-HC T-84
Tl [µg/g]	13-Apr-23	19:08	14-Apr-23	15:17	1.2	1.1
U [µg/g]	13-Apr-23	19:08	14-Apr-23	15:17	7.8	1.5
V [µg/g]	13-Apr-23	19:08	14-Apr-23	15:17	< 1	< 1
Zn [µg/g]	13-Apr-23	19:08	14-Apr-23	15:17	1.6	1.6



Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003314526

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

23-May-2023

Patriot Battery Metals Inc
Attn : Darren Smith

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone:
Fax:

Date Rec. : 05 April 2023
LR Report: **CA11004-APR23**
Reference: Tailing Samples

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HC T-83	6: CV5-DMS-HC T-84
Sample Date & Time			N/A	N/A
Sample weight [g]	20-Apr-23	10:27	20	20
Ext Fluid [#1 or #2]	20-Apr-23	10:27	1	1
Ext Volume [mL]	20-Apr-23	10:27	400	400
Final pH [no unit]	20-Apr-23	10:27	4.92	4.92
pH [No unit]	24-Apr-23	09:28	4.91	4.91
Conductivity [uS/cm]	24-Apr-23	09:28	4500	4630
Alkalinity [mg/L as CaCO3]	21-Apr-23	10:39	1280	1300
Acidity [mg/L as CaCO3]	21-Apr-23	10:39	1650	1660
F [mg/L]	21-Apr-23	09:21	0.10	0.16
SO4 [mg/L]	28-Apr-23	09:29	< 20	< 20
Cl [mg/L]	28-Apr-23	09:29	< 20	< 20
Br [mg/L]	28-Apr-23	09:32	< 30	< 30
NO2 [as N mg/L]	25-Apr-23	13:38	< 3	< 3
NO3 [as N mg/L]	25-Apr-23	13:38	< 6	< 6
NO2+NO3 [as N mg/L]	25-Apr-23	13:38	< 6	< 6
Tot.Reactive P [mg/L]	21-Apr-23	08:10	0.08	0.06
Hg [mg/L]	22-Apr-23	12:14	< 0.00001	< 0.00001
Al [mg/L]	25-Apr-23	14:58	0.71	0.71
As [mg/L]	25-Apr-23	14:58	0.022	0.021
Ag [mg/L]	25-Apr-23	14:58	< 0.0005	< 0.0005
Ba [mg/L]	25-Apr-23	14:58	0.00417	0.00687
B [mg/L]	25-Apr-23	14:58	< 0.02	< 0.02
Be [mg/L]	25-Apr-23	14:58	0.00154	0.00149
Bi [mg/L]	25-Apr-23	14:58	0.00122	0.00528
Ca [mg/L]	25-Apr-23	14:58	5.0	8.4
Cd [mg/L]	25-Apr-23	14:58	0.00005	0.00005
Co [mg/L]	25-Apr-23	14:58	0.000466	0.000553

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0003341259

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11004-APR23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HC T-83	6: CV5-DMS-HC T-84
Cr [mg/L]	25-Apr-23	14:58	0.0024	0.0026
Cu [mg/L]	25-Apr-23	14:58	0.003	0.003
Fe [mg/L]	25-Apr-23	14:58	0.12	0.12
K [mg/L]	25-Apr-23	14:58	4.01	3.23
Li [mg/L]	25-Apr-23	14:58	0.030	0.028
Mg [mg/L]	25-Apr-23	14:58	0.10	0.14
Mn [mg/L]	25-Apr-23	14:58	0.0884	0.0869
Mo [mg/L]	25-Apr-23	14:58	< 0.0004	< 0.0004
Na [mg/L]	29-Apr-23	10:44	1430	1440
Ni [mg/L]	25-Apr-23	14:58	< 0.001	< 0.001
P [mg/L]	25-Apr-23	14:58	0.067	0.037
Pb [mg/L]	25-Apr-23	14:58	0.00155	0.00207
Sb [mg/L]	25-Apr-23	14:58	< 0.009	< 0.009
Se [mg/L]	25-Apr-23	14:58	0.0028	0.0024
Si [mg/L]	25-Apr-23	14:58	0.84	0.78
Sn [mg/L]	25-Apr-23	14:58	< 0.00006	< 0.00006
Sr [mg/L]	25-Apr-23	14:58	0.00872	0.00980
Ti [mg/L]	25-Apr-23	14:58	< 0.0005	< 0.0005
Tl [mg/L]	25-Apr-23	14:58	0.00170	0.00120
U [mg/L]	25-Apr-23	14:58	0.00367	0.00331
V [mg/L]	25-Apr-23	14:58	0.00006	0.00009
Zn [mg/L]	25-Apr-23	14:58	< 0.02	< 0.02

Extraction Fluid #1 - pH 4.93 ± 0.05
5.7mLs of acetic acid plus 64.3 mLs of 1.0N NaOH bulked to 1L with deionized water.

Extraction Fluid #2 - pH 2.88 ± 0.05
5.7 mLs of acetic acid bulked to 1L with deionized water.

Catharine Arnold

CHARTERED CHEMIST CATHARINE ARNOLD ASSOCIATION OF THE CHEMICAL PROFESSION OF ONTARIO

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003341259

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

23-May-2023

Patriot Battery Metals Inc
Attn : Darren Smith

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone:
Fax:

Date Rec. : 05 April 2023
LR Report: **CA11005-APR23**
Reference: Tailing Samples

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HC T-83	6: CV5-DMS-HC T-84	7: CV5-DMS-HC T-84	8:BLK: $SPLP1312 Blank #1
Sample Date & Time			N/A	N/A		
Sample weight [g]	19-Apr-23	16:19	20	20	20	---
Ext Fluid [#1 or #2]	19-Apr-23	16:19	1	1	1	1
Ext Volume [mL]	19-Apr-23	16:19	400	400	400	400
Final pH [no unit]	19-Apr-23	16:19	8.17	7.88	7.86	4.22
pH [No unit]	27-Apr-23	15:18	6.46	6.75	6.75	4.39
Conductivity [uS/cm]	27-Apr-23	15:18	21	16	16	20
Alkalinity [mg/L as CaCO3]	27-Apr-23	15:18	4	4	3	< 2
Acidity [mg/L as CaCO3]	27-Apr-23	15:18	< 2	< 2	< 2	4
F [mg/L]	20-Apr-23	09:07	0.16	< 0.06	< 0.06	< 0.06
SO4 [mg/L]	27-Apr-23	16:20	< 20	< 20	< 20	< 20
Cl [mg/L]	27-Apr-23	16:20	< 20	< 20	< 20	< 20
Br [mg/L]	27-Apr-23	14:41	< 30	< 30	< 30	< 30
NO2 [as N mg/L]	27-Apr-23	14:41	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	27-Apr-23	14:41	< 6	< 6	< 6	< 6
NO2+NO3 [as N mg/L]	27-Apr-23	14:41	< 6	< 6	< 6	< 6
Tot.Reactive P [mg/L]	20-Apr-23	10:13	0.04	0.04	0.04	< 0.03
Hg [mg/L]	20-Apr-23	17:52	0.00002	0.00001	0.00001	0.00002
Al [mg/L]	25-Apr-23	14:59	0.12	0.27	0.12	< 0.01
As [mg/L]	25-Apr-23	14:59	0.016	0.012	0.012	< 0.002
Ag [mg/L]	25-Apr-23	14:59	< 0.0005	< 0.0005	< 0.0005	0.0009
Ba [mg/L]	25-Apr-23	14:59	0.00028	0.00085	0.00032	0.00021
B [mg/L]	25-Apr-23	14:59	< 0.02	< 0.02	< 0.02	< 0.02
Be [mg/L]	25-Apr-23	14:59	< 0.00007	0.00008	< 0.00007	< 0.00007
Bi [mg/L]	25-Apr-23	14:59	0.00005	0.00037	0.00005	< 0.00001
Ca [mg/L]	25-Apr-23	14:59	1.6	1.2	1.0	< 0.1
Cd [mg/L]	25-Apr-23	14:59	< 0.00003	< 0.00003	< 0.00003	< 0.00003
Cr [mg/L]	25-Apr-23	14:59	< 0.0008	< 0.0008	< 0.0008	< 0.0008

OnLine LIMS

0003341264

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11005-APR23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HC T-83	6: CV5-DMS-HC T-84	7: CV5-DMS-HC T-84	8:BLK: $SPLP1312 Blank #1
Co [mg/L]	25-Apr-23	14:59	0.00012	0.00006	< 0.00004	< 0.00004
Cu [mg/L]	25-Apr-23	14:59	< 0.002	< 0.002	< 0.002	< 0.002
Fe [mg/L]	25-Apr-23	14:59	< 0.07	< 0.07	< 0.07	< 0.07
K [mg/L]	25-Apr-23	14:59	2.32	1.92	1.92	0.33
Li [mg/L]	25-Apr-23	14:59	0.023	0.018	0.021	< 0.001
Mg [mg/L]	25-Apr-23	14:59	0.06	0.08	0.04	< 0.01
Mn [mg/L]	25-Apr-23	14:59	0.0290	0.0105	0.0144	0.0002
Mo [mg/L]	25-Apr-23	14:59	0.0006	0.0035	< 0.0004	< 0.0004
Na [mg/L]	25-Apr-23	14:59	1.5	1.3	1.3	< 0.1
Ni [mg/L]	25-Apr-23	14:59	< 0.001	< 0.001	< 0.001	< 0.001
P [mg/L]	25-Apr-23	14:59	0.044	0.043	0.043	< 0.003
Pb [mg/L]	25-Apr-23	14:59	0.00011	0.00024	< 0.00009	< 0.00009
Sb [mg/L]	25-Apr-23	14:59	< 0.009	< 0.009	< 0.009	< 0.009
Se [mg/L]	25-Apr-23	14:59	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Si [mg/L]	25-Apr-23	14:59	0.87	0.93	0.77	< 0.02
Sn [mg/L]	25-Apr-23	14:59	0.00010	0.00014	0.00014	0.00006
Sr [mg/L]	25-Apr-23	14:59	0.00305	0.00280	0.00133	0.00024
Ti [mg/L]	25-Apr-23	14:59	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Tl [mg/L]	25-Apr-23	14:59	0.00053	0.00041	0.00033	< 0.00005
U [mg/L]	25-Apr-23	14:59	0.000624	0.000336	0.000251	< 0.000002
V [mg/L]	25-Apr-23	14:59	0.00011	0.00017	0.00012	0.00003
Zn [mg/L]	25-Apr-23	14:59	< 0.02	< 0.02	< 0.02	< 0.02

Catharine Arnold

CHARTERED CATHARINE ARNOLD CHEMIST

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003341264

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

17-March-2023

Patriot Battery Metals Inc
Attn : Darren Smith

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone:
Fax:

Date Rec. : 13 February 2023
LR Report: **CA11005-FEB23**

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: 28	6: 29	7: 30	8: 48	9: 54	10: 68	11: 71
Sample Date & Time			N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sample weight [g]	24-Feb-23	09:41	20	20	20	20	20	20	20
Ext Fluid [#1 or #2]	24-Feb-23	09:41	1	1	1	1	1	1	1
Ext Volume [mL]	24-Feb-23	09:41	400	400	400	400	400	400	400
pH [No unit]	28-Feb-23	09:42	4.99	5.26	5.41	5.55	4.97	4.94	4.94
Alkalinity [mg/L as CaCO3]	02-Mar-23	10:08	1650	2230	2530	2640	1630	1540	1480
Conductivity [uS/cm]	28-Feb-23	09:42	4830	5470	5770	5890	4800	4720	4640
Acidity [mg/L as CaCO3]	28-Feb-23	09:42	1770	1080	821	677	1750	1760	1780
F [mg/L]	27-Feb-23	12:35	4.88	0.14	< 0.06	< 0.06	2.51	0.33	0.11
Cl [mg/L]	08-Mar-23	09:33	< 20	< 20	< 20	< 20	< 20	< 20	< 20
SO4 [mg/L]	14-Mar-23	17:09	< 20	< 20	< 20	< 20	< 20	< 20	< 20
NO2 [as N mg/L]	08-Mar-23	09:33	< 3	< 3	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	08-Mar-23	09:33	< 6	< 6	< 6	< 6	< 6	< 6	< 6
NO2+NO3 [as N mg/L]	08-Mar-23	09:33	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Br [mg/L]	08-Mar-23	09:33	< 30	< 30	< 30	< 30	< 30	< 30	< 30
Tot.Reactive P [mg/L]	24-Feb-23	14:17	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	0.44	0.22
Hg [mg/L]	06-Mar-23	13:04	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Al [mg/L]	08-Mar-23	15:14	4.05	0.53	0.30	0.24	3.18	0.48	0.55
As [mg/L]	08-Mar-23	15:14	0.040	0.049	0.002	0.009	0.040	0.091	0.110
Ag [mg/L]	08-Mar-23	15:14	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Ba [mg/L]	08-Mar-23	15:14	0.0607	0.102	0.0906	0.0119	0.0731	0.00350	0.00623
B [mg/L]	08-Mar-23	15:14	0.04	< 0.02	< 0.02	< 0.02	0.02	< 0.02	< 0.02
Be [mg/L]	08-Mar-23	15:14	0.00513	0.00252	0.00015	0.00129	0.00143	0.00180	0.00458
Bi [mg/L]	08-Mar-23	15:14	0.00006	< 0.00001	0.00003	0.00002	0.00013	0.0206	0.00029
Ca [mg/L]	08-Mar-23	15:14	47.3	244	367	416	39.4	11.6	8.0
Cd [mg/L]	09-Mar-23	16:53	0.00048	0.00032	0.00061	0.00063	0.00054	0.00047	0.00047
Cr [mg/L]	09-Mar-23	16:53	0.0097	0.0050	0.0019	0.0015	0.0111	0.0033	0.0044
Co [mg/L]	09-Mar-23	16:53	0.0239	0.0199	0.00360	0.0138	0.0162	0.00042	0.00147
Cu [mg/L]	08-Mar-23	15:15	0.004	< 0.002	0.009	< 0.002	< 0.002	< 0.002	0.002
Fe [mg/L]	08-Mar-23	15:15	2.83	3.25	4.68	1.57	3.25	0.07	0.16
K [mg/L]	08-Mar-23	15:15	3.23	6.74	3.44	1.24	5.84	3.92	3.10
Li [mg/L]	08-Mar-23	15:15	0.103	0.182	0.046	0.152	0.144	0.151	0.037
Mg [mg/L]	08-Mar-23	15:15	4.54	5.97	3.02	7.36	2.04	0.11	0.42
Mn [mg/L]	08-Mar-23	15:15	0.476	1.87	3.28	1.85	0.408	0.828	0.157
Mo [mg/L]	09-Mar-23	16:53	0.0007	< 0.0004	0.0005	0.0005	0.0010	0.0022	0.0024
Na [mg/L]	13-Mar-23	11:07	1250	1510	1280	1250	1280	1310	1270

OnLine LIMS

0003267930

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : CA11005-FEB23

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: 28	6: 29	7: 30	8: 48	9: 54	10: 68	11: 71
Ni [mg/L]	09-Mar-23	16:53	0.053	0.087	0.005	0.010	0.051	0.003	0.003
P [mg/L]	09-Mar-23	16:53	0.070	0.006	0.040	0.050	0.050	0.480	0.240
Pb [mg/L]	09-Mar-23	16:53	0.00151	0.0139	0.00055	0.00048	0.00525	0.00349	0.00139
Sb [mg/L]	08-Mar-23	15:16	0.014	0.052	< 0.009	< 0.009	0.012	0.016	0.015
Se [mg/L]	09-Mar-23	16:53	0.0064	0.0008	0.0056	0.0064	0.0056	0.0061	0.0055
Si [mg/L]	08-Mar-23	15:16	3.72	4.07	1.88	3.39	3.30	0.75	0.93
Sn [mg/L]	09-Mar-23	16:53	0.00041	< 0.00006	0.00009	0.00048	0.00010	0.00032	0.00025
Sr [mg/L]	09-Mar-23	16:53	0.0571	0.200	0.165	0.232	0.0476	0.0216	0.0337
Ti [mg/L]	09-Mar-23	16:53	0.0059	0.0006	0.0052	0.0061	0.0052	0.0054	0.0054
Tl [mg/L]	08-Mar-23	15:16	0.00091	0.00035	0.00014	0.00017	0.00036	0.00143	0.00089
U [mg/L]	08-Mar-23	15:16	0.01096	0.000969	0.000219	0.00193	0.00856	0.00750	0.0153
V [mg/L]	08-Mar-23	15:16	0.00063	0.00018	0.00008	0.00031	0.00064	0.00016	0.00021
Zn [mg/L]	08-Mar-23	15:16	< 0.02	0.03	0.02	< 0.02	0.02	< 0.02	< 0.02

Analysis	12: 72	13: 78	14: 81	15: 81	16:BLK: $Reg347/TCLP 1311 Blank#1
Sample Date & Time	N/A	N/A	N/A		
Sample weight [g]	20	20	20	20	---
Ext Fluid [#1 or #2]	1	1	1	1	1
Ext Volume [mL]	400	400	400	400	400
pH [No unit]	4.96	4.98	4.93	4.93	4.92
Alkalinity [mg/L as CaCO3]	1620	1560	1180	1170	1490
Conductivity [uS/cm]	4720	4810	4660	4710	4630
Acidity [mg/L as CaCO3]	1790	1670	1740	1420	1800
F [mg/L]	0.73	0.34	0.22	0.23	< 0.06
Cl [mg/L]	< 20	< 20	< 20	< 20	< 20
SO4 [mg/L]	< 20	< 20	< 20	< 20	< 20
NO2 [as N mg/L]	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	< 6	< 6	< 6	< 6	< 6
NO2+NO3 [as N mg/L]	< 6	< 6	< 6	< 6	< 6
Br [mg/L]	< 30	< 30	< 30	< 30	< 30
Tot.Reactive P [mg/L]	0.03	0.45	0.27	0.27	< 0.03
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Al [mg/L]	1.39	0.51	0.66	0.67	< 0.01
As [mg/L]	0.034	0.053	0.084	0.091	< 0.002
Ag [mg/L]	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Ba [mg/L]	0.00577	0.00852	0.00283	0.00273	0.00030
B [mg/L]	0.09	< 0.02	< 0.02	< 0.02	< 0.02
Be [mg/L]	0.00947	0.00782	0.00204	0.00219	0.00011
Bi [mg/L]	0.0121	0.00577	0.00342	0.00449	0.00009
Ca [mg/L]	34.1	42.6	7.5	5.0	0.1
Cd [mg/L]	0.00049	0.00078	0.00048	0.00038	< 0.00003
Cr [mg/L]	0.0058	0.0065	0.0052	0.0059	0.0015
Co [mg/L]	0.00422	0.0109	0.00054	0.00056	0.00015
Cu [mg/L]	0.003	0.007	< 0.002	< 0.002	< 0.002
Fe [mg/L]	0.75	0.08	0.19	0.17	< 0.07
K [mg/L]	2.56	4.24	2.82	2.92	0.52
Li [mg/L]	0.032	0.256	0.297	0.298	< 0.001
Mg [mg/L]	0.60	0.88	0.17	0.15	0.01
Mn [mg/L]	0.179	1.29	0.683	0.717	0.0008

OnLine LIMS

0003267930

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : CA11005-FEB23

Analysis	12: 72	13: 78	14: 81	15: 81	16:BLK: $Reg347/TCLP 1311 Blank#1
Mo [mg/L]	0.0012	0.0033	0.0017	0.0022	0.0010
Na [mg/L]	1250	1270	1270	1280	1270
Ni [mg/L]	0.005	0.004	0.002	0.003	< 0.001
P [mg/L]	0.070	0.500	0.320	0.270	0.010
Pb [mg/L]	0.0231	0.00234	0.00137	0.00194	0.00019
Sb [mg/L]	0.010	< 0.009	0.011	0.012	< 0.009
Se [mg/L]	0.0060	0.0070	0.0048	0.0047	0.0011
Si [mg/L]	1.39	1.38	1.04	1.02	0.02
Sn [mg/L]	0.00026	0.00011	0.00015	0.00021	0.00067
Sr [mg/L]	0.0343	0.0580	0.0280	0.0226	0.00052
Ti [mg/L]	0.0049	0.0052	0.0045	0.0046	< 0.0005
Tl [mg/L]	0.00072	0.00122	0.00112	0.00104	< 0.00005
U [mg/L]	0.0446	0.00838	0.0217	0.0229	0.000029
V [mg/L]	0.00054	0.00035	0.00018	0.00021	0.00005
Zn [mg/L]	0.03	< 0.02	< 0.02	< 0.02	< 0.02

Extraction Fluid #1 - pH 4.93 ± 0.05
5.7mLs of acetic acid plus 64.3 mLs of 1.0N NaOH bulked to 1L with deionized water.

Extraction Fluid #2 - pH 2.88 ± 0.05
5.7 mLs of acetic acid bulked to 1L with deionized water.

Catharine Arnold

CHARTERED CATHARINE ARNOLD CHEMIST

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003267930

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

23-May-2023

Patriot Battery Metals Inc
Attn : Darren Smith

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone:
Fax:

Date Rec. : 05 April 2023
LR Report: **CA11006-APR23**
Reference: Tailing Samples

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HC T-83	6: CV5-DMS-HC T-84
Sample Date & Time			N/A	N/A
Sample weight [g]	28-Apr-23	17:22	100	100
Volume D.I. Water [mL]	28-Apr-23	17:22	400	400
pH [No unit]	28-Apr-23	11:19	9.20	8.82
Conductivity [uS/cm]	28-Apr-23	11:19	179	176
Alkalinity [mg/L as CaCO3]	28-Apr-23	11:19	65	61
Acidity [mg/L as CaCO3]	28-Apr-23	11:19	< 2	< 2
F [mg/L]	27-Apr-23	10:24	0.80	1.08
SO4 [mg/L]	29-Apr-23	08:26	< 20	< 20
Cl [mg/L]	29-Apr-23	08:26	< 20	20
Br [mg/L]	29-Apr-23	08:26	< 30	< 30
NO2 [as N mg/L]	29-Apr-23	08:26	< 3	< 3
NO3 [as N mg/L]	29-Apr-23	08:26	< 6	< 6
NO2+NO3 [as N mg/L]	29-Apr-23	08:26	< 6	< 6
Tot.Reactive P [mg/L]	27-Apr-23	08:24	0.90	0.85
Hg [mg/L]	28-Apr-23	17:58	< 0.00001	< 0.00001
Al [mg/L]	01-May-23	16:53	0.61	0.56
As [mg/L]	01-May-23	16:53	0.954	0.869
Ag [mg/L]	01-May-23	16:53	< 0.0005	< 0.0005
Ba [mg/L]	01-May-23	16:53	0.00224	0.00159
B [mg/L]	01-May-23	16:53	0.17	0.13
Be [mg/L]	01-May-23	16:53	0.00041	0.00073
Bi [mg/L]	01-May-23	16:53	0.00180	0.00183
Ca [mg/L]	01-May-23	16:53	1.2	1.1
Cd [mg/L]	01-May-23	16:53	< 0.00003	< 0.00003
Cr [mg/L]	01-May-23	16:53	0.0032	0.0023
Co [mg/L]	01-May-23	16:53	0.00006	0.00009
Cu [mg/L]	01-May-23	16:53	< 0.002	< 0.002

OnLine LIMS

0003341269

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11006-APR23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83	6: CV5-DMS-HCT-84
Fe [mg/L]	01-May-23	16:53	< 0.07	< 0.07
K [mg/L]	01-May-23	16:53	19.9	18.5
Li [mg/L]	01-May-23	16:53	0.277	0.362
Mg [mg/L]	01-May-23	16:53	0.66	0.12
Mn [mg/L]	01-May-23	16:53	0.0051	0.0082
Mo [mg/L]	01-May-23	16:53	0.0018	0.0028
Na [mg/L]	01-May-23	16:53	27.6	27.0
Ni [mg/L]	01-May-23	16:53	< 0.001	< 0.001
P [mg/L]	01-May-23	16:53	0.507	0.444
Pb [mg/L]	01-May-23	16:53	0.00080	0.00091
Sb [mg/L]	01-May-23	16:53	0.141	0.135
Se [mg/L]	01-May-23	16:53	< 0.0004	< 0.0004
Si [mg/L]	01-May-23	16:53	14.1	10.3
Sn [mg/L]	01-May-23	16:53	0.00023	0.00025
Sr [mg/L]	01-May-23	16:53	0.00361	0.00335
Ti [mg/L]	01-May-23	16:53	0.0010	0.0009
Tl [mg/L]	01-May-23	16:53	0.00250	0.00309
U [mg/L]	01-May-23	16:53	0.00911	0.0192
V [mg/L]	01-May-23	16:53	0.00291	0.00203
Zn [mg/L]	01-May-23	16:53	< 0.02	< 0.02

Catharine Arnold

CHARTERED CATHARINE ARNOLD CHEMIST

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003341269

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

20-March-2023

Patriot Battery Metals Inc
Attn : Darren Smith

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone:
Fax:

Date Rec. : 13 February 2023
LR Report: **CA11006-FEB23**

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: 1	6: 2	7: 3	8: 4	9: 5	10: 6	11: 7
Sample Date & Time			N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sample weight [g]	22-Feb-23	15:06	20	20	20	20	20	20	20
Ext Fluid [#1 or #2]	22-Feb-23	15:06	1	1	1	1	1	1	1
Ext Volume [mL]	22-Feb-23	15:06	400	400	400	400	400	400	400
pH [No unit]	24-Feb-23	12:32	5.28	5.07	5.73	5.00	5.11	7.14	5.69
Alkalinity [mg/L as CaCO3]	27-Feb-23	11:20	2200	1780	2720	1600	1830	3270	2680
Conductivity [uS/cm]	23-Feb-23	12:20	5540	5090	6190	4880	5160	6660	5990
Acidity [mg/L as CaCO3]	27-Feb-23	11:49	1040	1470	496	1640	1440	813	1370
F [mg/L]	23-Feb-23	13:16	< 0.06	< 0.06	< 0.06	< 0.06	0.58	< 0.06	< 0.06
Cl [mg/L]	20-Mar-23	16:07	< 20	< 20	< 20	< 20	< 20	< 20	< 20
SO4 [mg/L]	20-Mar-23	16:07	< 20	< 20	< 20	< 20	< 20	< 20	< 20
NO2 [as N mg/L]	20-Mar-23	16:07	< 3	< 3	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	20-Mar-23	16:07	< 6	< 6	< 6	< 6	< 6	< 6	< 6
NO2+NO3 [as N mg/L]	20-Mar-23	16:07	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Br [mg/L]	20-Mar-23	16:07	< 30	< 30	< 30	< 30	< 30	< 30	< 30
Tot.Reactive P [mg/L]	24-Feb-23	08:50	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Hg [mg/L]	06-Mar-23	13:04	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Al [mg/L]	09-Mar-23	09:41	0.46	1.10	0.09	0.84	1.31	< 0.01	0.07
As [mg/L]	09-Mar-23	09:41	< 0.002	0.015	< 0.002	0.011	0.173	< 0.002	0.002
Ag [mg/L]	09-Mar-23	09:41	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Ba [mg/L]	09-Mar-23	09:41	0.261	0.0868	0.333	0.0273	0.0435	0.0201	0.0172
B [mg/L]	09-Mar-23	09:41	< 0.02	0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Be [mg/L]	09-Mar-23	09:41	< 0.00007	0.00051	< 0.00007	0.00016	0.00054	< 0.00007	< 0.00007
Bi [mg/L]	09-Mar-23	09:42	0.00002	0.00001	< 0.00001	0.00002	0.00002	0.00001	0.00002
Ca [mg/L]	09-Mar-23	09:42	235	75.9	464	12.5	110	690	451
Cd [mg/L]	09-Mar-23	09:42	0.00029	0.00015	0.00033	< 0.00003	0.00015	0.00039	0.00011
Cr [mg/L]	09-Mar-23	09:42	0.0085	0.0148	< 0.0008	0.0109	0.0141	< 0.0008	< 0.0008
Co [mg/L]	09-Mar-23	09:42	0.00457	0.0150	0.00442	0.00689	0.0276	0.00379	0.0132
Cu [mg/L]	09-Mar-23	09:42	< 0.002	< 0.002	< 0.002	0.005	0.007	< 0.002	0.012
Fe [mg/L]	09-Mar-23	09:42	5.89	6.79	11.2	1.85	2.43	0.15	1.66
K [mg/L]	09-Mar-23	09:42	15.2	6.45	11.8	2.78	3.27	1.15	2.04
Li [mg/L]	09-Mar-23	09:43	0.092	0.098	0.095	0.061	0.165	0.018	0.025
Mg [mg/L]	09-Mar-23	09:43	2.73	3.48	4.01	3.16	3.70	4.08	3.81
Mn [mg/L]	09-Mar-23	09:43	2.54	0.591	5.91	0.166	0.739	6.86	2.79
Mo [mg/L]	09-Mar-23	09:43	0.0004	< 0.0004	0.0009	< 0.0004	< 0.0004	0.0011	0.0006
Na [mg/L]	09-Mar-23	09:43	1360	1400	1440	1450	1300	1420	1270

OnLine LIMS

0003270796

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : CA11006-FEB23

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: 1	6: 2	7: 3	8: 4	9: 5	10: 6	11: 7
Ni [mg/L]	09-Mar-23	09:43	0.020	0.054	0.004	0.009	0.312	0.009	0.028
P [mg/L]	09-Mar-23	09:43	< 0.003	< 0.003	0.037	< 0.003	0.006	< 0.003	< 0.003
Pb [mg/L]	09-Mar-23	09:43	0.00092	0.00955	0.00010	0.00028	0.00076	< 0.00009	0.00021
Sb [mg/L]	09-Mar-23	09:43	< 0.009	< 0.009	< 0.009	< 0.009	0.054	< 0.009	< 0.009
Se [mg/L]	09-Mar-23	09:43	< 0.0004	0.0017	0.0013	0.0011	< 0.0004	0.0010	< 0.0004
Si [mg/L]	09-Mar-23	09:43	2.27	2.86	1.48	2.42	2.80	1.38	2.00
Sn [mg/L]	09-Mar-23	09:44	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	0.00008
Sr [mg/L]	09-Mar-23	09:44	0.0956	0.0815	0.170	0.0161	0.0820	0.231	0.132
Ti [mg/L]	09-Mar-23	09:44	0.0017	0.0006	< 0.0005	0.0010	< 0.0005	< 0.0005	< 0.0005
Tl [mg/L]	09-Mar-23	09:44	0.00007	0.00033	0.00013	0.00012	0.00065	< 0.00005	< 0.00005
U [mg/L]	09-Mar-23	09:44	0.000054	0.00116	0.000084	0.00157	0.000167	0.000166	0.000810
V [mg/L]	09-Mar-23	09:44	0.00150	0.00034	0.00033	0.00119	0.00055	0.00011	0.00008
Zn [mg/L]	09-Mar-23	09:44	0.03	0.04	0.03	0.02	0.03	< 0.02	< 0.02

Analysis	12: 8	13: 9	14: 10	15: 11	16: 12	17: 13	18: 14	19: 15	20: 16
Sample Date & Time	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sample weight [g]	20	20	20	20	20	20	20	20	20
Ext Fluid [#1 or #2]	1	1	1	1	1	1	1	1	1
Ext Volume [mL]	400	400	400	400	400	400	400	400	400
pH [No unit]	5.05	5.05	5.03	5.79	6.96	5.65	5.37	7.11	5.22
Alkalinity [mg/L as CaCO3]	1660	1770	1660	2800	3250	2620	2300	3240	2070
Conductivity [uS/cm]	4820	5010	4970	5920	6540	5880	5310	6590	5100
Acidity [mg/L as CaCO3]	2390	1510	1560	1270	911	1240	1720	746	2000
F [mg/L]	0.12	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	0.24
Cl [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
SO4 [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
NO2 [as N mg/L]	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
NO2+NO3 [as N mg/L]	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Br [mg/L]	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30
Tot.Reactive P [mg/L]	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Al [mg/L]	1.12	0.99	0.90	0.09	< 0.01	0.15	0.37	< 0.01	0.82
As [mg/L]	< 0.002	< 0.002	0.008	0.008	< 0.002	0.013	0.007	0.013	0.002
Ag [mg/L]	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Ba [mg/L]	0.0124	0.00645	0.0477	0.0251	0.0164	0.0227	0.0129	0.0232	0.256
B [mg/L]	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.02	< 0.02	< 0.02	< 0.02
Be [mg/L]	< 0.00007	< 0.00007	0.00007	0.00026	< 0.00007	0.00139	0.00024	< 0.00007	0.00021
Bi [mg/L]	< 0.00001	0.00001	< 0.00001	< 0.00001	< 0.00001	0.00002	0.00003	0.00001	0.00007
Ca [mg/L]	55.5	61.6	46.3	500	661	432	309	668	191
Cd [mg/L]	0.00010	< 0.00003	< 0.00003	0.00014	0.00027	0.00022	0.00015	0.00031	0.00190
Cr [mg/L]	0.0067	0.0068	0.0031	0.0008	< 0.0008	0.0011	0.0044	< 0.0008	0.0061
Co [mg/L]	0.0171	0.00295	0.00793	0.00496	0.00318	0.00962	0.0105	0.00396	0.0122
Cu [mg/L]	0.046	0.013	0.012	< 0.002	< 0.002	< 0.002	0.007	< 0.002	< 0.002
Fe [mg/L]	2.34	2.23	3.85	3.31	0.55	2.03	3.32	0.23	14.3
K [mg/L]	1.19	0.89	1.75	1.74	1.68	2.22	1.03	2.00	13.1
Li [mg/L]	0.027	0.004	0.033	0.043	0.008	0.070	0.025	0.019	0.124
Mg [mg/L]	2.24	1.82	2.46	2.69	2.73	5.18	2.89	3.61	1.91
Mn [mg/L]	0.288	0.214	0.264	2.83	4.00	3.03	1.92	4.16	2.37

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0003270796

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : CA11006-FEB23

Analysis	12: 8	13: 9	14: 10	15: 11	16: 12	17: 13	18: 14	19: 15	20: 16
Mo [mg/L]	< 0.0004	< 0.0004	0.0014	< 0.0004	< 0.0004	< 0.0004	< 0.0004	0.0013	< 0.0004
Na [mg/L]	1260	1290	1290	1460	1430	1430	1300	1240	1290
Ni [mg/L]	0.032	0.009	0.009	0.026	0.012	0.021	0.019	0.015	0.110
P [mg/L]	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003
Pb [mg/L]	0.00013	0.00018	0.00030	0.00022	< 0.00009	0.00013	0.00101	0.00012	0.960
Sb [mg/L]	< 0.009	< 0.009	< 0.009	0.020	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009
Se [mg/L]	< 0.0004	0.0007	0.0018	0.0007	0.0005	0.0010	0.0025	0.0011	0.0016
Si [mg/L]	3.02	2.89	2.74	1.59	1.32	2.49	1.98	1.66	1.82
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006	0.00007	< 0.00006	0.00016	0.00008	< 0.00006
Sr [mg/L]	0.0337	0.0210	0.0294	0.150	0.171	0.193	0.0906	0.180	0.0793
Ti [mg/L]	0.0006	0.0007	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.0007	< 0.0005	< 0.0005
Tl [mg/L]	< 0.00005	< 0.00005	< 0.00005	0.00006	< 0.00005	0.00006	< 0.00005	< 0.00005	0.00077
U [mg/L]	0.000060	0.000040	0.000348	0.000051	0.000091	0.000101	0.000100	0.000082	0.000495
V [mg/L]	0.00088	0.00150	0.00057	0.00035	0.00006	0.00028	0.00045	0.00011	0.00010
Zn [mg/L]	0.03	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02	< 0.02	1.26

Analysis	21: 17	22: 18	23: 19	24: 20	25: 21	26: 22	27: 23	28: 24	29: 25
Sample Date & Time	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sample weight [g]	20	20	20	20	20	20	20	20	20
Ext Fluid [#1 or #2]	1	1	1	1	1	1	1	1	1
Ext Volume [mL]	400	400	400	400	400	400	400	400	400
pH [No unit]	5.16	5.23	5.28	5.10	6.47	5.09	5.04	5.07	5.08
Alkalinity [mg/L as CaCO3]	1910	2030	2180	1770	3000	1850	1670	1820	1800
Conductivity [uS/cm]	5070	5110	5290	4930	6260	5090	4760	4790	4680
Acidity [mg/L as CaCO3]	2150	1850	1780	2240	1020	1420	2450	2330	2170
F [mg/L]	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	0.32	< 0.06	< 0.06	< 0.06
Cl [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
SO4 [mg/L]	< 20	< 20	< 20	32	< 20	< 20	26	< 20	< 20
NO2 [as N mg/L]	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
NO2+NO3 [as N mg/L]	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Br [mg/L]	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30
Tot.Reactive P [mg/L]	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	0.04
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Al [mg/L]	0.56	0.72	0.51	0.70	< 0.01	1.17	0.77	0.91	0.62
As [mg/L]	0.008	0.015	< 0.002	< 0.002	0.129	0.053	0.002	0.003	0.179
Ag [mg/L]	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Ba [mg/L]	0.275	0.0436	0.0168	0.744	0.455	0.0165	0.132	0.673	0.195
B [mg/L]	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.07
Be [mg/L]	< 0.00007	0.00115	< 0.00007	< 0.00007	< 0.00007	0.00138	0.00045	< 0.00007	0.00009
Bi [mg/L]	0.00002	< 0.00001	< 0.00001	0.00002	0.00002	< 0.00001	0.00002	< 0.00001	0.00004
Ca [mg/L]	145	209	255	76.6	571	94.5	37.6	80.4	82.4
Cd [mg/L]	0.00042	0.00033	0.00025	0.00008	0.00023	0.00015	0.00025	0.00017	< 0.00003
Cr [mg/L]	0.0040	0.0057	0.0063	0.0088	< 0.0008	0.0268	0.0081	0.0059	0.0459
Co [mg/L]	0.0165	0.0195	0.00455	0.02470	0.00487	0.02442	0.04246	0.00273	0.00863
Cu [mg/L]	< 0.002	0.021	0.005	< 0.002	< 0.002	0.003	< 0.002	< 0.002	< 0.002
Fe [mg/L]	29.5	1.99	1.74	52.9	5.90	2.22	32.1	4.79	2.26
K [mg/L]	21.7	3.28	0.93	25.6	13.3	1.71	8.78	14.7	8.12
Li [mg/L]	0.129	0.058	0.011	0.176	0.037	0.099	0.085	0.038	0.053

OnLine LIMS

0003270796

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11006-FEB23**

Analysis	21: 17	22: 18	23: 19	24: 20	25: 21	26: 22	27: 23	28: 24	29: 25
Mg [mg/L]	1.57	3.27	1.65	1.63	5.95	5.59	3.69	1.66	3.20
Mn [mg/L]	1.92	0.893	1.95	0.466	6.73	0.377	0.610	0.817	0.230
Mo [mg/L]	0.0017	0.0005	0.0006	< 0.0004	< 0.0004	< 0.0004	< 0.0004	0.0010	0.0032
Na [mg/L]	1290	1390	1400	1410	1280	1270	1290	1300	1280
Ni [mg/L]	0.201	0.049	0.020	0.058	0.145	0.066	0.127	0.004	0.244
P [mg/L]	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003
Pb [mg/L]	0.0772	0.00172	0.00012	0.00105	< 0.00009	0.00634	0.00448	0.00179	0.00122
Sb [mg/L]	0.022	0.013	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009
Se [mg/L]	0.0011	0.0006	< 0.0004	< 0.0004	0.0017	0.0010	0.0014	0.0018	0.0015
Si [mg/L]	1.57	2.69	1.82	2.42	1.36	3.34	2.57	1.79	1.93
Sn [mg/L]	< 0.00006	< 0.00006	0.00009	< 0.00006	0.00015	0.00007	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.0886	0.0792	0.104	0.0451	0.259	0.0740	0.0529	0.0776	0.0540
Ti [mg/L]	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.0009	< 0.0005
Tl [mg/L]	0.00023	0.00022	< 0.00005	< 0.00005	0.00012	0.00011	0.00020	0.00007	0.00017
U [mg/L]	0.000118	0.00101	0.000094	0.000338	0.000066	0.00171	0.00563	0.00148	0.00310
V [mg/L]	0.00004	0.00047	0.00082	< 0.00001	0.00001	0.00039	0.00004	0.00191	0.00086
Zn [mg/L]	0.22	0.03	0.03	0.03	0.02	0.03	0.06	0.03	0.02

Analysis	30: 26	31: 27	32: 31	33: 32	34: 33	35: 34	36: 35	37: 36	38: 37
Sample Date & Time	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sample weight [g]	20	20	20	20	20	20	20	20	20
Ext Fluid [#1 or #2]	1	1	1	1	1	1	1	1	1
Ext Volume [mL]	400	400	400	400	400	400	400	400	400
pH [No unit]	5.29	5.33	5.04	5.48	6.18	5.05	5.11	5.35	5.61
Alkalinity [mg/L as CaCO3]	2140	2220	1650	2420	3010	1720	1820	2290	2610
Conductivity [uS/cm]	5330	5380	4790	5690	6130	4710	4950	5470	5890
Acidity [mg/L as CaCO3]	1800	1660	2400	1480	1070	2340	2070	1760	1530
F [mg/L]	< 0.06	< 0.06	2.41	< 0.06	< 0.06	4.19	< 0.06	0.27	2.40
Cl [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
SO4 [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
NO2 [as N mg/L]	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
NO2+NO3 [as N mg/L]	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Br [mg/L]	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30
Tot.Reactive P [mg/L]	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	0.09	< 0.03
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Al [mg/L]	0.64	0.40	2.93	0.21	< 0.01	4.24	0.83	0.19	1.77
As [mg/L]	< 0.002	0.005	0.047	0.003	< 0.002	0.040	0.008	5.80	0.995
Ag [mg/L]	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Ba [mg/L]	0.0704	0.0238	0.118	0.160	0.293	0.117	0.260	0.0543	0.0345
B [mg/L]	0.02	< 0.02	0.03	< 0.02	< 0.02	0.03	< 0.02	0.06	0.13
Be [mg/L]	0.00007	0.00023	0.00106	< 0.00007	< 0.00007	0.00135	0.00009	0.00287	0.00567
Bi [mg/L]	< 0.00001	0.00002	< 0.00001	0.00002	0.00002	0.00002	< 0.00001	0.00002	0.00003
Ca [mg/L]	256	289	47.6	365	565	47.8	109	210	429
Cd [mg/L]	0.00009	0.00008	0.00012	0.00023	0.00022	0.00024	0.00031	0.00040	0.00101
Cr [mg/L]	0.0072	0.0066	0.0154	0.0012	< 0.0008	0.0061	0.0071	0.0422	0.0019
Co [mg/L]	0.00373	0.02698	0.00872	0.00395	0.00468	0.0111	0.00508	0.0483	0.0300
Cu [mg/L]	< 0.002	0.012	< 0.002	0.004	< 0.002	< 0.002	< 0.002	< 0.002	0.016
Fe [mg/L]	3.52	3.46	5.97	9.14	7.43	8.05	5.39	7.02	1.68

OnLine LIMS

0003270796

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : CA11006-FEB23

Analysis	30: 26	31: 27	32: 31	33: 32	34: 33	35: 34	36: 35	37: 36	38: 37
K [mg/L]	2.01	2.08	10.6	6.90	12.5	10.1	16.3	2.71	4.38
Li [mg/L]	0.052	0.021	0.231	0.035	0.101	0.306	0.181	0.038	0.122
Mg [mg/L]	2.90	3.09	2.21	3.57	5.01	2.08	2.09	49.2	2.51
Mn [mg/L]	1.13	1.48	0.568	3.40	6.17	0.620	1.28	2.07	3.95
Mo [mg/L]	< 0.0004	< 0.0004	0.0041	0.0005	0.0014	0.0023	0.0012	0.0012	0.0025
Na [mg/L]	1410	1290	1270	1310	1340	1310	1280	1280	1420
Ni [mg/L]	0.013	0.054	0.016	0.003	0.003	0.022	0.010	6.62	0.230
P [mg/L]	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003
Pb [mg/L]	0.00031	0.00147	0.00105	0.00011	0.00022	0.00876	0.00194	0.00096	0.00054
Sb [mg/L]	< 0.009	< 0.009	0.010	< 0.009	< 0.009	0.016	< 0.009	1.10	0.205
Se [mg/L]	< 0.0004	< 0.0004	0.0018	0.0008	0.0027	0.0028	0.0023	0.0009	< 0.0004
Si [mg/L]	2.34	2.36	3.60	1.57	1.29	4.20	2.43	2.78	2.21
Sn [mg/L]	0.00008	0.00014	< 0.00006	< 0.00006	0.00018	< 0.00006	< 0.00006	0.00007	< 0.00006
Sr [mg/L]	0.0673	0.113	0.144	0.146	0.176	0.0532	0.0491	0.113	0.256
Ti [mg/L]	< 0.0005	< 0.0005	0.0015	< 0.0005	< 0.0005	0.0017	0.0016	< 0.0005	< 0.0005
Tl [mg/L]	< 0.00005	< 0.00005	0.00088	0.00008	0.00018	0.00207	0.00009	0.00053	0.00190
U [mg/L]	0.000020	0.00236	0.00481	0.000096	0.000041	0.00429	0.00280	0.000651	0.00387
V [mg/L]	0.00063	0.00040	0.00362	0.00046	0.00004	0.00202	0.00178	0.00059	0.00032
Zn [mg/L]	< 0.02	0.03	0.03	0.02	0.02	0.04	0.03	0.02	0.03

Analysis	39: 38	40: 39	41: 40	42: 41	43: 42	44: 43	45: 44	46: 45	47: 46
Sample Date & Time	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sample weight [g]	20	20	20	20	20	20	20	20	20
Ext Fluid [#1 or #2]	1	1	1	1	1	1	1	1	1
Ext Volume [mL]	400	400	400	400	400	400	400	400	400
pH [No unit]	4.96	4.98	5.02	4.97	4.99	4.99	5.09	5.04	5.13
Alkalinity [mg/L as CaCO3]	1640	1670	1550	1780	1480	1680	1880	4650	1960
Conductivity [uS/cm]	4910	4950	5050	4970	4970	4970	5280	5190	5380
Acidity [mg/L as CaCO3]	1700	1720	1970	1640	1790	1660	1380	4620	1340
F [mg/L]	0.37	1.24	0.51	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Cl [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
SO4 [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
NO2 [as N mg/L]	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
NO2+NO3 [as N mg/L]	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Br [mg/L]	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30
Tot.Reactive P [mg/L]	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Al [mg/L]	1.21	2.18	1.72	1.19	1.15	1.38	0.80	0.81	0.75
As [mg/L]	0.005	0.023	0.007	0.003	0.003	0.002	0.007	0.004	0.004
Ag [mg/L]	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Ba [mg/L]	0.0305	0.0547	0.0769	0.0595	0.0845	0.217	0.190	0.288	0.483
B [mg/L]	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.03	< 0.02	< 0.02	< 0.02
Be [mg/L]	0.00751	0.00200	0.00058	0.00063	0.00034	0.00031	0.00033	0.00016	0.00014
Bi [mg/L]	0.00010	0.00006	0.00002	0.00005	0.00003	0.00005	0.00004	0.00006	0.00004
Ca [mg/L]	14.0	33.4	69.3	30.2	45.5	43.9	139	100	170
Cd [mg/L]	0.00078	0.00061	0.00048	0.00043	0.00059	0.00034	0.00040	0.00044	0.00046
Cr [mg/L]	0.0055	0.0122	0.0139	0.0139	0.0084	0.0832	0.0131	0.0142	0.0146
Co [mg/L]	0.00843	0.0173	0.0120	0.00735	0.00979	0.0119	0.00455	0.00268	0.00309

OnLine LIMS

0003270796

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : CA11006-FEB23

Analysis	39: 38	40: 39	41: 40	42: 41	43: 42	44: 43	45: 44	46: 45	47: 46
Cu [mg/L]	0.044	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Fe [mg/L]	1.84	2.13	4.35	2.29	3.31	5.50	2.21	3.06	5.30
K [mg/L]	3.59	4.17	4.36	5.33	7.49	13.0	7.99	13.2	19.3
Li [mg/L]	0.135	0.111	0.123	0.064	0.070	0.103	0.100	0.007	0.013
Mg [mg/L]	2.91	3.54	1.47	3.42	2.62	2.30	0.64	0.63	1.00
Mn [mg/L]	0.287	0.414	0.637	0.476	0.914	0.428	1.16	1.31	2.51
Mo [mg/L]	0.0006	0.0006	0.0015	0.0018	0.0006	0.0009	0.0029	0.0032	0.0035
Na [mg/L]	1380	1310	1290	1310	1330	1270	1280	1330	1280
Ni [mg/L]	0.007	0.070	0.020	0.012	0.021	0.026	0.005	0.005	0.005
P [mg/L]	0.010	0.050	0.060	0.070	0.050	0.060	0.080	0.080	0.060
Pb [mg/L]	0.00454	0.141	0.00111	0.00773	0.0364	0.00132	0.00486	0.00402	0.00151
Sb [mg/L]	< 0.009	0.020	0.011	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009
Se [mg/L]	< 0.0004	0.0045	0.0062	0.0057	0.0051	0.0037	0.0046	0.0052	0.0050
Si [mg/L]	2.79	2.63	2.39	2.65	2.04	2.57	1.45	1.46	1.66
Sn [mg/L]	0.00011	0.00011	0.00013	0.00013	< 0.00006	0.00031	0.00008	0.00049	0.00017
Sr [mg/L]	0.0744	0.0556	0.0635	0.0796	0.0689	0.0776	0.107	0.0962	0.139
Ti [mg/L]	< 0.0005	0.0049	0.0055	0.0056	0.0047	0.0050	0.0078	0.0055	0.0065
Tl [mg/L]	0.00038	0.00040	0.00020	0.00007	0.00011	0.00020	0.00017	0.00017	0.00020
U [mg/L]	0.006076	0.00514	0.00375	0.00194	0.00215	0.00175	0.00558	0.00338	0.00378
V [mg/L]	0.00011	0.00054	0.00093	0.00041	0.00012	0.00016	0.00261	0.00408	0.00393
Zn [mg/L]	< 0.02	0.06	< 0.02	< 0.02	0.05	0.02	< 0.02	< 0.02	< 0.02

Analysis	48: 47	49: 49	50: 50	51: 51	52: 52	53: 53	54: 55	55: 56	56: 57
Sample Date & Time	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sample weight [g]	20	20	20	20	20	20	20	20	20
Ext Fluid [#1 or #2]	1	1	1	1	1	1	1	1	1
Ext Volume [mL]	400	400	400	400	400	400	400	400	400
pH [No unit]	4.97	4.98	5.01	4.96	5.11	5.10	5.29	5.70	5.76
Alkalinity [mg/L as CaCO3]	1540	1620	1620	1520	1890	1830	2270	2910	2800
Conductivity [uS/cm]	4940	5040	5060	4950	5340	5350	5740	6600	6440
Acidity [mg/L as CaCO3]	1680	1870	1660	1710	1390	1390	964	283	552
F [mg/L]	< 0.06	3.67	0.32	< 0.06	< 0.06	0.23	0.12	< 0.06	< 0.06
Cl [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
SO4 [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
NO2 [as N mg/L]	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
NO2+NO3 [as N mg/L]	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Br [mg/L]	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30
Tot.Reactive P [mg/L]	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	0.06	0.06	< 0.03	< 0.03
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Al [mg/L]	0.93	4.39	1.52	1.01	0.99	0.69	0.25	0.03	0.04
As [mg/L]	0.002	0.029	0.075	0.009	0.004	0.611	1.72	0.020	0.004
Ag [mg/L]	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Ba [mg/L]	0.313	0.117	0.0822	0.0577	0.160	0.500	0.291	0.263	0.178
B [mg/L]	< 0.02	0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Be [mg/L]	0.00019	0.00148	0.00125	0.00116	0.00020	0.00008	0.00010	0.00009	0.00011
Bi [mg/L]	0.00003	0.00005	0.00025	0.00006	0.00002	0.00004	0.00007	0.00007	0.00004
Ca [mg/L]	18.3	29.4	59.4	20.1	161	141	295	519	481
Cd [mg/L]	0.00063	0.00054	0.00108	0.00036	0.00065	0.00076	0.00051	0.00053	0.00067

OnLine LIMS

0003270796

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : CA11006-FEB23

Analysis	48: 47	49: 49	50: 50	51: 51	52: 52	53: 53	54: 55	55: 56	56: 57
Cr [mg/L]	0.0274	0.0096	0.0065	0.0073	0.0130	0.0054	0.0388	0.0015	0.0023
Co [mg/L]	0.0175	0.0111	0.0813	0.0170	0.00617	0.00443	0.0101	0.00328	0.00346
Cu [mg/L]	< 0.002	< 0.002	0.026	0.003	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Fe [mg/L]	5.50	6.25	2.46	1.74	4.52	4.77	2.35	3.45	3.39
K [mg/L]	12.8	12.0	7.19	3.97	9.07	19.6	5.14	10.9	6.03
Li [mg/L]	0.029	0.446	0.150	0.072	0.096	0.086	0.045	0.055	0.046
Mg [mg/L]	1.98	4.34	2.07	2.08	2.46	1.59	5.27	3.76	3.03
Mn [mg/L]	0.345	0.479	0.328	0.470	2.65	2.70	2.42	6.57	4.06
Mo [mg/L]	0.0040	0.0017	0.0007	0.0011	0.0039	0.0025	0.0014	0.0005	0.0012
Na [mg/L]	1280	1290	1290	1310	1320	1300	1330	1270	1290
Ni [mg/L]	0.039	0.017	0.168	0.020	0.015	0.005	1.72	0.025	0.010
P [mg/L]	0.060	0.070	0.050	0.040	0.060	0.060	0.070	0.040	0.050
Pb [mg/L]	0.00802	0.00082	0.0242	0.0102	0.00804	0.00221	0.00238	0.00101	0.00217
Sb [mg/L]	< 0.009	< 0.009	0.091	< 0.009	< 0.009	< 0.009	0.015	< 0.009	< 0.009
Se [mg/L]	0.0046	0.0049	0.0036	0.0030	0.0048	0.0031	0.0047	0.0042	0.0044
Si [mg/L]	2.22	5.08	2.34	1.88	2.24	1.51	2.07	1.43	1.24
Sn [mg/L]	0.00009	0.00018	0.00014	0.00022	0.00014	< 0.00006	< 0.00006	0.00011	0.00013
Sr [mg/L]	0.0174	0.0629	0.0399	0.0445	0.0999	0.0817	0.103	0.192	0.250
Ti [mg/L]	0.0061	0.0073	0.0046	0.0042	0.0058	0.0037	0.0047	0.0038	0.0038
Tl [mg/L]	0.00011	0.00430	0.00085	0.00010	0.00024	0.00019	0.00012	0.00019	0.00061
U [mg/L]	0.00382	0.00555	0.0159	0.00298	0.00375	0.00127	0.00209	0.000695	0.00187
V [mg/L]	0.00095	0.00147	0.00032	0.00062	0.00056	0.00252	0.00081	0.00003	0.00024
Zn [mg/L]	0.03	< 0.02	0.29	< 0.02	0.02	< 0.02	< 0.02	< 0.02	< 0.02

Analysis	57: 58	58: 59	59: 60	60: 61	61: 62	62: 63	63: 64	64: 65	65: 66
Sample Date & Time	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sample weight [g]	20	20	20	20	20	20	20	20	20
Ext Fluid [#1 or #2]	1	1	1	1	1	1	1	1	1
Ext Volume [mL]	400	400	400	400	400	400	400	400	400
pH [No unit]	5.58	5.03	5.56	5.77	6.56	4.97	4.95	4.94	4.94
Alkalinity [mg/L as CaCO3]	2640	1690	2570	2820	3160	1520	1540	1520	1480
Conductivity [uS/cm]	6200	5120	6190	6450	6790	5000	4910	4920	4900
Acidity [mg/L as CaCO3]	703	1580	654	529	176	1720	1850	1710	1780
F [mg/L]	< 0.06	< 0.06	0.12	< 0.06	0.16	< 0.06	0.25	0.10	0.08
Cl [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
SO4 [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
NO2 [as N mg/L]	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
NO2+NO3 [as N mg/L]	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Br [mg/L]	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30
Tot.Reactive P [mg/L]	< 0.03	< 0.03	0.04	< 0.03	0.05	0.07	0.24	0.46	0.13
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Al [mg/L]	0.09	1.01	0.09	0.05	< 0.01	0.69	0.81	0.44	0.57
As [mg/L]	1.02	0.074	7.58	1.76	4.43	0.068	0.091	0.045	0.063
Ag [mg/L]	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Ba [mg/L]	0.0653	0.0179	0.0220	0.00888	0.0332	0.00600	0.00557	0.00551	0.00386
B [mg/L]	0.04	< 0.02	< 0.02	0.06	< 0.02	0.02	< 0.02	< 0.02	< 0.02
Be [mg/L]	0.00071	0.00021	0.00173	0.00051	0.00085	0.00706	0.00282	0.00169	0.00157
Bi [mg/L]	0.00019	0.00004	0.00005	0.00007	0.00006	0.04465	0.00014	0.00596	0.00263

OnLine LIMS

0003270796

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11006-FEB23**

Analysis	57: 58	58: 59	59: 60	60: 61	61: 62	62: 63	63: 64	64: 65	65: 66
Ca [mg/L]	389	58.9	279	416	549	33.5	12.5	6.9	5.5
Cd [mg/L]	0.00044	0.00031	0.00047	0.00048	0.00042	0.00090	0.00040	0.00041	0.00033
Cr [mg/L]	0.0087	0.122	0.0211	0.0057	0.0014	0.0083	0.0036	0.0045	0.0054
Co [mg/L]	0.0282	0.0392	0.0534	0.0114	0.0463	0.00309	0.00225	0.00107	0.00350
Cu [mg/L]	< 0.002	0.026	< 0.002	< 0.002	< 0.002	0.009	0.003	0.003	0.003
Fe [mg/L]	1.81	2.72	7.31	2.73	< 0.07	0.11	0.31	0.13	0.07
K [mg/L]	3.69	1.52	3.39	0.93	1.46	4.65	6.53	4.16	4.13
Li [mg/L]	0.036	0.049	0.057	0.022	0.012	0.017	0.126	0.078	0.022
Mg [mg/L]	40.4	17.2	95.7	33.0	20.9	0.28	0.29	0.11	0.13
Mn [mg/L]	2.72	0.698	2.69	3.06	4.64	0.270	0.559	0.532	0.0754
Mo [mg/L]	0.0006	< 0.0004	0.0005	0.0007	0.0014	0.0032	0.0013	0.0010	0.0018
Na [mg/L]	1300	1320	1340	1290	1270	1310	1280	1280	1280
Ni [mg/L]	2.46	0.293	9.97	2.65	7.15	0.003	0.003	0.003	0.003
P [mg/L]	0.040	0.030	0.050	0.030	0.050	0.110	0.240	0.450	0.130
Pb [mg/L]	0.00124	0.00202	0.00052	0.00037	0.00015	0.00533	0.00368	0.00331	0.00146
Sb [mg/L]	0.267	< 0.009	2.27	0.250	4.06	0.011	0.015	< 0.009	< 0.009
Se [mg/L]	0.0029	0.0038	0.0045	0.0039	0.0035	0.0039	0.0037	0.0047	0.0044
Si [mg/L]	4.01	6.72	4.04	2.91	4.53	1.16	1.45	0.80	0.85
Sn [mg/L]	0.00011	0.00022	0.00020	< 0.00006	0.00016	0.00009	0.00014	0.00034	0.00009
Sr [mg/L]	0.243	0.157	0.134	0.220	0.218	0.0305	0.0227	0.0175	0.0149
Ti [mg/L]	0.0041	0.0038	0.0036	0.0044	0.0041	0.0041	0.0042	0.0044	0.0039
Tl [mg/L]	0.00058	0.00053	0.00179	0.00007	0.00059	0.00160	0.00247	0.00168	0.00143
U [mg/L]	0.00107	0.000210	0.000695	0.000333	0.00156	0.0167	0.00669	0.00283	0.00826
V [mg/L]	0.00034	0.00012	0.00038	0.00036	0.00035	0.00063	0.00016	0.00024	0.00022
Zn [mg/L]	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02

Analysis	66: 67	67: 69	68: 70	69: 73	70: 74	71: 75	72: 76	73: 77	74: 79
Sample Date & Time	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sample weight [g]	20	20	20	20	20	20	20	20	20
Ext Fluid [#1 or #2]	1	1	1	1	1	1	1	1	1
Ext Volume [mL]	400	400	400	400	400	400	400	400	400
pH [No unit]	4.94	4.98	4.97	4.94	4.94	4.95	4.97	4.95	4.94
Alkalinity [mg/L as CaCO3]	1450	1620	1570	1470	1460	1490	1560	1570	1530
Conductivity [uS/cm]	4880	5000	4870	4900	4870	4950	4980	4960	4890
Acidity [mg/L as CaCO3]	1870	1680	1760	1760	1790	1800	1700	1830	1760
F [mg/L]	< 0.06	0.18	0.18	0.13	0.21	0.07	0.15	0.33	0.11
Cl [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
SO4 [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
NO2 [as N mg/L]	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
NO2+NO3 [as N mg/L]	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Br [mg/L]	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30
Tot.Reactive P [mg/L]	0.08	0.14	0.13	0.07	0.62	0.08	0.30	1.07	0.40
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Al [mg/L]	0.46	0.53	0.48	0.66	0.59	0.56	0.53	0.54	0.46
As [mg/L]	0.013	0.036	0.029	0.031	0.167	0.069	0.019	0.042	0.031
Ag [mg/L]	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Ba [mg/L]	0.00394	0.0159	0.00546	0.0117	0.00173	0.00182	0.00941	0.00297	0.00345
B [mg/L]	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02

OnLine LIMS

0003270796

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : CA11006-FEB23

Analysis	66: 67	67: 69	68: 70	69: 73	70: 74	71: 75	72: 76	73: 77	74: 79
Be [mg/L]	0.00096	0.01325	0.00807	0.00220	0.00153	0.00536	0.00857	0.01066	0.00248
Bi [mg/L]	0.00655	0.02216	0.00337	0.00836	0.00114	0.321	0.00972	0.00024	0.00210
Ca [mg/L]	3.0	43.2	30.1	5.2	4.2	15.4	30.2	13.9	7.8
Cd [mg/L]	0.00035	0.00058	0.00415	0.00037	0.00041	0.00044	0.00050	0.00061	0.00040
Cr [mg/L]	0.0061	0.0048	0.0048	0.0050	0.0036	0.0036	0.0047	0.0082	0.0042
Co [mg/L]	0.00087	0.00284	0.0126	0.00233	0.00079	0.00073	0.00438	0.00472	0.00353
Cu [mg/L]	0.003	0.014	1.84	0.006	< 0.002	< 0.002	0.004	0.007	0.003
Fe [mg/L]	< 0.07	0.12	0.21	0.09	0.14	< 0.07	0.29	0.21	0.12
K [mg/L]	3.88	2.30	1.88	4.24	2.91	2.05	4.41	2.72	4.29
Li [mg/L]	0.007	0.051	0.026	0.116	0.318	0.141	0.258	0.698	0.167
Mg [mg/L]	0.11	0.39	0.40	0.05	0.06	0.13	0.81	0.28	0.23
Mn [mg/L]	0.0359	0.245	0.202	0.240	1.15	0.544	0.967	3.09	0.719
Mo [mg/L]	0.0019	0.0013	0.0021	0.0016	0.0012	0.0036	0.0017	0.0041	0.0013
Na [mg/L]	1270	1310	1280	1260	1290	1300	1280	1300	1250
Ni [mg/L]	0.003	0.005	0.006	0.004	0.003	0.001	0.004	0.005	0.002
P [mg/L]	0.110	0.150	0.150	0.080	0.540	0.110	0.320	1.05	0.440
Pb [mg/L]	0.00214	0.00439	0.00756	0.00323	0.00083	0.00302	0.00429	0.00103	0.00226
Sb [mg/L]	< 0.009	< 0.009	0.009	0.009	0.029	0.023	< 0.009	0.010	< 0.009
Se [mg/L]	0.0038	0.0040	0.0052	0.0050	0.0048	0.0042	0.0043	0.0036	0.0055
Si [mg/L]	0.75	1.07	0.81	0.93	0.94	0.83	1.54	1.30	0.93
Sn [mg/L]	0.00013	0.00013	0.00024	0.00016	0.00020	0.00009	0.00013	0.00015	0.00031
Sr [mg/L]	0.0118	0.0506	0.0314	0.0187	0.0126	0.0260	0.0564	0.0478	0.0200
Ti [mg/L]	0.0047	0.0040	0.0048	0.0038	0.0039	0.0040	0.0039	0.0033	0.0047
Tl [mg/L]	0.00140	0.00057	0.00064	0.00095	0.00147	0.00081	0.00091	0.00145	0.00130
U [mg/L]	0.000886	0.0193	0.0105	0.124	0.0129	0.0102	0.00442	0.0414	0.0190
V [mg/L]	0.00013	0.00019	0.00040	0.00001	0.00010	0.00013	0.00017	0.00022	0.00006
Zn [mg/L]	< 0.02	< 0.02	0.07	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02

Analysis	75: 80	76: 82	77: 21	78:BLK: $Reg347/TCLP 1311 Blank#1	79: 56	80:BLK: $Reg347/TCLP 1311 Blank#1
Sample Date & Time	N/A	N/A				
Sample weight [g]	20	20	20	---	20	---
Ext Fluid [#1 or #2]	1	1	1	1	1	1
Ext Volume [mL]	400	400	400	400	400	400
pH [No unit]	4.95	5.01	5.24	4.97	5.68	4.94
Alkalinity [mg/L as CaCO3]	1570	1640	2020	1450	2400	1540
Conductivity [uS/cm]	4880	5150	5550	4550	6010	4830
Acidity [mg/L as CaCO3]	1710	1600	2120	2570	708	1680
F [mg/L]	0.12	0.40	< 0.06	0.16	< 0.06	< 0.06
Cl [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20
SO4 [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20
NO2 [as N mg/L]	< 3	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	< 6	< 6	< 6	< 6	< 6	< 6
NO2+NO3 [as N mg/L]	< 6	< 6	< 6	< 6	< 6	< 6
Br [mg/L]	< 30	< 30	< 30	< 30	< 30	< 30
Tot.Reactive P [mg/L]	0.07	0.03	< 0.03	< 0.03	< 0.03	< 0.03
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Al [mg/L]	0.69	1.65	0.54	< 0.01	0.16	< 0.01
As [mg/L]	0.102	0.010	0.005	< 0.002	0.335	< 0.002
Ag [mg/L]	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005

OnLine LIMS

0003270796

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : CA11006-FEB23

Analysis	75: 80	76: 82	77: 21	78:BLK: $Reg347/TCLP 1311 Blank#1	79: 56	80:BLK: $Reg347/TCLP 1311 Blank#1
Ba [mg/L]	0.00697	0.00997	0.267	0.00016	0.161	0.00044
B [mg/L]	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Be [mg/L]	0.00779	0.00674	0.00008	< 0.00007	0.00023	< 0.00007
Bi [mg/L]	0.00888	0.00115	< 0.00001	0.00006	0.00005	0.00007
Ca [mg/L]	13.5	59.0	199	< 0.1	381	0.2
Cd [mg/L]	0.00142	0.00060	0.00052	< 0.00003	0.00059	0.00033
Cr [mg/L]	0.0047	0.0053	0.0046	0.0024	0.0069	0.0039
Co [mg/L]	0.0161	0.00634	0.0165	0.00006	0.0122	0.00007
Cu [mg/L]	0.047	0.014	< 0.002	< 0.002	< 0.002	< 0.002
Fe [mg/L]	0.34	0.44	26.4	< 0.07	3.21	< 0.07
K [mg/L]	4.94	10.4	21.5	0.52	5.55	0.50
Li [mg/L]	0.074	0.174	0.124	< 0.001	0.049	< 0.001
Mg [mg/L]	0.76	0.42	1.80	< 0.01	15.5	0.01
Mn [mg/L]	0.318	0.602	2.53	< 0.0001	2.99	0.0010
Mo [mg/L]	0.0017	0.0013	0.0012	< 0.0004	0.0009	0.0006
Na [mg/L]	1280	1250	1440	1470	1270	1340
Ni [mg/L]	0.026	0.003	0.193	< 0.001	0.810	0.002
P [mg/L]	0.070	0.050	< 0.003	< 0.003	0.040	0.080
Pb [mg/L]	0.0176	0.00735	0.07963	< 0.00009	0.00271	0.00013
Sb [mg/L]	< 0.009	< 0.009	0.025	< 0.009	0.087	< 0.009
Se [mg/L]	0.0037	0.0046	0.0013	0.0019	0.0055	0.0040
Si [mg/L]	1.39	3.14	1.66	< 0.02	2.26	0.02
Sn [mg/L]	0.00018	0.00025	< 0.00006	0.00006	0.00012	0.00015
Sr [mg/L]	0.0321	0.0418	0.111	0.00019	0.216	0.00066
Ti [mg/L]	0.0037	0.0048	< 0.0005	< 0.0005	0.0062	0.0041
Tl [mg/L]	0.00117	0.00289	0.00033	< 0.00005	0.00067	< 0.00005
U [mg/L]	0.00775	0.0330	0.000133	0.000015	0.00211	0.000038
V [mg/L]	0.00032	0.00039	0.00003	0.00003	0.00045	0.00011
Zn [mg/L]	0.04	< 0.02	0.25	< 0.02	< 0.02	< 0.02

Extraction Fluid #1 - pH 4.93 ± 0.05
5.7mLs of acetic acid plus 64.3 mLs of 1.0N NaOH bulked to 1L with deionized water.

Extraction Fluid #2 - pH 2.88 ± 0.05
5.7 mLs of acetic acid bulked to 1L with deionized water.

Catharine Arnold

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003270796

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

27-April-2023

Patriot Battery Metals Inc
Attn : Darren Smith

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone:
Fax:

Date Rec. : 10 April 2023
LR Report: **CA11010-APR23**
Reference: Corvette Lithium Project

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HC T-2	6: CV5-WR-HC T-5	7: CV5-WR-HCT -5 (DUP)	8: CV5-WR-HC T-14
C [%]	13-Apr-23	13:20	20-Apr-23	13:56	0.658	0.077	0.233	0.275
S [%]	13-Apr-23	13:20	20-Apr-23	13:56	0.973	0.534	0.773	0.196

Analysis	9: CV5-WR-HC T-22	10: CV5-WR-HC T-33	11: CV5-WR-HC T-36	12: CV5-WR-HC T-39	13: CV5-WR-HC T-50	14: CV5-WR-HC T-56	15: CV5-WR-HC T-59	16: CV5-WR-HC T-62	17: CV5-WR-HC T-64
C [%]	0.041	0.117	0.674	0.027	1.23	0.570	0.031	2.06	0.019
S [%]	0.037	0.032	0.145	0.749	0.833	0.332	0.864	0.347	< 0.005

Analysis	18: CV5-WR-HC T-69	19: CV5-ORE-HCT-74	20: CV5-ORE-HCT-76
C [%]	0.025	0.013	0.046
S [%]	< 0.005	< 0.005	< 0.005

Catharine Arnold

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003314567

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

27-April-2023

Patriot Battery Metals Inc
Attn : Darren Smith

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone:
Fax:

Date Rec. : 10 April 2023
LR Report: **CA11013-APR23**
Reference: Corvette Lithium Project - Waste Rock Samples.

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2	6: CV5-WR-HCT-5	7: CV5-WR-HCT-5 (DUP)
Sample Date & Time					N/A	N/A	N/A
SiO2 [%]	12-Apr-23	12:39	17-Apr-23	13:02	54.4	53.5	53.3
Al2O3 [%]	12-Apr-23	12:39	17-Apr-23	13:02	13.9	13.5	11.6
Fe2O3 [%]	12-Apr-23	12:39	17-Apr-23	13:02	10.7	11.2	11.3
MgO [%]	12-Apr-23	12:39	17-Apr-23	13:02	5.29	7.84	8.80
CaO [%]	12-Apr-23	12:39	17-Apr-23	13:02	5.31	7.61	7.79
Na2O [%]	12-Apr-23	12:39	17-Apr-23	13:02	3.63	1.84	1.54
K2O [%]	12-Apr-23	12:39	17-Apr-23	13:02	1.04	0.58	0.55
TiO2 [%]	12-Apr-23	12:39	17-Apr-23	13:02	0.65	0.75	0.58
P2O5 [%]	12-Apr-23	12:39	17-Apr-23	13:02	0.08	0.08	0.07
MnO [%]	12-Apr-23	12:39	17-Apr-23	13:02	0.21	0.23	0.25
Cr2O3 [%]	12-Apr-23	12:39	17-Apr-23	13:02	0.03	0.07	0.15
V2O5 [%]	12-Apr-23	12:39	17-Apr-23	13:02	0.03	0.05	0.04
LOI [%]	12-Apr-23	12:39	17-Apr-23	13:02	3.54	2.00	2.59
Sum [%]	12-Apr-23	12:39	17-Apr-23	13:02	98.8	99.3	98.6

Analysis	8: CV5-WR-HCT-14	9: CV5-WR-HCT-22	10: CV5-WR-HCT-33	11: CV5-WR-HCT-36	12: CV5-WR-HCT-39	13: CV5-WR-HCT-50	14: CV5-WR-HCT-56
Sample Date & Time	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SiO2 [%]	51.5	53.3	53.4	43.6	61.3	56.2	53.0
Al2O3 [%]	15.0	12.9	14.2	7.03	14.5	21.1	13.3
Fe2O3 [%]	10.8	9.47	14.8	10.7	6.96	5.08	9.16
MgO [%]	4.82	8.96	3.89	21.0	3.28	1.94	5.72
CaO [%]	7.16	6.65	6.52	6.46	5.22	1.46	9.84
Na2O [%]	5.36	3.38	3.12	0.35	2.90	3.24	1.80

OnLine LIMS

0003314572

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11013-APR23**

Analysis	8: CV5-WR-HCT -14	9: CV5-WR-HCT -22	10: CV5-WR-HCT -33	11: CV5-WR-HCT -36	12: CV5-WR-HCT -39	13: CV5-WR-HCT -50	14: CV5-WR-HCT -56
K2O [%]	0.30	0.27	0.42	0.08	1.25	3.48	1.96
TiO2 [%]	1.07	0.73	1.42	0.31	0.47	0.70	0.65
P2O5 [%]	0.09	0.25	0.12	0.01	0.05	0.06	0.04
MnO [%]	0.21	0.18	0.20	0.16	0.17	0.07	0.26
Cr2O3 [%]	0.03	0.08	< 0.01	0.28	0.02	0.01	0.04
V2O5 [%]	0.05	0.03	0.06	0.02	0.03	0.02	0.04
LOI [%]	2.74	2.94	0.93	8.26	2.39	4.10	2.77
Sum [%]	99.2	99.2	99.2	98.3	98.6	97.5	98.6

Analysis	15: CV5-WR-HCT -59	16: CV5-WR-HCT -62	17: CV5-WR-HCT -64	18: CV5-WR-HCT -69	19: CV5-ORE-HCT-74	20: CV5-ORE-HCT-76
Sample Date & Time	N/A	N/A	N/A	N/A	N/A	N/A
SiO2 [%]	46.5	39.6	67.4	68.5	73.2	74.3
Al2O3 [%]	10.8	3.92	16.9	17.2	15.9	13.7
Fe2O3 [%]	11.5	11.4	0.47	1.09	0.79	0.90
MgO [%]	17.2	24.8	0.13	0.22	0.02	0.43
CaO [%]	6.13	4.46	0.30	0.47	0.22	0.50
Na2O [%]	1.33	0.09	2.57	7.16	3.09	3.44
K2O [%]	0.25	0.06	8.44	1.57	2.11	2.29
TiO2 [%]	0.42	0.27	< 0.01	0.02	0.01	< 0.01
P2O5 [%]	0.06	0.02	0.25	0.25	0.18	0.17
MnO [%]	0.21	0.16	0.06	0.08	0.10	0.07
Cr2O3 [%]	0.22	0.47	< 0.01	< 0.01	< 0.01	< 0.01
V2O5 [%]	0.03	0.02	< 0.01	< 0.01	< 0.01	< 0.01
LOI [%]	4.28	12.2	0.97	0.76	0.64	1.42
Sum [%]	98.9	97.5	97.5	97.3	96.3	97.3

Catharine Arnold

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003314572

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

10-February-2023

Patriot Battery Metals Inc
Attn : Darren Smith

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone:
Fax:

Date Rec. : 19 January 2023
LR Report: **CA11020-JAN23**

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: 28	6: 29	7: 30	8: 48	9: 54	10: 68	11: 71
Sample Date & Time			N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sample weight [g]	03-Feb-23	09:30	2.00	1.87	1.87	1.98	1.96	1.97	1.89
Initial pH	03-Feb-23	09:30	9.61	9.58	9.71	9.44	9.42	9.59	9.26
Vol H2SO4 [mL]	03-Feb-23	09:30	1.00	1.40	1.40	1.95	0.95	0.65	0.40
H2SO4 [Normality]	03-Feb-23	09:30	1.00	1.00	1.00	1.00	1.00	1.00	1.00
NP [t CaCO3/1000 t]	03-Feb-23	09:30	25.0	37.4	37.4	49.2	24.2	16.5	10.6
AP [t CaCO3/1000 t]	09-Feb-23	16:41	20.3	9.41	3.00	5.03	15.0	1.25	1.25
NNP [kg CaCO3/ tonne]	09-Feb-23	16:41	4.7	28	34	44	9.2	15	9.4
S [%]	08-Feb-23	15:10	0.649	0.301	0.096	0.161	0.480	< 0.005	< 0.005
Acid Leachable SO4-S [%]	09-Feb-23	16:40	0.16	< 0.04	< 0.04	< 0.04	0.09	< 0.04	< 0.04
Sulphide [%]	09-Feb-23	16:40	0.49	0.27	0.07	0.15	0.39	< 0.04	< 0.04
C [%]	08-Feb-23	15:10	0.042	0.179	0.280	0.254	0.031	0.025	0.010
CO3 (pyro) as %CO3 [%]	09-Feb-23	16:40	0.035	0.605	1.00	0.889	< 0.025	< 0.025	< 0.025

Analysis	12: 72	13: 78	14: 81
Sample Date & Time	N/A	N/A	N/A
Sample weight [g]	1.98	1.94	2.05
Initial pH	9.47	9.55	9.34
Vol H2SO4 [mL]	0.75	1.20	0.45
H2SO4 [Normality]	1.00	1.00	1.00
NP [t CaCO3/1000 t]	18.9	30.9	11.0
AP [t CaCO3/1000 t]	0.16	1.25	1.25
NNP [kg CaCO3/ tonne]	19	30	9.8
S [%]	0.005	< 0.005	< 0.005
Acid Leachable SO4-S [%]	< 0.04	< 0.04	< 0.04
Sulphide [%]	< 0.04	< 0.04	< 0.04

OnLine LIMS

0003225930

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11020-JAN23**

Analysis	12: 72	13: 78	14: 81
C [%]	0.033	0.034	0.014
CO3 (pyro) as %CO3 [%]	< 0.025	0.030	< 0.025

MA110 ACISOL 1.0

Gross NP (kg CaCO3/tonne) Section 7.3
AP (kg CaCO3/tonne) = Total S x 31.25

ASTM E1918 - S and C speciation

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

13-February-2023

Patriot Battery Metals Inc
Attn : Darren Smith

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone:
Fax:

Date Rec. : 19 January 2023
LR Report: **CA11021-JAN23**

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: 28	6: 29	7: 30	8: 48	9: 54
Sample Date & Time					N/A	N/A	N/A	N/A	N/A
Hg [ug/g]	10-Feb-23	16:20	13-Feb-23	16:29	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hg - Pulp [Prep]	10-Feb-23	13:19	13-Feb-23	16:29	1	1	1	1	1
Ag [µg/g]	05-Feb-23	18:21	07-Feb-23	13:25	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Al [µg/g]	05-Feb-23	18:21	07-Feb-23	13:25	8400	13000	7300	16000	11000
As [µg/g]	05-Feb-23	18:21	07-Feb-23	13:25	88	55	6.2	26	64
B [µg/g]	05-Feb-23	18:21	07-Feb-23	13:25	6	4	6	2	6
Ba [µg/g]	05-Feb-23	18:21	07-Feb-23	13:25	19	55	11	2.8	38
Be [µg/g]	05-Feb-23	18:21	07-Feb-23	13:25	1.5	0.78	0.07	1.3	0.42
Bi [µg/g]	05-Feb-23	18:21	07-Feb-23	13:25	0.80	0.18	< 0.09	< 0.09	0.15
Ca [µg/g]	05-Feb-23	18:21	07-Feb-23	13:25	7400	6600	11000	8400	7200
Cd [µg/g]	05-Feb-23	18:21	07-Feb-23	13:25	0.04	0.23	0.06	0.67	0.05
Co [µg/g]	05-Feb-23	18:21	07-Feb-23	13:25	18	20	12	26	14
Cr [µg/g]	05-Feb-23	18:21	07-Feb-23	13:25	35	51	4.4	4.1	35
Cu [µg/g]	05-Feb-23	18:21	07-Feb-23	13:25	150	51	310	120	38
Fe [µg/g]	05-Feb-23	18:21	07-Feb-23	13:25	20000	30000	18000	47000	16000
K [µg/g]	05-Feb-23	18:21	07-Feb-23	13:25	710	2600	470	160	1600
Li [µg/g]	05-Feb-23	18:21	07-Feb-23	13:25	120	280	42	193	140
Mg [µg/g]	05-Feb-23	18:21	07-Feb-23	13:25	6500	13000	3400	15000	2800
Mn [µg/g]	05-Feb-23	18:21	07-Feb-23	13:25	270	400	240	540	200
Mo [µg/g]	05-Feb-23	18:21	07-Feb-23	13:25	1.6	0.5	0.7	0.4	1.0
Na [µg/g]	05-Feb-23	18:21	07-Feb-23	13:25	580	350	800	310	850
Ni [µg/g]	05-Feb-23	18:21	07-Feb-23	13:25	30	32	7.1	12	22
P [µg/g]	05-Feb-23	18:21	07-Feb-23	13:25	540	330	310	350	320
Pb [µg/g]	05-Feb-23	18:21	07-Feb-23	13:25	2.2	11	0.57	2.3	4.1
Sb [µg/g]	05-Feb-23	18:21	07-Feb-23	13:25	3.1	5.3	< 0.8	< 0.8	2.0
Se [µg/g]	05-Feb-23	18:21	07-Feb-23	13:25	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7
Sn [µg/g]	05-Feb-23	18:21	07-Feb-23	13:25	< 5	< 5	< 5	< 5	< 5
Sr [µg/g]	05-Feb-23	18:21	07-Feb-23	13:25	6.4	5.5	7.2	5.3	15

OnLine LIMS

0003229334

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11021-JAN23**

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: 28	6: 29	7: 30	8: 48	9: 54
Ti [µg/g]	05-Feb-23	18:21	07-Feb-23	13:25	390	770	360	370	330
Tl [µg/g]	05-Feb-23	18:21	07-Feb-23	13:25	0.29	0.20	0.04	0.05	0.32
U [µg/g]	05-Feb-23	18:21	07-Feb-23	13:25	0.63	0.23	0.075	0.27	0.92
V [µg/g]	05-Feb-23	18:21	07-Feb-23	13:25	30	67	60	150	36
Zn [µg/g]	05-Feb-23	18:21	07-Feb-23	13:25	23	99	24	140	31

Analysis	10: 68	11: 71	12: 72	13: 78	14: 81
Sample Date & Time	N/A	N/A	N/A	N/A	N/A
Hg [ug/g]	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hg - Pulp [Prep]	1	1	1	1	1
Ag [µg/g]	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Al [µg/g]	3700	2300	3800	2800	2300
As [µg/g]	8.5	13	40	5.7	9.0
B [µg/g]	4	4	25	6	6
Ba [µg/g]	2.3	3.1	3.1	2.9	1.2
Be [µg/g]	0.78	2.1	6.1	3.6	1.2
Bi [µg/g]	18	0.41	2.2	3.2	1.0
Ca [µg/g]	990	1200	1600	2700	800
Cd [µg/g]	0.03	0.10	0.12	0.31	0.11
Co [µg/g]	0.30	0.27	1.2	0.82	0.31
Cr [µg/g]	150	3.9	130	4.0	160
Cu [µg/g]	1.2	1.2	4.9	1.5	1.0
Fe [µg/g]	2200	1800	3900	2000	1900
K [µg/g]	3400	1200	1300	1300	820
Li [µg/g]	66	33	41	106	117
Mg [µg/g]	83	450	910	360	82
Mn [µg/g]	81	110	97	290	150
Mo [µg/g]	0.7	0.4	0.6	0.5	1.1
Na [µg/g]	820	740	1100	580	820
Ni [µg/g]	1.7	0.4	2.1	0.4	1.9
P [µg/g]	220	470	310	880	300
Pb [µg/g]	8.8	1.5	11	1.8	3.2
Sb [µg/g]	3.4	2.3	2.2	1.1	1.7
Se [µg/g]	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7
Sn [µg/g]	< 5	< 5	5	< 5	< 5
Sr [µg/g]	3.5	4.1	2.2	4.5	2.0
Ti [µg/g]	13	7.5	31	6.4	5.6
Tl [µg/g]	2.8	1.0	1.1	1.3	0.79
U [µg/g]	1.4	2.0	6.1	1.1	1.6

OnLine LIMS

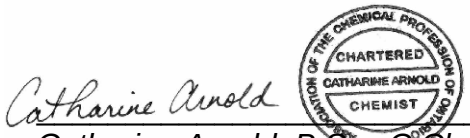
0003229334

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11021-JAN23**

Analysis	10: 68	11: 71	12: 72	13: 78	14: 81
V [µg/g]	< 1	< 1	4	< 1	< 1
Zn [µg/g]	4.1	3.4	40	4.6	6.2



Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003229334

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

22-February-2023

Patriot Battery Metals Inc
Attn : Darren Smith

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone:
Fax:

Date Rec. : 19 January 2023
LR Report: **CA11022-JAN23**

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: 28	6: 29	7: 30	8: 48	9: 54
Sample Date & Time			N/A	N/A	N/A	N/A	N/A
Sample weight [g]	08-Feb-23	14:12	20	20	20	20	20
Ext Fluid [#1 or #2]	08-Feb-23	14:12	1	1	1	1	1
Ext Volume [mL]	08-Feb-23	14:12	400	400	400	400	400
Final pH [no unit]	08-Feb-23	14:12	---	---	---	---	---
pH [No unit]	09-Feb-23	15:33	8.05	8.14	8.91	8.52	8.43
Alkalinity [mg/L as CaCO3]	09-Feb-23	11:16	21	29	22	24	21
Conductivity [uS/cm]	09-Feb-23	11:16	50	64	48	52	50
Acidity [mg/L as CaCO3]	09-Feb-23	11:16	< 2	< 2	< 2	< 2	< 2
Cl [mg/L]	22-Feb-23	11:41	< 20	< 20	< 20	< 20	< 20
Hg [mg/L]	10-Feb-23	13:06	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Al [mg/L]	14-Feb-23	11:03	0.53	0.53	0.69	0.67	0.74
As [mg/L]	14-Feb-23	11:03	0.043	0.040	0.002	0.012	0.018
Ag [mg/L]	14-Feb-23	11:03	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Ba [mg/L]	14-Feb-23	11:03	< 0.0008	0.0009	< 0.0008	< 0.0008	< 0.0008
Be [mg/L]	14-Feb-23	11:03	< 0.00007	< 0.00007	< 0.00007	< 0.00007	< 0.00007
B [mg/L]	14-Feb-23	11:03	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Bi [mg/L]	14-Feb-23	11:03	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ca [mg/L]	14-Feb-23	11:03	8.0	9.8	7.8	7.9	7.3
Cd [mg/L]	14-Feb-23	11:03	0.00005	0.00004	0.00003	< 0.00003	< 0.00003
Co [mg/L]	14-Feb-23	11:03	0.00005	< 0.00004	< 0.00004	< 0.00004	< 0.00004
Cr [mg/L]	14-Feb-23	11:03	< 0.0008	< 0.0008	< 0.0008	< 0.0008	< 0.0008
Cu [mg/L]	14-Feb-23	11:03	0.002	< 0.002	< 0.002	< 0.002	< 0.002
Fe [mg/L]	14-Feb-23	11:03	< 0.07	< 0.07	< 0.07	< 0.07	0.13
K [mg/L]	14-Feb-23	11:03	0.94	2.20	0.85	0.22	2.33
Li [mg/L]	14-Feb-23	11:03	0.046	0.080	0.019	0.047	0.056
Mg [mg/L]	14-Feb-23	11:03	0.79	0.84	0.58	0.88	0.33
Mn [mg/L]	14-Feb-23	11:03	0.0017	0.0008	0.0007	0.0004	0.0017
Mo [mg/L]	14-Feb-23	11:03	0.0010	0.0007	< 0.0004	0.0007	0.0005

OnLine LIMS

0003238692

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11022-JAN23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: 28	6: 29	7: 30	8: 48	9: 54
Na [mg/L]	14-Feb-23	11:03	1.2	1.7	1.3	1.8	1.3
Ni [mg/L]	14-Feb-23	11:03	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
P [mg/L]	14-Feb-23	11:03	0.019	0.015	0.010	0.003	0.025
Pb [mg/L]	14-Feb-23	11:03	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009
Sb [mg/L]	14-Feb-23	11:03	0.033	0.072	< 0.009	< 0.009	0.021
Se [mg/L]	14-Feb-23	11:03	0.0015	0.0012	0.0008	< 0.0004	< 0.0004
Si [mg/L]	14-Feb-23	11:03	2.14	1.44	2.15	1.48	1.90
Sn [mg/L]	14-Feb-23	11:03	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	14-Feb-23	11:03	0.0135	0.0363	0.0111	0.0204	0.00691
Ti [mg/L]	14-Feb-23	11:03	0.0012	0.0006	< 0.0005	< 0.0005	< 0.0005
Tl [mg/L]	14-Feb-23	11:03	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
U [mg/L]	14-Feb-23	11:03	0.00004	< 0.00002	< 0.00002	< 0.00002	0.00005
V [mg/L]	14-Feb-23	11:03	0.00483	0.00422	0.00588	0.00996	0.00276
Zn [mg/L]	14-Feb-23	11:03	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02

Analysis	10: 68	11: 71	12: 72	13: 78	14: 81	15: 81	16:BLK: $SPLP1312 Blank #1
Sample Date & Time	N/A	N/A	N/A	N/A	N/A		
Sample weight [g]	20	20	20	20	20	20	---
Ext Fluid [#1 or #2]	1	1	1	1	1	1	1
Ext Volume [mL]	400	400	400	400	400	400	400
Final pH [no unit]	---	---	---	---	7.78	7.81	4.24
pH [No unit]	7.74	7.07	8.15	8.39	7.27	7.03	4.52
Alkalinity [mg/L as CaCO3]	11	6	17	17	8	7	< 2
Conductivity [uS/cm]	30	21	39	42	25	24	21
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	< 2	8
Cl [mg/L]	< 20	< 20	< 20	21	< 20	< 20	< 20
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Al [mg/L]	0.40	0.16	0.89	0.54	0.19	0.20	< 0.01
As [mg/L]	0.066	0.091	0.016	0.033	0.069	0.064	< 0.002
Ag [mg/L]	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Ba [mg/L]	< 0.0008	< 0.0008	< 0.0008	< 0.0008	< 0.0008	< 0.0008	< 0.0008
Be [mg/L]	0.00016	0.00007	0.00017	0.00013	< 0.00007	0.00009	< 0.00007
B [mg/L]	< 0.02	< 0.02	0.05	< 0.02	< 0.02	< 0.02	< 0.02
Bi [mg/L]	0.0004	< 0.0001	< 0.0001	0.0010	< 0.0001	< 0.0001	< 0.0001
Ca [mg/L]	4.5	1.8	6.6	5.8	2.3	2.3	< 0.1
Cd [mg/L]	< 0.00003	0.00003	< 0.00003	0.00007	< 0.00003	0.00006	0.00005
Co [mg/L]	< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004
Cr [mg/L]	< 0.0008	< 0.0008	< 0.0008	< 0.0008	< 0.0008	< 0.0008	< 0.0008
Cu [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002

OnLine LIMS

0003238692

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11022-JAN23**

Analysis	10: 68	11: 71	12: 72	13: 78	14: 81	15: 81	16:BLK: $SPLP1312 Blank #1
Fe [mg/L]	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07
K [mg/L]	1.86	1.26	1.21	1.90	1.58	1.22	0.15
Li [mg/L]	0.045	0.024	0.018	0.131	0.223	0.227	< 0.001
Mg [mg/L]	0.05	0.13	0.14	0.28	0.05	0.05	< 0.01
Mn [mg/L]	0.0276	0.0072	0.0016	0.0050	0.0248	0.0269	0.0003
Mo [mg/L]	< 0.0004	0.0006	0.0006	0.0009	0.0009	0.0017	< 0.0004
Na [mg/L]	0.8	2.0	1.4	1.6	1.7	1.6	< 0.1
Ni [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
P [mg/L]	0.077	0.100	0.025	0.091	0.068	0.085	0.007
Pb [mg/L]	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009
Sb [mg/L]	0.012	0.013	< 0.009	< 0.009	0.012	0.010	< 0.009
Se [mg/L]	< 0.0004	0.0006	< 0.0004	0.0011	< 0.0004	0.0011	0.0011
Si [mg/L]	1.42	1.02	1.52	2.20	1.16	1.19	< 0.02
Sn [mg/L]	0.00008	0.00011	0.00017	0.00011	0.00009	0.00019	< 0.00006
Sr [mg/L]	0.00574	0.00424	0.00529	0.0102	0.00362	0.00336	0.00035
Ti [mg/L]	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.0008
Tl [mg/L]	0.00018	0.00011	0.00010	0.00016	0.00012	0.00014	< 0.00005
U [mg/L]	0.00110	0.00039	0.00069	0.00024	0.00010	0.00011	< 0.00002
V [mg/L]	0.00011	0.00019	0.00059	0.00029	0.00014	0.00010	0.00004
Zn [mg/L]	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02

Catharine Arnold

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003238692

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

28-February-2023

Patriot Battery Metals Inc
Attn : Darren Smith

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone:
Fax:

Date Rec. : 19 January 2023
LR Report: **CA11023-JAN23**

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: 28	6: 29	7: 30	8: 48	9: 54	10: 68
Sample Date & Time			N/A	N/A	N/A	N/A	N/A	N/A
Sample weight [g]	22-Feb-23	15:05	100	100	100	100	100	100
Volume D.I. Water [mL]	22-Feb-23	15:05	400	400	400	400	400	400
pH [No unit]	28-Feb-23	16:00	8.29	8.49	8.89	8.34	8.37	9.23
Alkalinity [mg/L as CaCO3]	28-Feb-23	16:00	56	88	62	73	74	97
Conductivity [uS/cm]	24-Feb-23	10:20	274	268	190	201	277	234
Acidity [mg/L as CaCO3]	24-Feb-23	10:19	< 2	< 2	< 2	< 2	< 2	< 2
Cl [mg/L]	28-Feb-23	13:56	< 20	< 20	< 20	< 20	< 20	< 20
Hg [mg/L]	22-Feb-23	15:06	0.00013	0.00006	< 0.00001	< 0.00001	0.00007	< 0.00001
Al [mg/L]	27-Feb-23	14:20	0.337	0.378	0.757	0.320	1.24	1.92
As [mg/L]	27-Feb-23	14:20	0.193	0.158	0.0129	0.0190	0.0590	0.742
Ag [mg/L]	27-Feb-23	14:20	< 0.00005	0.00016	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Ba [mg/L]	27-Feb-23	14:20	0.00291	0.00344	0.00072	0.00061	0.00605	0.00113
Be [mg/L]	27-Feb-23	14:20	0.000035	0.000014	< 0.000007	0.000018	0.000030	0.000220
B [mg/L]	27-Feb-23	14:20	0.363	0.144	0.154	0.056	0.288	0.244
Bi [mg/L]	27-Feb-23	14:20	0.00007	0.00002	< 0.00001	< 0.00001	0.00001	0.00160
Ca [mg/L]	27-Feb-23	14:20	15.4	8.34	7.82	12.8	7.81	1.88
Cd [mg/L]	27-Feb-23	14:20	0.000005	0.000006	< 0.000003	0.000003	0.000022	0.000005
Co [mg/L]	27-Feb-23	14:20	0.000132	0.000164	0.000052	0.000150	0.000190	0.000294
Cr [mg/L]	27-Feb-23	14:20	0.00207	0.00217	0.00065	0.00011	0.00222	0.00102
Cu [mg/L]	27-Feb-23	14:20	0.0015	0.0002	0.0040	0.0003	0.0015	0.0013
Fe [mg/L]	27-Feb-23	14:20	0.100	0.116	0.032	0.053	0.221	0.575
K [mg/L]	27-Feb-23	14:20	16.8	29.0	8.18	2.21	36.3	42.0
Li [mg/L]	27-Feb-23	14:20	1.59	1.70	0.415	0.362	1.96	1.69
Mg [mg/L]	27-Feb-23	14:20	7.86	6.35	3.08	10.7	2.19	0.934
Mn [mg/L]	27-Feb-23	14:20	0.00412	0.00346	0.00185	0.00472	0.00568	0.0125
Mo [mg/L]	27-Feb-23	14:20	0.0141	0.00671	0.00369	0.00263	0.00530	0.00170
Na [mg/L]	27-Feb-23	14:20	23.9	24.6	26.7	19.0	30.0	23.5
Ni [mg/L]	27-Feb-23	14:20	0.0004	0.0003	< 0.0001	0.0002	0.0005	0.0004
P [mg/L]	27-Feb-23	14:20	0.044	0.033	0.022	0.016	0.049	0.231
Pb [mg/L]	27-Feb-23	14:20	0.00011	0.00014	< 0.00009	< 0.00009	0.00031	0.00061

OnLine LIMS

0003246638

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11023-JAN23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: 28	6: 29	7: 30	8: 48	9: 54	10: 68
Sb [mg/L]	27-Feb-23	14:20	0.236	0.550	0.0074	0.0441	0.233	0.317
Se [mg/L]	27-Feb-23	14:20	0.00251	0.00206	0.00111	0.00099	0.00091	0.00044
Si [mg/L]	27-Feb-23	14:20	3.25	2.42	2.18	1.50	2.34	4.94
Sn [mg/L]	27-Feb-23	14:20	0.00011	< 0.00006	0.00006	0.00007	0.00008	0.00047
Sr [mg/L]	27-Feb-23	14:20	0.0240	0.0377	0.0120	0.0351	0.0138	0.00327
Ti [mg/L]	27-Feb-23	14:20	0.00398	0.00603	0.00137	0.00111	0.0165	0.00793
Tl [mg/L]	27-Feb-23	14:20	0.000040	0.000055	0.000010	0.000018	0.000028	0.00225
U [mg/L]	27-Feb-23	14:20	0.00432	0.000162	0.000500	0.000246	0.00761	0.0245
V [mg/L]	27-Feb-23	14:20	0.0214	0.0121	0.0373	0.00788	0.0212	0.138
Zn [mg/L]	27-Feb-23	14:17	< 0.002	< 0.002	< 0.002	< 0.002	0.002	0.003

Analysis	11: 71	12: 72	13: 78	14: 81	15: 81	16:BLK: CTEU Blank
Sample Date & Time	N/A	N/A	N/A	N/A		
Sample weight [g]	100	100	100	100	100	---
Volume D.I. Water [mL]	400	400	400	400	400	400
pH [No unit]	9.29	9.31	8.63	9.26	8.80	6.75
Alkalinity [mg/L as CaCO3]	80	104	92	77	99	24
Conductivity [uS/cm]	224	224	247	171	200	60
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	< 2
Cl [mg/L]	21	< 20	21	< 20	< 20	< 20
Hg [mg/L]	0.00013	< 0.00001	0.00012	0.00007	0.00007	0.00012
Al [mg/L]	5.82	7.39	2.59	5.96	7.02	0.011
As [mg/L]	3.73	0.569	0.981	1.56	1.52	0.0003
Ag [mg/L]	0.00006	< 0.00005	< 0.00005	0.00005	0.00006	< 0.00005
Ba [mg/L]	0.00213	0.00156	0.00179	0.00107	0.00101	0.00024
Be [mg/L]	0.00199	0.00429	0.00236	0.00107	0.00108	< 0.000007
B [mg/L]	0.471	1.26	0.393	0.328	0.347	0.002
Bi [mg/L]	0.00027	0.00122	0.00117	0.00064	0.00073	< 0.00001
Ca [mg/L]	0.48	1.33	1.51	0.48	0.50	0.07
Cd [mg/L]	0.000017	0.000058	0.000021	0.000027	0.000024	0.000003
Co [mg/L]	0.000201	0.00160	0.000381	0.000102	0.000101	0.000035
Cr [mg/L]	0.00454	0.00260	0.00265	0.00512	0.00461	0.00017
Cu [mg/L]	0.0024	0.0019	0.0016	0.0008	0.0007	0.0005
Fe [mg/L]	0.188	0.732	0.140	0.170	0.167	0.020
K [mg/L]	16.6	16.3	19.9	7.34	7.35	2.70
Li [mg/L]	0.871	0.456	4.09	5.37	5.10	0.0002
Mg [mg/L]	0.173	0.480	0.254	0.092	0.090	0.015
Mn [mg/L]	0.0172	0.0269	0.0287	0.0570	0.0550	0.00080
Mo [mg/L]	0.00466	0.00232	0.00354	0.00442	0.00412	0.00035
Na [mg/L]	46.3	46.4	41.2	36.1	34.1	15.6
Ni [mg/L]	0.0004	0.0016	0.0003	0.0001	0.0001	0.0001
P [mg/L]	1.84	0.399	1.49	1.63	1.52	< 0.003

OnLine LIMS

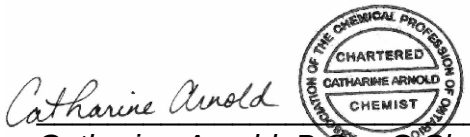
0003246638

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11023-JAN23**

Analysis	11: 71	12: 72	13: 78	14: 81	15: 81	16:BLK: CTEU Blank
Pb [mg/L]	0.00114	0.00802	0.00063	0.00084	0.00098	< 0.00009
Sb [mg/L]	0.375	0.144	0.144	0.264	0.260	< 0.0009
Se [mg/L]	0.00071	0.00256	0.00059	0.00026	0.00029	< 0.00004
Si [mg/L]	7.00	4.52	6.15	7.25	7.00	0.05
Sn [mg/L]	0.00125	0.00200	0.00142	0.00240	0.00206	< 0.00006
Sr [mg/L]	0.00165	0.00210	0.00402	0.00134	0.00133	0.00023
Ti [mg/L]	0.00217	0.00715	0.00169	0.00358	0.00323	0.00060
Tl [mg/L]	0.00102	0.00179	0.00141	0.00113	0.00127	< 0.000005
U [mg/L]	0.0464	0.0817	0.0113	0.0579	0.0622	< 0.000002
V [mg/L]	0.0200	0.0441	0.0108	0.0102	0.0101	0.00006
Zn [mg/L]	0.003	0.032	0.003	0.005	0.005	< 0.002



Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003246638

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11023-JAN23**

OnLine LIMS

0003246638

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

15-January-2024

Patriot Battery Metals Inc
Attn : Alix Drapack

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone:
Fax:

Date Rec. : 20 September 2023
LR Report: **CA11024-SEP23**

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV13-ORE-01	6: CV13-WR-02	7: CV13-WR-03	8: CV13-WR-04	9: CV13-WR-05
Sample Date & Time			NA	NA	NA	NA	NA
Sample weight [g]	12-Jan-24	09:25	2.01	2.04	1.99	2.02	2.00
Initial pH	12-Jan-24	09:25	9.30	9.64	9.20	9.44	9.64
Vol H2SO4 [mL]	12-Jan-24	09:25	0.25	0.40	0.90	0.55	0.80
H2SO4 [Normality]	12-Jan-24	09:25	1.00	1.00	1.00	1.00	1.00
NP [t CaCO3/1000 t]	12-Jan-24	09:25	6.2	9.8	22.6	13.6	20.0
AP [t CaCO3/1000 t]	12-Jan-24	09:25	0.16	0.16	13.5	5.03	2.47
NNP [kg CaCO3/ tonne]	12-Jan-24	09:25	6.0	9.6	9	9	18
S [%]	20-Oct-23	08:59	< 0.005	0.005	0.433	0.161	0.079
Acid Leachable SO4-S [%]	20-Oct-23	14:14	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Sulphide [%]	20-Oct-23	14:14	< 0.04	< 0.04	0.36	0.10	0.06
C [%]	20-Oct-23	14:13	0.012	0.035	0.040	0.024	0.108
CO3 (HCl) as %CO3 [%]	20-Oct-23	14:13	< 0.04	0.10	0.10	0.04	0.46

Analysis	10: CV13-WR-06	11: CV13-WR-07	12: CV13-WR-08	13: CV13-WR-09	14: CV13-WR-10	15: CV13-WR-11	16: CV13-WR-12
Sample Date & Time	NA	NA	NA	NA	NA	NA	NA
Sample weight [g]	2.01	1.99	2.03	2.05	2.03	2.05	2.01
Initial pH	9.67	9.06	9.22	9.00	9.52	9.15	9.14
Vol H2SO4 [mL]	0.30	0.25	0.40	0.70	0.80	0.35	0.40
H2SO4 [Normality]	1.00	1.00	1.00	1.00	1.00	1.00	1.00
NP [t CaCO3/1000 t]	7.5	6.3	9.9	17.1	19.7	8.5	10.0
AP [t CaCO3/1000 t]	0.16	0.16	3.69	12.4	4.84	0.16	4.47
NNP [kg CaCO3/ tonne]	7.3	6.1	6.2	5	15	8.3	5.5
S [%]	< 0.005	< 0.005	0.118	0.398	0.155	< 0.005	0.143
Acid Leachable SO4-S [%]	< 0.04	< 0.04	< 0.04	0.06	0.06	< 0.04	< 0.04
Sulphide [%]	< 0.04	< 0.04	0.10	0.34	0.09	< 0.04	0.11
C [%]	< 0.005	< 0.005	< 0.005	< 0.005	0.102	< 0.005	0.013
CO3 (HCl) as %CO3 [%]	<0.04	<0.04	<0.04	<0.04	0.42	<0.04	< 0.04

OnLine LIMS

0003591283

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11024-SEP23**

Analysis	17: CV13-ORE-13	18: CV13-WR-14	19: CV13-WR-15	20: CV13-ORE-16	21: CV13-WR-17	22: CV13-WR-18	23: CV13-WR-19
Sample Date & Time	NA	NA	NA	NA	NA	NA	NA
Sample weight [g]	1.99	2.03	1.99	2.02	2.04	2.02	2.02
Initial pH	8.95	9.10	9.30	8.90	9.18	8.98	9.28
Vol H2SO4 [mL]	0.30	0.70	0.70	0.35	0.60	0.65	0.55
H2SO4 [Normality]	1.00	1.00	1.00	1.00	1.00	1.00	1.00
NP [t CaCO3/1000 t]	7.5	17.2	17.6	8.7	14.7	16.1	13.6
AP [t CaCO3/1000 t]	0.16	11.5	9.84	0.16	1.84	0.41	3.88
NNP [kg CaCO3/ tonne]	7.3	6	8	8.5	13	16	10
S [%]	< 0.005	0.367	0.315	< 0.005	0.059	0.013	0.124
Acid Leachable SO4-S [%]	< 0.04	0.15	0.06	< 0.04	< 0.04	< 0.04	< 0.04
Sulphide [%]	< 0.04	0.22	0.26	< 0.04	0.06	< 0.04	0.11
C [%]	< 0.005	< 0.005	0.015	< 0.005	< 0.005	0.005	< 0.005
CO3 (HCl) as %CO3 [%]	<0.04	<0.04	< 0.04	<0.04	<0.04	< 0.04	<0.04

Analysis	24: CV13-WR-20	25: CV13-WR-21	26: CV13-WR-22	27: CV13-WR-23	28: CV13-WR-24	29: CV13-WR-25	30: CV13-WR-26
Sample Date & Time	NA	NA	NA	NA	NA	NA	NA
Sample weight [g]	2.04	2.00	2.05	2.03	2.01	2.02	2.05
Initial pH	9.30	9.54	8.98	9.15	8.54	7.32	8.32
Vol H2SO4 [mL]	0.60	0.95	2.50	2.65	0.75	1.60	1.30
H2SO4 [Normality]	1.00	1.00	1.00	1.00	1.00	1.00	1.00
NP [t CaCO3/1000 t]	14.7	23.8	61.0	65.3	18.7	39.6	31.7
AP [t CaCO3/1000 t]	0.16	1.25	1.75	0.16	11.3	168	91.2
NNP [kg CaCO3/ tonne]	15	23	59	65	7	-128	-60
S [%]	< 0.005	0.040	0.056	< 0.005	0.363	5.37	2.92
Acid Leachable SO4-S [%]	< 0.04	< 0.04	< 0.04	< 0.04	0.10	1.50	< 0.04
Sulphide [%]	< 0.04	0.08	0.04	< 0.04	0.26	3.87	3.07
C [%]	< 0.005	0.180	0.381	0.441	< 0.005	< 0.005	0.038
CO3 (HCl) as %CO3 [%]	<0.04	0.80	1.83	2.12	<0.04	<0.04	0.11

Analysis	31: CV13-WR-27	32: CV13-WR-28	33: CV13-ORE-29	34: CV13-WR-30
Sample Date & Time	NA	NA	NA	NA
Sample weight [g]	2.01	2.03	2.03	2.05
Initial pH	8.47	8.43	7.94	8.60
Vol H2SO4 [mL]	5.75	0.65	0.50	0.80
H2SO4 [Normality]	1.00	1.00	1.00	1.00
NP [t CaCO3/1000 t]	143	16.0	12.3	19.5
AP [t CaCO3/1000 t]	657	1.19	0.34	2.56
NNP [kg CaCO3/ tonne]	-514	15	12	17
S [%]	21.0	0.038	0.011	0.082
Acid Leachable SO4-S [%]	14.9	< 0.04	< 0.04	0.04
Sulphide [%]	6.13	< 0.04	< 0.04	0.04

OnLine LIMS

0003591283

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

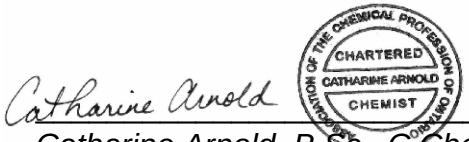
LR Report : **CA11024-SEP23**

Analysis	31: CV13-WR-27	32: CV13-WR-28	33: CV13-ORE-29	34: CV13-WR-30
C [%]	0.524	0.096	0.034	0.081
CO3 (HCl) as %CO3 [%]	2.48	0.41	0.08	0.28

MA110 ACISOL 1.0

Gross NP (kg CaCO3/tonne) Section 7.3
AP (kg CaCO3/tonne) = Total S x 31.25

ASTM E1918 - S and C speciation



Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003591283

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quebec MA200-Met 1.2 Digest

01-November-2023

Patriot Battery Metals Inc
Attn : Darren Smith

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone:
Fax:

Date Rec. : 20 September 2023
LR Report: **CA11025-SEP23**

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: CV13-ORE-01	6: CV13-WR-02	7: CV13-WR-03	8: CV13-WR-04	9: CV13-WR-05	10: CV13-WR-06	11: CV13-WR-07	12: CV13-WR-08
Sample Date & Time					NA	NA	NA	NA	NA	NA	NA	NA
Hg [ug/g]	20-Oct-23	10:28	31-Oct-23	16:08	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Ag [µg/g]	26-Oct-23	23:20	31-Oct-23	16:08	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Al [µg/g]	26-Oct-23	23:20	31-Oct-23	16:08	2300	5200	20000	15000	12000	2900	5000	12000
As [µg/g]	26-Oct-23	23:20	31-Oct-23	16:08	9.2	67	190	31	8.9	7.1	720	3.9
B [µg/g]	26-Oct-23	23:20	31-Oct-23	16:08	3	8	15	2	3	3	8	3
Ba [µg/g]	26-Oct-23	23:20	31-Oct-23	16:08	0.87	8.8	17	150	11	0.95	1.6	13
Be [µg/g]	26-Oct-23	23:20	31-Oct-23	16:08	1.1	3.3	1.3	0.25	0.15	0.70	1.6	0.24
Bi [µg/g]	26-Oct-23	23:20	31-Oct-23	16:08	0.22	32	0.35	< 0.09	< 0.09	2.1	1.6	< 0.09
Ca [µg/g]	26-Oct-23	23:20	31-Oct-23	16:08	590	3200	2400	6200	9900	920	1200	12000
Cd [µg/g]	26-Oct-23	23:20	31-Oct-23	16:08	0.10	2.9	0.07	0.05	< 0.02	0.04	0.27	0.07
Co [µg/g]	26-Oct-23	23:20	31-Oct-23	16:08	0.33	3.2	32	15	19	0.41	0.76	16
Cr [µg/g]	26-Oct-23	23:20	31-Oct-23	16:08	180	150	760	53	200	130	130	100
Cu [µg/g]	26-Oct-23	23:20	31-Oct-23	16:08	1.9	190	31	71	68	1.6	2.2	81
Fe [µg/g]	26-Oct-23	23:20	31-Oct-23	16:08	1800	4000	27000	21000	12000	1600	2000	12000
K [µg/g]	26-Oct-23	23:20	31-Oct-23	16:08	720	940	2000	4000	620	690	690	410
Li [µg/g]	26-Oct-23	23:20	31-Oct-23	16:08	69	110	250	360	170	8	11	68
Mg [µg/g]	26-Oct-23	23:20	31-Oct-23	16:08	92	2100	30000	8700	9600	97	210	4400
Mn [µg/g]	26-Oct-23	23:20	31-Oct-23	16:08	66	350	420	230	170	32	45	250
Mo [µg/g]	26-Oct-23	23:20	31-Oct-23	16:08	0.9	0.5	0.7	0.7	0.3	1.0	1.0	0.2
Na [µg/g]	26-Oct-23	23:20	31-Oct-23	16:08	1200	1700	110	1000	630	1400	1700	1300
Ni [µg/g]	26-Oct-23	23:20	31-Oct-23	16:08	2.4	10	380	30	120	2.5	3.3	68
P [µg/g]	26-Oct-23	23:20	31-Oct-23	16:08	150	810	520	550	160	78	340	360

OnLine LIMS

000351915 4

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quebec MA200-Met 1.2 Digest

LR Report : **CA11025-SEP23**

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: CV13-ORE-01	6: CV13-WR-02	7: CV13-WR-03	8: CV13-WR-04	9: CV13-WR-05	10: CV13-WR-06	11: CV13-WR-07	12: CV13-WR-08
Pb [µg/g]	26-Oct-23	23:20	31-Oct-23	16:08	2.3	183	2.4	2.3	0.50	1.1	1.3	0.84
Sb [µg/g]	26-Oct-23	23:20	31-Oct-23	16:08	1.0	6.3	3.7	0.9	< 0.8	1.1	23	0.9
Se [µg/g]	26-Oct-23	23:20	31-Oct-23	16:08	< 0.1	0.1	0.2	0.2	0.2	< 0.1	< 0.1	0.2
Sn [µg/g]	26-Oct-23	23:20	31-Oct-23	16:08	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Sr [µg/g]	26-Oct-23	23:20	31-Oct-23	16:08	0.76	3.8	3.1	12	9.7	1.5	1.7	21
Ti [µg/g]	26-Oct-23	23:20	31-Oct-23	16:08	1.1	110	320	830	790	5.4	19	1700
Tl [µg/g]	26-Oct-23	23:20	31-Oct-23	16:08	0.58	0.90	0.35	1.8	0.10	0.41	4.3	0.41
U [µg/g]	26-Oct-23	23:20	31-Oct-23	16:08	3.0	73	0.18	0.74	0.026	0.46	0.75	0.15
V [µg/g]	26-Oct-23	23:20	31-Oct-23	16:08	< 1	7	28	47	27	< 1	1	41
Zn [µg/g]	26-Oct-23	23:20	31-Oct-23	16:08	3.9	13	49	34	16	2.0	4.8	16

Analysis	13: CV13-WR-09	14: CV13-WR-10	15: CV13-WR-11	16: CV13-WR-12	17: CV13-ORE-13	18: CV13-WR-14	19: CV13-WR-15	20: CV13-ORE-16	21: CV13-WR-17	22: CV13-WR-18	23: CV13-WR-19	24: CV13-WR-20
Sample Date & Time	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hg [ug/g]	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Ag [µg/g]	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Al [µg/g]	39000	16000	5200	15000	5300	21000	15000	3400	13000	23000	16000	24000
As [µg/g]	3.3	2.2	20	0.5	200	73	1.2	500	100	87	110	99
B [µg/g]	2	2	7	1	15	4	3	15	1	10	5	8
Ba [µg/g]	160	9.4	1.7	8.9	9.1	76	21	1.7	90	6.6	61	77
Be [µg/g]	0.29	0.14	3.7	0.04	2.5	0.41	0.16	3.2	0.20	1.1	1.8	1.1
Bi [µg/g]	0.09	< 0.09	0.15	< 0.09	0.20	< 0.09	< 0.09	0.87	< 0.09	< 0.09	< 0.09	0.19
Ca [µg/g]	17000	16000	2300	12000	2200	14000	13000	720	4100	18000	10000	16000
Cd [µg/g]	0.04	0.06	0.14	0.02	0.20	0.32	0.22	0.09	0.03	0.06	0.22	0.08
Co [µg/g]	32	14	2.2	12	2.3	35	16	0.64	37	29	26	28
Cr [µg/g]	200	68	140	46	120	74	39	89	250	86	140	200
Cu [µg/g]	140	160	3.2	110	5.3	160	120	2.4	54	57	68	38
Fe [µg/g]	23000	12000	3900	11000	4400	21000	24000	1300	17000	11000	17000	11000
K [µg/g]	4600	260	320	220	2000	3500	760	540	2900	360	2400	800
Li [µg/g]	280	110	47	15	180	240	31	13	240	99	280	230
Mg [µg/g]	8200	5300	1600	5000	1700	6800	5200	190	12000	5100	8500	6100
Mn [µg/g]	120	250	270	170	310	430	290	88	150	220	300	240
Mo [µg/g]	0.6	0.2	0.9	0.2	0.5	0.6	0.7	1.9	0.2	0.2	0.3	0.2
Na [µg/g]	4100	1500	1300	2000	1300	1600	1400	1800	530	1200	1200	2000
Ni [µg/g]	70	40	5.1	24	6.4	51	17	2.5	130	36	69	92
P [µg/g]	250	200	270	140	440	270	870	97	180	160	190	220

OnLine LIMS

000351915

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quebec MA200-Met 1.2 Digest

LR Report : **CA11025-SEP23**

Analysis	13: CV13-WR-09	14: CV13-WR-10	15: CV13-WR-11	16: CV13-WR-12	17: CV13-ORE-13	18: CV13-WR-14	19: CV13-WR-15	20: CV13-ORE-16	21: CV13-WR-17	22: CV13-WR-18	23: CV13-WR-19	24: CV13-WR-20
Pb [µg/g]	2.2	1.1	13	0.44	6.9	9.5	2.2	4.0	0.44	0.42	0.63	0.62
Sb [µg/g]	< 0.8	< 0.8	1.6	< 0.8	8.5	1.6	< 0.8	15	4.0	5.8	2.7	6.2
Se [µg/g]	0.4	0.3	< 0.1	0.4	< 0.1	0.7	0.3	< 0.1	0.1	< 0.1	0.2	< 0.1
Sn [µg/g]	< 5	< 5	15	< 5	12	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Sr [µg/g]	37	24	1.8	15	1.8	26	17	1.4	5.3	30	11	21
Ti [µg/g]	650	1400	64	360	130	1600	950	12	650	1100	960	670
Tl [µg/g]	0.94	0.04	0.16	< 0.02	5.8	2.7	0.07	0.37	0.69	0.32	4.2	0.89
U [µg/g]	0.69	0.038	28	0.058	24	0.29	0.24	21	0.10	0.17	0.17	0.058
V [µg/g]	140	35	10	32	9	64	44	< 1	29	36	42	44
Zn [µg/g]	48	15	26	12	7.6	120	95	1.4	19	15	47	17

Analysis	25: CV13-WR-21	26: CV13-WR-22	27: CV13-WR-23	28: CV13-WR-24	29: CV13-WR-25	30: CV13-WR-26	31: CV13-WR-27	32: CV13-WR-28	33: CV13-ORE-29	34: CV13-WR-30
Sample Date & Time	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hg [ug/g]	< 0.05	< 0.05	< 0.05	< 0.05	0.38	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Ag [µg/g]	< 0.5	< 0.5	< 0.5	< 0.5	0.6	< 0.5	1.1	< 0.5	< 0.5	< 0.5
Al [µg/g]	10000	4700	4800	16000	14000	9600	2200	6700	2100	24000
As [µg/g]	570	130	1100	4.9	5.4	1.8	1.8	4.6	7.4	2.0
B [µg/g]	6	41	31	2	2	1	< 1	2	3	1
Ba [µg/g]	32	0.92	1.1	87	230	110	5.8	56	0.46	13
Be [µg/g]	0.64	0.26	0.27	0.16	0.09	0.04	0.08	0.21	1.2	0.08
Bi [µg/g]	0.24	0.96	0.62	< 0.09	0.95	0.28	1.1	0.14	< 0.09	< 0.09
Ca [µg/g]	4800	8500	7000	7200	3900	3900	17000	2500	890	17000
Cd [µg/g]	0.02	0.07	< 0.02	< 0.02	14	0.66	0.13	0.10	0.21	0.04
Co [µg/g]	38	67	74	19	85	62	28	0.32	0.42	7.9
Cr [µg/g]	750	870	920	25	73	190	44	60	190	24
Cu [µg/g]	62	11	2.9	13	620	430	360	4.9	9.7	55
Fe [µg/g]	11000	35000	28000	29000	54000	40000	220000	5900	2000	4900
K [µg/g]	380	8.7	8.3	2800	4800	2400	410	2600	370	220
Li [µg/g]	21	2	4	250	240	150	5	15	120	50
Mg [µg/g]	20000	130000	100000	8800	9000	8000	1200	3100	58	2700
Mn [µg/g]	110	630	490	240	130	83	670	110	190	120
Mo [µg/g]	< 0.1	< 0.1	< 0.1	0.5	1.8	1.2	1.0	1.7	1.3	0.2
Na [µg/g]	220	28	26	990	850	720	120	460	960	2300
Ni [µg/g]	610	1600	1500	8.9	100	300	44	1.3	2.2	20
P [µg/g]	180	23	21	350	320	160	61	< 3	150	130

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

000351915 4

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	25: CV13-WR-21	26: CV13-WR-22	27: CV13-WR-23	28: CV13-WR-24	29: CV13-WR-25	30: CV13-WR-26	31: CV13-WR-27	32: CV13-WR-28	33: CV13-ORE-29	34: CV13-WR-30
Pb [µg/g]	0.61	0.24	0.11	1.0	61	1.8	2.6	7.1	1.8	0.86
Sb [µg/g]	1.9	< 0.8	2.6	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	1.5	< 0.8
Se [µg/g]	0.1	0.1	< 0.1	0.2	5.0	2.1	1.5	< 0.1	< 0.1	< 0.1
Sn [µg/g]	< 5	< 5	< 5	< 5	9	< 5	< 5	< 5	< 5	< 5
Sr [µg/g]	8.7	5.8	7.4	7.8	7.4	5.8	4.9	5.9	1.0	42
Ti [µg/g]	89	42	42	870	1200	610	110	150	2.5	340
Tl [µg/g]	0.18	0.05	< 0.02	0.19	0.20	0.16	0.10	0.05	0.23	0.11
U [µg/g]	0.14	0.034	0.016	7.5	0.62	0.22	0.11	2.6	1.3	0.18
V [µg/g]	25	15	15	80	39	38	6	< 1	< 1	16
Zn [µg/g]	13	30	19	15	6000	230	22	53	5.6	6.3

Catharine Arnold

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

000351915 4

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

30-November-2023

Patriot Battery Metals Inc
Attn : Darren Smith

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone:
Fax:

Date Rec. : 20 September 2023
LR Report: **CA11027-SEP23**

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV13-ORE-01	6: CV13-WR-02	7: CV13-WR-03	8: CV13-WR-04	9: CV13-WR-05
Sample Date & Time			NA	NA	NA	NA	NA
Sample weight [g]	23-Nov-23	15:58	100	100	100	100	100
Volume D.I. Water [mL]	23-Nov-23	15:58	400	400	400	400	400
pH [No unit]	30-Nov-23	11:53	9.52	9.35	8.23	9.06	8.30
Conductivity [uS/cm]	30-Nov-23	11:53	334	381	313	302	219
Alkalinity [mg/L as CaCO3]	30-Nov-23	11:53	149	148	109	103	79
Acidity [mg/L as CaCO3]	30-Nov-23	11:53	< 2	< 2	< 2	< 2	< 2
F [mg/L]	24-Nov-23	13:32	1.71	3.34	1.22	2.09	0.43
Br [mg/L]	24-Nov-23	12:02	< 30	< 30	< 30	< 30	< 30
Cl [mg/L]	24-Nov-23	12:02	< 20	< 20	< 20	< 20	< 20
SO4 [mg/L]	24-Nov-23	12:02	< 20	< 20	< 20	< 20	< 20
NO2 [as N mg/L]	24-Nov-23	12:02	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	24-Nov-23	12:02	< 6	< 6	< 6	< 6	< 6
Hg [mg/L]	29-Nov-23	11:38	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Al [mg/L]	29-Nov-23	11:38	1.15	0.934	0.492	0.871	0.617
As [mg/L]	30-Nov-23	12:11	1.20	3.02	0.459	0.392	0.145
Ag [mg/L]	29-Nov-23	11:39	< 0.00005	< 0.00005	0.00010	< 0.00005	< 0.00005
Ba [mg/L]	29-Nov-23	11:39	0.00137	0.00161	0.00662	0.00666	0.00160
Be [mg/L]	29-Nov-23	11:39	0.000631	0.000506	0.000018	0.000011	< 0.000007
B [mg/L]	30-Nov-23	12:11	0.476	0.596	1.30	0.234	0.079
Bi [mg/L]	29-Nov-23	11:39	0.00041	0.00187	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	30-Nov-23	12:11	0.40	0.72	8.53	2.67	3.01
Cd [mg/L]	29-Nov-23	11:39	0.000031	0.000340	0.000004	0.000006	0.000004
Co [mg/L]	29-Nov-23	11:39	0.000021	0.000472	0.000567	0.000469	0.000045
Cr [mg/L]	29-Nov-23	11:39	0.00121	0.00415	0.0180	0.00214	0.0356
Cu [mg/L]	29-Nov-23	11:39	0.0015	0.0028	0.0024	0.0030	0.0007
Fe [mg/L]	29-Nov-23	11:39	0.035	0.176	0.563	0.614	0.012
K [mg/L]	29-Nov-23	11:39	3.26	1.61	23.6	29.6	10.8
Li [mg/L]	30-Nov-23	12:10	2.47	0.583	0.805	4.81	3.54
Mg [mg/L]	29-Nov-23	11:40	0.028	0.170	18.9	1.26	7.49
Mn [mg/L]	29-Nov-23	11:40	0.0171	0.0145	0.0107	0.00850	0.00094
Mo [mg/L]	29-Nov-23	11:40	0.00522	0.00425	0.00419	0.00607	0.00467

OnLine LIMS

00035497785

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11027-SEP23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV13-ORE-01	6: CV13-WR-02	7: CV13-WR-03	8: CV13-WR-04	9: CV13-WR-05
Na [mg/L]	29-Nov-23	11:40	42.6	58.2	11.0	28.1	15.1
Ni [mg/L]	29-Nov-23	11:40	< 0.0001	0.0013	0.0084	0.0010	0.0003
P [mg/L]	29-Nov-23	11:40	0.607	0.679	0.024	0.180	0.018
Pb [mg/L]	29-Nov-23	11:40	0.00093	0.0464	0.00014	0.00017	< 0.00009
Sb [mg/L]	29-Nov-23	11:40	0.135	0.439	0.548	0.126	0.0302
Se [mg/L]	29-Nov-23	11:41	0.00025	0.00735	0.00027	0.00067	0.00071
Si [mg/L]	29-Nov-23	11:41	18.1	11.7	6.57	5.12	4.57
Sn [mg/L]	29-Nov-23	11:41	0.00088	0.00050	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	29-Nov-23	11:41	0.00038	0.00100	0.0122	0.00374	0.00201
Ti [mg/L]	29-Nov-23	11:41	0.00098	0.00394	0.0210	0.0351	0.00059
Tl [mg/L]	30-Nov-23	12:12	0.000366	0.000146	0.000077	0.000104	0.000023
U [mg/L]	30-Nov-23	12:12	0.170	1.13	0.000164	0.00188	0.000260
V [mg/L]	29-Nov-23	11:41	0.00167	0.0284	0.00634	0.0689	0.0472
Zn [mg/L]	29-Nov-23	11:41	0.002	0.003	< 0.002	< 0.002	< 0.002

Analysis	10: CV13-WR-06	11: CV13-WR-07	12: CV13-WR-08	13: CV13-WR-09	14: CV13-WR-10	15: CV13-WR-11	16: CV13-WR-12
Sample Date & Time	NA	NA	NA	NA	NA	NA	NA
Sample weight [g]	100	100	100	100	100	100	100
Volume D.I. Water [mL]	400	400	400	400	400	400	400
pH [No unit]	9.19	8.96	9.05	8.37	8.29	9.71	8.77
Conductivity [uS/cm]	345	357	204	325	220	364	223
Alkalinity [mg/L as CaCO3]	161	113	71	101	68	156	67
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	< 2	< 2
F [mg/L]	1.71	1.45	1.18	1.74	0.33	1.10	0.21
Br [mg/L]	< 30	< 30	< 30	< 30	< 30	< 30	< 30
Cl [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20
SO4 [mg/L]	< 20	35	< 20	29	< 20	< 20	24
NO2 [as N mg/L]	< 3	< 3	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Al [mg/L]	3.50	1.52	0.189	1.58	0.492	2.26	0.336
As [mg/L]	0.645	41.5	0.0927	0.0422	0.0192	0.894	0.0058
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	0.00006	< 0.00005
Ba [mg/L]	0.00180	0.00255	0.00148	0.00921	0.00051	0.00141	0.00148
Be [mg/L]	0.000379	0.000829	< 0.000007	0.000008	< 0.000007	0.000961	< 0.000007
B [mg/L]	0.453	1.53	0.128	0.299	0.049	0.902	0.075
Bi [mg/L]	0.00126	0.00095	< 0.00001	< 0.00001	< 0.00001	0.00007	< 0.00001
Ca [mg/L]	1.02	0.83	5.91	2.24	5.48	0.57	5.33
Cd [mg/L]	0.000030	0.000075	0.000003	0.000006	< 0.000003	0.000062	< 0.000003
Co [mg/L]	0.000103	0.000403	0.000137	0.000893	0.000041	0.000676	0.000127
Cr [mg/L]	0.00130	0.00376	0.00454	0.0135	0.00314	0.00241	0.00344
Cu [mg/L]	0.0033	0.0026	0.0035	0.0056	0.0007	0.0021	0.0033
Fe [mg/L]	0.081	0.192	0.182	0.891	0.012	0.354	0.207
K [mg/L]	4.51	5.44	2.05	33.7	2.10	0.801	1.52

OnLine LIMS

00035497785

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11027-SEP23**

Analysis	10: CV13-WR-06	11: CV13-WR-07	12: CV13-WR-08	13: CV13-WR-09	14: CV13-WR-10	15: CV13-WR-11	16: CV13-WR-12
Li [mg/L]	0.0826	0.162	2.29	3.90	3.75	0.150	0.272
Mg [mg/L]	0.067	0.164	5.04	1.14	7.04	0.240	8.01
Mn [mg/L]	0.0103	0.0146	0.00478	0.00786	0.00171	0.0217	0.00440
Mo [mg/L]	0.00328	0.0141	0.00208	0.00646	0.00267	0.00437	0.00371
Na [mg/L]	84.4	67.9	24.2	28.0	18.6	58.0	26.6
Ni [mg/L]	0.0005	0.0015	0.0008	0.0019	< 0.0001	0.0009	0.0004
P [mg/L]	0.415	1.50	0.172	0.063	0.028	0.861	0.070
Pb [mg/L]	0.00079	0.00101	0.00014	0.00015	0.00031	0.00477	< 0.00009
Sb [mg/L]	0.127	1.62	0.144	0.0112	0.0113	0.131	0.0013
Se [mg/L]	0.00082	0.00674	0.00082	0.00086	0.00119	0.00285	0.00484
Si [mg/L]	11.0	21.0	7.66	4.66	5.66	14.6	6.04
Sn [mg/L]	0.00085	0.00018	< 0.00006	< 0.00006	< 0.00006	0.00077	< 0.00006
Sr [mg/L]	0.00126	0.00139	0.00447	0.00404	0.00314	0.00078	0.00330
Ti [mg/L]	0.00164	0.00188	0.0128	0.0373	0.00053	0.00390	0.00800
Tl [mg/L]	0.00119	0.00173	0.000008	0.000074	0.000007	0.000077	< 0.000005
U [mg/L]	0.0158	0.00678	0.00169	0.00898	0.000900	0.403	0.000539
V [mg/L]	0.00465	0.0135	0.135	0.155	0.0767	0.0513	0.0975
Zn [mg/L]	0.002	0.003	0.002	0.004	< 0.002	0.010	< 0.002

Analysis	17: CV13-ORE-13	18: CV13-WR-14	19: CV13-WR-15	20: CV13-ORE-16	21: CV13-WR-17	22: CV13-WR-18	23: CV13-WR-19
Sample Date & Time	NA	NA	NA	NA	NA	NA	NA
Sample weight [g]	100	100	100	100	100	100	100
Volume D.I. Water [mL]	400	400	400	400	400	400	400
pH [No unit]	9.70	8.39	8.27	9.06	8.73	8.65	8.81
Conductivity [uS/cm]	370	324	310	330	310	198	283
Alkalinity [mg/L as CaCO3]	128	85	71	145	111	76	95
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	< 2	< 2
F [mg/L]	18.3	3.06	0.90	5.04	1.12	1.71	4.20
Br [mg/L]	< 30	< 30	< 30	< 30	< 30	< 30	< 30
Cl [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20
SO4 [mg/L]	< 20	36	29	< 20	22	< 20	< 20
NO2 [as N mg/L]	< 3	< 3	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Al [mg/L]	3.80	0.636	0.379	2.33	0.484	0.354	0.308
As [mg/L]	8.70	1.47	0.0036	94.4	2.96	1.36	1.78
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	0.00010	< 0.00005	< 0.00005	< 0.00005
Ba [mg/L]	0.00289	0.00445	0.00315	0.00220	0.00423	0.00223	0.00319
Be [mg/L]	0.000951	0.000015	< 0.000007	0.001924	0.000008	0.000008	0.000020
B [mg/L]	1.60	0.196	0.115	1.69	0.085	0.197	0.252
Bi [mg/L]	0.00009	< 0.00001	< 0.00001	0.00524	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	1.16	3.92	9.10	0.28	3.28	5.52	4.04
Cd [mg/L]	0.000049	0.000016	0.000005	0.000033	0.000003	< 0.000003	0.000008
Co [mg/L]	0.000299	0.000463	0.000042	0.000142	0.000320	0.000282	0.000315

OnLine LIMS

0003549785

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11027-SEP23**

Analysis	17: CV13-ORE-13	18: CV13-WR-14	19: CV13-WR-15	20: CV13-ORE-16	21: CV13-WR-17	22: CV13-WR-18	23: CV13-WR-19
Cr [mg/L]	0.00578	0.00382	0.00059	0.00361	0.0696	0.00820	0.0107
Cu [mg/L]	0.0035	0.0068	0.0024	0.0026	0.0010	0.0017	0.0023
Fe [mg/L]	0.900	0.412	0.081	0.449	0.144	0.144	0.225
K [mg/L]	5.01	28.0	9.53	0.800	34.1	2.61	19.0
Li [mg/L]	1.86	4.23	0.433	0.126	3.68	3.02	4.80
Mg [mg/L]	0.500	1.43	5.61	0.032	5.58	5.48	2.60
Mn [mg/L]	0.0614	0.01050	0.00208	0.00987	0.00242	0.00379	0.00571
Mo [mg/L]	0.00522	0.00259	0.00430	0.0148	0.00160	0.00054	0.00197
Na [mg/L]	76.8	29.9	32.6	35.7	19.8	17.7	27.0
Ni [mg/L]	0.0007	0.0011	0.0001	0.0006	0.0015	0.0011	0.0013
P [mg/L]	1.04	0.143	0.127	0.328	0.052	0.066	0.081
Pb [mg/L]	0.00344	0.00126	0.00025	0.00389	< 0.00009	< 0.00009	0.00018
Sb [mg/L]	1.30	0.246	0.0013	2.07	0.636	0.933	0.355
Se [mg/L]	0.00028	0.00183	0.00262	0.00032	0.00125	0.00140	0.00051
Si [mg/L]	13.9	5.57	3.42	8.33	5.22	5.48	6.20
Sn [mg/L]	0.00469	0.00007	< 0.00006	0.00310	< 0.00006	< 0.00006	0.00011
Sr [mg/L]	0.00093	0.00469	0.00979	0.00031	0.00261	0.00417	0.00402
Ti [mg/L]	0.0287	0.0293	0.00487	0.00876	0.00545	0.00558	0.00854
Tl [mg/L]	0.00113	0.000104	0.000006	0.000204	0.000066	0.000014	0.000155
U [mg/L]	0.421	0.000562	0.000889	0.299	0.000216	0.000709	0.000234
V [mg/L]	0.0750	0.131	0.0234	0.00525	0.0724	0.110	0.109
Zn [mg/L]	0.003	0.004	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002

Analysis	24: CV13-WR-20	25: CV13-WR-21	26: CV13-WR-22	27: CV13-WR-23	28: CV13-WR-24	29: CV13-WR-25	30: CV13-WR-26
Sample Date & Time	NA	NA	NA	NA	NA	NA	NA
Sample weight [g]	100	100	100	100	100	100	100
Volume D.I. Water [mL]	400	400	400	400	400	400	400
pH [No unit]	8.67	8.90	8.57	8.62	8.47	7.37	7.87
Conductivity [uS/cm]	300	353	417	475	320	1090	729
Alkalinity [mg/L as CaCO3]	109	156	163	215	95	25	57
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	< 2	< 2
F [mg/L]	2.39	0.30	< 0.06	0.15	0.96	0.48	0.33
Br [mg/L]	< 30	< 30	< 30	< 30	< 30	< 30	< 30
Cl [mg/L]	< 20	< 20	< 20	27	< 20	< 20	< 20
SO4 [mg/L]	< 20	< 20	41	< 20	34	250	170
NO2 [as N mg/L]	< 3	< 3	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Al [mg/L]	0.739	0.035	0.003	0.004	0.712	0.027	0.066
As [mg/L]	6.57	32.9	0.0195	1.87	0.0213	0.0008	0.0021
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	0.00006	0.00010	0.00033
Ba [mg/L]	0.00548	0.00567	0.00436	0.00300	0.00312	0.234	0.0563
Be [mg/L]	0.000023	< 0.000007	0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	0.424	0.151	0.036	0.059	0.155	0.048	0.023

OnLine LIMS

00035497785

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11027-SEP23**

Analysis	24: CV13-WR-20	25: CV13-WR-21	26: CV13-WR-22	27: CV13-WR-23	28: CV13-WR-24	29: CV13-WR-25	30: CV13-WR-26
Bi [mg/L]	0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	5.53	8.08	5.45	5.30	3.93	59.8	30.6
Cd [mg/L]	0.000007	0.000003	< 0.000003	< 0.000003	< 0.000003	0.00260	0.000058
Co [mg/L]	0.00144	0.000246	0.000146	0.000208	0.000082	0.00447	0.000182
Cr [mg/L]	0.0324	0.287	0.126	0.0894	0.00042	< 0.00008	0.00047
Cu [mg/L]	0.0018	0.0010	0.0013	0.0002	0.0035	0.0050	0.0404
Fe [mg/L]	0.420	0.051	< 0.007	< 0.007	0.096	0.007	0.008
K [mg/L]	9.04	3.31	1.02	0.779	26.0	85.5	47.6
Li [mg/L]	3.77	0.0669	0.0121	0.0261	4.08	4.38	3.05
Mg [mg/L]	3.84	31.1	64.2	60.0	3.37	33.9	24.6
Mn [mg/L]	0.0113	0.00197	0.00091	0.00031	0.00232	0.0790	0.00567
Mo [mg/L]	0.00104	0.00243	0.00295	0.00044	0.00183	0.00878	0.00580
Na [mg/L]	39.3	24.1	2.23	2.79	31.2	45.9	38.0
Ni [mg/L]	0.0054	0.0098	0.0135	0.0131	0.0002	0.0013	0.0010
P [mg/L]	0.083	0.026	0.004	0.005	0.047	0.004	0.013
Pb [mg/L]	0.00010	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	1.45	0.324	0.0261	0.188	0.0476	0.0011	0.0027
Se [mg/L]	0.00072	0.00047	0.00035	0.00105	0.00044	0.0109	0.00166
Si [mg/L]	6.24	17.0	2.72	4.85	3.05	6.03	6.00
Sn [mg/L]	0.00010	< 0.00006	< 0.00006	< 0.00006	0.00007	< 0.00006	< 0.00006
Sr [mg/L]	0.00530	0.0353	0.0226	0.0274	0.00388	0.119	0.04613
Ti [mg/L]	0.0161	0.00043	< 0.00007	< 0.00007	0.00544	0.00016	0.00016
Tl [mg/L]	0.000143	0.000009	0.000190	0.000028	0.000014	0.000013	0.000015
U [mg/L]	0.00163	0.000544	0.000023	0.00201	0.0247	0.000940	0.00355
V [mg/L]	0.106	0.0284	0.00018	0.00035	0.0386	0.00126	0.00597
Zn [mg/L]	0.003	< 0.002	0.006	< 0.002	< 0.002	0.262	0.002

Analysis	31: CV13-WR-27	32: CV13-WR-28	33: CV13-ORE-29	34: CV13-WR-30	35: CV13-WR-15	36: CV13-WR-30	37:BLK: CTEU Blank
Sample Date & Time	NA	NA	NA	NA			
Sample weight [g]	100	100	100	100	100	100	---
Volume D.I. Water [mL]	400	400	400	400	400	400	400
pH [No unit]	7.74	8.33	9.68	8.19	8.02	7.92	7.66
Conductivity [uS/cm]	1470	311	328	190	274	136	36
Alkalinity [mg/L as CaCO3]	86	104	160	72	62	51	12
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	< 2	< 2
F [mg/L]	< 0.06	6.12	1.14	0.56	0.88	0.50	< 0.06
Br [mg/L]	< 30	< 30	< 30	< 30	< 30	< 30	< 30
Cl [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20
SO4 [mg/L]	420	< 20	< 20	< 20	32	< 20	< 20
NO2 [as N mg/L]	< 3	< 3	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Al [mg/L]	0.009	1.57	1.78	0.605	0.403	0.601	0.008
As [mg/L]	0.0444	0.0213	0.494	0.0468	0.0084	0.0458	0.0034

OnLine LIMS

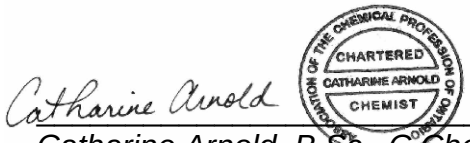
00035497785

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11027-SEP23**

Analysis	31: CV13-WR-27	32: CV13-WR-28	33: CV13-ORE-29	34: CV13-WR-30	35: CV13-WR-15	36: CV13-WR-30	37:BLK: CTEU Blank
Ag [mg/L]	< 0.00005	< 0.00005	0.00006	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Ba [mg/L]	0.0118	0.00306	0.00089	0.00033	0.00521	0.00033	0.00031
Be [mg/L]	< 0.000007	0.000007	0.000862	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	0.037	0.040	0.239	0.039	0.106	0.031	0.050
Bi [mg/L]	< 0.00001	< 0.00001	0.00009	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	226	1.97	0.43	5.40	9.22	5.39	0.19
Cd [mg/L]	0.000004	0.000005	0.000100	< 0.000003	0.000007	0.000003	< 0.000003
Co [mg/L]	0.000052	0.000004	0.000037	0.000029	0.000123	0.000035	0.000008
Cr [mg/L]	< 0.00008	0.00020	0.00037	0.00235	0.00067	0.00228	0.00048
Cu [mg/L]	0.0009	0.0004	0.0014	0.0010	0.0038	0.0010	0.0005
Fe [mg/L]	1.53	0.033	0.054	< 0.007	0.294	< 0.007	< 0.007
K [mg/L]	22.2	48.5	1.30	2.68	9.27	2.59	1.29
Li [mg/L]	0.0943	0.0548	7.61	2.79	0.427	2.74	0.0036
Mg [mg/L]	30.9	0.601	0.031	7.71	5.79	7.76	0.028
Mn [mg/L]	0.883	0.00085	0.0588	0.00145	0.00504	0.00144	0.00014
Mo [mg/L]	0.00275	0.0129	0.00337	0.00276	0.00478	0.00264	0.00016
Na [mg/L]	9.47	19.0	30.6	13.2	30.0	13.2	5.86
Ni [mg/L]	0.0002	< 0.0001	0.0001	0.0001	0.0004	0.0001	0.0001
P [mg/L]	0.003	0.013	0.506	0.034	0.119	0.034	< 0.003
Pb [mg/L]	0.00028	0.00010	0.00107	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	< 0.0009	0.0019	0.134	0.0071	0.0012	0.0072	< 0.0009
Se [mg/L]	0.00051	0.00030	0.00020	0.00181	0.00279	0.00176	< 0.00004
Si [mg/L]	2.29	3.02	14.9	6.41	3.57	6.52	0.19
Sn [mg/L]	< 0.00006	< 0.00006	0.00064	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.118	0.00313	0.00046	0.00303	0.00949	0.00300	0.00021
Ti [mg/L]	< 0.00007	0.00153	0.00048	0.00026	0.0163	0.00026	0.00025
Tl [mg/L]	< 0.000005	0.000014	0.000169	0.000024	< 0.000005	0.000021	< 0.000005
U [mg/L]	0.00101	0.00646	0.0751	0.00185	0.000290	0.00180	0.000110
V [mg/L]	0.00015	0.00214	0.00093	0.116	0.0221	0.116	0.00014
Zn [mg/L]	< 0.002	< 0.002	0.004	< 0.002	0.002	< 0.002	< 0.002



Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003549785

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

02-November-2023

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 24 October 2023
LR Report: **CA11065-OCT23**

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2	6: CV5-WR-HCT-5	8: CV5-WR-HCT-14
Sample Date & Time					N/A	N/A	N/A
Malvern	02-Nov-23	---	02-Nov-23	---	02-Nov-23	02-Nov-23	02-Nov-23
	02-Nov-23	---	02-Nov-23	---	02-Nov-23	02-Nov-23	02-Nov-23

Analysis	9: CV5-WR-HCT-22	10: CV5-WR-HCT-33	11: CV5-WR-HCT-36	12: CV5-WR-HCT-39	13: CV5-WR-HCT-50	14: CV5-WR-HCT-56	15: CV5-WR-HCT-59
Sample Date & Time	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Malvern	02-Nov-23	02-Nov-23	02-Nov-23	02-Nov-23	02-Nov-23	02-Nov-23	02-Nov-23
	02-Nov-23	02-Nov-23	02-Nov-23	02-Nov-23	02-Nov-23	02-Nov-23	02-Nov-23

Analysis	16: CV5-WR-HCT-62	17: CV5-WR-HCT-64	18: CV5-WR-HCT-69	19: CV5-ORE-HCT-74	20: CV5-ORE-HCT-76
Sample Date & Time	N/A	N/A	N/A	N/A	N/A
Malvern	02-Nov-23	02-Nov-23	02-Nov-23	02-Nov-23	02-Nov-23
	02-Nov-23	02-Nov-23	02-Nov-23	02-Nov-23	02-Nov-23

Catharine Arnold

CHARTERED CHEMICAL PROFESSION OF ONTARIO CATHARINE ARNOLD CHEMIST

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

00035205569

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

02-November-2023

Patriot Battery Metals Inc
Attn : Darren Smith

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone:
Fax:

Date Rec. : 24 October 2023
LR Report: **CA11066-OCT23**

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HC T-83	6: CV5-DMS-HC T-84
Sample Date & Time					N/A	N/A
Malvern	02-Nov-23	---	02-Nov-23	---	02-Nov-23	02-Nov-23
	02-Nov-23	---	02-Nov-23	---	02-Nov-23	02-Nov-23

Catharine Arnold

CHARTERED CATHARINE ARNOLD CHEMIST
ASSOCIATION OF THE CHEMICAL PROFESSION OF ONTARIO

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003520587

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

06-October-2025

Patriot Battery Metals Inc
Attn : Darren Smith

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone:
Fax:

Date Rec. : 05 April 2023
LR Report: **CA11009-APR23**
Reference: Tailing Samples

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83	6: CV5-DMS-HCT-84
Sample Date & Time					N/A	N/A
SiO2 [%]	11-Apr-23	17:10	19-Apr-23	08:55	75.6	75.9
Al2O3 [%]	11-Apr-23	17:10	19-Apr-23	08:55	13.2	12.9
Fe2O3 [%]	11-Apr-23	17:10	19-Apr-23	08:55	0.30	0.29
MgO [%]	11-Apr-23	17:10	19-Apr-23	08:55	0.06	0.04
CaO [%]	11-Apr-23	17:10	19-Apr-23	08:55	0.18	0.21
Na2O [%]	11-Apr-23	17:10	19-Apr-23	08:55	3.65	3.92
K2O [%]	11-Apr-23	17:10	19-Apr-23	08:55	5.40	4.94
TiO2 [%]	11-Apr-23	17:10	19-Apr-23	08:55	< 0.01	< 0.01
P2O5 [%]	11-Apr-23	17:10	19-Apr-23	08:55	0.18	0.20
MnO [%]	11-Apr-23	17:10	19-Apr-23	08:55	0.02	0.02
Cr2O3 [%]	11-Apr-23	17:10	19-Apr-23	08:55	0.03	0.03
V2O5 [%]	11-Apr-23	17:10	19-Apr-23	08:55	< 0.01	< 0.01
LOI [%]	11-Apr-23	17:10	19-Apr-23	08:55	0.53	0.55
Sum [%]	11-Apr-23	17:10	19-Apr-23	08:55	99.1	99.0

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

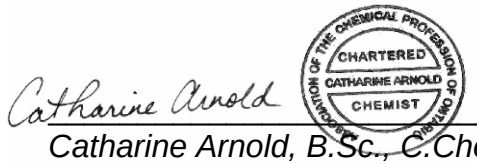
000428155

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11009-APR23**

Method Descriptions

Parameter	Units	SGS Method Code
Inorganics-General	%	



Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0004281554

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

16-October-2024

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 03 October 2024
LR Report: **CA10033-OCT24**
Reference: Wk#75

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#75	6: CV5-WR-HCT-5 Wk#75	7: CV5-WR-HCT-5 (DUP) Wk#75	8: CV5-WR-HCT-14 Wk#75	9: CV5-WR-HCT-22 Wk#75	10: CV5-WR-HCT-33 Wk#75	11: CV5-WR-HCT-36 Wk#75
Sample Date & Time			02-Oct-24	02-Oct-24	02-Oct-24	02-Oct-24	02-Oct-24	02-Oct-24	02-Oct-24
HumCell Leachate Vol [mL]	03-Oct-24	16:57	915	942	951	989	986	962	972
pH [No unit]	07-Oct-24	12:42	6.60	7.17	6.91	7.50	7.03	7.15	7.23
Conductivity [uS/cm]	07-Oct-24	12:43	40	24	15	31	11	12	15

Analysis	12: CV5-WR-HCT-39 Wk#75	13: CV5-WR-HCT-50 Wk#75	14: CV5-WR-HCT-56 Wk#75	15: CV5-WR-HCT-59 Wk#75	16: CV5-WR-HCT-62 Wk#75	17: CV5-WR-HCT-64 Wk#75	18: CV5-WR-HCT-69 Wk#75	19: CV5-ORE-HCT-74 Wk#75	20: CV5-ORE-HCT-76 Wk#75
Sample Date & Time	02-Oct-24	02-Oct-24	02-Oct-24	02-Oct-24	02-Oct-24	02-Oct-24	02-Oct-24	02-Oct-24	02-Oct-24
HumCell Leachate Vol [mL]	925	992	984	991	924	1001	1006	1001	950
pH [No unit]	6.40	6.49	7.15	6.60	7.15	7.09	7.15	6.66	7.06
Conductivity [uS/cm]	20	46	30	20	18	7	12	3	11

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003893180

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

16-September-2024

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 05 September 2024
LR Report: **CA10033-SEP24**
Reference: Wk#71

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#71	6: CV5-WR-HCT-5 Wk#71	7: CV5-WR-HCT-5 (DUP) Wk#71	8: CV5-WR-HCT-14 Wk#71	9: CV5-WR-HCT-22 Wk#71	10: CV5-WR-HCT-33 Wk#71
Sample Date & Time			05-Sep-24	05-Sep-24	05-Sep-24	05-Sep-24	05-Sep-24	05-Sep-24
HumCell Leachate Vol [mL]	05-Sep-24	13:38	914	912	956	983	959	929
pH [No unit]	06-Sep-24	10:49	6.62	6.96	6.85	7.44	6.56	7.13
Conductivity [uS/cm]	06-Sep-24	10:49	32	21	15	34	9	12

Analysis	11: CV5-WR-HCT-36 Wk#71	12: CV5-WR-HCT-39 Wk#71	13: CV5-WR-HCT-50 Wk#71	14: CV5-WR-HCT-56 Wk#71	15: CV5-WR-HCT-59 Wk#71	16: CV5-WR-HCT-62 Wk#71	17: CV5-WR-HCT-64 Wk#71	18: CV5-WR-HCT-69 Wk#71
Sample Date & Time	05-Sep-24	05-Sep-24	05-Sep-24	05-Sep-24	05-Sep-24	05-Sep-24	05-Sep-24	05-Sep-24
HumCell Leachate Vol [mL]	955	920	983	966	995	907	1007	981
pH [No unit]	7.16	6.54	6.66	7.12	6.48	7.20	6.96	7.14
Conductivity [uS/cm]	16	21	51	30	18	20	8	12

Analysis	19: CV5-ORE-HCT-74 Wk#71	20: CV5-ORE-HCT-76 Wk#71
Sample Date & Time	05-Sep-24	05-Sep-24
HumCell Leachate Vol [mL]	1001	950
pH [No unit]	6.76	7.20
Conductivity [uS/cm]	4	15

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003858722

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

02-July-2024

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 06 June 2024
LR Report: **CA10034-JUN24**
Reference: Wk#58

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT -2 Wk#58	6: CV5-WR-HCT -5 Wk#58	7: CV5-WR-HCT- 5 (DUP) Wk#58	8: CV5-WR-HCT -14 Wk#58	9: CV5-WR-HCT -22 Wk#58
Sample Date & Time			06-Jun-24	06-Jun-24	06-Jun-24	06-Jun-24	06-Jun-24
HumCell Leachate Vol [mL]	19-Jun-24	10:36	930	948	963	987	1014
pH [No unit]	10-Jun-24	11:52	6.81	7.11	7.07	7.53	6.99
Alkalinity [mg/L as CaCO3]	07-Jun-24	12:24	2	4	2	11	3
Conductivity [uS/cm]	07-Jun-24	12:24	33	18	13	26	11
Acidity [mg/L as CaCO3]	07-Jun-24	12:24	2	< 2	< 2	< 2	< 2
Tot.Reactive P [mg/L]	10-Jun-24	08:19	< 0.03	0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	13-Jun-24	19:51	10	3	3	< 2	< 2
Ag [mg/L]	11-Jun-24	11:06	< 0.00005	0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	11-Jun-24	11:06	0.019	0.022	0.019	0.094	0.016
As [mg/L]	11-Jun-24	11:06	0.0020	0.149	0.0894	0.0235	0.0837
Ba [mg/L]	11-Jun-24	11:06	0.00019	0.00018	0.00014	0.00014	0.00010
Be [mg/L]	11-Jun-24	11:06	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	11-Jun-24	11:06	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	11-Jun-24	11:06	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	11-Jun-24	11:06	5.22	3.26	2.25	5.28	1.75
Cd [mg/L]	11-Jun-24	11:06	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	11-Jun-24	11:06	0.000117	0.000179	0.000163	0.000183	0.000115
Cr [mg/L]	11-Jun-24	11:06	0.00014	0.00015	0.00014	0.00012	0.00014
Cu [mg/L]	11-Jun-24	11:06	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	11-Jun-24	11:06	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	11-Jun-24	11:06	0.139	0.073	0.056	0.032	0.035
Li [mg/L]	11-Jun-24	11:06	0.0045	0.0058	0.0045	0.0029	0.0039
Mg [mg/L]	11-Jun-24	11:06	0.218	0.133	0.109	0.157	0.197
Mn [mg/L]	11-Jun-24	11:06	0.00145	0.00096	0.00138	0.00471	0.00048
Mo [mg/L]	11-Jun-24	11:06	0.0009	< 0.0004	< 0.0004	< 0.0004	0.0008
Na [mg/L]	11-Jun-24	11:06	0.09	0.04	0.04	0.11	0.07
Ni [mg/L]	11-Jun-24	11:06	0.0005	0.0013	0.0008	0.0004	0.0004
Pb [mg/L]	11-Jun-24	11:06	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	11-Jun-24	11:06	0.0016	0.0327	0.0152	0.0024	0.0038

OnLine LIMS

0003766738

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10034-JUN24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT -2 Wk#58	6: CV5-WR-HCT -5 Wk#58	7: CV5-WR-HCT-5 (DUP) Wk#58	8: CV5-WR-HCT -14 Wk#58	9: CV5-WR-HCT -22 Wk#58
Se [mg/L]	11-Jun-24	11:06	0.00012	< 0.00004	< 0.00004	0.00007	< 0.00004
Sn [mg/L]	11-Jun-24	11:06	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	11-Jun-24	11:06	0.00819	0.00388	0.00360	0.00323	0.00429
Ti [mg/L]	11-Jun-24	11:06	< 0.0001	0.0001	< 0.0001	0.0002	0.0001
Tl [mg/L]	11-Jun-24	11:05	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005
U [mg/L]	11-Jun-24	11:05	0.000056	0.000014	0.000008	0.000027	0.000127
V [mg/L]	11-Jun-24	11:05	0.00019	0.00040	0.00032	0.00186	0.00081
W [mg/L]	11-Jun-24	11:05	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	11-Jun-24	11:05	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	11-Jun-24	11:05	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002

Analysis	10: CV5-WR-HCT -33 Wk#58	11: CV5-WR-HCT -36 Wk#58	12: CV5-WR-HCT -39 Wk#58	13: CV5-WR-HCT -50 Wk#58	14: CV5-WR-HCT -56 Wk#58	15: CV5-WR-HCT -59 Wk#58	16: CV5-WR-HCT -62 Wk#58
Sample Date & Time	06-Jun-24	06-Jun-24	06-Jun-24	06-Jun-24	06-Jun-24	06-Jun-24	06-Jun-24
HumCell Leachate Vol [mL]	970	974	949	993	990	995	914
pH [No unit]	7.14	7.34	6.42	7.16	7.19	6.29	7.25
Alkalinity [mg/L as CaCO3]	5	4	< 2	6	7	< 2	8
Conductivity [uS/cm]	11	14	17	54	24	11	20
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	9	< 2	2	< 2
Tot.Reactive P [mg/L]	< 0.03	0.27	< 0.03	< 0.03	< 0.03	< 0.03	0.16
SO4 [mg/L]	< 2	< 2	5	9	5	3	3
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.066	0.001	0.011	0.030	0.039	0.002	0.002
As [mg/L]	0.0040	0.762	0.0126	0.0026	0.0085	0.129	0.509
Ba [mg/L]	0.00018	0.00051	0.00018	0.00028	0.00034	0.00015	0.00037
Be [mg/L]	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	< 0.002	0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	2.48	2.08	2.66	8.39	4.79	1.55	2.99
Cd [mg/L]	0.000013	< 0.000003	0.000006	0.000103	0.000012	< 0.000003	< 0.000003
Co [mg/L]	0.000058	0.000383	0.000135	0.00437	0.000057	0.00288	0.000454
Cr [mg/L]	0.00017	0.00020	0.00010	0.00020	0.00013	0.00017	0.00010
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	0.008	< 0.007
K [mg/L]	0.039	0.035	0.128	0.149	0.128	0.029	0.026
Li [mg/L]	0.0017	0.0014	0.0053	0.0089	0.0015	0.0012	0.0002
Mg [mg/L]	0.065	0.498	0.243	0.086	0.129	0.274	0.870
Mn [mg/L]	0.00704	0.00194	0.00171	0.00972	0.00512	0.00499	0.00271
Mo [mg/L]	0.0350	< 0.0004	< 0.0004	0.0316	0.0294	< 0.0004	0.0008
Na [mg/L]	0.10	0.01	0.08	0.12	0.07	0.03	0.01
Ni [mg/L]	0.0001	0.0070	0.0004	0.0034	0.0002	0.0235	0.0064
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	0.00013	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	< 0.0009	0.295	0.0067	0.0128	< 0.0009	0.0028	0.374

OnLine LIMS

0003766738

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10034-JUN24**

Analysis	10: CV5-WR-HCT -33 Wk#58	11: CV5-WR-HCT -36 Wk#58	12: CV5-WR-HCT -39 Wk#58	13: CV5-WR-HCT -50 Wk#58	14: CV5-WR-HCT -56 Wk#58	15: CV5-WR-HCT -59 Wk#58	16: CV5-WR-HCT -62 Wk#58
Se [mg/L]	< 0.00004	< 0.00004	< 0.00004	0.00062	< 0.00004	< 0.00004	0.00005
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00262	0.00176	0.00572	0.00429	0.00375	0.00551	0.00130
Ti [mg/L]	0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001
Tl [mg/L]	< 0.000005	< 0.000005	< 0.000005	0.000019	< 0.000005	< 0.000005	< 0.000005
U [mg/L]	0.000020	0.000012	0.000161	0.00137	0.000276	0.000003	0.000032
V [mg/L]	0.00050	0.00015	0.00021	0.00006	0.00027	0.00016	0.00012
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	0.015	< 0.002	< 0.002	< 0.002

Analysis	17: CV5-WR-HCT -64 Wk#58	18: CV5-WR-HCT -69 Wk#58	19: CV5-ORE-HCT -74 Wk#58	20: CV5-ORE-HCT -76 Wk#58
Sample Date & Time	06-Jun-24	06-Jun-24	06-Jun-24	06-Jun-24
HumCell Leachate Vol [mL]	1015	1016	1015	1000
pH [No unit]	6.99	7.17	6.51	7.19
Alkalinity [mg/L as CaCO3]	4	5	< 2	6
Conductivity [uS/cm]	7	10	2	12
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2
Tot.Reactive P [mg/L]	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	< 2	< 2	< 2	< 2
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.026	0.052	0.015	0.033
As [mg/L]	0.0041	0.0030	0.0066	0.0016
Ba [mg/L]	< 0.00008	0.00011	0.00009	< 0.00008
Be [mg/L]	0.000012	0.000109	< 0.000007	0.000039
B [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	0.00014	< 0.00001	0.00006
Ca [mg/L]	1.60	2.19	0.49	2.46
Cd [mg/L]	0.000003	< 0.000003	0.000019	< 0.000003
Co [mg/L]	0.000056	0.000008	0.000010	0.000011
Cr [mg/L]	0.00013	0.00012	0.00012	0.00013
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	0.146	0.062	0.091	0.180
Li [mg/L]	0.0011	0.0010	0.0057	0.0054
Mg [mg/L]	0.033	0.021	0.014	0.072
Mn [mg/L]	0.00483	0.00250	0.0537	0.00064
Mo [mg/L]	0.0008	< 0.0004	0.0329	0.0011
Na [mg/L]	0.03	0.09	0.10	0.07
Ni [mg/L]	0.0002	0.0002	0.0001	0.0002
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	0.00016
Sb [mg/L]	0.0010	0.0013	0.0064	< 0.0009

OnLine LIMS

00037667 38

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10034-JUN24**

Analysis	17: CV5-WR-HCT-64 Wk#58	18: CV5-WR-HCT-69 Wk#58	19: CV5-ORE-HCT-74 Wk#58	20: CV5-ORE-HCT-76 Wk#58
Se [mg/L]	< 0.00004	< 0.00004	< 0.00004	< 0.00004
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00174	0.00335	0.00087	0.00430
Ti [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tl [mg/L]	0.000022	< 0.000005	0.000028	0.000011
U [mg/L]	0.000292	0.00258	0.000348	0.000711
V [mg/L]	0.00003	0.00005	0.00003	0.00006
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003766738

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

13-August-2024

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 08 August 2024
LR Report: **CA10040-AUG24**
Reference: Wk#67

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#67	6: CV5-WR-HCT-5 Wk#67	7: CV5-WR-HCT-5 (DUP) Wk#67	8: CV5-WR-HCT-14 Wk#67	9: CV5-WR-HCT-22 Wk#67	10: CV5-WR-HCT-33 Wk#67
Sample Date & Time			08-Aug-24	08-Aug-24	08-Aug-24	08-Aug-24	08-Aug-24	08-Aug-24
HumCell Leachate Vol [mL]	08-Aug-24	12:12	939	946	967	1011	979	953
pH [No unit]	13-Aug-24	10:27	6.83	7.03	6.81	7.74	6.86	7.18
Conductivity [uS/cm]	13-Aug-24	09:40	33	20	15	28	7	12

Analysis	11: CV5-WR-HCT-36 Wk#67	12: CV5-WR-HCT-39 Wk#67	13: CV5-WR-HCT-50 Wk#67	14: CV5-WR-HCT-56 Wk#67	15: CV5-WR-HCT-59 Wk#67	16: CV5-WR-HCT-62 Wk#67	17: CV5-WR-HCT-64 Wk#67	18: CV5-WR-HCT-69 Wk#67
Sample Date & Time	08-Aug-24	08-Aug-24	08-Aug-24	08-Aug-24	08-Aug-24	08-Aug-24	08-Aug-24	08-Aug-24
HumCell Leachate Vol [mL]	959	950	982	975	1011	919	1002	1001
pH [No unit]	7.23	6.20	6.79	7.16	6.43	7.13	6.98	6.85
Conductivity [uS/cm]	18	24	45	30	16	22	7	2

Analysis	19: CV5-ORE-HCT-74 Wk#67	20: CV5-ORE-HCT-76 Wk#67
Sample Date & Time	08-Aug-24	08-Aug-24
HumCell Leachate Vol [mL]	966	928
pH [No unit]	6.99	7.20
Conductivity [uS/cm]	10	13

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003816534

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

11-April-2024

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 04 April 2024
LR Report: **CA10042-APR24**
Reference: Wk#49

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#49	6: CV5-DMS-HCT-84 Wk#49
Sample Date & Time			04-Apr-24	04-Apr-24
HumCell Leachate Vol [mL]	05-Apr-24	16:30	993	981
pH [No unit]	05-Apr-24	12:22	6.20	6.12
Alkalinity [mg/L as CaCO3]	05-Apr-24	12:22	< 2	< 2
Conductivity [uS/cm]	05-Apr-24	12:22	< 2	< 2
Acidity [mg/L as CaCO3]	05-Apr-24	12:22	2	3
Tot.Reactive P [mg/L]	09-Apr-24	09:32	< 0.03	< 0.03
SO4 [mg/L]	05-Apr-24	15:22	< 2	< 2
Ag [mg/L]	09-Apr-24	17:25	< 0.00005	< 0.00005
Al [mg/L]	09-Apr-24	17:25	0.008	0.007
As [mg/L]	09-Apr-24	17:25	0.0030	0.0022
Ba [mg/L]	09-Apr-24	17:25	< 0.00008	< 0.00008
Be [mg/L]	09-Apr-24	17:25	0.000009	0.000010
B [mg/L]	09-Apr-24	17:25	< 0.002	< 0.002
Bi [mg/L]	09-Apr-24	17:25	0.00002	0.00003
Ca [mg/L]	09-Apr-24	17:25	0.29	0.27
Cd [mg/L]	09-Apr-24	17:25	< 0.000003	< 0.000003
Co [mg/L]	09-Apr-24	17:25	0.000005	0.000005
Cr [mg/L]	09-Apr-24	17:25	< 0.00008	< 0.00008
Cu [mg/L]	09-Apr-24	17:25	< 0.001	< 0.001
Fe [mg/L]	09-Apr-24	17:25	< 0.007	< 0.007
K [mg/L]	09-Apr-24	17:25	0.053	0.043
Li [mg/L]	09-Apr-24	17:25	0.0004	0.0004
Mg [mg/L]	09-Apr-24	17:25	0.010	0.009
Mn [mg/L]	09-Apr-24	17:25	0.00088	0.00122
Mo [mg/L]	09-Apr-24	17:25	< 0.0004	< 0.0004
Na [mg/L]	09-Apr-24	17:25	0.02	0.02
Ni [mg/L]	09-Apr-24	17:25	< 0.0001	< 0.0001
Pb [mg/L]	09-Apr-24	17:25	< 0.00009	< 0.00009
Sb [mg/L]	09-Apr-24	17:25	0.0011	0.0011
Se [mg/L]	09-Apr-24	17:25	< 0.00004	< 0.00004
Sn [mg/L]	09-Apr-24	17:25	0.00007	0.00009
Sr [mg/L]	09-Apr-24	17:25	0.00069	0.00062
Ti [mg/L]	09-Apr-24	17:25	< 0.0001	< 0.0001
Tl [mg/L]	09-Apr-24	17:25	0.000010	0.000008
U [mg/L]	09-Apr-24	17:25	0.000576	0.000646

OnLine LIMS

0003676082

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10042-APR24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#49	6: CV5-DMS-HCT-84 Wk#49
V [mg/L]	09-Apr-24	17:25	0.00001	< 0.00001
W [mg/L]	09-Apr-24	17:25	< 0.0002	< 0.0002
Y [mg/L]	09-Apr-24	17:25	< 0.00002	< 0.00002
Zn [mg/L]	09-Apr-24	17:25	< 0.002	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003676082

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

16-April-2024

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 04 April 2024
LR Report: **CA10043-APR24**
Reference: Wk#49

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#49	6: CV5-WR-HCT-5 Wk#49	7: CV5-WR-HCT-5 (DUP) Wk#49	8: CV5-WR-HCT-1 4 Wk#49	9: CV5-WR-HCT-2 2 Wk#49
Sample Date & Time			04-Apr-24	04-Apr-24	04-Apr-24	04-Apr-24	04-Apr-24
HumCell Leachate Vol [mL]	05-Apr-24	16:30	975	949	968	989	1000
pH [No unit]	09-Apr-24	13:38	6.68	6.90	6.83	7.75	6.94
Alkalinity [mg/L as CaCO3]	09-Apr-24	13:38	2	3	2	13	4
Conductivity [uS/cm]	05-Apr-24	15:41	28	17	12	32	12
Acidity [mg/L as CaCO3]	09-Apr-24	13:19	< 2	< 2	< 2	< 2	< 2
Tot.Reactive P [mg/L]	09-Apr-24	09:33	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	12-Apr-24	12:56	8	3	3	< 2	< 2
Ag [mg/L]	09-Apr-24	17:26	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	09-Apr-24	17:26	0.020	0.022	0.018	0.106	0.021
As [mg/L]	09-Apr-24	17:26	0.0027	0.144	0.108	0.0344	0.104
Ba [mg/L]	09-Apr-24	17:26	0.00017	0.00015	0.00012	< 0.00008	0.00010
Be [mg/L]	09-Apr-24	17:26	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	09-Apr-24	17:26	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	09-Apr-24	17:26	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	09-Apr-24	17:26	3.99	2.79	1.81	5.34	1.83
Cd [mg/L]	09-Apr-24	17:26	< 0.000003	0.000005	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	09-Apr-24	17:26	0.000082	0.000212	0.000182	0.000052	0.000149
Cr [mg/L]	09-Apr-24	17:26	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	09-Apr-24	17:26	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	09-Apr-24	17:26	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	09-Apr-24	17:26	0.120	0.067	0.055	0.029	0.035
Li [mg/L]	09-Apr-24	17:26	0.0043	0.0054	0.0048	0.0032	0.0043
Mg [mg/L]	09-Apr-24	17:26	0.197	0.134	0.110	0.181	0.218
Mn [mg/L]	09-Apr-24	17:26	0.00077	0.00097	0.00099	0.00518	0.00059
Mo [mg/L]	09-Apr-24	17:26	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	09-Apr-24	17:26	0.10	0.06	0.04	0.13	0.08
Ni [mg/L]	09-Apr-24	17:26	0.0003	0.0013	0.0008	0.0002	0.0004
Pb [mg/L]	09-Apr-24	17:26	< 0.00009	< 0.00009	< 0.00009	0.00009	< 0.00009
Sb [mg/L]	09-Apr-24	17:26	0.0019	0.0307	0.0168	0.0033	0.0043
Se [mg/L]	09-Apr-24	17:26	0.00014	0.00004	< 0.00004	0.00011	< 0.00004

OnLine LIMS

0003681549

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10043-APR24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#49	6: CV5-WR-HCT-5 Wk#49	7: CV5-WR-HCT-5 (DUP) Wk#49	8: CV5-WR-HCT-14 Wk#49	9: CV5-WR-HCT-22 Wk#49
Sn [mg/L]	09-Apr-24	17:26	0.00007	< 0.00006	0.00008	0.00032	0.00011
Sr [mg/L]	09-Apr-24	17:26	0.00750	0.00414	0.00345	0.00365	0.00508
Ti [mg/L]	09-Apr-24	17:26	< 0.0001	< 0.0001	< 0.0001	0.00013	0.00019
Tl [mg/L]	09-Apr-24	17:26	< 0.000005	0.000005	< 0.000005	< 0.000005	0.000005
U [mg/L]	09-Apr-24	17:26	0.000113	0.000068	0.000014	0.000024	0.000171
V [mg/L]	09-Apr-24	17:26	0.00021	0.00038	0.00037	0.00229	0.00095
W [mg/L]	09-Apr-24	17:26	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	09-Apr-24	17:26	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	09-Apr-24	17:26	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002

Analysis	10: CV5-WR-HCT-33 Wk#49	11: CV5-WR-HCT-36 Wk#49	12: CV5-WR-HCT-39 Wk#49	13: CV5-WR-HCT-50 Wk#49	14: CV5-WR-HCT-56 Wk#49	15: CV5-WR-HCT-59 Wk#49	16: CV5-WR-HCT-62 Wk#49
Sample Date & Time	04-Apr-24	04-Apr-24	04-Apr-24	04-Apr-24	04-Apr-24	04-Apr-24	04-Apr-24
HumCell Leachate Vol [mL]	951	990	920	999	1003	1004	947
pH [No unit]	7.47	7.07	6.44	7.25	7.29	6.13	7.40
Alkalinity [mg/L as CaCO3]	5	5	< 2	9	6	< 2	7
Conductivity [uS/cm]	12	15	20	48	27	10	18
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	2	< 2
Tot.Reactive P [mg/L]	< 0.03	0.28	< 0.03	< 0.03	< 0.03	< 0.03	0.07
SO4 [mg/L]	< 2	< 2	6	8	6	3	2
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.051	< 0.001	0.017	0.021	0.035	0.004	< 0.001
As [mg/L]	0.0040	1.21	0.0154	0.0035	0.0116	0.120	0.502
Ba [mg/L]	0.00013	0.00049	0.00016	0.00023	0.00034	0.00012	0.00028
Be [mg/L]	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	< 0.002	0.003	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	1.89	2.00	2.49	7.22	4.73	1.31	2.12
Cd [mg/L]	< 0.000003	< 0.000003	0.000005	0.000055	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	0.000050	0.000395	0.000135	0.003400	0.000070	0.001203	0.000456
Cr [mg/L]	< 0.00008	0.00008	< 0.00008	< 0.00008	< 0.00008	0.00009	< 0.00008
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007	0.007	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	0.034	0.035	0.134	0.141	0.144	0.023	0.018
Li [mg/L]	0.0015	0.0016	0.0055	0.0083	0.0018	0.0009	0.0003
Mg [mg/L]	0.063	0.463	0.253	0.076	0.147	0.218	0.567
Mn [mg/L]	0.00579	0.00150	0.00150	0.01067	0.00691	0.00250	0.00259
Mo [mg/L]	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	0.08	0.03	0.08	0.09	0.06	0.03	0.01
Ni [mg/L]	< 0.0001	0.0093	0.0003	0.0023	0.0003	0.0092	0.0063
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	< 0.0009	0.337	0.0075	0.0147	< 0.0009	0.0024	0.355
Se [mg/L]	0.00006	< 0.00004	0.00008	0.00052	0.00004	0.00005	0.00006
Sn [mg/L]	0.00009	0.00013	0.00013	0.00012	0.00009	0.00046	0.00008
Sr [mg/L]	0.00175	0.00210	0.00647	0.00444	0.00431	0.00529	0.00110

OnLine LIMS

0003681549

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10043-APR24**

Analysis	10: CV5-WR-HCT-3 3 Wk#49	11: CV5-WR-HCT-3 6 Wk#49	12: CV5-WR-HCT-3 9 Wk#49	13: CV5-WR-HCT-5 0 Wk#49	14: CV5-WR-HCT-5 6 Wk#49	15: CV5-WR-HCT-5 9 Wk#49	16: CV5-WR-HCT-6 2 Wk#49
Ti [mg/L]	0.00014	< 0.0001	0.00018	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tl [mg/L]	< 0.000005	< 0.000005	0.000005	0.000023	< 0.000005	0.000005	< 0.000005
U [mg/L]	0.000038	0.000016	0.000232	0.00143	0.000463	0.000015	0.000040
V [mg/L]	0.00048	0.00013	0.00024	0.00004	0.00029	0.00019	0.00011
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	0.010	< 0.002	< 0.002	< 0.002

Analysis	17: CV5-WR-HCT-6 4 Wk#49	18: CV5-WR-HCT-6 9 Wk#49	19: CV5-ORE-HCT -74 Wk#49	20: CV5-ORE-HCT -76 Wk#49
Sample Date & Time	04-Apr-24	04-Apr-24	04-Apr-24	04-Apr-24
HumCell Leachate Vol [mL]	1012	1008	1002	1001
pH [No unit]	7.14	7.35	6.69	7.30
Alkalinity [mg/L as CaCO3]	4	6	2	8
Conductivity [uS/cm]	9	12	3	13
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2
Tot.Reactive P [mg/L]	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	2	< 2	< 2	< 2
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.024	0.047	0.013	0.027
As [mg/L]	0.0053	0.0032	0.0076	0.0026
Ba [mg/L]	< 0.00008	0.00008	< 0.00008	0.00008
Be [mg/L]	0.000007	0.000052	< 0.000007	0.000030
B [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	0.00014	< 0.00001	0.00008
Ca [mg/L]	1.70	2.04	0.55	2.26
Cd [mg/L]	< 0.000003	< 0.000003	0.000003	< 0.000003
Co [mg/L]	0.000004	0.000006	0.000004	0.000011
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	0.00009
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	0.138	0.053	0.082	0.159
Li [mg/L]	0.0012	0.0011	0.0051	0.0049
Mg [mg/L]	0.040	0.024	0.009	0.076
Mn [mg/L]	0.00491	0.00246	0.05889	0.00068
Mo [mg/L]	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	0.04	0.10	0.07	0.07
Ni [mg/L]	< 0.0001	< 0.0001	< 0.0001	0.0001
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.0011	0.0013	0.0066	0.0011
Se [mg/L]	< 0.00004	0.00005	< 0.00004	< 0.00004
Sn [mg/L]	0.00010	< 0.00006	0.00043	0.00021
Sr [mg/L]	0.00207	0.00333	0.00089	0.00453
Ti [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tl [mg/L]	0.000026	0.000005	0.000026	0.000013

OnLine LIMS

0003681549

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10043-APR24**

Analysis	17: CV5-WR-HCT-64 Wk#49	18: CV5-WR-HCT-69 Wk#49	19: CV5-ORE-HCT-74 Wk#49	20: CV5-ORE-HCT-76 Wk#49
U [mg/L]	0.000464	0.00303	0.000471	0.000930
V [mg/L]	0.00001	0.00004	0.00001	0.00004
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003681549

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

27-December-2024

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 05 December 2024
LR Report: **CA10046-DEC24**
Reference: Wk#84

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#84	6: CV5-WR-HCT-5 Wk#84	7: CV5-WR-HCT-5 (DUP) Wk#84	8: CV5-WR-HCT-1 4 Wk#84	9: CV5-WR-HCT-2 2 Wk#84
Sample Date & Time			05-Dec-24	05-Dec-24	05-Dec-24	05-Dec-24	05-Dec-24
HumCell Leachate Vol [mL]	05-Dec-24	14:07	942	952	962	1004	978
pH [No unit]	06-Dec-24	13:47	942.00	952.00	962.00	1004.00	978.00
Alkalinity [mg/L as CaCO3]	06-Dec-24	13:47	7	7	7	7	7
Conductivity [uS/cm]	06-Dec-24	13:47	3	5	3	11	3
Acidity [mg/L as CaCO3]	06-Dec-24	13:47	< 2	< 2	< 2	< 2	< 2
Acidity [mg/L as CaCO3]	19-Dec-24	11:19	---	---	---	---	---
F [mg/L]	06-Dec-24	09:07	< 0.06	---	< 0.06	< 0.06	< 0.06
Tot.Reactive P [mg/L]	06-Dec-24	08:39	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	17-Dec-24	12:42	-0	0	-0	-0	0
Cl [mg/L]	17-Dec-24	12:42	11	4	3	< 2	< 2
NO2 [as N mg/L]	06-Dec-24	12:34	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	06-Dec-24	12:34	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	06-Dec-24	12:34	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	09-Dec-24	13:19	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	09-Dec-24	11:02	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	09-Dec-24	11:02	0.008	0.018	0.013	0.061	0.015
As [mg/L]	09-Dec-24	11:02	0.0009	0.0804	0.0568	0.0172	0.0500
Ba [mg/L]	09-Dec-24	11:02	0.00020	0.00015	0.00010	0.00012	< 0.00008
Be [mg/L]	09-Dec-24	11:02	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	09-Dec-24	11:02	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	09-Dec-24	11:02	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	09-Dec-24	11:02	4.77	3.15	2.14	4.61	1.11
Cd [mg/L]	09-Dec-24	11:02	< 0.000003	< 0.000003	0.000003	< 0.000003	< 0.000003
Co [mg/L]	09-Dec-24	11:02	0.000289	0.000195	0.000221	0.000050	0.000115
Cr [mg/L]	09-Dec-24	11:02	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	09-Dec-24	11:02	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	09-Dec-24	11:02	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	09-Dec-24	11:02	0.093	0.041	0.037	0.020	0.015
Li [mg/L]	09-Dec-24	11:02	0.0034	0.0040	0.0035	0.0024	0.0027
Mg [mg/L]	09-Dec-24	11:02	0.144	0.095	0.078	0.112	0.119
Mn [mg/L]	09-Dec-24	11:02	0.00289	0.00125	0.00124	0.00500	0.00026
Mo [mg/L]	09-Dec-24	11:02	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	09-Dec-24	11:02	0.07	0.03	0.03	0.08	0.04

OnLine LIMS

0003973391

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10046-DEC24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#84	6: CV5-WR-HCT-5 Wk#84	7: CV5-WR-HCT-5 (DUP) Wk#84	8: CV5-WR-HCT-1 4 Wk#84	9: CV5-WR-HCT-2 2 Wk#84
Ni [mg/L]	09-Dec-24	11:02	0.0007	0.0013	0.0014	0.0004	0.0007
Pb [mg/L]	09-Dec-24	11:02	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	09-Dec-24	11:02	0.0010	0.0185	0.0099	0.0017	0.0020
Se [mg/L]	09-Dec-24	11:02	0.00010	< 0.00004	< 0.00004	0.00006	< 0.00004
Sn [mg/L]	09-Dec-24	11:02	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	09-Dec-24	11:02	0.00636	0.00292	0.00268	0.00258	0.00268
Ti [mg/L]	09-Dec-24	11:02	< 0.0001	0.0001	< 0.0001	0.0001	0.0002
Tl [mg/L]	09-Dec-24	11:02	0.000005	0.000005	< 0.000005	< 0.000005	< 0.000005
U [mg/L]	09-Dec-24	11:02	0.000017	0.000005	0.000005	0.000007	0.000059
V [mg/L]	09-Dec-24	11:02	0.00010	0.00024	0.00019	0.00142	0.00063
W [mg/L]	09-Dec-24	11:02	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	09-Dec-24	11:02	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	09-Dec-24	11:02	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	09-Dec-24	11:02	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	09-Dec-24	11:02	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Cs (tot) [mg/L]	09-Dec-24	11:02	0.0048	0.0055	0.0059	0.0012	0.0028
Dy (tot) [mg/L]	09-Dec-24	11:02	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er (tot) [mg/L]	09-Dec-24	11:02	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu (tot) [mg/L]	09-Dec-24	11:02	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga (tot) [mg/L]	09-Dec-24	11:03	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Gd (tot) [mg/L]	09-Dec-24	11:03	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	09-Dec-24	11:03	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	09-Dec-24	11:03	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	09-Dec-24	11:03	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In (tot) [mg/L]	09-Dec-24	11:03	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir (tot) [mg/L]	13-Dec-24	12:33	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La (tot) [mg/L]	09-Dec-24	11:03	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Lu (tot) [mg/L]	09-Dec-24	11:03	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	09-Dec-24	11:03	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Nd (tot) [mg/L]	09-Dec-24	11:03	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Os (tot) [mg/L]	13-Dec-24	12:33	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	09-Dec-24	11:03	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	09-Dec-24	11:03	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt (tot) [mg/L]	09-Dec-24	11:03	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	09-Dec-24	11:03	0.0022	0.0017	0.0017	0.0002	0.0007
Re (tot) [mg/L]	09-Dec-24	11:03	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	09-Dec-24	11:03	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	09-Dec-24	11:03	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	09-Dec-24	11:03	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ta (tot) [mg/L]	09-Dec-24	11:03	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	09-Dec-24	11:03	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te (tot) [mg/L]	09-Dec-24	11:03	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	09-Dec-24	11:03	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	09-Dec-24	11:03	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Yb (tot) [mg/L]	09-Dec-24	11:03	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Analysis	10: CV5-WR-HCT-3 3 Wk#84	11: CV5-WR-HCT-3 6 Wk#84	12: CV5-WR-HCT-3 9 Wk#84	13: CV5-WR-HCT-5 0 Wk#84	14: CV5-WR-HCT-5 6 Wk#84	15: CV5-WR-HCT-5 9 Wk#84	16: CV5-WR-HCT-6 2 Wk#84
Sample Date & Time	05-Dec-24	05-Dec-24	05-Dec-24	05-Dec-24	05-Dec-24	05-Dec-24	05-Dec-24

OnLine LIMS

00039733391

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10046-DEC24**

Analysis	10: CV5-WR-HCT-3 3 Wk#84	11: CV5-WR-HCT-3 6 Wk#84	12: CV5-WR-HCT-3 9 Wk#84	13: CV5-WR-HCT-5 0 Wk#84	14: CV5-WR-HCT-5 6 Wk#84	15: CV5-WR-HCT-5 9 Wk#84	16: CV5-WR-HCT-6 2 Wk#84
HumCell Leachate Vol [mL]	1007	988	936	1010	1006	966	940
pH [No unit]	1007.00	988.00	936.00	1010.00	1006.00	966.00	940.00
Alkalinity [mg/L as CaCO3]	7	7	6	7	7	< 2	7
Conductivity [uS/cm]	5	7	2	4	7	0	5
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	---	< 2	17	< 2
Acidity [mg/L as CaCO3]	---	---	---	10	---	---	---
F [mg/L]	< 0.06	< 0.06	---	0.81	< 0.06	< 0.06	< 0.06
Tot.Reactive P [mg/L]	< 0.03	0.00	< 0.03	< 0.03	< 0.03	< 0.03	0.00
SO4 [mg/L]	-0	0	-0	-0	-0	-0	0
Cl [mg/L]	< 2	< 2	6	11	6	5	< 2
NO2 [as N mg/L]	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.039	< 0.001	0.006	0.021	0.027	0.004	< 0.001
As [mg/L]	0.0028	0.675	0.0065	0.0005	0.0039	0.0334	0.327
Ba [mg/L]	0.00025	0.00030	0.00012	0.00039	0.00024	0.00012	0.00020
Be [mg/L]	< 0.000007	< 0.000007	< 0.000007	0.000048	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	2.14	1.85	2.49	7.03	4.68	2.10	2.03
Cd [mg/L]	< 0.000003	< 0.000003	0.000012	0.000351	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	0.000068	0.000384	0.000312	0.025317	0.000048	0.003884	0.000369
Cr [mg/L]	< 0.00008	0.00011	< 0.00008	< 0.00008	< 0.00008	0.00022	< 0.00008
Cu [mg/L]	< 0.001	< 0.001	< 0.001	---	< 0.001	< 0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007	< 0.007	0.154	< 0.007	0.012	< 0.007
K [mg/L]	0.024	0.022	0.097	0.107	0.071	0.012	0.013
Li [mg/L]	0.0013	0.0011	0.0048	0.0092	0.0010	0.0009	0.0002
Mg [mg/L]	0.041	0.405	0.210	0.138	0.084	0.222	0.563
Mn [mg/L]	0.00569	0.00121	0.00320	0.02647	0.00393	0.00638	0.00176
Mo [mg/L]	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	0.05	< 0.01	0.06	0.09	0.04	0.02	< 0.01
Ni [mg/L]	< 0.0001	0.0058	0.0016	0.0384	0.0003	0.0651	0.0046
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	< 0.0009	0.208	0.0048	0.0068	< 0.0009	0.0012	0.233
Se [mg/L]	< 0.00004	< 0.00004	0.00004	0.00045	0.00005	< 0.00004	< 0.00004
Sn [mg/L]	< 0.00006	< 0.00006	0.00007	0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00166	0.00126	0.00493	0.00353	0.00304	0.00658	0.00086
Ti [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001
Tl [mg/L]	< 0.000005	0.000005	0.000006	0.000043	< 0.000005	0.000007	< 0.000005
U [mg/L]	0.000006	0.000008	0.000039	0.000237	0.000165	< 0.000002	0.000020
V [mg/L]	0.00037	0.00011	0.00012	0.00003	0.00016	0.00004	0.00008
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	0.146	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	< 0.00001	< 0.00001	0.00001	0.00008	< 0.00001	< 0.00001	< 0.00001
Cs (tot) [mg/L]	0.0018	0.0076	0.0015	0.0405	0.0140	0.0060	0.0019
Dy (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

OnLine LIMS

0003973391

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10046-DEC24**

Analysis	10: CV5-WR-HCT-3 3 Wk#84	11: CV5-WR-HCT-3 6 Wk#84	12: CV5-WR-HCT-3 9 Wk#84	13: CV5-WR-HCT-5 0 Wk#84	14: CV5-WR-HCT-5 6 Wk#84	15: CV5-WR-HCT-5 9 Wk#84	16: CV5-WR-HCT-6 2 Wk#84
Eu (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Gd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00009	< 0.00001	< 0.00001	0.00001
Lu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Nd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00002	< 0.00001	< 0.00001	< 0.00001
Os (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	0.0003	0.0011	0.0013	0.0067	0.0005	0.0010	0.0008
Re (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ta (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Yb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Analysis	17: CV5-WR-HCT-6 4 Wk#84	18: CV5-WR-HCT-6 9 Wk#84	19: CV5-ORE-HCT- 74 Wk#84	20: CV5-ORE-HCT- 76 Wk#84
Sample Date & Time	05-Dec-24	05-Dec-24	05-Dec-24	05-Dec-24
HumCell Leachate Vol [mL]	1003	1001	1014	970
pH [No unit]	1003.00	1001.00	1014.00	970.00
Alkalinity [mg/L as CaCO3]	7	7	< 2	7
Conductivity [uS/cm]	3	5	1	5
Acidity [mg/L as CaCO3]	< 2	< 2	2	< 2
Acidity [mg/L as CaCO3]	---	---	---	---
F [mg/L]	< 0.06	< 0.06	< 0.06	< 0.06
Tot.Reactive P [mg/L]	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	-0	-0	0	-0
Cl [mg/L]	< 2	< 2	< 2	< 2
NO2 [as N mg/L]	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.014	0.029	0.013	0.022
As [mg/L]	0.0030	0.0013	0.0045	0.0010
Ba [mg/L]	< 0.00008	0.00008	< 0.00008	< 0.00008

OnLine LIMS

0003973391

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10046-DEC24**

Analysis	17: CV5-WR-HCT-64 Wk#84	18: CV5-WR-HCT-69 Wk#84	19: CV5-ORE-HCT-74 Wk#84	20: CV5-ORE-HCT-76 Wk#84
Be [mg/L]	0.000011	0.000124	0.000008	0.000033
B [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	0.00010	< 0.00001	0.00007
Ca [mg/L]	0.81	1.45	0.31	1.67
Cd [mg/L]	< 0.000003	0.000003	< 0.000003	< 0.000003
Co [mg/L]	0.000004	0.000005	0.000016	0.000007
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	0.101	0.034	0.066	0.125
Li [mg/L]	0.0008	0.0006	0.0058	0.0046
Mg [mg/L]	0.019	0.011	0.007	0.045
Mn [mg/L]	0.00604	0.00203	0.05115	0.00058
Mo [mg/L]	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	0.03	0.06	0.06	0.05
Ni [mg/L]	< 0.0001	< 0.0001	0.0006	< 0.0001
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	< 0.0009	< 0.0009	0.0045	< 0.0009
Se [mg/L]	< 0.00004	< 0.00004	< 0.00004	< 0.00004
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	0.00007
Sr [mg/L]	0.00090	0.00200	0.00057	0.00310
Ti [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tl [mg/L]	0.000032	0.000006	0.000041	0.000016
U [mg/L]	0.000066	0.000985	0.000128	0.000260
V [mg/L]	< 0.00001	0.00003	< 0.00001	0.00003
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Cs (tot) [mg/L]	0.0055	0.0011	0.0116	0.0034
Dy (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Gd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Lu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	< 0.00001	0.00003	< 0.00001	< 0.00001
Nd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Os (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	0.0113	0.0022	0.0103	0.0056
Re (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001

OnLine LIMS

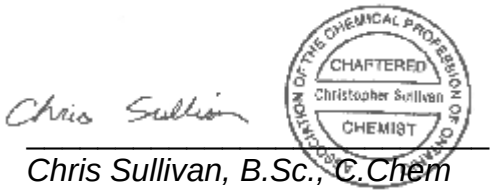
Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0003973391

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10046-DEC24**

Analysis	17: CV5-WR-HCT-64 Wk#84	18: CV5-WR-HCT-69 Wk#84	19: CV5-ORE-HCT-74 Wk#84	20: CV5-ORE-HCT-76 Wk#84
Rh (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ta (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Yb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001



Chris Sullivan, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003973391

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

28-March-2024

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 07 March 2024
LR Report: **CA10047-MAR24**
Reference: Wk#45

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HC T-83 Wk#45	6: CV5-DMS-HC T-84 Wk#45
Sample Date & Time			07-Mar-24	07-Mar-24
HumCell Leachate Vol [mL]	07-Mar-24	16:16	1014	1016
pH [No unit]	08-Mar-24	11:23	6.25	6.18
Alkalinity [mg/L as CaCO3]	08-Mar-24	11:23	< 2	< 2
Conductivity [uS/cm]	08-Mar-24	11:23	< 2	2
Acidity [mg/L as CaCO3]	08-Mar-24	11:23	< 2	2
F [mg/L]	08-Mar-24	09:20	< 0.06	< 0.06
Tot.Reactive P [mg/L]	11-Mar-24	08:47	< 0.03	< 0.03
SO4 [mg/L]	08-Mar-24	17:02	< 2	< 2
Cl [mg/L]	08-Mar-24	17:02	< 1	< 1
NO2 [as N mg/L]	08-Mar-24	15:25	< 0.03	< 0.03
NO3 [as N mg/L]	08-Mar-24	15:25	< 0.06	< 0.06
Br [mg/L]	08-Mar-24	15:25	< 0.3	< 0.3
Hg [mg/L]	11-Mar-24	15:53	< 0.00001	< 0.00001
Ag [mg/L]	14-Mar-24	14:13	< 0.00005	< 0.00005
Al [mg/L]	14-Mar-24	14:13	0.008	0.010
As [mg/L]	14-Mar-24	14:13	0.0032	0.0025
Ba [mg/L]	14-Mar-24	14:13	< 0.00008	< 0.00008
Be [mg/L]	14-Mar-24	14:13	0.000013	0.000011
B [mg/L]	14-Mar-24	14:13	< 0.002	< 0.002
Bi [mg/L]	14-Mar-24	14:13	0.00001	0.00003
Ca [mg/L]	14-Mar-24	14:13	0.37	0.32
Cd [mg/L]	14-Mar-24	14:13	< 0.000003	< 0.000003
Co [mg/L]	14-Mar-24	14:13	0.000005	0.000007
Cr [mg/L]	14-Mar-24	14:13	< 0.00008	< 0.00008
Cu [mg/L]	14-Mar-24	14:13	< 0.001	< 0.001
Fe [mg/L]	14-Mar-24	14:13	< 0.007	< 0.007
K [mg/L]	14-Mar-24	14:13	0.052	0.051
Li [mg/L]	14-Mar-24	14:13	0.0004	0.0004
Mg [mg/L]	14-Mar-24	14:13	0.013	0.011

OnLine LIMS

00036627O6

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10047-MAR24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HC T-83 Wk#45	6: CV5-DMS-HC T-84 Wk#45
Mn [mg/L]	14-Mar-24	14:13	0.00068	0.00103
Mo [mg/L]	14-Mar-24	14:13	< 0.0004	< 0.0004
Na [mg/L]	14-Mar-24	14:13	0.02	0.01
Ni [mg/L]	14-Mar-24	14:13	< 0.0001	< 0.0001
Pb [mg/L]	14-Mar-24	14:13	< 0.00009	< 0.00009
Sb [mg/L]	14-Mar-24	14:13	0.0016	0.0012
Se [mg/L]	14-Mar-24	14:13	< 0.00004	< 0.00004
Sn [mg/L]	14-Mar-24	14:13	< 0.00006	< 0.00006
Sr [mg/L]	14-Mar-24	14:13	0.00087	0.00077
Ti [mg/L]	14-Mar-24	14:13	< 0.0001	< 0.0001
Tl [mg/L]	14-Mar-24	14:13	0.000006	0.000007
U [mg/L]	14-Mar-24	14:13	0.000915	0.000961
V [mg/L]	14-Mar-24	14:13	0.00002	0.00001
W [mg/L]	14-Mar-24	14:13	< 0.0002	< 0.0002
Y [mg/L]	14-Mar-24	14:13	< 0.00002	< 0.00002
Zn [mg/L]	14-Mar-24	14:13	< 0.002	< 0.002
Au (tot) [mg/L]	14-Mar-24	14:13	< 0.00001	< 0.00001
Ce (tot) [mg/L]	14-Mar-24	14:13	< 0.00001	< 0.00001
Cs (tot) [mg/L]	14-Mar-24	14:13	0.0015	0.0016
Dy (tot) [mg/L]	14-Mar-24	14:13	< 0.00001	< 0.00001
Er (tot) [mg/L]	14-Mar-24	14:13	< 0.00001	< 0.00001
Eu (tot) [mg/L]	14-Mar-24	14:13	< 0.00001	< 0.00001
Ga (tot) [mg/L]	14-Mar-24	14:13	< 0.0001	< 0.0001
Gd (tot) [mg/L]	14-Mar-24	14:13	< 0.00001	< 0.00001
Ge (tot) [mg/L]	14-Mar-24	14:13	< 0.0001	< 0.0001
Hf (tot) [mg/L]	14-Mar-24	14:13	< 0.0001	< 0.0001
Ho (tot) [mg/L]	14-Mar-24	14:13	< 0.00001	< 0.00001
In (tot) [mg/L]	14-Mar-24	14:13	< 0.00001	< 0.00001
Ir (tot) [mg/L]	14-Mar-24	14:13	< 0.00001	< 0.00001
La (tot) [mg/L]	14-Mar-24	14:13	< 0.00001	< 0.00001
Lu (tot) [mg/L]	14-Mar-24	14:13	< 0.0001	< 0.0001
Nb (tot) [mg/L]	14-Mar-24	14:13	< 0.00001	< 0.00001
Nd (tot) [mg/L]	14-Mar-24	14:13	< 0.00001	< 0.00001
Os (tot) [mg/L]	14-Mar-24	14:13	< 0.0001	< 0.0001
Pd (tot) [mg/L]	14-Mar-24	14:13	< 0.0001	< 0.0001
Pr (tot) [mg/L]	14-Mar-24	14:13	< 0.00001	< 0.00001
Pt (tot) [mg/L]	14-Mar-24	14:13	< 0.0001	< 0.0001
Rb (tot) [mg/L]	14-Mar-24	14:13	0.0039	0.0039
Re (tot) [mg/L]	14-Mar-24	14:13	< 0.0001	< 0.0001
Rh (tot) [mg/L]	14-Mar-24	14:13	< 0.00001	< 0.00001
Sc (tot) [mg/L]	14-Mar-24	14:13	< 0.0001	< 0.0001
Sm (tot) [mg/L]	14-Mar-24	14:13	< 0.00001	< 0.00001
Ta (tot) [mg/L]	14-Mar-24	14:13	< 0.0001	< 0.0001
Tb (tot) [mg/L]	14-Mar-24	14:13	< 0.00001	< 0.00001
Te (tot) [mg/L]	14-Mar-24	14:13	< 0.0001	< 0.0001

OnLine LIMS

00036627O6

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10047-MAR24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HC T-83 Wk#45	6: CV5-DMS-HC T-84 Wk#45
Th (tot) [mg/L]	14-Mar-24	14:13	< 0.0001	< 0.0001
Tm (tot) [mg/L]	14-Mar-24	14:13	< 0.00001	< 0.00001
Yb (tot) [mg/L]	14-Mar-24	14:13	< 0.00001	< 0.00001

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003662706

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

28-March-2024

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700, Vancouver
Canada, V6C 0A6
Phone: 647-782-7386, Fax:

Date Rec. : 07 March 2024
LR Report: **CA10048-MAR24**
Reference: Wk#45

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#45	6: CV5-WR-HCT-5 Wk#45	7: CV5-WR-HCT-5 (DUP) Wk#45	8: CV5-WR-HCT-14 Wk#45	9: CV5-WR-HCT-22 Wk#45
Sample Date & Time			07-Mar-24	07-Mar-24	07-Mar-24	07-Mar-24	07-Mar-24
HumCell Leachate Vol [mL]	07-Mar-24	16:16	971	934	949	1014	1012
pH [No unit]	12-Mar-24	10:09	6.67	6.96	6.84	7.92	7.11
Alkalinity [mg/L as CaCO3]	11-Mar-24	15:10	3	4	3	13	4
Conductivity [uS/cm]	11-Mar-24	15:10	31	18	16	30	10
Acidity [mg/L as CaCO3]	12-Mar-24	08:08	< 2	< 2	< 2	< 2	< 2
F [mg/L]	08-Mar-24	12:38	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Tot.Reactive P [mg/L]	11-Mar-24	08:48	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	08-Mar-24	17:03	10	4	4	2	< 2
Cl [mg/L]	08-Mar-24	17:03	< 1	< 1	< 1	< 1	< 1
NO2 [as N mg/L]	12-Mar-24	13:18	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	12-Mar-24	13:18	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	12-Mar-24	13:18	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	11-Mar-24	15:53	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	14-Mar-24	14:13	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	14-Mar-24	14:13	0.020	0.021	0.026	0.102	0.021
As [mg/L]	14-Mar-24	14:13	0.0026	0.165	0.109	0.0336	0.136
Ba [mg/L]	14-Mar-24	14:13	0.00023	0.00017	0.00020	0.00014	0.00014
Be [mg/L]	14-Mar-24	14:13	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	14-Mar-24	14:13	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	14-Mar-24	14:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	14-Mar-24	14:13	4.64	2.98	2.47	5.51	1.68
Cd [mg/L]	14-Mar-24	14:13	0.000006	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	14-Mar-24	14:13	0.000089	0.000154	0.000231	0.000056	0.000159
Cr [mg/L]	14-Mar-24	14:13	< 0.00008	< 0.00008	0.00010	0.00009	< 0.00008
Cu [mg/L]	14-Mar-24	14:13	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	14-Mar-24	14:13	< 0.007	< 0.007	0.009	< 0.007	< 0.007
K [mg/L]	14-Mar-24	14:13	0.151	0.085	0.077	0.035	0.038
Li [mg/L]	14-Mar-24	14:13	0.0051	0.0069	0.0066	0.0035	0.0050
Mg [mg/L]	14-Mar-24	14:13	0.258	0.158	0.151	0.211	0.230

OnLine LIMS

0003662768

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10048-MAR24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#45	6: CV5-WR-HCT-5 Wk#45	7: CV5-WR-HCT-5 (DUP) Wk#45	8: CV5-WR-HCT-14 Wk#45	9: CV5-WR-HCT-22 Wk#45
Mn [mg/L]	14-Mar-24	14:13	0.00095	0.00078	0.00154	0.00499	0.00047
Mo [mg/L]	14-Mar-24	14:13	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	14-Mar-24	14:13	0.11	0.05	0.05	0.13	0.10
Ni [mg/L]	14-Mar-24	14:13	0.0004	0.0011	0.0010	0.0001	0.0005
Pb [mg/L]	14-Mar-24	14:13	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	14-Mar-24	14:13	0.0023	0.0371	0.0217	0.0038	0.0066
Se [mg/L]	14-Mar-24	14:13	0.00014	< 0.00004	< 0.00004	0.00007	< 0.00004
Sn [mg/L]	14-Mar-24	14:13	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	14-Mar-24	14:13	0.00936	0.00489	0.00488	0.00400	0.00501
Ti [mg/L]	14-Mar-24	14:13	< 0.0001	< 0.0001	0.00014	0.00012	0.00027
Tl [mg/L]	14-Mar-24	14:13	< 0.000005	< 0.000005	< 0.000005	< 0.000005	0.000005
U [mg/L]	14-Mar-24	14:13	0.000119	0.000029	0.000041	0.000334	0.000274
V [mg/L]	14-Mar-24	14:13	0.00023	0.00041	0.00032	0.00232	0.00112
W [mg/L]	14-Mar-24	14:13	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	14-Mar-24	14:13	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	14-Mar-24	14:13	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	14-Mar-24	14:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	14-Mar-24	14:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00001
Cs (tot) [mg/L]	14-Mar-24	14:13	0.0060	0.0080	0.0087	0.0015	0.0042
Dy (tot) [mg/L]	14-Mar-24	14:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er (tot) [mg/L]	14-Mar-24	14:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu (tot) [mg/L]	14-Mar-24	14:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga (tot) [mg/L]	14-Mar-24	14:13	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001
Gd (tot) [mg/L]	14-Mar-24	14:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	14-Mar-24	14:13	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	14-Mar-24	14:13	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	14-Mar-24	14:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In (tot) [mg/L]	14-Mar-24	14:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir (tot) [mg/L]	14-Mar-24	14:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La (tot) [mg/L]	14-Mar-24	14:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00001
Lu (tot) [mg/L]	14-Mar-24	14:13	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	14-Mar-24	14:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Nd (tot) [mg/L]	14-Mar-24	14:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Os (tot) [mg/L]	14-Mar-24	14:13	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	14-Mar-24	14:13	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	14-Mar-24	14:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt (tot) [mg/L]	14-Mar-24	14:13	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	14-Mar-24	14:13	0.0031	0.0028	0.0027	0.0004	0.0014
Re (tot) [mg/L]	14-Mar-24	14:13	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	14-Mar-24	14:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	14-Mar-24	14:13	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	14-Mar-24	14:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ta (tot) [mg/L]	14-Mar-24	14:13	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	14-Mar-24	14:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te (tot) [mg/L]	14-Mar-24	14:13	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001

OnLine LIMS

00036627768

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10048-MAR24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#45	6: CV5-WR-HCT-5 Wk#45	7: CV5-WR-HCT-5 (DUP) Wk#45	8: CV5-WR-HCT-14 Wk#45	9: CV5-WR-HCT-22 Wk#45
Th (tot) [mg/L]	14-Mar-24	14:13	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	14-Mar-24	14:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Yb (tot) [mg/L]	14-Mar-24	14:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Analysis	10: CV5-WR-HCT-33 Wk#45	11: CV5-WR-HCT-36 Wk#45	12: CV5-WR-HCT-39 Wk#45	13: CV5-WR-HCT-50 Wk#45	14: CV5-WR-HCT-56 Wk#45	15: CV5-WR-HCT-59 Wk#45	16: CV5-WR-HCT-62 Wk#45
Sample Date & Time	07-Mar-24	07-Mar-24	07-Mar-24	07-Mar-24	07-Mar-24	07-Mar-24	07-Mar-24
HumCell Leachate Vol [mL]	1004	1010	1004	978	963	1002	909
pH [No unit]	7.40	7.23	6.68	7.08	7.18	6.39	7.32
Alkalinity [mg/L as CaCO3]	6	6	2	7	6	< 2	7
Conductivity [uS/cm]	13	14	18	48	27	13	22
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	2	< 2	2	< 2
F [mg/L]	< 0.06	< 0.06	0.11	0.41	< 0.06	< 0.06	< 0.06
Tot.Reactive P [mg/L]	< 0.03	0.32	< 0.03	< 0.03	< 0.03	< 0.03	0.10
SO4 [mg/L]	< 2	< 2	5	9	5	4	3
Cl [mg/L]	< 1	< 1	< 1	4	< 1	< 1	< 1
NO2 [as N mg/L]	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	< 0.00001	< 0.00001	0.00001	< 0.00001	< 0.00001	0.00002	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.051	0.001	0.010	0.024	0.038	0.005	0.002
As [mg/L]	0.0035	1.16	0.0149	0.0033	0.0106	0.204	0.562
Ba [mg/L]	0.00018	0.00043	0.00018	0.00026	0.00036	0.00015	0.00031
Be [mg/L]	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	< 0.002	0.003	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	2.72	2.21	2.54	7.46	4.66	1.68	3.03
Cd [mg/L]	0.000005	< 0.000003	0.000024	0.000041	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	0.000069	0.000458	0.000151	0.002527	0.000056	0.000846	0.000471
Cr [mg/L]	< 0.00008	0.00015	< 0.00008	< 0.00008	< 0.00008	0.00013	0.00009
Cu [mg/L]	< 0.001	< 0.001	0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	0.043	0.039	0.126	0.171	0.171	0.032	0.029
Li [mg/L]	0.0021	0.0016	0.0047	0.0079	0.0022	0.0013	0.0003
Mg [mg/L]	0.072	0.518	0.231	0.081	0.173	0.315	0.776
Mn [mg/L]	0.00913	0.00167	0.00200	0.00843	0.00779	0.00195	0.00286
Mo [mg/L]	< 0.0004	< 0.0004	0.0045	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	0.07	0.02	0.06	0.09	0.06	0.04	< 0.01
Ni [mg/L]	< 0.0001	0.0114	0.0003	0.0019	0.0002	0.0070	0.0073
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	0.00016	< 0.00009	< 0.00009
Sb [mg/L]	0.0012	0.408	0.0080	0.0174	< 0.0009	0.0039	0.556
Se [mg/L]	0.00006	< 0.00004	0.00005	0.00046	< 0.00004	< 0.00004	0.00004

OnLine LIMS

0003662768

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10048-MAR24**

Analysis	10: CV5-WR-HCT-33 Wk#45	11: CV5-WR-HCT-36 Wk#45	12: CV5-WR-HCT-39 Wk#45	13: CV5-WR-HCT-50 Wk#45	14: CV5-WR-HCT-56 Wk#45	15: CV5-WR-HCT-59 Wk#45	16: CV5-WR-HCT-62 Wk#45
Sn [mg/L]	< 0.00006	< 0.00006	0.00008	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00259	0.00239	0.00613	0.00481	0.00411	0.00685	0.00165
Ti [mg/L]	0.00013	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tl [mg/L]	< 0.000005	< 0.000005	0.000005	0.000021	< 0.000005	< 0.000005	< 0.000005
U [mg/L]	0.000023	0.000033	0.000304	0.001292	0.000407	0.000037	0.000115
V [mg/L]	0.00052	0.00013	0.00024	0.00006	0.00027	0.00028	0.00015
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	0.002	0.008	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Cs (tot) [mg/L]	0.0027	0.0093	0.0017	0.0353	0.0188	0.0075	0.0026
Dy (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Gd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La (tot) [mg/L]	< 0.00001	0.00002	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00003
Lu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Nd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Os (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	0.0005	0.0015	0.0014	0.0077	0.0009	0.0017	0.0012
Re (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ta (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Yb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

OnLine LIMS

0003662768

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10048-MAR24**

Analysis	17: CV5-WR-HCT-64 Wk#45	18: CV5-WR-HCT-69 Wk#45	19: CV5-ORE-HCT-74 Wk#45	20: CV5-ORE-HCT-76 Wk#45
Sample Date & Time	07-Mar-24	07-Mar-24	07-Mar-24	07-Mar-24
HumCell Leachate Vol [mL]	1006	996	1004	1010
pH [No unit]	7.14	7.18	6.63	7.30
Alkalinity [mg/L as CaCO3]	4	5	2	8
Conductivity [uS/cm]	10	10	2	14
Acidity [mg/L as CaCO3]	<2	<2	<2	< 2
F [mg/L]	< 0.06	< 0.06	< 0.06	< 0.06
Tot.Reactive P [mg/L]	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	< 2	< 2	< 2	< 2
Cl [mg/L]	< 1	< 1	< 1	< 1
NO2 [as N mg/L]	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.035	0.042	0.014	0.026
As [mg/L]	0.0054	0.0027	0.0081	0.0023
Ba [mg/L]	< 0.00008	0.00013	< 0.00008	0.00015
Be [mg/L]	0.000009	0.000096	< 0.000007	0.000033
B [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	0.00017	< 0.00001	0.00007
Ca [mg/L]	2.09	2.24	0.61	2.55
Cd [mg/L]	< 0.000003	< 0.000003	0.000003	0.000003
Co [mg/L]	0.000009	0.000010	0.000007	0.000010
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	0.00015
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	0.179	0.061	0.096	0.199
Li [mg/L]	0.0013	0.0012	0.0054	0.0051
Mg [mg/L]	0.055	0.029	0.010	0.082
Mn [mg/L]	0.00607	0.00261	0.0553	0.00095
Mo [mg/L]	0.0006	< 0.0004	< 0.0004	0.0006
Na [mg/L]	0.07	0.10	0.07	0.06
Ni [mg/L]	< 0.0001	0.0001	< 0.0001	0.0002
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.0014	0.0014	0.0079	0.0009
Se [mg/L]	< 0.00004	< 0.00004	< 0.00004	< 0.00004
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00277	0.00390	0.00097	0.00529
Ti [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tl [mg/L]	0.000031	< 0.000005	0.000028	0.000015
U [mg/L]	0.000717	0.004043	0.000632	0.000907
V [mg/L]	0.00003	0.00005	0.00002	0.00005
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002

OnLine LIMS

0003662768

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10048-MAR24**

Analysis	17: CV5-WR-HCT-64 Wk#45	18: CV5-WR-HCT-69 Wk#45	19: CV5-ORE-HCT-74 Wk#45	20: CV5-ORE-HCT-76 Wk#45
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Cs (tot) [mg/L]	0.0073	0.0016	0.0104	0.0052
Dy (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga (tot) [mg/L]	< 0.0001	< 0.0001	0.0001	0.0001
Gd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Lu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Nd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Os (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	0.0146	0.0032	0.0117	0.0070
Re (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ta (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Yb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003662768

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Patriot Tailings -Short- (9.5mm fraction size)

16-January-2024

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700, Vancouver
Canada, V6C 0A6
Phone: 647-782-7386, Fax:

Date Rec. : 04 January 2024
LR Report: **CA10049-JAN24**
Reference: Wk#36

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HC T-83 Wk#36	6: CV5-DMS-HC T-84 Wk#36
Sample Date & Time			04-Jan-24	04-Jan-24
HumCell Leachate Vol [mL]	15-Jan-24	14:18	972	942
pH [No unit]	09-Jan-24	13:21	6.22	6.21
Alkalinity [mg/L as CaCO3]	09-Jan-24	13:21	< 2	< 2
Conductivity [uS/cm]	09-Jan-24	13:21	2	2
Acidity [mg/L as CaCO3]	09-Jan-24	13:22	3	4
Tot.Reactive P [mg/L]	08-Jan-24	10:00	< 0.03	< 0.03
SO4 [mg/L]	05-Jan-24	16:23	< 2	< 2
Ag [mg/L]	10-Jan-24	16:36	< 0.00005	< 0.00005
Al [mg/L]	10-Jan-24	16:36	0.011	0.011
As [mg/L]	10-Jan-24	16:36	0.0032	0.0029
Ba [mg/L]	10-Jan-24	16:36	< 0.00008	< 0.00008
Be [mg/L]	10-Jan-24	16:36	< 0.000007	0.000009
B [mg/L]	10-Jan-24	16:36	< 0.002	< 0.002
Bi [mg/L]	10-Jan-24	16:36	0.00003	0.00003
Ca [mg/L]	10-Jan-24	16:36	0.37	0.39
Cd [mg/L]	10-Jan-24	16:36	< 0.000003	< 0.000003
Co [mg/L]	10-Jan-24	16:36	< 0.000004	< 0.000004
Cr [mg/L]	10-Jan-24	16:36	< 0.00008	< 0.00008
Cu [mg/L]	10-Jan-24	16:36	< 0.0002	< 0.0002
Fe [mg/L]	10-Jan-24	16:36	< 0.007	< 0.007
K [mg/L]	10-Jan-24	16:36	0.071	0.074
Li [mg/L]	11-Jan-24	11:46	0.0025	0.0008
Mg [mg/L]	10-Jan-24	16:36	0.014	0.014
Mn [mg/L]	10-Jan-24	16:36	0.00060	0.00128
Mo [mg/L]	10-Jan-24	16:36	0.00005	0.00029
Na [mg/L]	10-Jan-24	16:36	0.05	0.06
Ni [mg/L]	10-Jan-24	16:36	< 0.0001	< 0.0001

OnLine LIMS

0003592797

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10049-JAN24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HC T-83 Wk#36	6: CV5-DMS-HC T-84 Wk#36
Pb [mg/L]	10-Jan-24	16:36	< 0.00009	0.00010
Sb [mg/L]	10-Jan-24	16:36	0.0014	0.0013
Se [mg/L]	10-Jan-24	16:36	0.00005	< 0.00004
Sn [mg/L]	10-Jan-24	16:36	< 0.00006	< 0.00006
Sr [mg/L]	10-Jan-24	16:36	0.00080	0.00086
Ti [mg/L]	10-Jan-24	16:36	< 0.00007	< 0.00007
Tl [mg/L]	10-Jan-24	16:36	< 0.000005	< 0.000005
U [mg/L]	10-Jan-24	16:36	0.00106	0.00188
V [mg/L]	10-Jan-24	16:36	0.00001	0.00002
W [mg/L]	10-Jan-24	16:36	< 0.00002	< 0.00002
Y [mg/L]	10-Jan-24	16:36	< 0.00002	< 0.00002
Zn [mg/L]	10-Jan-24	16:36	< 0.002	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003592797

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

16-January-2024

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700, Vancouver
Canada, V6C 0A6
Phone: 647-782-7386, Fax:

Date Rec. : 04 January 2024
LR Report: **CA10050-JAN24**
Reference: Wk#36

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#36	6: CV5-WR-HCT-5 Wk#36	7: CV5-WR-HCT-5 (DUP) Wk#36	8: CV5-WR-HCT-14 Wk#36
Sample Date & Time			04-Jan-24	04-Jan-24	04-Jan-24	04-Jan-24
HumCell Leachate Vol [mL]	15-Jan-24	14:18	904	905	919	940
pH [No unit]	08-Jan-24	12:32	6.72	7.03	6.96	7.58
Alkalinity [mg/L as CaCO3]	08-Jan-24	12:32	3	4	4	13
Conductivity [uS/cm]	08-Jan-24	12:32	40	23	18	32
Acidity [mg/L as CaCO3]	09-Jan-24	13:25	<2	<2	<2	< 2
Tot.Reactive P [mg/L]	08-Jan-24	10:00	< 0.03	0.03	< 0.03	< 0.03
SO4 [mg/L]	05-Jan-24	16:24	13	4	3	< 2
Ag [mg/L]	10-Jan-24	16:37	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	10-Jan-24	16:37	0.025	0.028	0.025	0.094
As [mg/L]	10-Jan-24	16:37	0.0094	0.187	0.126	0.0396
Ba [mg/L]	10-Jan-24	16:37	0.00027	0.00038	0.00015	0.00111
Be [mg/L]	10-Jan-24	16:37	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	10-Jan-24	16:37	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	10-Jan-24	16:37	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	10-Jan-24	16:37	5.38	3.42	2.30	5.21
Cd [mg/L]	10-Jan-24	16:37	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	10-Jan-24	16:37	0.000089	0.000185	0.000176	0.000055
Cr [mg/L]	10-Jan-24	16:37	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	10-Jan-24	16:37	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Fe [mg/L]	10-Jan-24	16:37	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	10-Jan-24	16:37	0.200	0.105	0.080	0.041
Li [mg/L]	11-Jan-24	11:46	0.0081	0.0097	0.0072	0.0043
Mg [mg/L]	10-Jan-24	16:37	0.380	0.203	0.150	0.226
Mn [mg/L]	10-Jan-24	16:37	0.00123	0.00126	0.00112	0.00481
Mo [mg/L]	10-Jan-24	16:37	0.00013	0.00010	< 0.00004	0.00011
Na [mg/L]	10-Jan-24	16:37	0.18	0.12	0.10	0.21
Ni [mg/L]	10-Jan-24	16:37	0.0002	0.0010	0.0007	0.0001

OnLine LIMS

0003592833

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10050-JAN24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#36	6: CV5-WR-HCT-5 Wk#36	7: CV5-WR-HCT-5 (DUP) Wk#36	8: CV5-WR-HCT-14 Wk#36
Pb [mg/L]	10-Jan-24	16:37	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	11-Jan-24	11:46	0.0034	0.0396	0.0212	0.0041
Se [mg/L]	10-Jan-24	16:37	0.00020	< 0.00004	< 0.00004	0.00009
Sn [mg/L]	10-Jan-24	16:37	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	10-Jan-24	16:37	0.0121	0.00601	0.00448	0.00477
Ti [mg/L]	10-Jan-24	16:37	0.00011	0.00025	0.00011	0.00017
Tl [mg/L]	10-Jan-24	16:37	< 0.000005	< 0.000005	< 0.000005	< 0.000005
U [mg/L]	10-Jan-24	16:37	0.000360	0.000055	0.000058	0.000668
V [mg/L]	10-Jan-24	16:37	0.00030	0.00049	0.00038	0.00252
W [mg/L]	10-Jan-24	16:37	0.00004	0.00006	0.00006	< 0.00002
Y [mg/L]	10-Jan-24	16:37	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	10-Jan-24	16:37	< 0.002	< 0.002	< 0.002	< 0.002

Analysis	9: CV5-WR-HCT-22 Wk#36	10: CV5-WR-HCT-33 Wk#36	11: CV5-WR-HCT-36 Wk#36	12: CV5-WR-HCT-39 Wk#36	13: CV5-WR-HCT-50 Wk#36	14: CV5-WR-HCT-56 Wk#36
Sample Date & Time	04-Jan-24	04-Jan-24	04-Jan-24	04-Jan-24	04-Jan-24	04-Jan-24
HumCell Leachate Vol [mL]	996	892	888	877	937	925
pH [No unit]	7.07	7.29	7.27	6.74	6.76	7.11
Alkalinity [mg/L as CaCO3]	5	6	6	3	3	6
Conductivity [uS/cm]	13	15	19	27	34	30
Acidity [mg/L as CaCO3]	< 2	<2	<2	<2	<2	< 2
Tot.Reactive P [mg/L]	< 0.03	< 0.03	0.33	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	< 2	< 2	3	8	9	7
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.020	0.066	0.003	0.035	0.007	0.036
As [mg/L]	0.119	0.0041	1.19	0.0239	0.0052	0.0157
Ba [mg/L]	0.00008	0.00014	0.00053	0.00075	0.00146	0.00035
Be [mg/L]	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	< 0.002	< 0.002	0.004	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	1.90	2.44	2.60	3.24	4.92	4.54
Cd [mg/L]	< 0.000003	0.000004	< 0.000003	0.000005	0.000021	< 0.000003
Co [mg/L]	0.000154	0.000043	0.000242	0.000171	0.00158	0.000054
Cr [mg/L]	< 0.00008	< 0.00008	0.00017	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	< 0.0002	0.0005	< 0.0002	< 0.0002	0.0002	< 0.0002
Fe [mg/L]	< 0.007	< 0.007	0.009	0.013	< 0.007	< 0.007
K [mg/L]	0.044	0.062	0.060	0.213	0.126	0.207
Li [mg/L]	0.0064	0.0038	0.0027	0.0097	0.0069	0.0032
Mg [mg/L]	0.236	0.113	0.525	0.441	0.082	0.247
Mn [mg/L]	0.00060	0.00567	0.00119	0.00139	0.00507	0.00724

OnLine LIMS

0003592833

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10050-JAN24**

Analysis	9: CV5-WR-HCT-22 Wk#36	10: CV5-WR-HCT-33 Wk#36	11: CV5-WR-HCT-36 Wk#36	12: CV5-WR-HCT-39 Wk#36	13: CV5-WR-HCT-50 Wk#36	14: CV5-WR-HCT-56 Wk#36
Mo [mg/L]	0.00019	0.00120	< 0.00004	0.00016	0.00039	0.00009
Na [mg/L]	0.14	0.18	0.07	0.19	0.15	0.10
Ni [mg/L]	0.0004	0.0001	0.0069	0.0004	0.0012	0.0002
Pb [mg/L]	0.00009	0.00036	< 0.00009	0.00017	< 0.00009	< 0.00009
Sb [mg/L]	0.0056	0.0010	0.519	0.0118	0.0119	< 0.0009
Se [mg/L]	< 0.00004	0.00011	0.00005	0.00011	0.00054	< 0.00004
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00518	0.00236	0.00313	0.0100	0.00419	0.00438
Ti [mg/L]	0.00023	0.00033	0.00013	0.00043	< 0.00007	0.00011
Tl [mg/L]	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005
U [mg/L]	0.000356	0.000260	0.000266	0.000471	0.00102	0.000440
V [mg/L]	0.00101	0.00068	0.00017	0.00033	0.00003	0.00033
W [mg/L]	0.00002	0.00003	0.00007	0.00005	< 0.00002	0.00006
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	0.007	< 0.002

Analysis	15: CV5-WR-HCT-59 Wk#36	16: CV5-WR-HCT-62 Wk#36	17: CV5-WR-HCT-64 Wk#36	18: CV5-WR-HCT-69 Wk#36	19: CV5-ORE-HCT-74 Wk#36	20: CV5-ORE-HCT-76 Wk#36
Sample Date & Time	04-Jan-24	04-Jan-24	04-Jan-24	04-Jan-24	04-Jan-24	04-Jan-24
HumCell Leachate Vol [mL]	993	886	966	995	952	908
pH [No unit]	6.80	7.35	7.12	7.20	6.91	7.21
Alkalinity [mg/L as CaCO3]	3	9	6	7	3	6
Conductivity [uS/cm]	15	28	12	14	5	16
Acidity [mg/L as CaCO3]	6	<2	< 2	<2	<2	< 2
Tot.Reactive P [mg/L]	0.03	0.16	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	3	4	< 2	< 2	< 2	< 2
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.004	0.001	0.028	0.067	0.019	0.040
As [mg/L]	0.251	0.728	0.0061	0.0038	0.0090	0.0027
Ba [mg/L]	0.00021	0.00042	< 0.00008	0.00013	< 0.00008	< 0.00008
Be [mg/L]	< 0.000007	< 0.000007	0.000007	0.000079	< 0.000007	0.000067
B [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00021	< 0.00001	0.00010
Ca [mg/L]	1.86	3.50	1.95	2.48	0.69	2.04
Cd [mg/L]	< 0.000003	< 0.000003	< 0.000003	< 0.000003	0.000004	< 0.000003
Co [mg/L]	0.000927	0.000520	0.000005	0.000009	0.000007	< 0.000004
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	< 0.0002	< 0.0002	< 0.0002	0.0002	< 0.0002	< 0.0002
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	0.048	0.036	0.232	0.093	0.119	0.249

OnLine LIMS

0003592833

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10050-JAN24**

Analysis	15: CV5-WR-HCT-59 Wk#36	16: CV5-WR-HCT-62 Wk#36	17: CV5-WR-HCT-64 Wk#36	18: CV5-WR-HCT-69 Wk#36	19: CV5-ORE-HCT-74 Wk#36	20: CV5-ORE-HCT-76 Wk#36
Li [mg/L]	0.0022	0.0005	0.0021	0.0018	0.0065	0.0078
Mg [mg/L]	0.357	0.958	0.061	0.035	0.012	0.093
Mn [mg/L]	0.00207	0.00269	0.00456	0.00282	0.0449	0.00113
Mo [mg/L]	0.00024	0.00027	0.00019	0.00019	0.00021	0.00007
Na [mg/L]	0.15	0.05	0.12	0.24	0.13	0.10
Ni [mg/L]	0.0079	0.0085	< 0.0001	< 0.0001	0.0002	< 0.0001
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	0.00026	< 0.00009
Sb [mg/L]	0.0048	0.706	0.0013	0.0015	0.0088	< 0.0009
Se [mg/L]	0.00008	0.00010	0.00006	< 0.00004	< 0.00004	0.00005
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00756	0.00207	0.00254	0.00406	0.00110	0.00440
Ti [mg/L]	< 0.00007	< 0.00007	< 0.00007	< 0.00007	< 0.00007	< 0.00007
Tl [mg/L]	< 0.000005	< 0.000005	0.000016	< 0.000005	0.000016	0.000012
U [mg/L]	0.000049	0.000451	0.00129	0.00348	0.00347	0.000979
V [mg/L]	0.00035	0.00017	0.00001	0.00006	< 0.00001	0.00004
W [mg/L]	0.00010	0.00005	0.00005	0.00004	0.00007	0.00003
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003592833

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

Patriot Tailings -Short- (9.5mm fraction size)

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

28-May-2024

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 09 May 2024
LR Report: **CA10062-MAY24**
Reference: Wk#54

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#54	6: CV5-DMS-HCT-84 Wk#54
Sample Date & Time			09-May-24	09-May-24
HumCell Leachate Vol [mL]	27-May-24	09:45	999	977
pH [No unit]	10-May-24	10:08	6.27	6.34
Alkalinity [mg/L as CaCO3]	10-May-24	10:08	< 2	< 2
Conductivity [uS/cm]	10-May-24	10:08	< 2	2
Acidity [mg/L as CaCO3]	10-May-24	10:08	2	2
Tot.Reactive P [mg/L]	10-May-24	08:31	< 0.03	< 0.03
SO4 [mg/L]	15-May-24	16:05	< 2	< 2
Ag [mg/L]	17-May-24	13:00	< 0.00005	< 0.00005
Al [mg/L]	17-May-24	13:00	0.009	0.010
As [mg/L]	17-May-24	13:00	0.0027	0.0023
Ba [mg/L]	17-May-24	13:00	< 0.00008	< 0.00008
Be [mg/L]	17-May-24	13:00	0.000010	0.000011
B [mg/L]	17-May-24	13:00	< 0.002	< 0.002
Bi [mg/L]	17-May-24	13:00	0.00003	0.00004
Ca [mg/L]	17-May-24	13:00	0.31	0.30
Cd [mg/L]	17-May-24	13:00	< 0.000003	< 0.000003
Co [mg/L]	17-May-24	13:00	0.000026	0.000010
Cr [mg/L]	17-May-24	13:00	< 0.00008	< 0.00008
Cu [mg/L]	17-May-24	13:00	< 0.001	< 0.001
Fe [mg/L]	17-May-24	13:00	< 0.007	< 0.007
K [mg/L]	17-May-24	13:00	0.036	0.038
Li [mg/L]	17-May-24	13:00	0.0004	0.0004
Mg [mg/L]	17-May-24	13:00	0.010	0.011
Mn [mg/L]	17-May-24	13:00	0.00096	0.00153
Mo [mg/L]	17-May-24	13:00	< 0.0004	< 0.0004
Na [mg/L]	17-May-24	13:00	0.01	0.01
Ni [mg/L]	17-May-24	13:00	< 0.0001	< 0.0001
Pb [mg/L]	17-May-24	13:00	< 0.00009	< 0.00009
Sb [mg/L]	17-May-24	13:01	0.0013	0.0011
Se [mg/L]	17-May-24	13:01	< 0.00004	< 0.00004
Sn [mg/L]	17-May-24	13:01	< 0.00006	< 0.00006
Sr [mg/L]	17-May-24	13:01	0.00071	0.00067
Ti [mg/L]	17-May-24	13:01	< 0.0001	< 0.0001
Tl [mg/L]	17-May-24	13:01	0.000010	0.000008
U [mg/L]	17-May-24	13:01	0.000611	0.000728

OnLine LIMS

0003725290

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10062-MAY24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#54	6: CV5-DMS-HCT-84 Wk#54
V [mg/L]	17-May-24	13:01	0.00002	0.00002
W [mg/L]	17-May-24	13:01	< 0.0002	< 0.0002
Y [mg/L]	17-May-24	13:01	< 0.00002	< 0.00002
Zn [mg/L]	17-May-24	13:01	< 0.002	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003725290

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

31-May-2024

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 09 May 2024
LR Report: **CA10063-MAY24**
Reference: Wk#54

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT -2 Wk#54	6: CV5-WR-HCT -5 Wk#54	7: CV5-WR-HCT- 5 (DUP) Wk#54	8: CV5-WR-HCT -14 Wk#54	9: CV5-WR-HCT -22 Wk#54
Sample Date & Time			09-May-24	09-May-24	09-May-24	09-May-24	09-May-24
HumCell Leachate Vol [mL]	27-May-24	09:45	923	937	935	995	956
pH [No unit]	13-May-24	11:38	6.85	7.02	6.95	8.05	6.94
Alkalinity [mg/L as CaCO3]	13-May-24	11:23	3	4	3	12	3
Conductivity [uS/cm]	10-May-24	11:32	30	16	13	27	8
Acidity [mg/L as CaCO3]	13-May-24	11:27	< 2	< 2	< 2	< 2	< 2
Tot.Reactive P [mg/L]	10-May-24	08:31	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	30-May-24	20:06	10	4	3	2	< 2
Ag [mg/L]	17-May-24	13:02	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	17-May-24	13:02	0.022	0.022	0.024	0.103	0.042
As [mg/L]	17-May-24	13:02	0.0023	0.140	0.0966	0.0284	0.0840
Ba [mg/L]	17-May-24	13:02	0.00020	0.00013	0.00012	0.00009	0.00012
Be [mg/L]	17-May-24	13:02	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	17-May-24	13:02	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	17-May-24	13:02	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	17-May-24	13:02	4.98	2.80	2.37	5.30	1.33
Cd [mg/L]	17-May-24	13:02	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	17-May-24	13:02	0.000135	0.000161	0.000188	0.000055	0.000234
Cr [mg/L]	17-May-24	13:03	< 0.00008	< 0.00008	< 0.00008	< 0.00008	0.00015
Cu [mg/L]	17-May-24	13:03	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	17-May-24	13:03	< 0.007	< 0.007	< 0.007	< 0.007	0.022
K [mg/L]	17-May-24	13:03	0.140	0.063	0.054	0.026	0.022
Li [mg/L]	17-May-24	13:03	0.0049	0.0052	0.0047	0.0032	0.0035
Mg [mg/L]	17-May-24	13:03	0.221	0.120	0.114	0.168	0.172
Mn [mg/L]	17-May-24	13:03	0.00149	0.00089	0.00123	0.00513	0.00093
Mo [mg/L]	17-May-24	13:03	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	17-May-24	13:03	0.10	0.04	0.04	0.12	0.06
Ni [mg/L]	17-May-24	13:03	0.0004	0.0011	0.0008	0.0001	0.0005
Pb [mg/L]	17-May-24	13:03	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	17-May-24	13:03	0.0017	0.0276	0.0152	0.0030	0.0034

OnLine LIMS

0003729363

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10063-MAY24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT -2 Wk#54	6: CV5-WR-HCT -5 Wk#54	7: CV5-WR-HCT-5 (DUP) Wk#54	8: CV5-WR-HCT -14 Wk#54	9: CV5-WR-HCT -22 Wk#54
Se [mg/L]	17-May-24	13:03	0.00013	< 0.00004	< 0.00004	0.00009	< 0.00004
Sn [mg/L]	17-May-24	13:03	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	17-May-24	13:03	0.00850	0.00372	0.00385	0.00355	0.00355
Ti [mg/L]	17-May-24	13:03	< 0.0001	< 0.0001	< 0.0001	0.00017	0.00085
Tl [mg/L]	17-May-24	13:03	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005
U [mg/L]	17-May-24	13:03	0.000069	0.000012	0.000011	0.000176	0.000091
V [mg/L]	17-May-24	13:04	0.00021	0.00037	0.00037	0.00212	0.00088
W [mg/L]	17-May-24	13:04	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	17-May-24	13:04	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	17-May-24	13:04	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002

Analysis	10: CV5-WR-HCT -33 Wk#54	11: CV5-WR-HCT -36 Wk#54	12: CV5-WR-HCT -39 Wk#54	13: CV5-WR-HCT -50 Wk#54	14: CV5-WR-HCT -56 Wk#54	15: CV5-WR-HCT -59 Wk#54	16: CV5-WR-HCT -62 Wk#54
Sample Date & Time	09-May-24	09-May-24	09-May-24	09-May-24	09-May-24	09-May-24	09-May-24
HumCell Leachate Vol [mL]	982	972	934	997	973	983	921
pH [No unit]	7.37	7.12	6.48	7.31	7.41	6.23	7.44
Alkalinity [mg/L as CaCO3]	5	5	< 2	8	8	< 2	8
Conductivity [uS/cm]	12	13	19	46	27	13	20
Acidity [mg/L as CaCO3]	< 2	< 2	2	3	< 2	3	< 2
Tot.Reactive P [mg/L]	< 0.03	0.18	< 0.03	< 0.03	< 0.03	< 0.03	0.11
SO4 [mg/L]	< 2	< 2	7	9	6	4	3
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.067	0.002	0.013	0.029	0.036	0.003	0.003
As [mg/L]	0.0039	0.745	0.0132	0.0034	0.0088	0.0862	0.564
Ba [mg/L]	0.00018	0.00050	0.00017	0.00034	0.00027	0.00029	0.00048
Be [mg/L]	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	< 0.002	0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	2.40	1.97	2.96	8.71	4.20	1.80	3.07
Cd [mg/L]	< 0.000003	< 0.000003	0.000006	0.000048	< 0.000003	0.000012	< 0.000003
Co [mg/L]	0.000062	0.000369	0.000131	0.00326	0.000040	0.00190	0.000390
Cr [mg/L]	< 0.00008	0.00013	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	0.007	< 0.007
K [mg/L]	0.027	0.022	0.131	0.146	0.098	0.016	0.025
Li [mg/L]	0.0017	0.0013	0.0054	0.0077	0.0015	0.0010	0.0003
Mg [mg/L]	0.059	0.452	0.248	0.089	0.118	0.249	0.816
Mn [mg/L]	0.00746	0.00190	0.00164	0.00998	0.00425	0.00380	0.00225
Mo [mg/L]	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	0.06	0.03	0.08	0.10	0.04	0.02	0.06
Ni [mg/L]	< 0.0001	0.0074	0.0003	0.0025	0.0001	0.0152	0.0059
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	0.00052	0.00017
Sb [mg/L]	< 0.0009	0.248	0.0068	0.0158	< 0.0009	0.0020	0.444

OnLine LIMS

0003729363

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10063-MAY24**

Analysis	10: CV5-WR-HCT -33 Wk#54	11: CV5-WR-HCT -36 Wk#54	12: CV5-WR-HCT -39 Wk#54	13: CV5-WR-HCT -50 Wk#54	14: CV5-WR-HCT -56 Wk#54	15: CV5-WR-HCT -59 Wk#54	16: CV5-WR-HCT -62 Wk#54
Se [mg/L]	0.00005	< 0.00004	0.00005	0.00062	0.00004	< 0.00004	0.00006
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00209	0.00190	0.00668	0.00472	0.00317	0.00663	0.00139
Ti [mg/L]	< 0.0001	< 0.0001	0.00011	< 0.0001	< 0.0001	0.00012	< 0.0001
Tl [mg/L]	< 0.000005	< 0.000005	0.000007	0.000025	< 0.000005	0.000006	< 0.000005
U [mg/L]	0.000018	0.000016	0.000212	0.001283	0.000226	0.000010	0.000091
V [mg/L]	0.00052	0.00012	0.00022	0.00006	0.00023	0.00014	0.00013
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	0.008	< 0.002	0.002	< 0.002

Analysis	17: CV5-WR-HCT -64 Wk#54	18: CV5-WR-HCT -69 Wk#54	19: CV5-ORE-HCT-74 Wk#54	20: CV5-ORE-HCT-76 Wk#54
Sample Date & Time	09-May-24	09-May-24	09-May-24	09-May-24
HumCell Leachate Vol [mL]	1008	994	1012	981
pH [No unit]	7.12	7.21	6.58	7.05
Alkalinity [mg/L as CaCO3]	4	4	2	5
Conductivity [uS/cm]	8	9	3	11
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2
Tot.Reactive P [mg/L]	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	< 2	< 2	< 2	< 2
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.026	0.052	0.015	0.036
As [mg/L]	0.0047	0.0023	0.0072	0.0018
Ba [mg/L]	0.00009	0.00014	< 0.00008	< 0.00008
Be [mg/L]	0.000007	0.000072	0.000007	0.000143
B [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	0.00020	< 0.00001	0.00008
Ca [mg/L]	1.61	2.08	0.48	2.15
Cd [mg/L]	< 0.000003	< 0.000003	0.000003	< 0.000003
Co [mg/L]	0.000009	0.000007	0.000006	0.000008
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	0.00010
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	0.138	0.051	0.079	0.168
Li [mg/L]	0.0011	0.0011	0.0055	0.0051
Mg [mg/L]	0.035	0.021	0.009	0.072
Mn [mg/L]	0.00479	0.00244	0.0531	0.00063
Mo [mg/L]	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	0.03	0.09	0.06	0.06
Ni [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pb [mg/L]	0.00014	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.0011	0.0011	0.0067	0.0010

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0003729363

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10063-MAY24**

Analysis	17: CV5-WR-HCT-64 Wk#54	18: CV5-WR-HCT-69 Wk#54	19: CV5-ORE-HCT-74 Wk#54	20: CV5-ORE-HCT-76 Wk#54
Se [mg/L]	< 0.00004	< 0.00004	< 0.00004	< 0.00004
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00186	0.00322	0.00080	0.00408
Ti [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tl [mg/L]	0.000026	0.000005	0.000029	0.000016
U [mg/L]	0.000366	0.00280	0.000381	0.000689
V [mg/L]	0.00005	0.00005	0.00003	0.00005
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003729363

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

21-February-2024

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 08 February 2024
LR Report: **CA10065-FEB24**
Reference: Wk#41

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#41	6: CV5-DMS-HCT-84 Wk#41
Sample Date & Time			08-Feb-24	08-Feb-24
HumCell Leachate Vol [mL]	10-Feb-24	14:24	1020	973
pH [No unit]	12-Feb-24	10:51	6.52	6.24
Alkalinity [mg/L as CaCO3]	12-Feb-24	10:51	2	< 2
Conductivity [uS/cm]	09-Feb-24	11:02	4	2
Acidity [mg/L as CaCO3]	12-Feb-24	10:52	< 2	< 2
Tot.Reactive P [mg/L]	14-Feb-24	09:42	< 0.03	< 0.03
SO4 [mg/L]	15-Feb-24	19:16	< 2	< 2
Ag [mg/L]	13-Feb-24	14:17	< 0.00005	< 0.00005
Al [mg/L]	13-Feb-24	14:17	0.017	0.015
As [mg/L]	13-Feb-24	14:17	0.0060	0.0033
Ba [mg/L]	13-Feb-24	14:17	0.00009	< 0.00008
Be [mg/L]	13-Feb-24	14:17	0.000011	0.000010
B [mg/L]	13-Feb-24	14:17	< 0.002	< 0.002
Bi [mg/L]	13-Feb-24	14:17	0.00002	0.00003
Ca [mg/L]	13-Feb-24	14:17	0.71	0.42
Cd [mg/L]	13-Feb-24	14:17	0.000011	< 0.000003
Co [mg/L]	13-Feb-24	14:17	0.000029	0.000010
Cr [mg/L]	13-Feb-24	14:17	< 0.00008	< 0.00008
Cu [mg/L]	13-Feb-24	14:17	< 0.002	< 0.002
Fe [mg/L]	13-Feb-24	14:17	< 0.007	< 0.007
K [mg/L]	13-Feb-24	14:17	0.078	0.052
Li [mg/L]	13-Feb-24	14:17	0.0006	0.0005
Mg [mg/L]	13-Feb-24	14:17	0.022	0.013
Mn [mg/L]	13-Feb-24	14:17	0.00070	0.00157
Mo [mg/L]	13-Feb-24	14:17	< 0.0004	< 0.0004
Na [mg/L]	13-Feb-24	14:17	0.07	0.04
Ni [mg/L]	13-Feb-24	14:17	0.0002	0.0001
Pb [mg/L]	13-Feb-24	14:17	0.00019	< 0.00009
Sb [mg/L]	13-Feb-24	14:17	0.0029	0.0020
Se [mg/L]	13-Feb-24	14:17	< 0.00004	< 0.00004
Sn [mg/L]	13-Feb-24	14:17	< 0.00006	< 0.00006
Sr [mg/L]	13-Feb-24	14:17	0.00211	0.00074
Ti [mg/L]	13-Feb-24	14:17	< 0.0001	< 0.0001
Tl [mg/L]	13-Feb-24	14:17	0.000013	0.000008
U [mg/L]	13-Feb-24	14:17	0.00354	0.00141

OnLine LIMS

0003626710

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10065-FEB24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#41	6: CV5-DMS-HCT-84 Wk#41
V [mg/L]	13-Feb-24	14:17	0.00002	0.00001
W [mg/L]	13-Feb-24	14:17	< 0.0002	< 0.0002
Y [mg/L]	13-Feb-24	14:17	< 0.00002	< 0.00002
Zn [mg/L]	13-Feb-24	14:17	0.003	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003626710

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

22-February-2024

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 08 February 2024
LR Report: **CA10066-FEB24**
Reference: Wk#41

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#41	6: CV5-WR-HCT-5 Wk#41	7: CV5-WR-HCT-5 (DUP) Wk#41	8: CV5-WR-HCT-14 Wk#41	9: CV5-WR-HCT-22 Wk#41	10: CV5-WR-HCT-33 Wk#41
Sample Date & Time			08-Feb-24	08-Feb-24	08-Feb-24	08-Feb-24	08-Feb-24	08-Feb-24
HumCell Leachate Vol [mL]	10-Feb-24	14:24	941	948	985	988	1020	1049
pH [No unit]	09-Feb-24	11:04	6.68	6.88	6.90	7.71	6.91	7.33
Alkalinity [mg/L as CaCO3]	09-Feb-24	11:04	2	4	3	12	3	7
Conductivity [uS/cm]	09-Feb-24	11:04	31	19	14	28	8	18
Acidity [mg/L as CaCO3]	09-Feb-24	11:04	< 2	< 2	< 2	< 2	< 2	< 2
Tot.Reactive P [mg/L]	14-Feb-24	09:43	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	15-Feb-24	19:17	11	4	3	< 2	< 2	< 2
Ag [mg/L]	13-Feb-24	14:17	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	13-Feb-24	14:17	0.029	0.027	0.025	0.096	0.033	0.058
As [mg/L]	13-Feb-24	14:17	0.0031	0.157	0.114	0.0372	0.112	0.0043
Ba [mg/L]	13-Feb-24	14:17	0.00021	0.00016	0.00032	0.00051	0.00010	0.00090
Be [mg/L]	13-Feb-24	14:17	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	13-Feb-24	14:17	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	13-Feb-24	14:17	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	13-Feb-24	14:17	4.45	2.82	2.04	4.88	1.19	3.23
Cd [mg/L]	13-Feb-24	14:17	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	13-Feb-24	14:17	0.000118	0.000175	0.000150	0.000063	0.000133	0.000074
Cr [mg/L]	13-Feb-24	14:17	< 0.00008	< 0.00008	< 0.00008	< 0.00008	0.00009	< 0.00008
Cu [mg/L]	13-Feb-24	14:17	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Fe [mg/L]	13-Feb-24	14:17	< 0.007	< 0.007	< 0.007	0.010	0.008	< 0.007
K [mg/L]	13-Feb-24	14:17	0.162	0.079	0.062	0.030	0.032	0.057
Li [mg/L]	13-Feb-24	14:17	0.0057	0.0067	0.0053	0.0035	0.0041	0.0035
Mg [mg/L]	13-Feb-24	14:17	0.226	0.140	0.112	0.182	0.156	0.100
Mn [mg/L]	13-Feb-24	14:17	0.00123	0.00113	0.00112	0.00574	0.00060	0.0114
Mo [mg/L]	13-Feb-24	14:17	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	13-Feb-24	14:17	0.12	0.06	0.06	0.14	0.14	0.11
Ni [mg/L]	13-Feb-24	14:17	0.0005	0.0012	0.0007	0.0002	0.0004	< 0.0001
Pb [mg/L]	13-Feb-24	14:17	< 0.00009	< 0.00009	< 0.00009	< 0.00009	0.00016	< 0.00009
Sb [mg/L]	13-Feb-24	14:17	0.0022	0.0343	0.0194	0.0038	0.0047	0.0017
Se [mg/L]	13-Feb-24	14:17	0.00014	< 0.00004	0.00004	0.00010	< 0.00004	0.00008
Sn [mg/L]	13-Feb-24	14:17	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	13-Feb-24	14:17	0.00990	0.00473	0.00411	0.00418	0.00543	0.00369
Ti [mg/L]	13-Feb-24	14:17	0.00012	0.00013	0.00011	0.00023	0.00031	0.00013
Tl [mg/L]	13-Feb-24	14:17	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005
U [mg/L]	13-Feb-24	14:17	0.00194	0.000168	0.000015	0.000666	0.000151	0.000585

OnLine LIMS

00036273 10

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10066-FEB24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#41	6: CV5-WR-HCT-5 Wk#41	7: CV5-WR-HCT-5 (DUP) Wk#41	8: CV5-WR-HCT-14 Wk#41	9: CV5-WR-HCT-22 Wk#41	10: CV5-WR-HCT-33 Wk#41
V [mg/L]	13-Feb-24	14:17	0.00025	0.00045	0.00040	0.00252	0.00101	0.00067
W [mg/L]	13-Feb-24	14:17	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	13-Feb-24	14:17	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	13-Feb-24	14:17	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002

Analysis	11: CV5-WR-HCT-36 Wk#41	12: CV5-WR-HCT-39 Wk#41	13: CV5-WR-HCT-50 Wk#41	14: CV5-WR-HCT-56 Wk#41	15: CV5-WR-HCT-59 Wk#41	16: CV5-WR-HCT-62 Wk#41	17: CV5-WR-HCT-64 Wk#41	18: CV5-WR-HCT-69 Wk#41
Sample Date & Time	08-Feb-24	08-Feb-24	08-Feb-24	08-Feb-24	08-Feb-24	08-Feb-24	08-Feb-24	08-Feb-24
HumCell Leachate Vol [mL]	1014	1022	1047	1004	1011	962	972	1012
pH [No unit]	7.17	6.72	6.88	7.51	6.69	7.44	7.10	7.05
Alkalinity [mg/L as CaCO3]	6	3	5	8	2	8	6	4
Conductivity [uS/cm]	16	21	56	30	14	25	9	11
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Tot.Reactive P [mg/L]	0.38	< 0.03	< 0.03	< 0.03	0.04	0.14	< 0.03	< 0.03
SO4 [mg/L]	< 2	6	13	5	3	3	< 2	< 2
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.001	0.013	0.026	0.049	0.008	0.002	0.033	0.061
As [mg/L]	1.34	0.0196	0.0046	0.0128	0.284	0.687	0.0054	0.0034
Ba [mg/L]	0.00056	0.00023	0.00045	0.00037	0.00015	0.00031	< 0.00008	0.00046
Be [mg/L]	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	0.000010	0.000053
B [mg/L]	0.004	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00029
Ca [mg/L]	2.25	2.64	7.63	4.71	1.79	3.18	1.60	2.00
Cd [mg/L]	< 0.000003	0.000004	0.000044	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	0.000294	0.000154	0.00247	0.000044	0.000802	0.000517	0.000020	0.000012
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	< 0.00008	0.00008	0.00008	< 0.00008	< 0.00008
Cu [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	0.035	0.145	0.216	0.146	0.033	0.018	0.172	0.058
Li [mg/L]	0.0017	0.0061	0.0129	0.0022	0.0016	0.0003	0.0017	0.0013
Mg [mg/L]	0.529	0.259	0.096	0.153	0.306	0.598	0.041	0.020
Mn [mg/L]	0.00176	0.00278	0.00909	0.00989	0.00216	0.00435	0.00493	0.00258
Mo [mg/L]	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	0.03	0.08	0.13	0.07	0.05	0.03	0.06	0.14
Ni [mg/L]	0.0088	0.0004	0.0020	0.0002	0.0072	0.0082	0.0001	0.0002
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.397	0.0129	0.0200	< 0.0009	0.0050	0.471	0.0014	0.0016
Se [mg/L]	< 0.00004	0.00009	0.00066	< 0.00004	< 0.00004	0.00005	< 0.00004	< 0.00004
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00210	0.00680	0.00580	0.00395	0.00788	0.00144	0.00199	0.00340
Ti [mg/L]	< 0.0001	< 0.0001	< 0.0001	0.00012	0.00013	< 0.0001	< 0.0001	< 0.0001
Tl [mg/L]	< 0.000005	< 0.000005	0.000027	< 0.000005	0.000014	< 0.000005	0.000029	< 0.000005
U [mg/L]	0.000040	0.000378	0.00152	0.000442	0.000368	0.000870	0.00436	0.00315
V [mg/L]	0.00015	0.00025	0.00005	0.00030	0.00040	0.00015	0.00001	0.00006
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	0.008	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002

Analysis	19: CV5-ORE-HCT-74 Wk#41	20: CV5-ORE-HCT-76 Wk#41
Sample Date & Time	08-Feb-24	08-Feb-24

OnLine LIMS

00036273 10

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10066-FEB24**

Analysis	19: CV5-ORE-HCT-74 Wk#41	20: CV5-ORE-HCT-76 Wk#41
HumCell Leachate Vol [mL]	1040	1007
pH [No unit]	6.73	7.23
Alkalinity [mg/L as CaCO3]	2	6
Conductivity [uS/cm]	3	14
Acidity [mg/L as CaCO3]	< 2	< 2
Tot.Reactive P [mg/L]	< 0.03	< 0.03
SO4 [mg/L]	< 2	< 2
Ag [mg/L]	< 0.00005	< 0.00005
Al [mg/L]	0.040	0.028
As [mg/L]	0.0097	0.0026
Ba [mg/L]	0.00059	< 0.00008
Be [mg/L]	< 0.000007	0.000026
B [mg/L]	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	0.00009
Ca [mg/L]	0.71	2.54
Cd [mg/L]	0.000008	< 0.000003
Co [mg/L]	0.000023	0.000013
Cr [mg/L]	0.00009	< 0.00008
Cu [mg/L]	< 0.002	< 0.002
Fe [mg/L]	0.017	< 0.007
K [mg/L]	0.104	0.205
Li [mg/L]	0.0063	0.0060
Mg [mg/L]	0.008	0.082
Mn [mg/L]	0.0594	0.00108
Mo [mg/L]	0.0005	< 0.0004
Na [mg/L]	0.12	0.07
Ni [mg/L]	0.0005	0.0001
Pb [mg/L]	0.00037	< 0.00009
Sb [mg/L]	0.0098	0.0011
Se [mg/L]	< 0.00004	< 0.00004
Sn [mg/L]	0.00008	< 0.00006
Sr [mg/L]	0.00099	0.00552
Ti [mg/L]	< 0.0001	< 0.0001
Tl [mg/L]	0.000031	0.000016
U [mg/L]	0.000823	0.00357
V [mg/L]	0.00003	0.00004
W [mg/L]	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002
Zn [mg/L]	0.004	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0003627310

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

30-October-2024

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 10 October 2024
LR Report: **CA10074-OCT24**
Reference: Wk#76

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT -2 Wk#76	6: CV5-WR-HCT -5 Wk#76	7: CV5-WR-HCT- 5 (DUP) Wk#76	8: CV5-WR-HCT -14 Wk#76	9: CV5-WR-HCT -22 Wk#76
Sample Date & Time			10-Oct-24	10-Oct-24	10-Oct-24	10-Oct-24	10-Oct-24
HumCell Leachate Vol [mL]	15-Oct-24	11:39	942	980	958	1007	998
pH [No unit]	15-Oct-24	16:16	6.77	6.91	6.59	7.22	7.01
Alkalinity [mg/L as CaCO3]	11-Oct-24	12:46	2	4	2	12	4
Conductivity [uS/cm]	11-Oct-24	12:47	32	20	13	24	9
Acidity [mg/L as CaCO3]	11-Oct-24	12:47	< 2	< 2	< 2	< 2	< 2
F [mg/L]	11-Oct-24	11:45	< 0.06	0.08	< 0.06	< 0.06	< 0.06
Tot.Reactive P [mg/L]	15-Oct-24	10:57	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	25-Oct-24	15:47	9	3	3	< 2	< 2
Cl [mg/L]	25-Oct-24	15:47	< 1	< 1	< 1	< 1	< 1
NO2 [as N mg/L]	17-Oct-24	10:44	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	17-Oct-24	10:44	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	17-Oct-24	10:44	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	18-Oct-24	10:15	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	18-Oct-24	10:15	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	18-Oct-24	10:15	0.015	0.020	0.018	0.077	0.015
As [mg/L]	18-Oct-24	10:15	0.0013	0.0935	0.0683	0.0194	0.0645
Ba [mg/L]	18-Oct-24	10:15	0.00024	0.00015	0.00015	0.00010	0.00011
Be [mg/L]	18-Oct-24	10:15	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	18-Oct-24	10:15	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	18-Oct-24	10:15	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	18-Oct-24	10:15	4.85	3.32	2.28	4.93	1.48
Cd [mg/L]	18-Oct-24	10:15	< 0.000003	0.000003	0.000004	< 0.000003	< 0.000003
Co [mg/L]	18-Oct-24	10:15	0.000148	0.000210	0.000150	0.000044	0.000093
Cr [mg/L]	18-Oct-24	10:15	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	18-Oct-24	10:15	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	18-Oct-24	10:15	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	18-Oct-24	10:15	0.098	0.044	0.044	0.017	0.020
Li [mg/L]	18-Oct-24	10:15	0.0033	0.0044	0.0036	0.0026	0.0032
Mg [mg/L]	18-Oct-24	10:15	0.162	0.113	0.097	0.132	0.168

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0003910304

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10074-OCT24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT -2 Wk#76	6: CV5-WR-HCT -5 Wk#76	7: CV5-WR-HCT-5 (DUP) Wk#76	8: CV5-WR-HCT -14 Wk#76	9: CV5-WR-HCT -22 Wk#76
Mn [mg/L]	18-Oct-24	10:15	0.00148	0.00122	0.00100	0.00520	0.00057
Mo [mg/L]	18-Oct-24	10:15	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	18-Oct-24	10:15	0.12	0.06	0.09	0.11	0.04
Ni [mg/L]	18-Oct-24	10:15	0.0004	0.0011	0.0007	< 0.0001	0.0002
Pb [mg/L]	18-Oct-24	10:15	< 0.00009	< 0.00009	< 0.00009	< 0.00009	0.00010
Sb [mg/L]	18-Oct-24	10:15	0.0011	0.0221	0.0100	0.0019	0.0026
Se [mg/L]	18-Oct-24	10:15	0.00007	< 0.00004	< 0.00004	0.00005	< 0.00004
Sn [mg/L]	18-Oct-24	10:15	< 0.00006	< 0.00006	0.00006	< 0.00006	< 0.00006
Sr [mg/L]	18-Oct-24	10:15	0.00656	0.00313	0.00304	0.00293	0.00351
Ti [mg/L]	16-Oct-24	12:31	0.0001	< 0.0001	< 0.0001	0.0001	0.0001
Tl [mg/L]	16-Oct-24	12:31	0.000005	< 0.000005	< 0.000005	< 0.000005	0.000005
U [mg/L]	16-Oct-24	12:31	0.000043	0.000013	0.000044	0.000016	0.000125
V [mg/L]	16-Oct-24	12:31	0.00011	0.00031	0.00026	0.00161	0.00077
W [mg/L]	16-Oct-24	12:31	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	16-Oct-24	12:31	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	16-Oct-24	12:31	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	16-Oct-24	12:31	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	18-Oct-24	10:15	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00001
Cs (tot) [mg/L]	16-Oct-24	12:31	0.0051	0.0062	0.0060	0.0013	0.0032
Dy (tot) [mg/L]	18-Oct-24	10:15	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er (tot) [mg/L]	18-Oct-24	10:15	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu (tot) [mg/L]	18-Oct-24	10:15	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga (tot) [mg/L]	18-Oct-24	10:15	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001
Gd (tot) [mg/L]	18-Oct-24	10:15	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	16-Oct-24	12:31	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	16-Oct-24	12:31	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	18-Oct-24	10:15	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In (tot) [mg/L]	18-Oct-24	10:15	0.00002	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir (tot) [mg/L]	16-Oct-24	12:31	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La (tot) [mg/L]	18-Oct-24	10:15	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Lu (tot) [mg/L]	18-Oct-24	10:15	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	16-Oct-24	12:31	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Nd (tot) [mg/L]	18-Oct-24	10:15	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Os (tot) [mg/L]	16-Oct-24	12:31	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	16-Oct-24	12:31	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	18-Oct-24	10:15	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt (tot) [mg/L]	16-Oct-24	12:31	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	16-Oct-24	12:31	0.0032	0.0024	0.0023	0.0004	0.0012
Re (tot) [mg/L]	16-Oct-24	12:31	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	16-Oct-24	12:31	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	18-Oct-24	10:15	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	18-Oct-24	10:15	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ta (tot) [mg/L]	16-Oct-24	12:31	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	18-Oct-24	10:15	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te (tot) [mg/L]	16-Oct-24	12:31	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001

OnLine LIMS

0003910304

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10074-OCT24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT -2 Wk#76	6: CV5-WR-HCT -5 Wk#76	7: CV5-WR-HCT-5 (DUP) Wk#76	8: CV5-WR-HCT -14 Wk#76	9: CV5-WR-HCT -22 Wk#76
Th (tot) [mg/L]	16-Oct-24	12:31	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	18-Oct-24	10:15	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Yb (tot) [mg/L]	18-Oct-24	10:15	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Analysis	10: CV5-WR-HCT -33 Wk#76	11: CV5-WR-HCT -36 Wk#76	12: CV5-WR-HCT -39 Wk#76	13: CV5-WR-HCT -50 Wk#76	14: CV5-WR-HCT -56 Wk#76	15: CV5-WR-HCT -59 Wk#76	16: CV5-WR-HCT -62 Wk#76
Sample Date & Time	10-Oct-24	10-Oct-24	10-Oct-24	10-Oct-24	10-Oct-24	10-Oct-24	10-Oct-24
HumCell Leachate Vol [mL]	1014	998	945	1001	986	1004	934
pH [No unit]	7.42	7.19	6.28	6.71	7.02	6.17	6.91
Alkalinity [mg/L as CaCO3]	5	5	< 2	4	5	< 2	6
Conductivity [uS/cm]	12	13	18	46	26	14	16
Acidity [mg/L as CaCO3]	< 2	< 2	2	10	< 2	4	< 2
F [mg/L]	< 0.06	< 0.06	0.21	0.73	< 0.06	< 0.06	< 0.06
Tot.Reactive P [mg/L]	< 0.03	0.21	< 0.03	< 0.03	< 0.03	< 0.03	0.09
SO4 [mg/L]	< 2	< 2	5	6	6	3	< 2
Cl [mg/L]	< 1	< 1	< 1	2	< 1	< 1	< 1
NO2 [as N mg/L]	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.054	0.001	0.006	0.020	0.031	0.002	0.001
As [mg/L]	0.0029	0.694	0.0077	0.0011	0.0045	0.0698	0.356
Ba [mg/L]	0.00013	0.00032	0.00017	0.00036	0.00035	0.00016	0.00074
Be [mg/L]	< 0.000007	< 0.000007	0.000007	0.000028	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	2.16	1.89	2.37	5.30	4.79	1.72	2.30
Cd [mg/L]	< 0.000003	0.000004	0.000013	0.000213	< 0.000003	0.000005	< 0.000003
Co [mg/L]	0.000052	0.000388	0.000225	0.0134	0.000058	0.00292	0.000420
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	0.00011	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007	< 0.007	0.041	< 0.007	0.008	< 0.007
K [mg/L]	0.021	0.030	0.101	0.104	0.079	0.016	0.019
Li [mg/L]	0.0014	0.0012	0.0045	0.0084	0.0010	0.0010	0.0002
Mg [mg/L]	0.049	0.448	0.214	0.090	0.106	0.236	0.662
Mn [mg/L]	0.00551	0.00146	0.00257	0.0124	0.00462	0.00464	0.00220
Mo [mg/L]	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	0.08	< 0.01	0.05	0.12	0.08	0.02	0.03
Ni [mg/L]	< 0.0001	0.0055	0.0005	0.0184	0.0001	0.0336	0.0047
Pb [mg/L]	< 0.00009	0.00074	0.00081	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	< 0.0009	0.198	0.0046	0.0061	< 0.0009	0.0019	0.214
Se [mg/L]	< 0.00004	< 0.00004	< 0.00004	0.00038	< 0.00004	< 0.00004	< 0.00004

OnLine LIMS

0003910304

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10074-OCT24**

Analysis	10: CV5-WR-HCT -33 Wk#76	11: CV5-WR-HCT -36 Wk#76	12: CV5-WR-HCT -39 Wk#76	13: CV5-WR-HCT -50 Wk#76	14: CV5-WR-HCT -56 Wk#76	15: CV5-WR-HCT -59 Wk#76	16: CV5-WR-HCT -62 Wk#76
Sn [mg/L]	0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00168	0.00133	0.00450	0.00269	0.00299	0.00565	0.00211
Ti [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tl [mg/L]	< 0.000005	< 0.000005	0.000006	0.000033	< 0.000005	0.000006	< 0.000005
U [mg/L]	0.000011	0.000014	0.000075	0.000359	0.000246	0.000003	0.000032
V [mg/L]	0.00044	0.00011	0.00014	0.00001	0.00016	0.00009	0.00008
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	0.076	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	< 0.00001	< 0.00001	0.00002	0.00006	< 0.00001	< 0.00001	< 0.00001
Cs (tot) [mg/L]	0.0018	0.0085	0.0015	0.0325	0.0137	0.0066	0.0020
Dy (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Gd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La (tot) [mg/L]	< 0.00001	0.00001	0.00001	0.00005	< 0.00001	< 0.00001	0.00001
Lu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Nd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00002	< 0.00001	< 0.00001	< 0.00001
Os (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	0.0005	0.0018	0.0019	0.0077	0.0008	0.0018	0.0011
Re (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ta (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Yb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

OnLine LIMS

0003910304

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10074-OCT24**

Analysis	17: CV5-WR-HCT-64 Wk#76	18: CV5-WR-HCT-69 Wk#76	19: CV5-ORE-HCT-74 Wk#76	20: CV5-ORE-HCT-76 Wk#76
Sample Date & Time	10-Oct-24	10-Oct-24	10-Oct-24	10-Oct-24
HumCell Leachate Vol [mL]	1003	1007	1011	976
pH [No unit]	6.60	7.12	6.31	6.86
Alkalinity [mg/L as CaCO3]	2	4	< 2	4
Conductivity [uS/cm]	5	10	2	9
Acidity [mg/L as CaCO3]	< 2	< 2	2	< 2
F [mg/L]	< 0.06	< 0.06	< 0.06	< 0.06
Tot.Reactive P [mg/L]	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	< 2	< 2	< 2	< 2
Cl [mg/L]	< 1	< 1	< 1	< 1
NO2 [as N mg/L]	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.018	0.052	0.015	0.027
As [mg/L]	0.0050	0.0021	0.0052	0.0012
Ba [mg/L]	< 0.00008	0.00011	< 0.00008	< 0.00008
Be [mg/L]	0.000009	0.000073	0.000007	0.000062
B [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	0.00020	0.00002	0.00007
Ca [mg/L]	1.12	2.00	0.36	1.79
Cd [mg/L]	0.000003	0.000008	0.000004	< 0.000003
Co [mg/L]	0.000005	0.000031	0.000013	0.000008
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	0.121	0.044	0.068	0.149
Li [mg/L]	0.0008	0.0007	0.0054	0.0042
Mg [mg/L]	0.024	0.015	0.008	0.059
Mn [mg/L]	0.00597	0.00230	0.0470	0.00062
Mo [mg/L]	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	0.01	0.06	0.05	0.07
Ni [mg/L]	< 0.0001	0.0001	0.0001	< 0.0001
Pb [mg/L]	0.00016	< 0.00009	0.00018	< 0.00009
Sb [mg/L]	< 0.0009	0.0009	0.0040	< 0.0009
Se [mg/L]	< 0.00004	< 0.00004	< 0.00004	< 0.00004
Sn [mg/L]	0.00009	< 0.00006	0.00007	0.00007
Sr [mg/L]	0.00112	0.00243	0.00070	0.00315
Ti [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tl [mg/L]	0.000030	0.000005	0.000030	0.000011
U [mg/L]	0.000143	0.00182	0.000267	0.000460
V [mg/L]	0.00001	0.00003	< 0.00001	0.00003
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002

OnLine LIMS

0003910304

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10074-OCT24**

Analysis	17: CV5-WR-HCT-64 Wk#76	18: CV5-WR-HCT-69 Wk#76	19: CV5-ORE-HCT-74 Wk#76	20: CV5-ORE-HCT-76 Wk#76
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	< 0.00001	0.00002	< 0.00001	< 0.00001
Cs (tot) [mg/L]	0.0059	0.0014	0.0101	0.0035
Dy (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga (tot) [mg/L]	< 0.0001	0.0001	< 0.0001	0.0001
Gd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La (tot) [mg/L]	< 0.00001	0.00002	< 0.00001	< 0.00001
Lu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	< 0.00001	0.00002	< 0.00001	0.00003
Nd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Os (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	0.0148	0.0032	0.0123	0.0071
Re (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ta (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Yb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0003910304

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

13-August-2024

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,, Montreal
Canada, H3A 1Z4
Phone: 647-782-7386, Fax:

Date Rec. : 01 August 2024
LR Report: **CA10000-AUG24**
Reference: Wk#66

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#66	6: CV5-WR-HCT-5 Wk#66	7: CV5-WR-HCT-5 (DUP) Wk#66	8: CV5-WR-HCT-14 Wk#66	9: CV5-WR-HCT-22 Wk#66	10: CV5-WR-HCT-33 Wk#66	11: CV5-WR-HCT-36 Wk#66
Sample Date & Time			01-Aug-24	01-Aug-24	01-Aug-24	01-Aug-24	01-Aug-24	01-Aug-24	01-Aug-24
HumCell Leachate Vol [mL]	02-Aug-24	15:36	931	941	945	990	960	966	969
pH [No unit]	02-Aug-24	12:31	6.77	6.90	6.77	7.56	6.65	6.95	6.94
Conductivity [uS/cm]	02-Aug-24	12:31	35	21	17	27	8	12	16

Analysis	12: CV5-WR-HCT-39 Wk#66	13: CV5-WR-HCT-50 Wk#66	14: CV5-WR-HCT-56 Wk#66	15: CV5-WR-HCT-59 Wk#66	16: CV5-WR-HCT-62 Wk#66	17: CV5-WR-HCT-64 Wk#66	18: CV5-WR-HCT-69 Wk#66	19: CV5-ORE-HCT-74 Wk#66	20: CV5-ORE-HCT-76 Wk#66
Sample Date & Time	01-Aug-24	01-Aug-24	01-Aug-24	01-Aug-24	01-Aug-24	01-Aug-24	01-Aug-24	01-Aug-24	01-Aug-24
HumCell Leachate Vol [mL]	958	967	976	993	927	1012	1010	1000	953
pH [No unit]	6.29	6.60	7.09	6.37	7.25	6.94	7.15	6.59	7.05
Conductivity [uS/cm]	17	47	32	14	20	9	13	3	10

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003816376

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

15-February-2024

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 01 February 2024
LR Report: **CA10005-FEB24**
Reference: Wk#40

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HC T-83 Wk#40	6: CV5-DMS-HC T-84 Wk#40
Sample Date & Time			01-Feb-24	01-Feb-24
HumCell Leachate Vol [mL]	06-Feb-24	21:16	979	967
pH [No unit]	02-Feb-24	15:20	6.24	6.15
Alkalinity [mg/L as CaCO3]	02-Feb-24	15:20	< 2	< 2
Conductivity [uS/cm]	05-Feb-24	14:39	3	2
Acidity [mg/L as CaCO3]	02-Feb-24	15:20	2	2
F [mg/L]	05-Feb-24	09:26	< 0.06	< 0.06
Tot.Reactive P [mg/L]	08-Feb-24	08:29	< 0.03	< 0.03
SO4 [mg/L]	05-Feb-24	18:45	< 2	< 2
Cl [mg/L]	05-Feb-24	18:45	< 1	< 1
NO2 [as N mg/L]	09-Feb-24	14:04	< 0.03	< 0.03
NO3 [as N mg/L]	09-Feb-24	14:04	< 0.06	< 0.06
Br [mg/L]	09-Feb-24	14:04	< 0.3	< 0.3
Hg [mg/L]	05-Feb-24	11:02	< 0.00001	< 0.00001
Ag [mg/L]	09-Feb-24	13:55	< 0.00005	< 0.00005
Al [mg/L]	09-Feb-24	13:55	0.013	0.012
As [mg/L]	09-Feb-24	13:55	0.0035	0.0025
Ba [mg/L]	09-Feb-24	13:55	0.00029	0.00008
Be [mg/L]	09-Feb-24	13:55	< 0.000007	< 0.000007
B [mg/L]	09-Feb-24	13:55	< 0.002	< 0.002
Bi [mg/L]	09-Feb-24	13:55	0.00003	0.00003
Ca [mg/L]	09-Feb-24	13:55	0.41	0.37
Cd [mg/L]	09-Feb-24	13:55	0.000003	< 0.000003
Co [mg/L]	09-Feb-24	13:55	< 0.000004	< 0.000004
Cr [mg/L]	09-Feb-24	13:55	< 0.00008	< 0.00008
Cu [mg/L]	09-Feb-24	13:55	< 0.002	< 0.002
Fe [mg/L]	09-Feb-24	13:55	< 0.007	< 0.007
K [mg/L]	09-Feb-24	13:55	0.071	0.075
Li [mg/L]	09-Feb-24	13:55	0.0007	0.0006
Mg [mg/L]	09-Feb-24	13:55	0.014	0.015

OnLine LIMS

0003621769

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10005-FEB24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HC T-83 Wk#40	6: CV5-DMS-HC T-84 Wk#40
Mn [mg/L]	09-Feb-24	13:55	0.00066	0.00117
Mo [mg/L]	09-Feb-24	13:55	0.00045	< 0.0004
Na [mg/L]	09-Feb-24	13:55	0.08	0.07
Ni [mg/L]	09-Feb-24	13:55	0.0001	0.0002
Pb [mg/L]	09-Feb-24	13:55	< 0.00009	< 0.00009
Sb [mg/L]	09-Feb-24	13:55	0.0014	0.0011
Se [mg/L]	09-Feb-24	13:55	< 0.00004	< 0.00004
Sn [mg/L]	09-Feb-24	13:55	< 0.00006	< 0.00006
Sr [mg/L]	09-Feb-24	13:55	0.00123	0.00088
Ti [mg/L]	09-Feb-24	13:55	< 0.0001	< 0.0001
Tl [mg/L]	09-Feb-24	13:55	< 0.000005	< 0.000005
U [mg/L]	09-Feb-24	13:55	0.000930	0.001049
V [mg/L]	09-Feb-24	13:55	0.00001	0.00001
W [mg/L]	09-Feb-24	13:55	< 0.0002	< 0.0002
Y [mg/L]	09-Feb-24	13:55	< 0.00002	< 0.00002
Zn [mg/L]	09-Feb-24	13:55	< 0.002	< 0.002
Au (tot) [mg/L]	09-Feb-24	13:55	< 0.00001	< 0.00001
Ce (tot) [mg/L]	09-Feb-24	13:55	< 0.00001	< 0.00001
Cs (tot) [mg/L]	09-Feb-24	13:55	0.0018	0.0017
Dy (tot) [mg/L]	09-Feb-24	13:55	< 0.00001	< 0.00001
Er (tot) [mg/L]	09-Feb-24	13:55	< 0.00001	< 0.00001
Eu (tot) [mg/L]	09-Feb-24	13:55	< 0.00001	< 0.00001
Ga (tot) [mg/L]	09-Feb-24	13:55	< 0.0001	< 0.0001
Gd (tot) [mg/L]	09-Feb-24	13:55	< 0.00001	< 0.00001
Ge (tot) [mg/L]	09-Feb-24	13:57	< 0.0001	< 0.0001
Hf (tot) [mg/L]	09-Feb-24	13:55	< 0.0001	< 0.0001
Ho (tot) [mg/L]	09-Feb-24	13:55	< 0.00001	< 0.00001
In (tot) [mg/L]	09-Feb-24	13:55	< 0.00001	< 0.00001
Ir (tot) [mg/L]	09-Feb-24	13:55	< 0.00001	< 0.00001
La (tot) [mg/L]	09-Feb-24	13:55	< 0.00001	< 0.00001
Lu (tot) [mg/L]	09-Feb-24	13:55	< 0.0001	< 0.0001
Nb (tot) [mg/L]	09-Feb-24	13:55	< 0.00001	< 0.00001
Nd (tot) [mg/L]	09-Feb-24	13:55	< 0.00001	< 0.00001
Os (tot) [mg/L]	09-Feb-24	13:55	< 0.0001	< 0.0001
Pd (tot) [mg/L]	09-Feb-24	13:55	< 0.0001	< 0.0001
Pr (tot) [mg/L]	09-Feb-24	13:55	< 0.00001	< 0.00001
Pt (tot) [mg/L]	09-Feb-24	13:55	< 0.0001	< 0.0001
Rb (tot) [mg/L]	09-Feb-24	13:55	0.0044	0.0043
Re (tot) [mg/L]	09-Feb-24	13:55	< 0.0001	< 0.0001
Rh (tot) [mg/L]	09-Feb-24	13:55	< 0.00001	< 0.00001
Sc (tot) [mg/L]	09-Feb-24	13:55	< 0.0001	< 0.0001
Sm (tot) [mg/L]	09-Feb-24	13:55	< 0.00001	< 0.00001
Ta (tot) [mg/L]	09-Feb-24	13:55	< 0.0001	< 0.0001
Tb (tot) [mg/L]	09-Feb-24	13:55	< 0.00001	< 0.00001
Te (tot) [mg/L]	09-Feb-24	13:55	< 0.0001	< 0.0001

OnLine LIMS

0003621769

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10005-FEB24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HC T-83 Wk#40	6: CV5-DMS-HC T-84 Wk#40
Th (tot) [mg/L]	09-Feb-24	13:55	< 0.0001	< 0.0001
Tm (tot) [mg/L]	09-Feb-24	13:55	< 0.00001	< 0.00001
Yb (tot) [mg/L]	09-Feb-24	13:55	< 0.00001	< 0.00001

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003621769

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

15-February-2024

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700, Vancouver
Canada, V6C 0A6
Phone: 647-782-7386, Fax:

Date Rec. : 01 February 2024
LR Report: **CA10006-FEB24**
Reference: Wk#40

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#40	6: CV5-WR-HCT-5 Wk#40	7: CV5-WR-HCT-5 (DUP) Wk#40	8: CV5-WR-HCT-14 Wk#40	9: CV5-WR-HCT-22 Wk#40
Sample Date & Time			01-Feb-24	01-Feb-24	01-Feb-24	01-Feb-24	01-Feb-24
HumCell Leachate Vol [mL]	06-Feb-24	21:16	899	884	911	932	945
pH [No unit]	05-Feb-24	11:45	6.59	6.97	6.81	7.85	6.78
Alkalinity [mg/L as CaCO3]	05-Feb-24	11:42	2	3	3	10	2
Conductivity [uS/cm]	05-Feb-24	11:42	32	18	14	26	8
Acidity [mg/L as CaCO3]	06-Feb-24	10:41	< 2	< 2	< 2	< 2	< 2
F [mg/L]	05-Feb-24	09:27	< 0.06	0.07	< 0.06	< 0.06	< 0.06
Tot.Reactive P [mg/L]	06-Feb-24	09:27	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	05-Feb-24	18:45	11	3	3	< 2	< 2
Cl [mg/L]	05-Feb-24	18:45	1	< 1	< 1	< 1	< 1
NO2 [as N mg/L]	09-Feb-24	14:04	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	09-Feb-24	14:04	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	09-Feb-24	14:04	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	05-Feb-24	11:01	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	09-Feb-24	14:01	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	09-Feb-24	14:01	0.027	0.033	0.032	0.104	0.031
As [mg/L]	09-Feb-24	14:01	0.0029	0.154	0.113	0.0318	0.0968
Ba [mg/L]	09-Feb-24	14:01	0.00041	0.00035	0.00016	0.00012	0.00010
Be [mg/L]	09-Feb-24	14:01	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	09-Feb-24	14:01	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	09-Feb-24	14:01	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	09-Feb-24	14:01	5.24	3.11	2.45	5.06	1.32
Cd [mg/L]	09-Feb-24	14:01	< 0.000003	< 0.000003	0.000004	< 0.000003	< 0.000003
Co [mg/L]	09-Feb-24	14:01	0.000095	0.000178	0.000156	0.000072	0.000186
Cr [mg/L]	09-Feb-24	14:01	< 0.00008	0.00009	< 0.00008	< 0.00008	0.00009
Cu [mg/L]	09-Feb-24	14:01	< 0.002	0.0023	< 0.002	< 0.002	< 0.002
Fe [mg/L]	09-Feb-24	14:01	0.008	0.008	0.007	0.013	0.026
K [mg/L]	09-Feb-24	14:01	0.186	0.107	0.086	0.043	0.041
Li [mg/L]	09-Feb-24	14:01	0.0064	0.0076	0.0067	0.0034	0.0042
Mg [mg/L]	09-Feb-24	14:01	0.290	0.170	0.153	0.203	0.177

OnLine LIMS

0003621819

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10006-FEB24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#40	6: CV5-WR-HCT-5 Wk#40	7: CV5-WR-HCT-5 (DUP) Wk#40	8: CV5-WR-HCT-14 Wk#40	9: CV5-WR-HCT-22 Wk#40
Mn [mg/L]	09-Feb-24	14:01	0.00147	0.00128	0.00134	0.00542	0.00098
Mo [mg/L]	09-Feb-24	14:01	< 0.0004	< 0.0004	< 0.0004	< 0.0004	0.0006
Na [mg/L]	09-Feb-24	14:00	0.18	0.11	0.10	0.20	0.14
Ni [mg/L]	09-Feb-24	14:00	0.0005	0.0012	0.0008	0.0003	0.0006
Pb [mg/L]	09-Feb-24	14:00	< 0.00009	< 0.00009	0.00021	< 0.00009	< 0.00009
Sb [mg/L]	09-Feb-24	14:00	0.0024	0.0344	0.0198	0.0032	0.0041
Se [mg/L]	09-Feb-24	14:00	0.00017	0.00005	0.00004	0.00010	0.00005
Sn [mg/L]	09-Feb-24	14:00	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	09-Feb-24	14:00	0.01057	0.00534	0.00461	0.00361	0.00379
Ti [mg/L]	09-Feb-24	14:00	0.0001	0.0002	0.0002	0.0006	0.0005
Tl [mg/L]	09-Feb-24	14:00	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005
U [mg/L]	09-Feb-24	14:00	0.000175	0.000050	0.000312	0.000128	0.000171
V [mg/L]	09-Feb-24	13:59	0.00025	0.00044	0.00040	0.00225	0.00087
W [mg/L]	09-Feb-24	13:59	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	09-Feb-24	13:59	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	09-Feb-24	13:59	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	09-Feb-24	13:59	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	09-Feb-24	13:59	0.00002	< 0.00001	< 0.00001	0.00001	0.00009
Cs (tot) [mg/L]	09-Feb-24	13:59	0.0062	0.0082	0.0083	0.0015	0.0035
Dy (tot) [mg/L]	09-Feb-24	13:59	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er (tot) [mg/L]	09-Feb-24	13:59	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu (tot) [mg/L]	09-Feb-24	13:59	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga (tot) [mg/L]	09-Feb-24	13:59	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001
Gd (tot) [mg/L]	09-Feb-24	13:59	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	09-Feb-24	13:59	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	09-Feb-24	13:59	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	09-Feb-24	13:59	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In (tot) [mg/L]	09-Feb-24	13:59	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir (tot) [mg/L]	09-Feb-24	13:59	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La (tot) [mg/L]	09-Feb-24	13:59	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Lu (tot) [mg/L]	09-Feb-24	13:59	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	09-Feb-24	13:59	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Nd (tot) [mg/L]	09-Feb-24	13:59	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Os (tot) [mg/L]	09-Feb-24	13:59	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	09-Feb-24	13:59	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	09-Feb-24	13:59	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt (tot) [mg/L]	09-Feb-24	13:59	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	09-Feb-24	13:59	0.0032	0.0029	0.0025	0.0004	0.0010
Re (tot) [mg/L]	09-Feb-24	13:59	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	09-Feb-24	13:59	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	09-Feb-24	13:59	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	09-Feb-24	13:59	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ta (tot) [mg/L]	09-Feb-24	13:59	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	09-Feb-24	13:59	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te (tot) [mg/L]	09-Feb-24	13:59	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001

OnLine LIMS

0003621819

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10006-FEB24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#40	6: CV5-WR-HCT-5 Wk#40	7: CV5-WR-HCT-5 (DUP) Wk#40	8: CV5-WR-HCT-14 Wk#40	9: CV5-WR-HCT-22 Wk#40
Th (tot) [mg/L]	09-Feb-24	13:59	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	09-Feb-24	13:59	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Yb (tot) [mg/L]	09-Feb-24	13:59	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Analysis	10: CV5-WR-HCT-33 Wk#40	11: CV5-WR-HCT-36 Wk#40	12: CV5-WR-HCT-39 Wk#40	13: CV5-WR-HCT-50 Wk#40	14: CV5-WR-HCT-56 Wk#40	15: CV5-WR-HCT-59 Wk#40	16: CV5-WR-HCT-62 Wk#40
Sample Date & Time	01-Feb-24	01-Feb-24	01-Feb-24	01-Feb-24	01-Feb-24	01-Feb-24	01-Feb-24
HumCell Leachate Vol [mL]	937	928	936	983	904	982	880
pH [No unit]	7.25	7.05	6.48	7.00	7.46	6.75	7.39
Alkalinity [mg/L as CaCO3]	4	4	2	3	8	2	10
Conductivity [uS/cm]	12	13	22	43	33	18	30
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	< 2	< 2
F [mg/L]	< 0.06	< 0.06	0.14	0.21	< 0.06	< 0.06	< 0.06
Tot.Reactive P [mg/L]	< 0.03	0.20	< 0.03	< 0.03	< 0.03	0.05	0.19
SO4 [mg/L]	< 2	< 2	6	8	7	3	3
Cl [mg/L]	< 1	< 1	< 1	3	< 1	< 1	< 1
NO2 [as N mg/L]	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.067	0.003	0.017	0.011	0.064	0.010	0.002
As [mg/L]	0.0040	0.863	0.0195	0.0029	0.0146	0.328	0.803
Ba [mg/L]	0.00017	0.00058	0.00021	0.00120	0.00044	0.00020	0.00061
Be [mg/L]	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	< 0.002	0.003	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00002	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	2.33	2.05	2.97	6.08	5.98	2.22	4.34
Cd [mg/L]	0.000003	0.000009	0.000012	0.000032	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	0.000041	0.000256	0.000139	0.00193	0.000050	0.000920	0.000413
Cr [mg/L]	< 0.00008	0.00012	< 0.00008	< 0.00008	< 0.00008	0.00012	< 0.00008
Cu [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Fe [mg/L]	< 0.007	0.007	< 0.007	< 0.007	< 0.007	0.008	< 0.007
K [mg/L]	0.054	0.048	0.185	0.165	0.235	0.056	0.045
Li [mg/L]	0.0031	0.0020	0.0072	0.0078	0.0029	0.0022	0.0005
Mg [mg/L]	0.096	0.438	0.338	0.086	0.229	0.391	1.05
Mn [mg/L]	0.00576	0.00143	0.00173	0.00709	0.0118	0.00252	0.00369
Mo [mg/L]	< 0.0004	0.0004	< 0.0004	0.0008	< 0.0004	< 0.0004	0.0005
Na [mg/L]	0.14	0.06	0.14	0.14	0.11	0.09	0.06
Ni [mg/L]	0.0002	0.0067	0.0005	0.0016	0.0003	0.0076	0.0065
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	0.00024	< 0.00009
Sb [mg/L]	0.0011	0.382	0.0106	0.0150	< 0.0009	0.0056	0.757
Se [mg/L]	0.00008	0.00005	0.00006	0.00045	0.00007	< 0.00004	0.00011

OnLine LIMS

0003621819

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10006-FEB24**

Analysis	10: CV5-WR-HCT-33 Wk#40	11: CV5-WR-HCT-36 Wk#40	12: CV5-WR-HCT-39 Wk#40	13: CV5-WR-HCT-50 Wk#40	14: CV5-WR-HCT-56 Wk#40	15: CV5-WR-HCT-59 Wk#40	16: CV5-WR-HCT-62 Wk#40
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00247	0.00246	0.00807	0.00509	0.00504	0.00965	0.00237
Ti [mg/L]	0.0004	< 0.0001	0.0002	< 0.0001	0.0001	0.0003	< 0.0001
Tl [mg/L]	< 0.000005	< 0.000005	< 0.000005	0.000012	< 0.000005	< 0.000005	< 0.000005
U [mg/L]	0.000043	0.000029	0.000342	0.00124	0.00127	0.000026	0.000149
V [mg/L]	0.00061	0.00012	0.00029	0.00004	0.00039	0.00049	0.00019
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	0.008	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	< 0.00001	< 0.00001	0.00002	0.00001	0.00001	< 0.00001	< 0.00001
Cs (tot) [mg/L]	0.0030	0.0099	0.0021	0.0287	0.0232	0.0108	0.0038
Dy (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001
Gd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La (tot) [mg/L]	< 0.00001	0.00002	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00004
Lu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Nd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Os (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	0.0005	0.0016	0.0021	0.0067	0.0010	0.0027	0.0016
Re (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ta (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Yb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

OnLine LIMS

0003621819

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10006-FEB24**

Analysis	17: CV5-WR-HC T-64 Wk#40	18: CV5-WR-HCT-69 Wk#40	19: CV5-ORE-HC T-74 Wk#40	20: CV5-ORE-HC T-76 Wk#40
Sample Date & Time	01-Feb-24	01-Feb-24	01-Feb-24	01-Feb-24
HumCell Leachate Vol [mL]	914	999	978	996
pH [No unit]	6.98	6.99	6.83	7.22
Alkalinity [mg/L as CaCO3]	3	5	2	7
Conductivity [uS/cm]	6	13	6	16
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2
F [mg/L]	< 0.06	< 0.06	< 0.06	< 0.06
Tot.Reactive P [mg/L]	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	< 2	< 2	< 2	< 2
Cl [mg/L]	< 1	< 1	< 1	< 1
NO2 [as N mg/L]	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.131	0.049	0.018	0.032
As [mg/L]	0.0042	0.0053	0.0082	0.0026
Ba [mg/L]	0.00016	< 0.00008	0.00011	0.00010
Be [mg/L]	0.000365	0.000012	< 0.000007	0.000042
B [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	0.00029	< 0.00001	< 0.00001	0.00007
Ca [mg/L]	2.44	1.30	0.69	2.93
Cd [mg/L]	0.000005	< 0.000003	0.000006	0.000003
Co [mg/L]	0.000013	0.000014	0.000006	0.000004
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	0.00008
Cu [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	0.093	0.233	0.113	0.259
Li [mg/L]	0.0018	0.0016	0.0068	0.0066
Mg [mg/L]	0.032	0.042	0.013	0.112
Mn [mg/L]	0.00326	0.00385	0.0522	0.00120
Mo [mg/L]	< 0.0004	0.0014	0.0024	< 0.0004
Na [mg/L]	0.18	0.10	0.14	0.13
Ni [mg/L]	< 0.0001	0.0002	0.0002	0.0002
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	0.00014
Sb [mg/L]	0.0019	0.0011	0.0086	0.0011
Se [mg/L]	< 0.00004	< 0.00004	< 0.00004	< 0.00004
Sn [mg/L]	0.00007	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00404	0.00175	0.00112	0.00603
Ti [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tl [mg/L]	0.000011	0.000040	0.000024	0.000014
U [mg/L]	0.00313	0.000488	0.000866	0.00125
V [mg/L]	0.00006	0.00003	< 0.00001	0.00005
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	0.00002	< 0.00002	< 0.00002	< 0.00002

OnLine LIMS

0003621819

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10006-FEB24**

Analysis	17: CV5-WR-HCT-64 Wk#40	18: CV5-WR-HCT-69 Wk#40	19: CV5-ORE-HCT-74 Wk#40	20: CV5-ORE-HCT-76 Wk#40
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	0.00008	< 0.00001	< 0.00001	< 0.00001
Cs (tot) [mg/L]	0.0023	0.0079	0.0105	0.0062
Dy (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga (tot) [mg/L]	0.0002	0.0001	0.0001	0.0002
Gd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La (tot) [mg/L]	0.00001	< 0.00001	< 0.00001	< 0.00001
Lu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	0.00018	< 0.00001	< 0.00001	< 0.00001
Nd (tot) [mg/L]	0.00002	< 0.00001	< 0.00001	< 0.00001
Os (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	0.0047	0.0164	0.0122	0.0088
Re (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	0.00001	< 0.00001	< 0.00001	< 0.00001
Ta (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Yb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003621819

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Patriot Tailings -Short- (9.5mm fraction size)

27-May-2024

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 02 May 2024
LR Report: **CA10017-MAY24**
Reference: Wk#53

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#53	6: CV5-DMS-HCT-84 Wk#53
Sample Date & Time			02-May-24	02-May-24
HumCell Leachate Vol [mL]	02-May-24	13:27	1004	1002
pH [No unit]	03-May-24	11:54	6.09	5.99
Alkalinity [mg/L as CaCO3]	03-May-24	11:54	< 2	< 2
Conductivity [uS/cm]	03-May-24	11:54	< 2	< 2
Acidity [mg/L as CaCO3]	06-May-24	12:14	4	2
Tot.Reactive P [mg/L]	06-May-24	08:22	< 0.03	< 0.03
SO4 [mg/L]	13-May-24	17:02	< 2	< 2
Ag [mg/L]	09-May-24	16:18	< 0.00005	< 0.00005
Al [mg/L]	09-May-24	16:18	0.007	0.007
As [mg/L]	09-May-24	16:18	0.0027	0.0027
Ba [mg/L]	09-May-24	16:18	< 0.00008	< 0.00008
Be [mg/L]	09-May-24	16:18	< 0.000007	< 0.000007
B [mg/L]	09-May-24	16:18	< 0.002	< 0.002
Bi [mg/L]	09-May-24	16:18	0.00002	0.00003
Ca [mg/L]	09-May-24	16:18	0.29	0.30
Cd [mg/L]	09-May-24	16:18	< 0.000003	< 0.000003
Co [mg/L]	09-May-24	16:18	0.000017	0.000014
Cr [mg/L]	09-May-24	16:18	---	< 0.00008
Cr [mg/L]	09-May-24	16:18	< 0.00008	---
Cu [mg/L]	09-May-24	16:18	< 0.001	< 0.001
Fe [mg/L]	09-May-24	16:18	---	< 0.007
Fe [mg/L]	09-May-24	16:18	< 0.007	---
K [mg/L]	09-May-24	16:18	0.047	0.041
Li [mg/L]	09-May-24	16:18	0.0004	0.0004
Mg [mg/L]	09-May-24	16:18	0.010	0.013
Mn [mg/L]	09-May-24	16:18	0.00120	0.00142
Mo [mg/L]	09-May-24	16:18	< 0.0004	< 0.0004
Na [mg/L]	09-May-24	16:18	0.03	0.03
Ni [mg/L]	09-May-24	16:18	0.0002	0.0003
Pb [mg/L]	09-May-24	16:18	< 0.00009	< 0.00009

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0003724452

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10017-MAY24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#53	6: CV5-DMS-HCT-84 Wk#53
Sb [mg/L]	09-May-24	16:18	0.0014	0.0014
Se [mg/L]	09-May-24	16:18	< 0.00004	< 0.00004
Sn [mg/L]	09-May-24	16:18	< 0.00006	< 0.00006
Sr [mg/L]	09-May-24	16:18	0.00061	0.00063
Ti [mg/L]	09-May-24	16:18	< 0.0001	< 0.0001
Tl [mg/L]	09-May-24	16:18	< 0.000005	< 0.000005
U [mg/L]	09-May-24	16:18	0.000574	0.000682
V [mg/L]	09-May-24	16:18	0.00003	0.00002
W [mg/L]	09-May-24	16:18	< 0.0002	< 0.0002
Y [mg/L]	09-May-24	16:18	< 0.00002	< 0.00002
Zn [mg/L]	09-May-24	16:18	< 0.002	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003724452

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

13-May-2024

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 02 May 2024
LR Report: **CA10018-MAY24**
Reference: Wk#53

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#53	6: CV5-WR-HCT-5 Wk#53	7: CV5-WR-HCT-5 (DUP) Wk#53	8: CV5-WR-HCT-14 Wk#53	9: CV5-WR-HCT-22 Wk#53	10: CV5-WR-HCT-33 Wk#53
Sample Date & Time			02-May-24	02-May-24	02-May-24	02-May-24	02-May-24	02-May-24
HumCell Leachate Vol [mL]	02-May-24	13:27	929	924	953	1000	975	996
pH [No unit]	06-May-24	12:15	6.81	6.95	6.77	7.72	6.77	7.34
Alkalinity [mg/L as CaCO3]	06-May-24	12:15	2	3	2	12	2	7
Conductivity [uS/cm]	03-May-24	11:59	28	16	13	25	7	14
Acidity [mg/L as CaCO3]	06-May-24	12:15	< 2	< 2	< 2	< 2	< 2	< 2
Tot.Reactive P [mg/L]	06-May-24	08:22	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	13-May-24	17:02	10	4	3	< 2	< 2	< 2
Ag [mg/L]	09-May-24	16:18	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	09-May-24	16:18	0.021	0.027	0.021	0.087	0.027	0.052
As [mg/L]	09-May-24	16:18	0.0024	0.135	0.0901	0.0261	0.0701	0.0051
Ba [mg/L]	09-May-24	16:18	0.00018	0.00017	0.00011	0.00008	0.00016	0.00043
Be [mg/L]	09-May-24	16:18	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	09-May-24	16:18	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	09-May-24	16:18	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	09-May-24	16:18	4.60	2.98	2.25	5.14	1.19	2.74
Cd [mg/L]	09-May-24	16:18	< 0.000003	< 0.000003	< 0.000003	0.000005	< 0.000003	< 0.000003
Co [mg/L]	09-May-24	16:18	0.000129	0.000189	0.000192	0.000082	0.000202	0.000079
Cr [mg/L]	09-May-24	16:18	< 0.00008	0.00009	< 0.00008	< 0.00008	0.00010	< 0.00008
Cu [mg/L]	09-May-24	16:18	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	09-May-24	16:18	< 0.007	< 0.007	< 0.007	< 0.007	0.011	< 0.007
K [mg/L]	09-May-24	16:18	0.137	0.068	0.058	0.031	0.029	0.037
Li [mg/L]	09-May-24	16:18	0.0052	0.0058	0.0049	0.0035	0.0033	0.0022
Mg [mg/L]	09-May-24	16:18	0.209	0.130	0.111	0.170	0.142	0.066
Mn [mg/L]	09-May-24	16:18	0.00136	0.00120	0.00121	0.00529	0.00075	0.00866
Mo [mg/L]	09-May-24	16:18	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	09-May-24	16:18	0.12	0.07	0.07	0.13	0.07	0.08
Ni [mg/L]	09-May-24	16:18	0.0004	0.0013	0.0008	0.0002	0.0007	0.0003
Pb [mg/L]	09-May-24	16:18	< 0.00009	< 0.00009	0.00014	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	09-May-24	16:18	0.0016	0.0251	0.0133	0.0027	0.0027	0.0014
Se [mg/L]	09-May-24	16:18	0.00009	< 0.00004	< 0.00004	0.00004	< 0.00004	< 0.00004
Sn [mg/L]	09-May-24	16:18	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	09-May-24	16:18	0.00761	0.00392	0.00347	0.00330	0.00298	0.00241
Ti [mg/L]	09-May-24	16:18	< 0.0001	0.00013	< 0.0001	0.00013	0.00039	< 0.0001
Tl [mg/L]	09-May-24	16:18	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005
U [mg/L]	09-May-24	16:18	0.000067	0.000018	0.000019	0.000033	0.000094	0.000077

OnLine LIMS

00037103336

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10018-MAY24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#53	6: CV5-WR-HCT-5 Wk#53	7: CV5-WR-HCT-5 (DUP) Wk#53	8: CV5-WR-HCT-14 Wk#53	9: CV5-WR-HCT-22 Wk#53	10: CV5-WR-HCT-33 Wk#53
V [mg/L]	09-May-24	16:18	0.00019	0.00036	0.00029	0.00182	0.00070	0.00045
W [mg/L]	09-May-24	16:18	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	09-May-24	16:18	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	09-May-24	16:18	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002

Analysis	11: CV5-WR-HCT-36 Wk#53	12: CV5-WR-HCT-39 Wk#53	13: CV5-WR-HCT-50 Wk#53	14: CV5-WR-HCT-56 Wk#53	15: CV5-WR-HCT-59 Wk#53	16: CV5-WR-HCT-62 Wk#53	17: CV5-WR-HCT-64 Wk#53	18: CV5-WR-HCT-69 Wk#53
Sample Date & Time	02-May-24	02-May-24	02-May-24	02-May-24	02-May-24	02-May-24	02-May-24	02-May-24
HumCell Leachate Vol [mL]	1003	968	998	998	935	1003	963	1000
pH [No unit]	7.11	6.38	7.23	7.09	6.34	7.18	7.13	7.24
Alkalinity [mg/L as CaCO3]	5	< 2	7	6	< 2	6	4	5
Conductivity [uS/cm]	12	16	46	30	14	17	8	10
Acidity [mg/L as CaCO3]	< 2	2	2	< 2	3	< 2	< 2	< 2
Tot.Reactive P [mg/L]	0.18	< 0.03	< 0.03	< 0.03	< 0.03	0.08	< 0.03	< 0.03
SO4 [mg/L]	< 2	5	7	6	4	2	< 2	< 2
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.002	0.011	0.025	0.041	0.002	< 0.001	0.024	0.049
As [mg/L]	0.800	0.0131	0.0032	0.0085	0.123	0.469	0.0047	0.0024
Ba [mg/L]	0.00050	0.00014	0.00028	0.00036	0.00013	0.00034	0.00020	0.00010
Be [mg/L]	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	0.000087
B [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00022
Ca [mg/L]	1.90	2.24	7.68	5.06	1.79	2.27	1.60	2.13
Cd [mg/L]	< 0.000003	0.000006	0.000048	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	0.000461	0.000105	0.00291	0.000050	0.00167	0.000402	0.000012	0.000013
Cr [mg/L]	0.00014	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	0.029	0.106	0.137	0.133	0.027	0.023	0.142	0.057
Li [mg/L]	0.0013	0.0050	0.0082	0.0018	0.0014	0.0003	0.0013	0.0012
Mg [mg/L]	0.441	0.193	0.078	0.146	0.296	0.627	0.036	0.032
Mn [mg/L]	0.00233	0.00143	0.00907	0.00541	0.00355	0.00210	0.00492	0.00249
Mo [mg/L]	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	0.03	0.08	0.11	0.06	0.04	0.02	0.05	0.10
Ni [mg/L]	0.0096	0.0004	0.0023	0.0005	0.0145	0.0056	0.0003	0.0002
Pb [mg/L]	0.00011	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.255	0.0063	0.0145	< 0.0009	0.0031	0.371	0.0011	0.0011
Se [mg/L]	< 0.00004	< 0.00004	0.00055	< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00165	0.00490	0.00401	0.00382	0.00648	0.00106	0.00182	0.00322
Ti [mg/L]	< 0.0001	0.00012	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tl [mg/L]	< 0.000005	< 0.000005	0.000022	< 0.000005	< 0.000005	< 0.000005	0.000023	< 0.000005
U [mg/L]	0.000011	0.000217	0.00144	0.000228	0.000014	0.000040	0.000405	0.00294
V [mg/L]	0.00011	0.00019	0.00005	0.00022	0.00019	0.00012	0.00003	0.00005
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	0.008	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002

Analysis	19: CV5-ORE-HCT-74 Wk#53	20: CV5-ORE-HCT-76 Wk#53
Sample Date & Time	02-May-24	02-May-24

OnLine LIMS

0003710336

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10018-MAY24**

Analysis	19: CV5-ORE-HCT-74 Wk#53	20: CV5-ORE-HCT-76 Wk#53
HumCell Leachate Vol [mL]	1006	1000
pH [No unit]	6.40	7.30
Alkalinity [mg/L as CaCO3]	2	4
Conductivity [uS/cm]	4	10
Acidity [mg/L as CaCO3]	< 2	< 2
Tot.Reactive P [mg/L]	< 0.03	< 0.03
SO4 [mg/L]	< 2	< 2
Ag [mg/L]	< 0.00005	< 0.00005
Al [mg/L]	0.015	0.034
As [mg/L]	0.0073	0.0015
Ba [mg/L]	< 0.00008	0.00012
Be [mg/L]	< 0.000007	0.000033
B [mg/L]	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	0.00008
Ca [mg/L]	0.48	1.96
Cd [mg/L]	< 0.000003	< 0.000003
Co [mg/L]	0.000012	0.000013
Cr [mg/L]	< 0.00008	0.00010
Cu [mg/L]	< 0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007
K [mg/L]	0.087	0.161
Li [mg/L]	0.0062	0.0052
Mg [mg/L]	0.011	0.064
Mn [mg/L]	0.0513	0.00096
Mo [mg/L]	< 0.0004	< 0.0004
Na [mg/L]	0.09	0.07
Ni [mg/L]	0.0002	0.0002
Pb [mg/L]	< 0.00009	< 0.00009
Sb [mg/L]	0.0067	< 0.0009
Se [mg/L]	< 0.00004	< 0.00004
Sn [mg/L]	< 0.00006	< 0.00006
Sr [mg/L]	0.00080	0.00362
Ti [mg/L]	< 0.0001	< 0.0001
Tl [mg/L]	0.000026	0.000012
U [mg/L]	0.000381	0.000633
V [mg/L]	0.00002	0.00004
W [mg/L]	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003710336

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

15-July-2024

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 04 July 2024
LR Report: **CA10032-JUL24**
Reference: Wk#62

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#62	6: CV5-DMS-HCT-84 Wk#62
Sample Date & Time			04-Jul-24	04-Jul-24
HumCell Leachate Vol [mL]	05-Jul-24	14:57	1011	990
pH [No unit]	09-Jul-24	10:59	6.32	6.38
Alkalinity [mg/L as CaCO3]	10-Jul-24	09:57	< 2	< 2
Conductivity [uS/cm]	10-Jul-24	12:13	3	< 2
Acidity [mg/L as CaCO3]	10-Jul-24	09:57	3	2
Tot.Reactive P [mg/L]	08-Jul-24	08:00	< 0.03	< 0.03
SO4 [mg/L]	04-Jul-24	19:46	< 2	< 2
Ag [mg/L]	08-Jul-24	13:44	< 0.00005	< 0.00005
Al [mg/L]	08-Jul-24	13:44	0.007	0.007
As [mg/L]	08-Jul-24	13:44	0.0025	0.0020
Ba [mg/L]	08-Jul-24	13:44	< 0.00008	< 0.00008
Be [mg/L]	08-Jul-24	13:44	0.000007	0.000015
B [mg/L]	08-Jul-24	13:44	< 0.002	< 0.002
Bi [mg/L]	08-Jul-24	13:44	0.00002	0.00004
Ca [mg/L]	08-Jul-24	13:44	0.32	0.31
Cd [mg/L]	08-Jul-24	13:44	0.000005	0.000003
Co [mg/L]	08-Jul-24	13:44	0.000008	0.000006
Cr [mg/L]	08-Jul-24	13:44	< 0.00008	< 0.00008
Cu [mg/L]	08-Jul-24	13:44	< 0.001	< 0.001
Fe [mg/L]	08-Jul-24	13:44	< 0.007	< 0.007
K [mg/L]	08-Jul-24	13:44	0.033	0.033
Li [mg/L]	08-Jul-24	13:44	0.0004	0.0004
Mg [mg/L]	08-Jul-24	13:44	0.010	0.010
Mn [mg/L]	08-Jul-24	13:44	0.00156	0.00201
Mo [mg/L]	08-Jul-24	13:44	< 0.0004	< 0.0004
Na [mg/L]	08-Jul-24	13:44	0.02	0.02
Ni [mg/L]	08-Jul-24	13:44	0.0001	0.0001
Pb [mg/L]	08-Jul-24	13:44	< 0.00009	< 0.00009
Sb [mg/L]	08-Jul-24	13:44	0.0012	0.0012
Se [mg/L]	08-Jul-24	13:44	< 0.00004	< 0.00004
Sn [mg/L]	08-Jul-24	13:44	< 0.00006	< 0.00006
Sr [mg/L]	08-Jul-24	13:44	0.00068	0.00072
Ti [mg/L]	08-Jul-24	13:44	< 0.0001	< 0.0001
Tl [mg/L]	08-Jul-24	13:44	0.000007	0.000009
U [mg/L]	08-Jul-24	13:44	0.000505	0.000597

OnLine LIMS

0003783514

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10032-JUL24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#62	6: CV5-DMS-HCT-84 Wk#62
V [mg/L]	08-Jul-24	13:44	< 0.00001	< 0.00001
W [mg/L]	08-Jul-24	13:44	< 0.0002	< 0.0002
Y [mg/L]	08-Jul-24	13:44	< 0.00002	< 0.00002
Zn [mg/L]	08-Jul-24	13:44	< 0.002	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003783514

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

23-July-2024

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 04 July 2024
LR Report: **CA10033-JUL24**
Reference: Wk#62

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT -2 Wk#62	6: CV5-WR-HCT -5 Wk#62	7: CV5-WR-HCT- 5 (DUP) Wk#62	8: CV5-WR-HCT -14 Wk#62	9: CV5-WR-HCT -22 Wk#62
Sample Date & Time			04-Jul-24	04-Jul-24	04-Jul-24	04-Jul-24	04-Jul-24
HumCell Leachate Vol [mL]	05-Jul-24	14:57	932	914	946	991	943
pH [No unit]	11-Jul-24	10:38	6.49	6.98	6.74	7.21	6.54
Alkalinity [mg/L as CaCO3]	11-Jul-24	10:38	2	3	3	11	2
Conductivity [uS/cm]	11-Jul-24	10:01	32	38	14	24	8
Acidity [mg/L as CaCO3]	22-Jul-24	09:53	< 2	< 2	< 2	< 2	< 2
Tot.Reactive P [mg/L]	08-Jul-24	08:00	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	04-Jul-24	19:47	9	3	3	< 2	< 2
Ag [mg/L]	08-Jul-24	13:45	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	08-Jul-24	13:45	0.017	0.024	0.021	0.081	0.036
As [mg/L]	08-Jul-24	13:50	0.0018	0.139	0.0918	0.0212	0.0744
Ba [mg/L]	08-Jul-24	13:45	0.00021	0.00018	0.00018	0.00014	0.00013
Be [mg/L]	08-Jul-24	13:45	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	08-Jul-24	13:45	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	08-Jul-24	13:45	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	08-Jul-24	13:45	4.68	2.90	2.37	4.81	1.27
Cd [mg/L]	08-Jul-24	13:46	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	08-Jul-24	13:50	0.000132	0.000169	0.000245	0.000066	0.000210
Cr [mg/L]	08-Jul-24	13:46	< 0.00008	< 0.00008	< 0.00008	< 0.00008	0.00013
Cu [mg/L]	08-Jul-24	13:46	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	08-Jul-24	13:46	< 0.007	< 0.007	< 0.007	< 0.007	0.020
K [mg/L]	08-Jul-24	13:46	0.117	0.057	0.050	0.020	0.020
Li [mg/L]	08-Jul-24	13:46	0.0040	0.0050	0.0045	0.0027	0.0032
Mg [mg/L]	08-Jul-24	13:46	0.182	0.117	0.110	0.143	0.158
Mn [mg/L]	08-Jul-24	13:46	0.00165	0.00107	0.00126	0.00471	0.00094
Mo [mg/L]	08-Jul-24	13:46	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	08-Jul-24	13:46	0.09	0.05	0.04	0.10	0.06
Ni [mg/L]	08-Jul-24	13:46	0.0005	0.0012	0.0010	0.0004	0.0006
Pb [mg/L]	08-Jul-24	13:46	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	08-Jul-24	13:50	0.0015	0.0255	0.0143	0.0022	0.0027

OnLine LIMS

0003793465

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10033-JUL24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT -2 Wk#62	6: CV5-WR-HCT -5 Wk#62	7: CV5-WR-HCT-5 (DUP) Wk#62	8: CV5-WR-HCT -14 Wk#62	9: CV5-WR-HCT -22 Wk#62
Se [mg/L]	08-Jul-24	13:46	0.00009	< 0.00004	< 0.00004	0.00005	< 0.00004
Sn [mg/L]	08-Jul-24	13:46	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	08-Jul-24	13:46	0.00736	0.00357	0.00362	0.00300	0.00333
Ti [mg/L]	08-Jul-24	13:47	0.0001	< 0.0001	0.0002	0.0002	0.0007
Tl [mg/L]	08-Jul-24	13:47	< 0.000005	0.000008	< 0.000005	< 0.000005	< 0.000005
U [mg/L]	08-Jul-24	13:47	0.000055	0.000010	0.000011	0.000017	0.000084
V [mg/L]	08-Jul-24	13:47	0.00014	0.00032	0.00031	0.00158	0.00080
W [mg/L]	08-Jul-24	13:47	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	08-Jul-24	13:47	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	08-Jul-24	13:47	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002

Analysis	10: CV5-WR-HCT -33 Wk#62	11: CV5-WR-HCT -36 Wk#62	12: CV5-WR-HCT -39 Wk#62	13: CV5-WR-HCT -50 Wk#62	14: CV5-WR-HCT -56 Wk#62	15: CV5-WR-HCT -59 Wk#62	16: CV5-WR-HCT -62 Wk#62
Sample Date & Time	04-Jul-24	04-Jul-24	04-Jul-24	04-Jul-24	04-Jul-24	04-Jul-24	04-Jul-24
HumCell Leachate Vol [mL]	951	951	946	895	945	934	917
pH [No unit]	6.73	7.19	6.14	6.86	6.87	6.38	7.03
Alkalinity [mg/L as CaCO3]	4	5	< 2	4	6	< 2	7
Conductivity [uS/cm]	10	14	19	54	31	23	21
Acidity [mg/L as CaCO3]	< 2	< 2	2	17	< 2	8	< 2
Tot.Reactive P [mg/L]	< 0.03	0.13	< 0.03	< 0.03	< 0.03	< 0.03	0.06
SO4 [mg/L]	< 2	< 2	6	11	7	6	2
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.057	0.002	0.009	0.014	0.043	0.007	< 0.001
As [mg/L]	0.0043	0.810	0.0124	0.0021	0.0071	0.120	0.501
Ba [mg/L]	0.00014	0.00051	0.00019	0.00043	0.00054	0.00024	0.00037
Be [mg/L]	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	< 0.002	0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	1.81	2.08	2.72	8.58	5.23	2.59	2.61
Cd [mg/L]	< 0.000003	< 0.000003	0.000008	0.000132	< 0.000003	0.000004	< 0.000003
Co [mg/L]	0.000045	0.000273	0.000157	0.0102	0.000070	0.00369	0.000447
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008	0.00010	< 0.00008
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	0.022	< 0.007
K [mg/L]	0.025	0.035	0.122	0.120	0.106	0.022	0.019
Li [mg/L]	0.0015	0.0016	0.0052	0.0076	0.0014	0.0014	0.0003
Mg [mg/L]	0.053	0.464	0.230	0.101	0.120	0.330	0.756
Mn [mg/L]	0.00479	0.00148	0.00185	0.0136	0.00497	0.00602	0.00227
Mo [mg/L]	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	0.06	0.02	0.08	0.10	0.05	0.04	< 0.01
Ni [mg/L]	< 0.0001	0.0055	0.0005	0.0086	0.0005	0.0317	0.0060
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	< 0.0009	0.373	0.0072	0.0105	< 0.0009	0.0024	0.386

OnLine LIMS

0003793465

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10033-JUL24**

Analysis	10: CV5-WR-HCT -33 Wk#62	11: CV5-WR-HCT -36 Wk#62	12: CV5-WR-HCT -39 Wk#62	13: CV5-WR-HCT -50 Wk#62	14: CV5-WR-HCT -56 Wk#62	15: CV5-WR-HCT -59 Wk#62	16: CV5-WR-HCT -62 Wk#62
Se [mg/L]	0.00005	< 0.00004	0.00005	0.00067	< 0.00004	0.00008	0.00006
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00163	0.00196	0.00603	0.00456	0.00408	0.00900	0.00127
Ti [mg/L]	0.0002	< 0.0001	< 0.0001	< 0.0001	0.0001	0.0003	< 0.0001
Tl [mg/L]	< 0.000005	< 0.000005	< 0.000005	0.000028	< 0.000005	0.000006	< 0.000005
U [mg/L]	0.000008	0.000017	0.000164	0.00151	0.000231	0.000005	0.000036
V [mg/L]	0.00045	0.00012	0.00018	< 0.00001	0.00019	0.00011	0.00009
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	0.043	< 0.002	< 0.002	< 0.002

Analysis	17: CV5-WR-HCT -64 Wk#62	18: CV5-WR-HCT -69 Wk#62	19: CV5-ORE-HCT-74 Wk#62	20: CV5-ORE-HCT-76 Wk#62
Sample Date & Time	04-Jul-24	04-Jul-24	04-Jul-24	04-Jul-24
HumCell Leachate Vol [mL]	990	987	964	923
pH [No unit]	6.65	7.46	6.32	7.17
Alkalinity [mg/L as CaCO3]	3	5	< 2	4
Conductivity [uS/cm]	9	11	3	9
Acidity [mg/L as CaCO3]	< 2	5	3	< 2
Tot.Reactive P [mg/L]	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	< 2	< 2	< 2	< 2
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.023	0.043	0.034	0.196
As [mg/L]	0.0035	0.0019	0.0056	0.0016
Ba [mg/L]	< 0.00008	0.00010	< 0.00008	0.00047
Be [mg/L]	0.000011	0.000121	0.000010	0.000411
B [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	0.00011	< 0.00001	0.00021
Ca [mg/L]	1.33	1.80	0.36	1.54
Cd [mg/L]	< 0.000003	< 0.000003	< 0.000003	0.000006
Co [mg/L]	0.000011	0.000007	0.000011	0.000051
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007	< 0.007	0.014
K [mg/L]	0.123	0.040	0.072	0.218
Li [mg/L]	0.0011	0.0009	0.0049	0.0061
Mg [mg/L]	0.027	0.017	0.007	0.065
Mn [mg/L]	0.00565	0.00227	0.0419	0.00177
Mo [mg/L]	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	0.03	0.08	0.07	0.10
Ni [mg/L]	0.0002	0.0001	0.0003	0.0002
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	0.00009
Sb [mg/L]	0.0009	0.0010	0.0048	< 0.0009

OnLine LIMS

0003793465

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10033-JUL24**

Analysis	17: CV5-WR-HCT-64 Wk#62	18: CV5-WR-HCT-69 Wk#62	19: CV5-ORE-HCT-74 Wk#62	20: CV5-ORE-HCT-76 Wk#62
Se [mg/L]	< 0.00004	< 0.00004	< 0.00004	< 0.00004
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	0.00037
Sr [mg/L]	0.00148	0.00275	0.00069	0.00290
Ti [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tl [mg/L]	0.000028	< 0.000005	0.000041	0.000066
U [mg/L]	0.000285	0.00216	0.000371	0.000459
V [mg/L]	< 0.00001	0.00002	< 0.00001	0.00001
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003793465

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

24-June-2024

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 06 June 2024
LR Report: **CA10033-JUN24**
Reference: Wk#58

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#58	6: CV5-DMS-HCT-84 Wk#58
Sample Date & Time			06-Jun-24	06-Jun-24
HumCell Leachate Vol [mL]	19-Jun-24	10:36	990	993
pH [No unit]	12-Jun-24	11:25	5.91	5.66
Alkalinity [mg/L as CaCO3]	07-Jun-24	10:58	< 2	< 2
Conductivity [uS/cm]	12-Jun-24	11:26	3	2
Acidity [mg/L as CaCO3]	07-Jun-24	10:58	2	3
Tot.Reactive P [mg/L]	10-Jun-24	08:19	< 0.03	< 0.03
SO4 [mg/L]	13-Jun-24	19:49	< 2	< 2
Ag [mg/L]	20-Jun-24	14:35	< 0.00005	< 0.00005
Al [mg/L]	20-Jun-24	14:35	0.008	0.008
As [mg/L]	20-Jun-24	14:35	0.0027	0.0020
Ba [mg/L]	20-Jun-24	14:35	< 0.00008	< 0.00008
Be [mg/L]	20-Jun-24	14:35	< 0.000007	0.000008
B [mg/L]	20-Jun-24	14:35	< 0.002	< 0.002
Bi [mg/L]	20-Jun-24	14:35	0.00002	0.00003
Ca [mg/L]	20-Jun-24	14:35	0.32	0.34
Cd [mg/L]	20-Jun-24	14:35	< 0.000003	< 0.000003
Co [mg/L]	20-Jun-24	14:35	0.000011	0.000009
Cr [mg/L]	20-Jun-24	14:35	0.00013	0.00012
Cu [mg/L]	20-Jun-24	14:35	< 0.001	< 0.001
Fe [mg/L]	20-Jun-24	14:35	< 0.007	< 0.007
K [mg/L]	20-Jun-24	14:35	0.049	0.046
Li [mg/L]	20-Jun-24	14:35	0.0004	0.0004
Mg [mg/L]	20-Jun-24	14:35	0.011	0.011
Mn [mg/L]	20-Jun-24	14:35	0.00123	0.00188
Mo [mg/L]	20-Jun-24	14:35	0.0007	< 0.0004
Na [mg/L]	20-Jun-24	14:35	0.01	0.01
Ni [mg/L]	20-Jun-24	14:35	0.0001	0.0001
Pb [mg/L]	20-Jun-24	14:35	< 0.00009	< 0.00009
Sb [mg/L]	20-Jun-24	14:35	0.0012	0.0011
Se [mg/L]	20-Jun-24	14:35	< 0.00004	< 0.00004
Sn [mg/L]	20-Jun-24	14:35	< 0.00006	< 0.00006
Sr [mg/L]	20-Jun-24	14:35	0.00065	0.00067
Ti [mg/L]	20-Jun-24	14:35	< 0.0001	< 0.0001
Tl [mg/L]	20-Jun-24	14:35	< 0.000005	0.000005
U [mg/L]	20-Jun-24	14:35	0.000477	0.000642

OnLine LIMS

00037575B8

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10033-JUN24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#58	6: CV5-DMS-HCT-84 Wk#58
V [mg/L]	20-Jun-24	14:35	0.00003	0.00001
W [mg/L]	20-Jun-24	14:35	< 0.0002	< 0.0002
Y [mg/L]	20-Jun-24	14:35	< 0.00002	< 0.00002
Zn [mg/L]	20-Jun-24	14:35	< 0.002	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

00037588

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

29-November-2024

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 07 November 2024
LR Report: **CA10033-NOV24**
Reference: Wk#80

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT -2 Wk#80	6: CV5-WR-HCT -5 Wk#80	7: CV5-WR-HCT- 5 (DUP) Wk#80	8: CV5-WR-HCT -14 Wk#80	9: CV5-WR-HCT -22 Wk#80
Sample Date & Time			07-Nov-24	07-Nov-24	07-Nov-24	07-Nov-24	07-Nov-24
HumCell Leachate Vol [mL]	11-Nov-24	16:33	953	967	960	1004	997
pH [No unit]	15-Nov-24	09:18	6.33	6.70	6.56	7.48	7.05
Alkalinity [mg/L as CaCO3]	12-Nov-24	10:01	< 2	3	2	11	2
Conductivity [uS/cm]	08-Nov-24	13:26	31	19	12	24	9
Acidity [mg/L as CaCO3]	13-Nov-24	13:07	2	< 2	< 2	< 2	< 2
F [mg/L]	08-Nov-24	09:16	< 0.06	0.09	< 0.06	< 0.06	< 0.06
Tot.Reactive P [mg/L]	11-Nov-24	09:54	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	08-Nov-24	18:31	11	4	2	< 2	< 2
Cl [mg/L]	08-Nov-24	18:31	< 1	< 1	< 1	< 1	< 1
NO2 [as N mg/L]	11-Nov-24	16:54	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	11-Nov-24	16:54	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	11-Nov-24	16:54	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	15-Nov-24	12:17	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	15-Nov-24	12:17	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	15-Nov-24	12:17	0.013	0.019	0.016	0.084	0.015
As [mg/L]	15-Nov-24	12:19	0.0010	0.0848	0.0590	0.0202	0.0617
Ba [mg/L]	15-Nov-24	12:17	0.00018	0.00013	< 0.00008	0.00011	< 0.00008
Be [mg/L]	15-Nov-24	12:17	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	15-Nov-24	12:17	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	15-Nov-24	12:17	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	15-Nov-24	12:17	4.98	3.08	2.03	4.69	1.54
Cd [mg/L]	15-Nov-24	12:17	< 0.000003	< 0.000003	< 0.000003	< 0.000003	0.000003
Co [mg/L]	15-Nov-24	12:19	0.000140	0.000217	0.000154	0.000043	0.000083
Cr [mg/L]	15-Nov-24	12:17	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	15-Nov-24	12:17	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	15-Nov-24	12:17	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	15-Nov-24	12:17	0.087	0.039	0.034	0.020	0.019
Li [mg/L]	15-Nov-24	12:17	0.0033	0.0043	0.0034	0.0027	0.0033
Mg [mg/L]	15-Nov-24	12:19	0.150	0.101	0.073	0.121	0.153

OnLine LIMS

0003944795

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10033-NOV24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT -2 Wk#80	6: CV5-WR-HCT -5 Wk#80	7: CV5-WR-HCT-5 (DUP) Wk#80	8: CV5-WR-HCT -14 Wk#80	9: CV5-WR-HCT -22 Wk#80
Mn [mg/L]	15-Nov-24	12:17	0.00165	0.00120	0.00102	0.00470	0.00030
Mo [mg/L]	15-Nov-24	12:17	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	15-Nov-24	12:19	0.09	0.08	0.04	0.10	0.06
Ni [mg/L]	15-Nov-24	12:19	0.0004	0.0011	0.0005	0.0001	0.0003
Pb [mg/L]	15-Nov-24	12:17	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	18-Nov-24	14:47	0.0010	0.0206	0.0094	0.0018	0.0026
Se [mg/L]	15-Nov-24	12:16	0.00009	< 0.00004	< 0.00004	< 0.00004	< 0.00004
Sn [mg/L]	15-Nov-24	12:16	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	15-Nov-24	12:16	0.00662	0.00310	0.00250	0.00286	0.00386
Ti [mg/L]	15-Nov-24	12:16	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tl [mg/L]	15-Nov-24	12:16	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005
U [mg/L]	15-Nov-24	12:16	0.000031	0.000009	0.000014	0.000047	0.000119
V [mg/L]	15-Nov-24	12:16	0.00012	0.00027	0.00023	0.00160	0.00076
W [mg/L]	15-Nov-24	12:16	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	15-Nov-24	12:16	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	15-Nov-24	12:16	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	15-Nov-24	12:16	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	15-Nov-24	12:16	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Cs (tot) [mg/L]	15-Nov-24	12:16	0.0043	0.0043	0.0044	0.0009	0.0024
Dy (tot) [mg/L]	15-Nov-24	12:16	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er (tot) [mg/L]	15-Nov-24	12:16	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu (tot) [mg/L]	15-Nov-24	12:16	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga (tot) [mg/L]	15-Nov-24	12:16	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001
Gd (tot) [mg/L]	15-Nov-24	12:16	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	15-Nov-24	12:16	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	15-Nov-24	12:16	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	15-Nov-24	12:16	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In (tot) [mg/L]	15-Nov-24	12:16	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir (tot) [mg/L]	15-Nov-24	12:16	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La (tot) [mg/L]	15-Nov-24	12:16	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Lu (tot) [mg/L]	15-Nov-24	12:16	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	15-Nov-24	12:16	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Nd (tot) [mg/L]	15-Nov-24	12:16	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Os (tot) [mg/L]	15-Nov-24	12:16	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	15-Nov-24	12:16	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	15-Nov-24	12:16	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt (tot) [mg/L]	15-Nov-24	12:16	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	15-Nov-24	12:16	0.0020	0.0014	0.0014	0.0002	0.0007
Re (tot) [mg/L]	15-Nov-24	12:16	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	15-Nov-24	12:16	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	15-Nov-24	12:16	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	15-Nov-24	12:16	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ta (tot) [mg/L]	15-Nov-24	12:16	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	15-Nov-24	12:16	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te (tot) [mg/L]	15-Nov-24	12:16	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001

OnLine LIMS

0003944795

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10033-NOV24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT -2 Wk#80	6: CV5-WR-HCT -5 Wk#80	7: CV5-WR-HCT-5 (DUP) Wk#80	8: CV5-WR-HCT -14 Wk#80	9: CV5-WR-HCT -22 Wk#80
Th (tot) [mg/L]	15-Nov-24	12:16	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	15-Nov-24	12:16	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Yb (tot) [mg/L]	15-Nov-24	12:16	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Analysis	10: CV5-WR-HCT -33 Wk#80	11: CV5-WR-HCT -36 Wk#80	12: CV5-WR-HCT -39 Wk#80	13: CV5-WR-HCT-50 Wk#80	14: CV5-WR-HCT -56 Wk#80	15: CV5-WR-HCT -59 Wk#80	16: CV5-WR-HCT -62 Wk#80
Sample Date & Time	07-Nov-24	07-Nov-24	07-Nov-24	07-Nov-24	07-Nov-24	07-Nov-24	07-Nov-24
HumCell Leachate Vol [mL]	1018	1010	950	1015	1014	1007	941
pH [No unit]	7.10	6.93	5.67	6.58	7.00	5.69	7.09
Alkalinity [mg/L as CaCO3]	5	5	< 2	2	5	< 2	3
Conductivity [uS/cm]	14	15	18	44	28	13	16
Acidity [mg/L as CaCO3]	< 2	< 2	3	8	< 2	7	< 2
F [mg/L]	< 0.06	< 0.06	0.27	0.80	< 0.06	< 0.06	< 0.06
Tot.Reactive P [mg/L]	< 0.03	0.23	< 0.03	< 0.03	< 0.03	< 0.03	0.07
SO4 [mg/L]	< 2	< 2	5	11	6	3	< 2
Cl [mg/L]	< 1	< 1	< 1	3	< 1	< 1	< 1
NO2 [as N mg/L]	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.048	< 0.001	0.005	0.021	0.030	0.001	< 0.001
As [mg/L]	0.0030	0.873	0.0072	0.0008	0.0047	0.0652	0.333
Ba [mg/L]	0.00014	0.00037	0.00016	0.00038	0.00035	0.00012	0.00021
Be [mg/L]	< 0.000007	< 0.000007	< 0.000007	0.000042	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	2.80	2.33	2.45	7.30	4.79	1.68	1.98
Cd [mg/L]	< 0.000003	< 0.000003	0.000012	0.000321	0.000006	< 0.000003	< 0.000003
Co [mg/L]	0.000058	0.000481	0.000289	0.0242	0.000080	0.00320	0.000405
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	< 0.001	< 0.001	< 0.001	0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007	< 0.007	0.132	< 0.007	< 0.007	< 0.007
K [mg/L]	0.025	0.031	0.090	0.107	0.088	0.017	0.009
Li [mg/L]	0.0017	0.0015	0.0048	0.0107	0.0014	0.0011	0.0002
Mg [mg/L]	0.054	0.510	0.201	0.137	0.102	0.218	0.612
Mn [mg/L]	0.00848	0.00157	0.00307	0.0242	0.00557	0.00512	0.00224
Mo [mg/L]	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	0.08	0.03	0.08	0.11	0.07	0.05	0.02
Ni [mg/L]	< 0.0001	0.0068	0.0008	0.0336	0.0009	0.0441	0.0047
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	< 0.0009	0.268	0.0047	0.0071	< 0.0009	0.0022	0.220
Se [mg/L]	0.00004	< 0.00004	< 0.00004	0.00065	< 0.00004	0.00004	< 0.00004

OnLine LIMS

0003944795

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10033-NOV24**

Analysis	10: CV5-WR-HCT -33 Wk#80	11: CV5-WR-HCT -36 Wk#80	12: CV5-WR-HCT -39 Wk#80	13: CV5-WR-HCT-50 Wk#80	14: CV5-WR-HCT -56 Wk#80	15: CV5-WR-HCT -59 Wk#80	16: CV5-WR-HCT -62 Wk#80
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00228	0.00173	0.00492	0.00374	0.00339	0.00555	0.00090
Ti [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tl [mg/L]	< 0.000005	< 0.000005	< 0.000005	0.000029	< 0.000005	< 0.000005	< 0.000005
U [mg/L]	0.000010	0.000015	0.000058	0.000446	0.000289	0.000002	0.000017
V [mg/L]	0.00042	0.00013	0.00013	0.00001	0.00016	0.00008	0.00007
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	0.00003	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	0.123	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Cs (tot) [mg/L]	0.0016	0.0071	0.0013	0.0364	0.0136	0.0058	0.0012
Dy (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Gd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In (tot) [mg/L]	< 0.00001	< 0.00001	0.00002	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Lu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Nd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Os (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	0.0003	0.0013	0.0011	0.0063	0.0005	0.0012	0.0005
Re (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ta (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	< 0.00001	< 0.00001	0.00002	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	< 0.00001	< 0.00001	0.00002	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Yb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

OnLine LIMS

0003944795

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10033-NOV24**

Analysis	17: CV5-WR-HCT-64 Wk#80	18: CV5-WR-HCT-69 Wk#80	19: CV5-ORE-HCT-74 Wk#80	20: CV5-ORE-HCT-76 Wk#80
Sample Date & Time	07-Nov-24	07-Nov-24	07-Nov-24	07-Nov-24
HumCell Leachate Vol [mL]	1013	1011	985	990
pH [No unit]	6.45	6.59	5.84	6.84
Alkalinity [mg/L as CaCO3]	< 2	3	< 2	3
Conductivity [uS/cm]	4	10	2	10
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2
F [mg/L]	< 0.06	< 0.06	< 0.06	< 0.06
Tot.Reactive P [mg/L]	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	< 2	< 2	< 2	< 2
Cl [mg/L]	< 1	< 1	< 1	< 1
NO2 [as N mg/L]	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.014	0.055	0.011	0.021
As [mg/L]	0.0030	0.0020	0.0049	0.0011
Ba [mg/L]	< 0.00008	0.00009	< 0.00008	0.00013
Be [mg/L]	< 0.000007	0.000047	< 0.000007	0.000024
B [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	0.00023	< 0.00001	0.00006
Ca [mg/L]	0.98	1.97	0.33	1.88
Cd [mg/L]	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	0.000010	0.000008	< 0.000004	0.000007
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	0.113	0.045	0.065	0.126
Li [mg/L]	0.0009	0.0008	0.0060	0.0048
Mg [mg/L]	0.022	0.019	0.007	0.054
Mn [mg/L]	0.00641	0.00242	0.0503	0.00215
Mo [mg/L]	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	0.04	0.08	0.08	0.07
Ni [mg/L]	0.0002	0.0001	< 0.0001	< 0.0001
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	< 0.0009	0.0009	0.0045	< 0.0009
Se [mg/L]	< 0.00004	< 0.00004	< 0.00004	< 0.00004
Sn [mg/L]	< 0.00006	< 0.00006	0.00016	< 0.00006
Sr [mg/L]	0.00111	0.00273	0.00064	0.00379
Ti [mg/L]	< 0.0001	< 0.0001	0.00011	< 0.0001
Tl [mg/L]	0.000024	< 0.000005	0.000020	0.000006
U [mg/L]	0.000107	0.00164	0.000200	0.000474
V [mg/L]	0.00002	0.00005	0.00001	0.00003
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002

OnLine LIMS

0003944795

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10033-NOV24**

Analysis	17: CV5-WR-HCT-64 Wk#80	18: CV5-WR-HCT-69 Wk#80	19: CV5-ORE-HCT-74 Wk#80	20: CV5-ORE-HCT-76 Wk#80
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Cs (tot) [mg/L]	0.0051	0.0012	0.0089	0.0029
Dy (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga (tot) [mg/L]	< 0.0001	0.0001	< 0.0001	< 0.0001
Gd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Lu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	< 0.00001	0.00001	< 0.00001	< 0.00001
Nd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Os (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	0.0107	0.0023	0.0089	0.0047
Re (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ta (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Yb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003944795

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

15-July-2024

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 11 July 2024
LR Report: **CA10076-JUL24**
Reference: Wk#63

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#63	6: CV5-WR-HCT-5 Wk#63	7: CV5-WR-HCT-5 (DUP) Wk#63	8: CV5-WR-HCT-14 Wk#63	9: CV5-WR-HCT-22 Wk#63	10: CV5-WR-HCT-33 Wk#63
Sample Date & Time			11-Jul-24	11-Jul-24	11-Jul-24	11-Jul-24	11-Jul-24	11-Jul-24
HumCell Leachate Vol [mL]	11-Jul-24	16:47	927	911	938	959	933	969
pH [No unit]	15-Jul-24	10:21	6.83	7.05	6.93	7.32	7.02	6.96
Conductivity [uS/cm]	12-Jul-24	13:06	35	19	15	24	9	11

Analysis	11: CV5-WR-HCT-36 Wk#63	12: CV5-WR-HCT-39 Wk#63	13: CV5-WR-HCT-50 Wk#63	14: CV5-WR-HCT-56 Wk#63	15: CV5-WR-HCT-59 Wk#63	16: CV5-WR-HCT-62 Wk#63	17: CV5-WR-HCT-64 Wk#63	18: CV5-WR-HCT-69 Wk#63
Sample Date & Time	11-Jul-24	11-Jul-24	11-Jul-24	11-Jul-24	11-Jul-24	11-Jul-24	11-Jul-24	11-Jul-24
HumCell Leachate Vol [mL]	969	951	983	935	934	917	942	959
pH [No unit]	7.04	6.43	7.09	6.99	6.34	7.11	6.62	7.40
Conductivity [uS/cm]	16	19	54	29	20	21	5	9

Analysis	19: CV5-ORE-HCT-74 Wk#63	20: CV5-ORE-HCT-76 Wk#63
Sample Date & Time	11-Jul-24	11-Jul-24
HumCell Leachate Vol [mL]	964	944
pH [No unit]	6.38	7.41
Conductivity [uS/cm]	3	10

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003783532

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

09-September-2024

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 15 August 2024
LR Report: **CA10077-AUG24**
Reference: Wk#68

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#68	6: CV5-WR-HCT-5 Wk#68	7: CV5-WR-HCT-5 (DUP) Wk#68	8: CV5-WR-HCT-1 4 Wk#68	9: CV5-WR-HCT-2 2 Wk#68
Sample Date & Time			15-Aug-24	15-Aug-24	15-Aug-24	15-Aug-24	15-Aug-24
HumCell Leachate Vol [mL]	16-Aug-24	13:53	940	937	940	1015	972
pH [No unit]	20-Aug-24	09:18	6.55	6.76	6.70	7.50	6.70
Alkalinity [mg/L as CaCO3]	16-Aug-24	11:15	2	4	3	13	3
Conductivity [uS/cm]	20-Aug-24	09:18	26	17	12	29	7
Acidity [mg/L as CaCO3]	20-Aug-24	11:26	< 2	< 2	< 2	< 2	< 2
F [mg/L]	16-Aug-24	09:15	< 0.06	0.10	< 0.06	< 0.06	< 0.06
Tot.Reactive P [mg/L]	19-Aug-24	08:42	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	16-Aug-24	16:09	8	3	3	< 2	< 2
Cl [mg/L]	16-Aug-24	16:09	< 1	< 1	< 1	< 1	< 1
NO2 [as N mg/L]	16-Aug-24	15:14	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	16-Aug-24	15:14	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	16-Aug-24	15:14	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	19-Aug-24	08:40	0.00001	< 0.00001	0.00001	0.00001	0.00002
Ag [mg/L]	19-Aug-24	08:40	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	19-Aug-24	08:40	0.016	0.025	0.021	0.081	0.026
As [mg/L]	19-Aug-24	08:40	0.0016	0.121	0.0808	0.0214	0.0735
Ba [mg/L]	19-Aug-24	08:40	0.00021	0.00013	0.00017	0.00010	< 0.00008
Be [mg/L]	19-Aug-24	08:40	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	19-Aug-24	08:40	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	19-Aug-24	08:40	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	19-Aug-24	08:40	4.49	3.20	2.18	5.04	1.11
Cd [mg/L]	19-Aug-24	08:40	< 0.000003	< 0.000003	0.000004	< 0.000003	< 0.000003
Co [mg/L]	19-Aug-24	08:40	0.000123	0.000167	0.000446	0.000048	0.000152
Cr [mg/L]	19-Aug-24	08:40	< 0.00008	< 0.00008	< 0.00008	< 0.00008	0.00013
Cu [mg/L]	19-Aug-24	08:40	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	19-Aug-24	08:40	< 0.007	< 0.007	< 0.007	< 0.007	0.013
K [mg/L]	19-Aug-24	08:40	0.120	0.064	0.052	0.029	0.021
Li [mg/L]	19-Aug-24	08:40	0.0037	0.0046	0.0036	0.0030	0.0028
Mg [mg/L]	19-Aug-24	08:40	0.164	0.118	0.095	0.140	0.157
Mn [mg/L]	19-Aug-24	08:40	0.00175	0.00099	0.00102	0.00499	0.00047

OnLine LIMS

0003849912

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10077-AUG24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#68	6: CV5-WR-HCT-5 Wk#68	7: CV5-WR-HCT-5 (DUP) Wk#68	8: CV5-WR-HCT-1 4 Wk#68	9: CV5-WR-HCT-2 2 Wk#68
Mo [mg/L]	19-Aug-24	08:40	< 0.0004	0.0005	< 0.0004	< 0.0004	0.0004
Mo [mg/L]	28-Aug-24	16:04	---	---	---	---	---
Na [mg/L]	19-Aug-24	08:40	0.10	0.06	0.05	0.11	0.07
Ni [mg/L]	19-Aug-24	08:40	0.0005	0.0010	0.0010	0.0002	0.0004
Pb [mg/L]	19-Aug-24	08:40	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	19-Aug-24	08:40	0.0014	0.0234	0.0123	0.0024	0.0030
Se [mg/L]	19-Aug-24	08:40	0.00011	< 0.00004	< 0.00004	0.00006	< 0.00004
Sn [mg/L]	19-Aug-24	08:40	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	19-Aug-24	08:40	0.00662	0.00345	0.00308	0.00306	0.00281
Ti [mg/L]	19-Aug-24	08:40	< 0.0001	0.0001	< 0.0001	0.0002	0.0005
Tl [mg/L]	19-Aug-24	08:39	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005
U [mg/L]	19-Aug-24	08:39	0.000042	0.000011	0.000011	0.000021	0.000082
V [mg/L]	19-Aug-24	08:39	0.00016	0.00037	0.00028	0.00168	0.00081
W [mg/L]	19-Aug-24	08:39	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	19-Aug-24	08:39	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	23-Aug-24	09:06	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	23-Aug-24	09:06	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	23-Aug-24	09:06	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00002
Cs (tot) [mg/L]	19-Aug-24	08:39	0.0057	0.0075	0.0074	0.0014	0.0028
Dy (tot) [mg/L]	23-Aug-24	09:06	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er (tot) [mg/L]	23-Aug-24	09:06	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu (tot) [mg/L]	23-Aug-24	09:06	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga (tot) [mg/L]	23-Aug-24	09:06	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001
Gd (tot) [mg/L]	23-Aug-24	09:06	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	19-Aug-24	08:39	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	19-Aug-24	08:39	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	23-Aug-24	09:06	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In (tot) [mg/L]	23-Aug-24	09:06	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir (tot) [mg/L]	23-Aug-24	09:06	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La (tot) [mg/L]	23-Aug-24	09:06	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00001
Lu (tot) [mg/L]	23-Aug-24	09:06	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	19-Aug-24	08:39	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Nd (tot) [mg/L]	23-Aug-24	09:06	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00001
Os (tot) [mg/L]	23-Aug-24	09:06	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	23-Aug-24	09:06	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	23-Aug-24	09:06	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt (tot) [mg/L]	23-Aug-24	09:06	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	19-Aug-24	08:39	0.0032	0.0027	0.0025	0.0006	0.0009
Re (tot) [mg/L]	23-Aug-24	09:06	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	23-Aug-24	09:06	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	23-Aug-24	09:06	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	23-Aug-24	09:06	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ta (tot) [mg/L]	19-Aug-24	08:39	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	23-Aug-24	09:06	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te (tot) [mg/L]	19-Aug-24	08:39	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	19-Aug-24	08:39	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	23-Aug-24	09:06	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

OnLine LIMS

0003849912

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10077-AUG24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#68	6: CV5-WR-HCT-5 Wk#68	7: CV5-WR-HCT-5 (DUP) Wk#68	8: CV5-WR-HCT-14 Wk#68	9: CV5-WR-HCT-22 Wk#68
Yb (tot) [mg/L]	23-Aug-24	09:06	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Analysis	10: CV5-WR-HCT-33 Wk#68	11: CV5-WR-HCT-36 Wk#68	12: CV5-WR-HCT-39 Wk#68	13: CV5-WR-HCT-50 Wk#68	14: CV5-WR-HCT-56 Wk#68	15: CV5-WR-HCT-59 Wk#68	16: CV5-WR-HCT-62 Wk#68
Sample Date & Time	15-Aug-24	15-Aug-24	15-Aug-24	15-Aug-24	15-Aug-24	15-Aug-24	15-Aug-24
HumCell Leachate Vol [mL]	995	976	951	1002	982	1004	936
pH [No unit]	6.85	6.98	6.35	6.30	7.15	6.19	7.10
Alkalinity [mg/L as CaCO3]	6	5	< 2	2	9	< 2	6
Conductivity [uS/cm]	11	13	16	38	25	17	14
Acidity [mg/L as CaCO3]	< 2	< 2	2	14	< 2	5	< 2
F [mg/L]	< 0.06	< 0.06	0.20	0.44	< 0.06	< 0.06	< 0.06
Tot.Reactive P [mg/L]	< 0.03	0.14	< 0.03	< 0.03	< 0.03	< 0.03	0.06
SO4 [mg/L]	< 2	< 2	6	12	6	4	< 2
Cl [mg/L]	< 1	< 1	< 1	4	< 1	< 1	< 1
NO2 [as N mg/L]	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	< 0.00001	< 0.00001	0.00001	0.00001	0.00001	0.00001	0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.050	0.002	0.012	0.029	0.037	0.005	0.002
As [mg/L]	0.0034	0.775	0.0100	0.0014	0.0062	0.109	0.389
Ba [mg/L]	0.00011	0.00096	0.00019	0.00038	0.00027	0.00017	0.00025
Be [mg/L]	< 0.000007	< 0.000007	< 0.000007	0.000029	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	< 0.002	0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	2.07	1.92	3.04	7.40	4.75	1.70	2.28
Cd [mg/L]	< 0.000003	< 0.000003	0.000006	0.000406	< 0.000003	0.000017	0.000006
Co [mg/L]	0.000041	0.000272	0.000201	0.0285	0.000051	0.00384	0.000388
Cr [mg/L]	< 0.00008	0.00017	0.00009	0.00008	< 0.00008	0.00011	< 0.00008
Cu [mg/L]	< 0.001	< 0.001	< 0.001	0.002	< 0.001	< 0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007	< 0.007	0.028	< 0.007	0.015	< 0.007
K [mg/L]	0.032	0.044	0.130	0.106	0.103	0.024	0.019
Li [mg/L]	0.0016	0.0014	0.0050	0.0068	0.0014	0.0011	0.0002
Mg [mg/L]	0.058	0.481	0.245	0.123	0.113	0.272	0.635
Mn [mg/L]	0.00459	0.00134	0.00231	0.0251	0.00535	0.00607	0.00228
Mo [mg/L]	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	---	< 0.0004
Mo [mg/L]	---	---	---	---	---	0.0006	---
Na [mg/L]	0.08	0.02	0.09	0.10	0.06	0.04	0.02
Ni [mg/L]	< 0.0001	0.0047	0.0005	0.0294	0.0003	0.0348	0.0053
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	0.00063	0.00018
Sb [mg/L]	< 0.0009	0.305	0.0061	0.0050	< 0.0009	0.0027	0.277
Se [mg/L]	0.00004	0.00004	0.00009	0.00056	< 0.00004	0.00006	0.00004
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00186	0.00225	0.00621	0.00420	0.00317	0.00593	0.00101
Ti [mg/L]	< 0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001

OnLine LIMS

0003849912

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10077-AUG24**

Analysis	10: CV5-WR-HCT-3 3 Wk#68	11: CV5-WR-HCT-3 6 Wk#68	12: CV5-WR-HCT-3 9 Wk#68	13: CV5-WR-HCT- 50 Wk#68	14: CV5-WR-HCT-5 6 Wk#68	15: CV5-WR-HCT-5 9 Wk#68	16: CV5-WR-HCT-6 2 Wk#68
Tl [mg/L]	< 0.000005	< 0.000005	< 0.000005	0.000035	< 0.000005	0.000006	< 0.000005
U [mg/L]	0.000011	0.000020	0.000128	0.000880	0.000206	0.000004	0.000046
V [mg/L]	0.00042	0.00015	0.00020	0.00001	0.00023	0.00013	0.00009
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	0.00003	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	0.170	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	< 0.00001	< 0.00001	0.00002	0.00017	< 0.00001	< 0.00001	< 0.00001
Cs (tot) [mg/L]	0.0019	0.0109	0.0018	0.0317	0.0160	0.0074	0.0023
Dy (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Gd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La (tot) [mg/L]	< 0.00001	0.00002	0.00001	0.00013	< 0.00001	< 0.00001	0.00001
Lu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	0.00002	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Nd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00005	< 0.00001	< 0.00001	< 0.00001
Os (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00001	< 0.00001	< 0.00001	< 0.00001
Pt (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	0.0004	0.0020	0.0017	0.0063	0.0007	0.0017	0.0011
Re (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ta (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Yb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Analysis	17: CV5-WR-HCT-6 4 Wk#68	18: CV5-WR-HCT- 69 Wk#68	19: CV5-ORE-HCT -74 Wk#68	20: CV5-ORE-HCT -76 Wk#68
Sample Date & Time	15-Aug-24	15-Aug-24	15-Aug-24	15-Aug-24
HumCell Leachate Vol [mL]	1008	1015	999	973
pH [No unit]	6.71	6.97	6.36	7.02
Alkalinity [mg/L as CaCO3]	3	5	< 2	5

OnLine LIMS

0003849912

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10077-AUG24**

Analysis	17: CV5-WR-HCT-64 Wk#68	18: CV5-WR-HCT-69 Wk#68	19: CV5-ORE-HCT-74 Wk#68	20: CV5-ORE-HCT-76 Wk#68
Conductivity [uS/cm]	6	14	5	7
Acidity [mg/L as CaCO3]	< 2	< 2	2	< 2
F [mg/L]	< 0.06	< 0.06	< 0.06	< 0.06
Tot.Reactive P [mg/L]	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	< 2	< 2	< 2	< 2
Cl [mg/L]	< 1	< 1	< 1	< 1
NO2 [as N mg/L]	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	< 0.00001	0.00001	0.00001	0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.021	0.051	0.018	0.033
As [mg/L]	0.0038	0.0025	0.0061	0.0023
Ba [mg/L]	< 0.00008	0.00010	< 0.00008	0.00027
Be [mg/L]	< 0.000007	0.000077	< 0.000007	0.000109
B [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	0.00025	< 0.00001	0.00008
Ca [mg/L]	1.24	2.01	0.44	1.89
Cd [mg/L]	< 0.000003	0.000003	0.000004	< 0.000003
Co [mg/L]	0.000008	0.000019	0.000022	0.000024
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	0.117	0.049	0.074	0.171
Li [mg/L]	0.0008	0.0008	0.0046	0.0048
Mg [mg/L]	0.026	0.017	0.008	0.064
Mn [mg/L]	0.00560	0.00207	0.0483	0.00064
Mo [mg/L]	---	---	< 0.0004	< 0.0004
Mo [mg/L]	< 0.0004	< 0.0004	---	---
Na [mg/L]	0.05	0.10	0.08	0.08
Ni [mg/L]	0.0001	0.0002	0.0003	0.0002
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.0012	0.0011	0.0063	0.0012
Se [mg/L]	< 0.00004	< 0.00004	< 0.00004	< 0.00004
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00134	0.00293	0.00074	0.00369
Ti [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tl [mg/L]	0.000029	0.000005	0.000032	0.000017
U [mg/L]	0.000246	0.00235	0.000395	0.000590
V [mg/L]	0.00002	0.00005	0.00002	0.00004
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Cs (tot) [mg/L]	0.0057	0.0015	0.0095	0.0040
Dy (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001

OnLine LIMS

0003849912

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10077-AUG24**

Analysis	17: CV5-WR-HCT-64 Wk#68	18: CV5-WR-HCT-69 Wk#68	19: CV5-ORE-HCT-74 Wk#68	20: CV5-ORE-HCT-76 Wk#68
Er (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga (tot) [mg/L]	< 0.0001	0.0001	< 0.0001	0.0001
Gd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Lu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	< 0.00001	0.00002	0.00002	< 0.00001
Nd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Os (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	0.0118	0.0030	0.0108	0.0069
Re (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ta (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Yb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003849912

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

27-December-2024

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 12 December 2024
LR Report: **CA10082-DEC24**
Reference: Wk#85

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Sample ID	Sample Date & Time	HumCell Leachate Vol mL	pH No unit	Conductivity uS/cm
3: Analysis Completed Date		13-Dec-24	16-Dec-24	16-Dec-24
4: Analysis Completed Time		10:30	14:39	14:39
5: CV5-WR-HCT-2 Wk#85	12-Dec-24	915	6.67	37
6: CV5-WR-HCT-5 Wk#85	12-Dec-24	913	6.97	22
7: CV5-WR-HCT-5 (DUP) Wk#85	12-Dec-24	934	6.90	15
8: CV5-WR-HCT-14 Wk#85	12-Dec-24	993	7.68	27
9: CV5-WR-HCT-22 Wk#85	12-Dec-24	928	6.69	8
10: CV5-WR-HCT-33 Wk#85	12-Dec-24	1012	7.11	11
11: CV5-WR-HCT-36 Wk#85	12-Dec-24	1019	7.23	17
12: CV5-WR-HCT-39 Wk#85	12-Dec-24	958	6.59	18
13: CV5-WR-HCT-50 Wk#85	12-Dec-24	1015	6.77	49
14: CV5-WR-HCT-56 Wk#85	12-Dec-24	959	7.07	31
15: CV5-WR-HCT-59 Wk#85	12-Dec-24	939	5.83	22
16: CV5-WR-HCT-62 Wk#85	12-Dec-24	910	6.81	18
17: CV5-WR-HCT-64 Wk#85	12-Dec-24	992	7.16	6
18: CV5-WR-HCT-69 Wk#85	12-Dec-24	977	7.05	10
19: CV5-ORE-HCT-74 Wk#85	12-Dec-24	1012	6.67	3
20: CV5-ORE-HCT-76 Wk#85	12-Dec-24	999	7.07	10

Chris Sullivan

Chris Sullivan, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003973397

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

29-November-2024

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 14 November 2024
LR Report: **CA10082-NOV24**
Reference: Wk#81

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#81	6: CV5-WR-HCT-5 Wk#81	7: CV5-WR-HCT-5 (DUP) Wk#81	8: CV5-WR-HCT-14 Wk#81	9: CV5-WR-HCT-22 Wk#81	10: CV5-WR-HCT-33 Wk#81	11: CV5-WR-HCT-36 Wk#81
Sample Date & Time			14-Nov-24	14-Nov-24	14-Nov-24	14-Nov-24	14-Nov-24	14-Nov-24	14-Nov-24
HumCell Leachate Vol [mL]	18-Nov-24	16:33	936	975	971	991	988	995	1001
pH [No unit]	21-Nov-24	10:37	6.72	7.00	7.06	7.18	7.06	7.05	7.00
Conductivity [uS/cm]	21-Nov-24	10:40	37	21	15	24	9	14	28

Analysis	12: CV5-WR-HCT-39 Wk#81	13: CV5-WR-HCT-50 Wk#81	14: CV5-WR-HCT-56 Wk#81	15: CV5-WR-HCT-59 Wk#81	16: CV5-WR-HCT-62 Wk#81	17: CV5-WR-HCT-64 Wk#81	18: CV5-WR-HCT-69 Wk#81	19: CV5-ORE-HCT-74 Wk#81	20: CV5-ORE-HCT-76 Wk#81
Sample Date & Time	14-Nov-24	14-Nov-24	14-Nov-24	14-Nov-24	14-Nov-24	14-Nov-24	14-Nov-24	14-Nov-24	14-Nov-24
HumCell Leachate Vol [mL]	954	1003	1007	1005	927	1005	1013	1013	1009
pH [No unit]	6.45	6.77	7.39	5.65	7.33	6.95	7.10	6.50	7.12
Conductivity [uS/cm]	22	47	31	14	28	6	11	3	13

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003944826

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

Patriot Tailings -Short- (9.5mm fraction size)

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

25-June-2024

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,, Montreal
Canada, H3A 1Z4
Phone: 647-782-7386, Fax:

Date Rec. : 13 June 2024
LR Report: **CA10083-JUN24**
Reference: Wk#59

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#59	6: CV5-DMS-HCT-84 Wk#59
Sample Date & Time			13-Jun-24	13-Jun-24
HumCell Leachate Vol [mL]	13-Jun-24	13:07	1004	999
pH [No unit]	18-Jun-24	10:43	6.18	6.21
Alkalinity [mg/L as CaCO3]	18-Jun-24	10:43	< 2	< 2
Conductivity [uS/cm]	18-Jun-24	10:43	< 2	< 2
Acidity [mg/L as CaCO3]	20-Jun-24	11:02	2	2
Tot.Reactive P [mg/L]	14-Jun-24	08:15	< 0.03	< 0.03
SO4 [mg/L]	17-Jun-24	19:06	< 2	< 2
Ag [mg/L]	20-Jun-24	08:29	< 0.00005	< 0.00005
Al [mg/L]	20-Jun-24	08:29	0.009	0.009
As [mg/L]	20-Jun-24	08:29	0.0028	0.0022
Ba [mg/L]	20-Jun-24	08:29	< 0.00008	0.00009
Be [mg/L]	20-Jun-24	08:29	0.000007	0.000008
B [mg/L]	20-Jun-24	08:29	< 0.002	< 0.002
Bi [mg/L]	20-Jun-24	08:29	0.00003	0.00004
Ca [mg/L]	20-Jun-24	08:29	0.30	0.33
Cd [mg/L]	20-Jun-24	08:29	< 0.000003	< 0.000003
Co [mg/L]	20-Jun-24	08:29	0.000009	0.000007
Cr [mg/L]	20-Jun-24	08:29	< 0.00008	< 0.00008
Cu [mg/L]	20-Jun-24	08:29	< 0.001	< 0.001
Fe [mg/L]	20-Jun-24	08:29	< 0.007	< 0.007
K [mg/L]	20-Jun-24	08:29	0.038	0.038
Li [mg/L]	20-Jun-24	08:29	0.0004	0.0004
Mg [mg/L]	20-Jun-24	08:29	0.012	0.016
Mn [mg/L]	20-Jun-24	08:29	0.00127	0.00181
Mo [mg/L]	20-Jun-24	08:29	< 0.0004	0.0031
Na [mg/L]	20-Jun-24	08:29	0.02	0.02
Ni [mg/L]	20-Jun-24	08:29	0.0002	0.0001
Pb [mg/L]	20-Jun-24	08:29	< 0.00009	< 0.00009
Sb [mg/L]	20-Jun-24	08:29	0.0012	0.0011
Se [mg/L]	20-Jun-24	08:29	< 0.00004	< 0.00004
Sn [mg/L]	20-Jun-24	08:29	< 0.00006	< 0.00006
Sr [mg/L]	20-Jun-24	08:29	0.00137	0.00077
Ti [mg/L]	20-Jun-24	08:29	< 0.0001	< 0.0001
Tl [mg/L]	20-Jun-24	08:29	0.000008	0.000007
U [mg/L]	20-Jun-24	08:29	0.000501	0.000628

OnLine LIMS

0003759347

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10083-JUN24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#59	6: CV5-DMS-HCT-84 Wk#59
V [mg/L]	20-Jun-24	08:29	0.00002	< 0.00001
W [mg/L]	20-Jun-24	08:29	< 0.0002	< 0.0002
Y [mg/L]	20-Jun-24	08:29	< 0.00002	< 0.00002
Zn [mg/L]	20-Jun-24	08:29	< 0.002	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003759347

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

24-June-2024

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 13 June 2024
LR Report: **CA10084-JUN24**
Reference: Wk#59

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#59	6: CV5-WR-HCT-5 Wk#59	7: CV5-WR-HCT-5 (DUP) Wk#59	8: CV5-WR-HCT-14 Wk#59	9: CV5-WR-HCT-22 Wk#59	10: CV5-WR-HCT-33 Wk#59
Sample Date & Time			13-Jun-24	13-Jun-24	13-Jun-24	13-Jun-24	13-Jun-24	13-Jun-24
HumCell Leachate Vol [mL]	13-Jun-24	13:08	944	951	968	1001	995	983
pH [No unit]	18-Jun-24	11:09	6.65	7.05	6.78	7.58	7.00	7.25
Alkalinity [mg/L as CaCO3]	18-Jun-24	10:46	2	4	3	12	3	5
Conductivity [uS/cm]	18-Jun-24	10:46	32	17	13	24	10	10
Acidity [mg/L as CaCO3]	18-Jun-24	10:47	< 2	< 2	< 2	< 2	< 2	< 2
Tot.Reactive P [mg/L]	14-Jun-24	08:16	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	21-Jun-24	13:47	12	4	3	2	< 2	< 2
Ag [mg/L]	20-Jun-24	08:28	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	20-Jun-24	08:28	0.020	0.021	0.021	0.082	0.017	0.055
As [mg/L]	20-Jun-24	08:28	0.0019	0.149	0.0956	0.0238	0.0917	0.0038
Ba [mg/L]	20-Jun-24	08:28	0.00021	0.00020	0.00015	0.00012	0.00009	0.00016
Be [mg/L]	20-Jun-24	08:28	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	20-Jun-24	08:28	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	20-Jun-24	08:28	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	20-Jun-24	08:28	5.46	3.18	2.40	4.93	1.81	2.14
Cd [mg/L]	20-Jun-24	08:28	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	20-Jun-24	08:28	0.000114	0.000201	0.000159	0.000065	0.000490	0.000062
Cr [mg/L]	20-Jun-24	08:28	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	20-Jun-24	08:28	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	20-Jun-24	08:28	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	20-Jun-24	08:28	0.132	0.061	0.053	0.022	0.027	0.027
Li [mg/L]	20-Jun-24	08:28	0.0043	0.0052	0.0045	0.0029	0.0042	0.0016
Mg [mg/L]	20-Jun-24	08:28	0.215	0.127	0.114	0.155	0.211	0.059
Mn [mg/L]	20-Jun-24	08:28	0.00131	0.00095	0.00101	0.00509	0.00069	0.00677
Mo [mg/L]	20-Jun-24	08:28	0.0007	0.0007	< 0.0004	< 0.0004	0.0004	< 0.0004
Na [mg/L]	20-Jun-24	08:28	0.09	0.05	0.06	0.11	0.08	0.06
Ni [mg/L]	20-Jun-24	08:28	0.0005	0.0014	0.0009	0.0003	0.0009	0.0002
Pb [mg/L]	20-Jun-24	08:28	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	20-Jun-24	08:28	0.0015	0.0299	0.0149	0.0025	0.0039	< 0.0009
Se [mg/L]	20-Jun-24	08:28	0.00009	< 0.00004	< 0.00004	0.00006	< 0.00004	0.00006
Sn [mg/L]	20-Jun-24	08:28	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	20-Jun-24	08:28	0.00860	0.00392	0.00355	0.00314	0.00441	0.00184
Ti [mg/L]	20-Jun-24	08:28	< 0.0001	< 0.0001	< 0.0001	0.00016	< 0.0001	0.00019
Tl [mg/L]	20-Jun-24	08:28	< 0.000005	< 0.000005	< 0.000005	< 0.000005	0.000005	< 0.000005
U [mg/L]	20-Jun-24	08:28	0.000070	0.000015	0.000012	0.000030	0.000140	0.000015

OnLine LIMS

00037582261

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10084-JUN24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#59	6: CV5-WR-HCT-5 Wk#59	7: CV5-WR-HCT-5 (DUP) Wk#59	8: CV5-WR-HCT-1 4 Wk#59	9: CV5-WR-HCT-2 2 Wk#59	10: CV5-WR-HCT-3 3 Wk#59
V [mg/L]	20-Jun-24	08:28	0.00017	0.00039	0.00032	0.00178	0.00094	0.00051
W [mg/L]	20-Jun-24	08:28	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	20-Jun-24	08:28	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	20-Jun-24	08:28	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002

Analysis	11: CV5-WR-HCT-3 6 Wk#59	12: CV5-WR-HCT-3 9 Wk#59	13: CV5-WR-HCT-5 0 Wk#59	14: CV5-WR-HCT-5 6 Wk#59	15: CV5-WR-HCT-5 9 Wk#59	16: CV5-WR-HCT-6 2 Wk#59	17: CV5-WR-HCT-6 4 Wk#59	18: CV5-WR-HCT-6 9 Wk#59
Sample Date & Time	13-Jun-24	13-Jun-24	13-Jun-24	13-Jun-24	13-Jun-24	13-Jun-24	13-Jun-24	13-Jun-24
HumCell Leachate Vol [mL]	951	953	1005	1001	996	926	1003	1012
pH [No unit]	7.18	6.44	7.00	7.26	6.16	7.36	7.05	7.31
Alkalinity [mg/L as CaCO3]	6	< 2	5	6	< 2	7	3	6
Conductivity [uS/cm]	14	19	47	25	13	20	7	11
Acidity [mg/L as CaCO3]	< 2	< 2	12	< 2	3	< 2	< 2	< 2
Tot.Reactive P [mg/L]	0.21	< 0.03	< 0.03	< 0.03	< 0.03	0.11	< 0.03	< 0.03
SO4 [mg/L]	< 2	6	7	6	4	3	< 2	< 2
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.002	0.009	0.022	0.035	0.002	< 0.001	0.027	0.058
As [mg/L]	0.917	0.0126	0.0021	0.0076	0.158	0.530	0.0043	0.0030
Ba [mg/L]	0.00051	0.00019	0.00022	0.00039	0.00016	0.00038	< 0.00008	0.00014
Be [mg/L]	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	0.000064
B [mg/L]	0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00020
Ca [mg/L]	2.24	2.93	6.66	4.80	1.85	2.82	1.63	2.52
Cd [mg/L]	< 0.000003	0.000006	0.000053	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	0.000303	0.000124	0.00413	0.000061	0.00332	0.000445	0.000010	0.000149
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007	0.008	< 0.007	< 0.007	< 0.007
K [mg/L]	0.031	0.131	0.114	0.114	0.024	0.019	0.144	0.060
Li [mg/L]	0.0015	0.0054	0.0068	0.0015	0.0014	0.0003	0.0011	0.0011
Mg [mg/L]	0.513	0.262	0.067	0.125	0.314	0.782	0.033	0.027
Mn [mg/L]	0.00167	0.00175	0.00786	0.00548	0.00556	0.00241	0.00514	0.00279
Mo [mg/L]	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	0.01	0.08	0.08	0.05	0.05	< 0.01	0.03	0.10
Ni [mg/L]	0.0062	0.0005	0.0036	0.0004	0.0275	0.0063	0.0003	0.0003
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.317	0.0071	0.0103	< 0.0009	0.0035	0.352	0.0010	0.0015
Se [mg/L]	< 0.00004	< 0.00004	0.00043	< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00196	0.00646	0.00330	0.00375	0.00651	0.00134	0.00175	0.00369
Ti [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tl [mg/L]	< 0.000005	0.000005	0.000023	< 0.000005	0.000007	< 0.000005	0.000028	0.000006
U [mg/L]	0.000015	0.000164	0.00110	0.000278	0.000002	0.000032	0.000292	0.00293
V [mg/L]	0.00014	0.00022	0.00004	0.00021	0.00019	0.00013	0.00002	0.00006
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	0.015	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002

Analysis	19: CV5-ORE-HCT- 74 Wk#59	20: CV5-ORE-HCT- 76 Wk#59
Sample Date & Time	13-Jun-24	13-Jun-24

OnLine LIMS

00037582621

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10084-JUN24**

Analysis	19: CV5-ORE-HCT-74 Wk#59	20: CV5-ORE-HCT-76 Wk#59
HumCell Leachate Vol [mL]	1008	995
pH [No unit]	6.75	7.18
Alkalinity [mg/L as CaCO3]	< 2	5
Conductivity [uS/cm]	2	11
Acidity [mg/L as CaCO3]	2	< 2
Tot.Reactive P [mg/L]	< 0.03	< 0.03
SO4 [mg/L]	< 2	< 2
Ag [mg/L]	< 0.00005	< 0.00005
Al [mg/L]	0.015	0.034
As [mg/L]	0.0066	0.0015
Ba [mg/L]	< 0.00008	< 0.00008
Be [mg/L]	< 0.000007	0.000025
B [mg/L]	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	0.00006
Ca [mg/L]	0.48	2.02
Cd [mg/L]	< 0.000003	0.000007
Co [mg/L]	0.000016	0.000010
Cr [mg/L]	< 0.00008	0.00008
Cu [mg/L]	< 0.001	< 0.001
Fe [mg/L]	< 0.007	0.019
K [mg/L]	0.087	0.159
Li [mg/L]	0.0058	0.0047
Mg [mg/L]	0.009	0.066
Mn [mg/L]	0.0539	0.00071
Mo [mg/L]	< 0.0004	0.0233
Na [mg/L]	0.07	0.08
Ni [mg/L]	0.0002	0.0001
Pb [mg/L]	< 0.00009	< 0.00009
Sb [mg/L]	0.0065	< 0.0009
Se [mg/L]	< 0.00004	< 0.00004
Sn [mg/L]	< 0.00006	< 0.00006
Sr [mg/L]	0.00079	0.00378
Ti [mg/L]	< 0.0001	< 0.0001
Tl [mg/L]	0.000031	0.000018
U [mg/L]	0.000359	0.000577
V [mg/L]	0.00001	0.00004
W [mg/L]	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003758261

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Patriot Tailings- Long - (9.5mm fraction size)

29-April-2024

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 11 April 2024
LR Report: **CA10087-APR24**
Reference: Wk#50

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HC T-83 Wk#50	6: CV5-DMS-HC T-84 Wk#50
Sample Date & Time			11-Apr-24	11-Apr-24
HumCell Leachate Vol [mL]	16-Apr-24	16:15	974	984
pH [No unit]	12-Apr-24	13:25	6.18	6.17
Alkalinity [mg/L as CaCO3]	12-Apr-24	13:25	< 2	< 2
Conductivity [uS/cm]	12-Apr-24	13:25	< 2	2
Acidity [mg/L as CaCO3]	12-Apr-24	13:25	3	3
F [mg/L]	15-Apr-24	10:35	< 0.06	< 0.06
Tot.Reactive P [mg/L]	15-Apr-24	08:33	< 0.03	< 0.03
SO4 [mg/L]	15-Apr-24	13:02	< 2	< 2
Cl [mg/L]	15-Apr-24	13:02	< 1	< 1
NO2 [as N mg/L]	15-Apr-24	14:59	< 0.03	< 0.03
NO3 [as N mg/L]	15-Apr-24	14:59	< 0.06	< 0.06
Br [mg/L]	15-Apr-24	14:59	< 0.3	< 0.3
Hg [mg/L]	15-Apr-24	13:09	< 0.00001	< 0.00001
Ag [mg/L]	16-Apr-24	16:05	< 0.00005	< 0.00005
Al [mg/L]	16-Apr-24	16:05	0.008	0.008
As [mg/L]	16-Apr-24	16:05	0.0029	0.0028
Ba [mg/L]	16-Apr-24	16:05	< 0.00008	< 0.00008
Be [mg/L]	16-Apr-24	16:05	0.000009	0.000007
B [mg/L]	16-Apr-24	16:05	< 0.002	< 0.002
Bi [mg/L]	16-Apr-24	16:05	0.00003	0.00002
Ca [mg/L]	16-Apr-24	16:05	0.33	0.34
Cd [mg/L]	16-Apr-24	16:05	< 0.000003	0.000003
Co [mg/L]	16-Apr-24	16:05	0.000005	< 0.000004
Cr [mg/L]	16-Apr-24	16:05	< 0.00008	< 0.00008
Cu [mg/L]	16-Apr-24	16:05	< 0.001	< 0.001
Fe [mg/L]	16-Apr-24	16:05	< 0.007	< 0.007
K [mg/L]	16-Apr-24	16:05	0.039	0.048
Li [mg/L]	16-Apr-24	16:05	0.0005	0.0004
Mg [mg/L]	16-Apr-24	16:05	0.010	0.010

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0003696003

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10087-APR24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#50	6: CV5-DMS-HCT-84 Wk#50
Mn [mg/L]	16-Apr-24	16:05	0.00137	0.00091
Mo [mg/L]	16-Apr-24	16:05	< 0.0004	< 0.0004
Na [mg/L]	16-Apr-24	16:05	0.01	< 0.01
Ni [mg/L]	16-Apr-24	16:05	< 0.0001	< 0.0001
Pb [mg/L]	16-Apr-24	16:05	< 0.00009	< 0.00009
Sb [mg/L]	16-Apr-24	16:05	0.0012	0.0012
Se [mg/L]	16-Apr-24	16:05	< 0.00004	< 0.00004
Sn [mg/L]	16-Apr-24	16:05	< 0.00006	< 0.00006
Sr [mg/L]	16-Apr-24	16:05	0.00076	0.00076
Ti [mg/L]	16-Apr-24	16:05	< 0.0001	< 0.0001
Tl [mg/L]	16-Apr-24	16:05	0.000008	0.000009
U [mg/L]	16-Apr-24	16:05	0.000742	0.000592
V [mg/L]	16-Apr-24	16:05	0.00002	0.00001
W [mg/L]	16-Apr-24	16:05	< 0.0002	< 0.0002
Y [mg/L]	16-Apr-24	16:05	< 0.00002	< 0.00002
Zn [mg/L]	16-Apr-24	16:05	< 0.002	< 0.002
Au (tot) [mg/L]	16-Apr-24	16:05	< 0.00001	< 0.00001
Ce (tot) [mg/L]	16-Apr-24	16:05	< 0.00001	< 0.00001
Cs (tot) [mg/L]	16-Apr-24	16:05	0.0015	0.0015
Dy (tot) [mg/L]	16-Apr-24	16:05	< 0.00001	< 0.00001
Er (tot) [mg/L]	16-Apr-24	16:05	< 0.00001	< 0.00001
Eu (tot) [mg/L]	16-Apr-24	16:05	< 0.00001	< 0.00001
Ga (tot) [mg/L]	16-Apr-24	16:05	< 0.0001	< 0.0001
Gd (tot) [mg/L]	16-Apr-24	16:05	< 0.00001	< 0.00001
Ge (tot) [mg/L]	16-Apr-24	16:05	< 0.0001	< 0.0001
Hf (tot) [mg/L]	16-Apr-24	16:05	< 0.0001	< 0.0001
Ho (tot) [mg/L]	16-Apr-24	16:05	< 0.00001	< 0.00001
In (tot) [mg/L]	16-Apr-24	16:05	< 0.00001	< 0.00001
Ir (tot) [mg/L]	16-Apr-24	16:05	< 0.00001	< 0.00001
La (tot) [mg/L]	16-Apr-24	16:05	< 0.00001	< 0.00001
Lu (tot) [mg/L]	16-Apr-24	16:05	< 0.0001	< 0.0001
Nb (tot) [mg/L]	16-Apr-24	16:05	< 0.00001	< 0.00001
Nd (tot) [mg/L]	16-Apr-24	16:05	< 0.00001	< 0.00001
Os (tot) [mg/L]	16-Apr-24	16:05	< 0.0001	< 0.0001
Pd (tot) [mg/L]	16-Apr-24	16:05	< 0.0001	< 0.0001
Pr (tot) [mg/L]	16-Apr-24	16:05	< 0.00001	< 0.00001
Pt (tot) [mg/L]	16-Apr-24	16:05	< 0.0001	< 0.0001
Rb (tot) [mg/L]	16-Apr-24	16:05	0.0036	0.0037
Re (tot) [mg/L]	16-Apr-24	16:05	< 0.0001	< 0.0001
Rh (tot) [mg/L]	16-Apr-24	16:05	< 0.00001	< 0.00001
Sc (tot) [mg/L]	16-Apr-24	16:05	< 0.0001	< 0.0001
Sm (tot) [mg/L]	16-Apr-24	16:05	< 0.00001	< 0.00001
Ta (tot) [mg/L]	16-Apr-24	16:05	< 0.0001	< 0.0001
Tb (tot) [mg/L]	16-Apr-24	16:05	< 0.00001	< 0.00001
Te (tot) [mg/L]	16-Apr-24	16:05	< 0.0001	< 0.0001

OnLine LIMS

0003696003

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10087-APR24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HC T-83 Wk#50	6: CV5-DMS-HC T-84 Wk#50
Th (tot) [mg/L]	16-Apr-24	16:05	< 0.0001	< 0.0001
Tm (tot) [mg/L]	16-Apr-24	16:05	< 0.00001	< 0.00001
Yb (tot) [mg/L]	16-Apr-24	16:05	< 0.00001	< 0.00001

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003696003

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

30-April-2024

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 11 April 2024
LR Report: **CA10088-APR24**
Reference: Wk#50

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT -2 Wk#50	6: CV5-WR-HCT -5 Wk#50	7: CV5-WR-HCT- 5 (DUP) Wk#50	8: CV5-WR-HCT -14 Wk#50	9: CV5-WR-HCT -22 Wk#50
Sample Date & Time			11-Apr-24	11-Apr-24	11-Apr-24	11-Apr-24	11-Apr-24
HumCell Leachate Vol [mL]	16-Apr-24	16:15	951	936	949	1008	1004
pH [No unit]	15-Apr-24	13:39	6.66	6.89	6.84	7.77	6.91
Alkalinity [mg/L as CaCO3]	16-Apr-24	12:28	2	3	3	12	4
Conductivity [uS/cm]	16-Apr-24	12:28	36	21	15	30	12
Acidity [mg/L as CaCO3]	16-Apr-24	12:29	< 2	< 2	< 2	< 2	< 2
F [mg/L]	15-Apr-24	10:36	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Tot.Reactive P [mg/L]	15-Apr-24	08:34	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	22-Apr-24	19:21	12	4	3	2	< 2
Cl [mg/L]	22-Apr-24	19:21	< 1	< 1	< 1	< 1	< 1
NO2 [as N mg/L]	15-Apr-24	19:56	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	15-Apr-24	19:56	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	15-Apr-24	19:56	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	15-Apr-24	13:09	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	16-Apr-24	16:06	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	16-Apr-24	16:06	0.021	0.022	0.024	0.105	0.019
As [mg/L]	16-Apr-24	16:06	0.0024	0.150	0.118	0.0303	0.0934
Ba [mg/L]	16-Apr-24	16:06	0.00032	0.00017	0.00014	0.00018	0.00009
Be [mg/L]	16-Apr-24	16:06	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	16-Apr-24	16:06	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	16-Apr-24	16:06	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	16-Apr-24	16:06	5.33	3.21	2.49	5.63	1.96
Cd [mg/L]	16-Apr-24	16:06	< 0.000003	< 0.000003	< 0.000003	0.000003	< 0.000003
Co [mg/L]	16-Apr-24	16:06	0.000115	0.000177	0.000189	0.000095	0.000129
Cr [mg/L]	16-Apr-24	16:06	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	16-Apr-24	16:06	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	16-Apr-24	16:06	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	16-Apr-24	16:06	0.142	0.077	0.055	0.021	0.032
Li [mg/L]	16-Apr-24	16:06	0.0049	0.0062	0.0054	0.0034	0.0044
Mg [mg/L]	16-Apr-24	16:06	0.248	0.149	0.132	0.189	0.228

OnLine LIMS

00036969

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10088-APR24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT -2 Wk#50	6: CV5-WR-HCT -5 Wk#50	7: CV5-WR-HCT-5 (DUP) Wk#50	8: CV5-WR-HCT -14 Wk#50	9: CV5-WR-HCT -22 Wk#50
Mn [mg/L]	16-Apr-24	16:06	0.00102	0.00090	0.00102	0.00511	0.00047
Mo [mg/L]	16-Apr-24	16:06	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	16-Apr-24	16:06	0.10	0.04	0.04	0.11	0.07
Ni [mg/L]	16-Apr-24	16:06	0.0007	0.0012	0.0008	0.0002	0.0004
Pb [mg/L]	16-Apr-24	16:06	< 0.00009	< 0.00009	< 0.00009	0.00010	0.00009
Sb [mg/L]	16-Apr-24	16:06	0.0017	0.0300	0.0177	0.0029	0.0040
Se [mg/L]	16-Apr-24	16:06	0.00015	< 0.00004	< 0.00004	0.00010	< 0.00004
Sn [mg/L]	16-Apr-24	16:06	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	16-Apr-24	16:06	0.01007	0.00482	0.00442	0.00393	0.00524
Ti [mg/L]	16-Apr-24	16:06	0.0001	< 0.0001	0.0001	0.0001	0.0001
Tl [mg/L]	16-Apr-24	16:06	< 0.000005	< 0.000005	0.000005	< 0.000005	0.000005
U [mg/L]	16-Apr-24	16:06	0.000084	0.000036	0.000017	0.000200	0.000166
V [mg/L]	16-Apr-24	16:06	0.00024	0.00037	0.00038	0.00209	0.00087
W [mg/L]	16-Apr-24	16:06	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	16-Apr-24	16:06	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	16-Apr-24	16:06	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	16-Apr-24	16:07	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	16-Apr-24	16:07	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00002
Cs (tot) [mg/L]	16-Apr-24	16:07	0.0058	0.0071	0.0076	0.0015	0.0040
Dy (tot) [mg/L]	16-Apr-24	16:07	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er (tot) [mg/L]	16-Apr-24	16:07	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu (tot) [mg/L]	16-Apr-24	16:07	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga (tot) [mg/L]	16-Apr-24	16:07	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001
Gd (tot) [mg/L]	16-Apr-24	16:07	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	16-Apr-24	16:07	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	16-Apr-24	16:07	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	16-Apr-24	16:07	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In (tot) [mg/L]	16-Apr-24	16:07	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir (tot) [mg/L]	16-Apr-24	16:07	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La (tot) [mg/L]	16-Apr-24	16:07	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Lu (tot) [mg/L]	16-Apr-24	16:07	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	16-Apr-24	16:07	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Nd (tot) [mg/L]	16-Apr-24	16:07	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Os (tot) [mg/L]	16-Apr-24	16:07	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	16-Apr-24	16:07	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	16-Apr-24	16:07	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt (tot) [mg/L]	16-Apr-24	16:07	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	16-Apr-24	16:07	0.0030	0.0026	0.0024	0.0003	0.0014
Re (tot) [mg/L]	16-Apr-24	16:07	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	16-Apr-24	16:07	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	16-Apr-24	16:07	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	16-Apr-24	16:07	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ta (tot) [mg/L]	16-Apr-24	16:07	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	16-Apr-24	16:07	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te (tot) [mg/L]	16-Apr-24	16:07	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001

OnLine LIMS

00036996968

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10088-APR24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT -2 Wk#50	6: CV5-WR-HCT -5 Wk#50	7: CV5-WR-HCT-5 (DUP) Wk#50	8: CV5-WR-HCT -14 Wk#50	9: CV5-WR-HCT -22 Wk#50
Th (tot) [mg/L]	16-Apr-24	16:07	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	16-Apr-24	16:07	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Yb (tot) [mg/L]	16-Apr-24	16:07	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Analysis	10: CV5-WR-HCT -33 Wk#50	11: CV5-WR-HCT -36 Wk#50	12: CV5-WR-HCT -39 Wk#50	13: CV5-WR-HCT -50 Wk#50	14: CV5-WR-HCT -56 Wk#50	15: CV5-WR-HCT -59 Wk#50	16: CV5-WR-HCT -62 Wk#50
Sample Date & Time	11-Apr-24	11-Apr-24	11-Apr-24	11-Apr-24	11-Apr-24	11-Apr-24	11-Apr-24
HumCell Leachate Vol [mL]	971	1005	923	1000	978	978	897
pH [No unit]	7.24	7.06	6.39	7.29	7.26	6.15	7.67
Alkalinity [mg/L as CaCO3]	5	5	2	9	6	< 2	6
Conductivity [uS/cm]	12	15	21	50	27	15	26
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	2	< 2	3	< 2
F [mg/L]	< 0.06	< 0.06	0.15	0.48	< 0.06	< 0.06	< 0.06
Tot.Reactive P [mg/L]	< 0.03	0.30	< 0.03	< 0.03	< 0.03	< 0.03	0.12
SO4 [mg/L]	< 2	< 2	6	6	5	4	3
Cl [mg/L]	< 1	< 1	< 1	2	< 1	< 1	< 1
NO2 [as N mg/L]	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.064	< 0.001	0.016	0.043	0.038	0.005	0.003
As [mg/L]	0.0042	1.10	0.0157	0.0036	0.0095	0.131	0.567
Ba [mg/L]	0.00011	0.00046	0.00018	0.00022	0.00032	0.00016	0.00039
Be [mg/L]	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	< 0.002	0.003	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	2.30	2.24	2.88	6.64	4.64	1.91	3.26
Cd [mg/L]	< 0.000003	< 0.000003	0.000005	0.000042	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	0.000043	0.000389	0.000128	0.00215	0.000041	0.00189	0.000428
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008	0.00011	0.00009
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	0.028	0.024	0.139	0.146	0.119	0.017	0.021
Li [mg/L]	0.0020	0.0016	0.0059	0.0088	0.0016	0.0012	0.0003
Mg [mg/L]	0.067	0.488	0.294	0.066	0.133	0.302	0.904
Mn [mg/L]	0.00571	0.00154	0.00142	0.00711	0.00586	0.00400	0.00231
Mo [mg/L]	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	0.06	< 0.01	0.08	0.08	0.04	0.02	< 0.01
Ni [mg/L]	< 0.0001	0.0105	0.0003	0.0017	0.0002	0.0148	0.0068
Pb [mg/L]	< 0.00009	< 0.00009	0.00012	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	< 0.0009	0.343	0.0086	0.0145	< 0.0009	0.0027	0.462
Se [mg/L]	0.00008	< 0.00004	0.00007	0.00043	< 0.00004	< 0.00004	0.00007

OnLine LIMS

00036996968

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10088-APR24**

Analysis	10: CV5-WR-HCT -33 Wk#50	11: CV5-WR-HCT -36 Wk#50	12: CV5-WR-HCT -39 Wk#50	13: CV5-WR-HCT -50 Wk#50	14: CV5-WR-HCT -56 Wk#50	15: CV5-WR-HCT -59 Wk#50	16: CV5-WR-HCT -62 Wk#50
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00215	0.00222	0.00728	0.00398	0.00411	0.00756	0.00160
Ti [mg/L]	0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001
Tl [mg/L]	< 0.000005	< 0.000005	< 0.000005	0.000023	< 0.000005	0.000006	< 0.000005
U [mg/L]	0.000077	0.000021	0.000237	0.000839	0.000354	0.000006	0.000139
V [mg/L]	0.00054	0.00012	0.00025	0.00007	0.00026	0.00020	0.00013
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	0.006	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	< 0.00001	< 0.00001	0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Cs (tot) [mg/L]	0.0022	0.0084	0.0017	0.0363	0.0165	0.0067	0.0027
Dy (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001
Gd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La (tot) [mg/L]	< 0.00001	0.00003	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00004
Lu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00001	< 0.00001	< 0.00001	< 0.00001
Nd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Os (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	0.0004	0.0014	0.0017	0.0077	0.0007	0.0016	0.0012
Re (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ta (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Yb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

OnLine LIMS

00036996968

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10088-APR24**

Analysis	17: CV5-WR-HCT-64 Wk#50	18: CV5-WR-HCT-69 Wk#50	19: CV5-ORE-HCT-74 Wk#50	20: CV5-ORE-HCT-76 Wk#50
Sample Date & Time	11-Apr-24	11-Apr-24	11-Apr-24	11-Apr-24
HumCell Leachate Vol [mL]	1004	987	1004	937
pH [No unit]	7.15	7.33	6.48	7.13
Alkalinity [mg/L as CaCO3]	4	6	2	5
Conductivity [uS/cm]	11	13	3	11
Acidity [mg/L as CaCO3]	2	< 2	< 2	< 2
F [mg/L]	< 0.06	< 0.06	< 0.06	< 0.06
Tot.Reactive P [mg/L]	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	< 2	< 2	< 2	< 2
Cl [mg/L]	< 1	< 1	< 1	< 1
NO2 [as N mg/L]	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.028	0.052	0.018	0.045
As [mg/L]	0.0051	0.0027	0.0069	0.0018
Ba [mg/L]	< 0.00008	0.00011	< 0.00008	0.00009
Be [mg/L]	0.000012	0.000078	< 0.000007	0.000061
B [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	0.00019	< 0.00001	0.00009
Ca [mg/L]	1.89	2.39	0.59	2.00
Cd [mg/L]	< 0.000003	< 0.000003	< 0.000003	0.000004
Co [mg/L]	0.000007	0.000005	0.000005	0.000015
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	0.148	0.051	0.089	0.176
Li [mg/L]	0.0015	0.0012	0.0055	0.0051
Mg [mg/L]	0.041	0.026	0.012	0.069
Mn [mg/L]	0.00502	0.00256	0.0607	0.00075
Mo [mg/L]	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	0.02	0.09	0.08	0.06
Ni [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.0009	0.0010	0.0067	< 0.0009
Se [mg/L]	< 0.00004	< 0.00004	< 0.00004	< 0.00004
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00230	0.00405	0.00106	0.00400
Ti [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tl [mg/L]	0.000032	0.000007	0.000033	0.000015
U [mg/L]	0.000436	0.00352	0.000494	0.000704
V [mg/L]	0.00003	0.00005	0.00001	0.00004
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002

OnLine LIMS

0003696968

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10088-APR24**

Analysis	17: CV5-WR-HCT-64 Wk#50	18: CV5-WR-HCT-69 Wk#50	19: CV5-ORE-HCT-74 Wk#50	20: CV5-ORE-HCT-76 Wk#50
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Cs (tot) [mg/L]	0.0072	0.0016	0.0100	0.0045
Dy (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga (tot) [mg/L]	0.0001	0.0001	0.0001	0.0001
Gd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Lu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	< 0.00001	0.00002	0.00002	< 0.00001
Nd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Os (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	0.0135	0.0031	0.0117	0.0070
Re (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ta (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Yb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

00036996968

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

28-March-2024

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 14 March 2024
LR Report: **CA10096-MAR24**
Reference: Wk#46

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT -2 Wk#46	6: CV5-WR-HCT -5 Wk#46	7: CV5-WR-HCT- 5 (DUP) Wk#46	8: CV5-WR-HCT -14 Wk#46	9: CV5-WR-HCT -22 Wk#46
Sample Date & Time			14-Mar-24	14-Mar-24	14-Mar-24	14-Mar-24	14-Mar-24
HumCell Leachate Vol [mL]	25-Mar-24	15:27	942	926	969	986	1004
pH [No unit]	18-Mar-24	11:54	6.82	7.08	6.99	7.68	7.04
Alkalinity [mg/L as CaCO3]	18-Mar-24	11:54	3	3	3	13	4
Conductivity [uS/cm]	15-Mar-24	14:02	34	18	14	29	10
Acidity [mg/L as CaCO3]	15-Mar-24	14:02	< 2	< 2	< 2	< 2	< 2
Tot.Reactive P [mg/L]	15-Mar-24	13:58	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	19-Mar-24	20:01	11	4	3	2	< 2
Ag [mg/L]	19-Mar-24	10:48	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	19-Mar-24	10:48	0.017	0.018	0.018	0.089	0.014
As [mg/L]	19-Mar-24	10:48	0.0031	0.149	0.109	0.0307	0.107
Ba [mg/L]	19-Mar-24	10:48	0.00017	0.00015	0.00009	0.00011	0.00008
Be [mg/L]	19-Mar-24	10:48	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	19-Mar-24	10:48	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	19-Mar-24	10:48	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	19-Mar-24	10:48	4.12	2.67	2.06	4.87	1.42
Cd [mg/L]	19-Mar-24	10:48	< 0.000003	0.000003	< 0.000003	< 0.000003	0.000006
Co [mg/L]	19-Mar-24	10:48	0.000086	0.000176	0.000205	0.000057	0.000109
Cr [mg/L]	19-Mar-24	10:48	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	19-Mar-24	10:48	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	19-Mar-24	10:48	< 0.007	< 0.007	< 0.007	0.008	< 0.007
K [mg/L]	19-Mar-24	10:48	0.120	0.062	0.052	0.020	0.020
Li [mg/L]	19-Mar-24	10:48	0.0052	0.0067	0.0058	0.0033	0.0043
Mg [mg/L]	19-Mar-24	10:48	0.224	0.137	0.122	0.184	0.183
Mn [mg/L]	19-Mar-24	10:48	0.00083	0.00098	0.00100	0.00464	0.00039
Mo [mg/L]	19-Mar-24	10:48	0.0008	0.0054	0.0005	0.0029	< 0.0004
Na [mg/L]	19-Mar-24	10:48	0.11	0.04	0.03	0.12	0.06
Ni [mg/L]	19-Mar-24	10:48	0.0003	0.0012	0.0008	0.0001	0.0003
Pb [mg/L]	19-Mar-24	10:48	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	19-Mar-24	10:48	0.0022	0.0344	0.0196	0.0031	0.0050

OnLine LIMS

0003662957

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10096-MAR24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT -2 Wk#46	6: CV5-WR-HCT -5 Wk#46	7: CV5-WR-HCT-5 (DUP) Wk#46	8: CV5-WR-HCT -14 Wk#46	9: CV5-WR-HCT -22 Wk#46
Se [mg/L]	19-Mar-24	10:48	0.00015	< 0.00004	< 0.00004	0.00009	< 0.00004
Sn [mg/L]	19-Mar-24	10:48	0.00010	0.00015	0.00033	0.00019	0.00045
Sr [mg/L]	19-Mar-24	10:48	0.00840	0.00448	0.00399	0.00384	0.00420
Ti [mg/L]	19-Mar-24	10:48	< 0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001
Tl [mg/L]	19-Mar-24	10:48	< 0.000005	0.000005	< 0.000005	< 0.000005	< 0.000005
U [mg/L]	19-Mar-24	10:48	0.000092	0.000045	0.000013	0.000026	0.000155
V [mg/L]	19-Mar-24	10:48	0.00021	0.00035	0.00034	0.00201	0.00082
W [mg/L]	19-Mar-24	10:48	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	19-Mar-24	10:48	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	19-Mar-24	10:48	< 0.002	0.006	< 0.002	< 0.002	< 0.002

Analysis	10: CV5-WR-HCT -33 Wk#46	11: CV5-WR-HCT -36 Wk#46	12: CV5-WR-HCT -39 Wk#46	13: CV5-WR-HCT -50 Wk#46	14: CV5-WR-HCT -56 Wk#46	15: CV5-WR-HCT -59 Wk#46	16: CV5-WR-HCT -62 Wk#46
Sample Date & Time	14-Mar-24	14-Mar-24	14-Mar-24	14-Mar-24	14-Mar-24	14-Mar-24	14-Mar-24
HumCell Leachate Vol [mL]	987	989	944	1003	1003	1003	935
pH [No unit]	7.36	7.10	6.63	7.19	7.35	6.24	7.37
Alkalinity [mg/L as CaCO3]	7	5	2	8	8	2	7
Conductivity [uS/cm]	16	13	25	46	28	13	24
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Tot.Reactive P [mg/L]	< 0.03	0.24	< 0.03	< 0.03	< 0.03	0.03	0.12
SO4 [mg/L]	< 2	< 2	8	7	6	4	3
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.053	< 0.001	0.014	0.017	0.033	0.004	0.002
As [mg/L]	0.0043	0.910	0.0129	0.0028	0.0114	0.187	0.520
Ba [mg/L]	0.00014	0.00032	0.00086	0.00022	0.00037	0.00016	0.00024
Be [mg/L]	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	< 0.002	0.003	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	2.51	1.52	2.98	5.88	4.32	1.39	2.49
Cd [mg/L]	< 0.000003	< 0.000003	0.000009	0.000050	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	0.000055	0.000328	0.000122	0.00265	0.000054	0.000703	0.000445
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	< 0.001	< 0.001	0.002	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	0.025	0.019	0.109	0.117	0.148	0.016	0.014
Li [mg/L]	0.0022	0.0013	0.0051	0.0076	0.0023	0.0013	0.0003
Mg [mg/L]	0.064	0.361	0.277	0.065	0.155	0.248	0.671
Mn [mg/L]	0.00737	0.00190	0.00153	0.00867	0.00656	0.00186	0.00246
Mo [mg/L]	< 0.0004	0.0018	< 0.0004	0.0007	0.0021	< 0.0004	< 0.0004
Na [mg/L]	0.06	0.01	0.07	0.07	0.05	0.03	< 0.01
Ni [mg/L]	< 0.0001	0.0083	0.0003	0.0018	0.0001	0.0062	0.0067
Pb [mg/L]	< 0.00009	< 0.00009	0.00026	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.0011	0.298	0.0073	0.0144	< 0.0009	0.0036	0.451

OnLine LIMS

0003662957

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10096-MAR24**

Analysis	10: CV5-WR-HCT -33 Wk#46	11: CV5-WR-HCT -36 Wk#46	12: CV5-WR-HCT -39 Wk#46	13: CV5-WR-HCT -50 Wk#46	14: CV5-WR-HCT -56 Wk#46	15: CV5-WR-HCT -59 Wk#46	16: CV5-WR-HCT -62 Wk#46
Se [mg/L]	0.00009	< 0.00004	< 0.00004	0.00044	0.00005	< 0.00004	0.00004
Sn [mg/L]	0.00011	0.00008	0.00026	0.00013	0.00014	0.00009	0.00009
Sr [mg/L]	0.00237	0.00166	0.00773	0.00395	0.00431	0.00585	0.00139
Ti [mg/L]	< 0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tl [mg/L]	< 0.000005	< 0.000005	< 0.000005	0.000020	< 0.000005	< 0.000005	< 0.000005
U [mg/L]	0.000020	0.000054	0.000303	0.00126	0.000603	0.000014	0.000061
V [mg/L]	0.00046	0.00008	0.00021	0.00004	0.00026	0.00025	0.00011
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	0.003	0.008	< 0.002	< 0.002	< 0.002

Analysis	17: CV5-WR-HCT -64 Wk#46	18: CV5-WR-HCT -69 Wk#46	19: CV5-ORE-HCT-74 Wk#46	20: CV5-ORE-HCT-76 Wk#46
Sample Date & Time	14-Mar-24	14-Mar-24	14-Mar-24	14-Mar-24
HumCell Leachate Vol [mL]	1003	1008	1012	978
pH [No unit]	7.12	7.22	6.65	7.21
Alkalinity [mg/L as CaCO3]	5	6	2	7
Conductivity [uS/cm]	10	11	2	13
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2
Tot.Reactive P [mg/L]	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	< 2	< 2	< 2	< 2
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.019	0.033	0.010	0.031
As [mg/L]	0.0051	0.0028	0.0068	0.0018
Ba [mg/L]	< 0.00008	0.00009	< 0.00008	< 0.00008
Be [mg/L]	< 0.000007	0.000036	< 0.000007	0.000071
B [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	0.00011	< 0.00001	0.00006
Ca [mg/L]	1.70	1.78	0.52	2.08
Cd [mg/L]	< 0.000003	< 0.000003	0.000003	0.000074
Co [mg/L]	0.000015	0.000006	0.000005	0.000019
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	< 0.001	< 0.001	< 0.001	0.006
Fe [mg/L]	< 0.007	< 0.007	< 0.007	0.009
K [mg/L]	0.132	0.038	0.067	0.156
Li [mg/L]	0.0013	0.0011	0.0050	0.0051
Mg [mg/L]	0.044	0.023	0.010	0.077
Mn [mg/L]	0.00481	0.00210	0.0499	0.00088
Mo [mg/L]	0.0035	< 0.0004	< 0.0004	0.0351
Na [mg/L]	0.03	0.08	0.06	0.07
Ni [mg/L]	< 0.0001	< 0.0001	0.0001	0.0002
Pb [mg/L]	< 0.00009	< 0.00009	0.00015	0.00040
Sb [mg/L]	0.0012	0.0015	0.0068	< 0.0009

OnLine LIMS

0003662957

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10096-MAR24**

Analysis	17: CV5-WR-HCT-64 Wk#46	18: CV5-WR-HCT-69 Wk#46	19: CV5-ORE-HCT-74 Wk#46	20: CV5-ORE-HCT-76 Wk#46
Se [mg/L]	< 0.00004	< 0.00004	< 0.00004	< 0.00004
Sn [mg/L]	0.00032	0.00009	0.00018	0.00068
Sr [mg/L]	0.00221	0.00309	0.00094	0.00446
Ti [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tl [mg/L]	0.000025	< 0.000005	0.000024	0.000014
U [mg/L]	0.000562	0.00314	0.000461	0.000823
V [mg/L]	0.00001	0.00003	< 0.00001	0.00003
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	0.003

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003662957

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

24-January-2024

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 11 January 2024
LR Report: **CA10108-JAN24**
Reference: Wk#37

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#37	6: CV5-DMS-HCT-84 Wk#37
Sample Date & Time			11-Jan-23	11-Jan-23
HumCell Leachate Vol [mL]	17-Jan-24	08:57	988	992
pH [No unit]	17-Jan-24	10:36	6.13	6.19
Alkalinity [mg/L as CaCO3]	16-Jan-24	09:19	< 2	< 2
Conductivity [uS/cm]	16-Jan-24	09:19	3	2
Acidity [mg/L as CaCO3]	17-Jan-24	10:38	2	< 2
Tot.Reactive P [mg/L]	15-Jan-24	10:37	< 0.03	< 0.03
SO4 [mg/L]	15-Jan-24	15:56	< 2	< 2
Ag [mg/L]	16-Jan-24	12:22	< 0.00005	< 0.00005
Al [mg/L]	16-Jan-24	12:22	0.015	0.013
As [mg/L]	16-Jan-24	12:22	0.0040	0.0029
Ba [mg/L]	16-Jan-24	12:22	0.00008	0.00010
Be [mg/L]	16-Jan-24	12:22	0.000008	0.000014
B [mg/L]	16-Jan-24	12:22	< 0.002	< 0.002
Bi [mg/L]	16-Jan-24	12:22	0.00003	0.00004
Ca [mg/L]	16-Jan-24	12:22	0.33	0.31
Cd [mg/L]	16-Jan-24	12:22	0.000003	< 0.000003
Co [mg/L]	16-Jan-24	12:22	0.000015	0.000013
Cr [mg/L]	16-Jan-24	12:22	< 0.00008	< 0.00008
Cu [mg/L]	16-Jan-24	12:22	0.0005	< 0.0002
Fe [mg/L]	16-Jan-24	12:22	< 0.007	< 0.007
K [mg/L]	16-Jan-24	12:22	0.062	0.059
Li [mg/L]	16-Jan-24	12:22	0.0006	0.0007
Mg [mg/L]	16-Jan-24	12:22	0.011	0.010
Mn [mg/L]	16-Jan-24	12:22	0.00078	0.00116
Mo [mg/L]	16-Jan-24	12:22	0.00142	0.00009
Na [mg/L]	16-Jan-24	12:22	0.03	0.02
Ni [mg/L]	16-Jan-24	12:22	0.0002	0.0002
Pb [mg/L]	16-Jan-24	12:22	< 0.00009	< 0.00009
Sb [mg/L]	16-Jan-24	12:22	0.0018	0.0014
Se [mg/L]	16-Jan-24	12:22	< 0.00004	< 0.00004
Sn [mg/L]	16-Jan-24	12:22	< 0.00006	< 0.00006
Sr [mg/L]	16-Jan-24	12:22	0.00051	0.00059
Ti [mg/L]	16-Jan-24	12:22	< 0.00007	< 0.00007

OnLine LIMS

0003600111

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : CA10108-JAN24

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#37	6: CV5-DMS-HCT-84 Wk#37
Tl [mg/L]	16-Jan-24	12:22	0.000006	< 0.000005
U [mg/L]	16-Jan-24	12:22	0.000768	0.000892
V [mg/L]	16-Jan-24	12:22	< 0.00001	< 0.00001
W [mg/L]	16-Jan-24	12:22	< 0.00002	< 0.00002
Y [mg/L]	16-Jan-24	12:22	< 0.00002	< 0.00002
Zn [mg/L]	16-Jan-24	12:22	< 0.002	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003600111

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

24-January-2024

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 11 January 2024
LR Report: **CA10109-JAN24**
Reference: Wk#37

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#37	6: CV5-WR-HCT-5 Wk#37	7: CV5-WR-HCT-5 (DUP) Wk#37	8: CV5-WR-HCT-14 Wk#37
Sample Date & Time			11-Jan-23	11-Jan-23	11-Jan-23	11-Jan-23
HumCell Leachate Vol [mL]	17-Jan-24	08:57	962	942	973	984
pH [No unit]	16-Jan-24	09:21	6.75	7.03	6.90	7.97
Alkalinity [mg/L as CaCO3]	16-Jan-24	09:22	3	5	3	12
Conductivity [uS/cm]	16-Jan-24	10:56	32	20	16	30
Acidity [mg/L as CaCO3]	17-Jan-24	10:38	< 2	< 2	< 2	< 2
Tot.Reactive P [mg/L]	15-Jan-24	10:37	< 0.03	0.04	< 0.03	< 0.03
SO4 [mg/L]	15-Jan-24	15:57	9	4	3	2
Ag [mg/L]	16-Jan-24	12:21	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	16-Jan-24	12:21	0.025	0.025	0.025	0.099
As [mg/L]	16-Jan-24	12:21	0.0034	0.157	0.111	0.0360
Ba [mg/L]	16-Jan-24	12:21	0.00026	0.00018	0.00023	0.00014
Be [mg/L]	16-Jan-24	12:21	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	16-Jan-24	12:21	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	16-Jan-24	12:21	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	16-Jan-24	12:21	4.36	2.93	2.30	5.33
Cd [mg/L]	16-Jan-24	12:21	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	16-Jan-24	12:21	0.000086	0.000199	0.000178	0.000086
Cr [mg/L]	16-Jan-24	12:21	< 0.00008	0.00027	< 0.00008	< 0.00008
Cu [mg/L]	16-Jan-24	12:21	0.0002	0.0005	0.0002	0.0003
Fe [mg/L]	16-Jan-24	12:21	< 0.007	< 0.007	< 0.007	0.010
K [mg/L]	16-Jan-24	12:21	0.180	0.097	0.075	0.044
Li [mg/L]	16-Jan-24	12:21	0.0124	0.0195	0.0076	0.0046
Mg [mg/L]	16-Jan-24	12:21	0.295	0.187	0.155	0.229
Mn [mg/L]	16-Jan-24	12:21	0.00097	0.00119	0.00131	0.00566
Mo [mg/L]	16-Jan-24	12:21	0.00008	0.00023	0.00011	0.00008
Na [mg/L]	16-Jan-24	12:21	0.15	0.12	0.04	0.19
Ni [mg/L]	16-Jan-24	12:21	0.0004	0.0013	0.0009	0.0004

OnLine LIMS

00036038

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10109-JAN24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#37	6: CV5-WR-HCT-5 Wk#37	7: CV5-WR-HCT-5 (DUP) Wk#37	8: CV5-WR-HCT-14 Wk#37
Pb [mg/L]	16-Jan-24	12:21	0.00012	0.00057	< 0.00009	< 0.00009
Sb [mg/L]	16-Jan-24	12:21	0.0029	0.0432	0.0254	0.0047
Se [mg/L]	16-Jan-24	12:21	0.00013	< 0.00004	< 0.00004	0.00008
Sn [mg/L]	16-Jan-24	12:21	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	16-Jan-24	12:21	0.0100	0.00562	0.00444	0.00469
Ti [mg/L]	16-Jan-24	12:21	0.00007	0.00020	0.00008	0.00033
Tl [mg/L]	16-Jan-24	12:21	< 0.000005	< 0.000005	< 0.000005	< 0.000005
U [mg/L]	16-Jan-24	12:21	0.000142	0.000182	0.000015	0.000314
V [mg/L]	16-Jan-24	12:21	0.00025	0.00039	0.00039	0.00235
W [mg/L]	16-Jan-24	12:21	0.00003	0.00004	0.00004	< 0.00002
Y [mg/L]	16-Jan-24	12:21	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	16-Jan-24	12:21	< 0.002	< 0.002	< 0.002	< 0.002

Analysis	9: CV5-WR-HCT-22 Wk#37	10: CV5-WR-HCT-33 Wk#37	11: CV5-WR-HCT-36 Wk#37	12: CV5-WR-HCT-39 Wk#37	13: CV5-WR-HCT-50 Wk#37	14: CV5-WR-HCT-56 Wk#37
Sample Date & Time	11-Jan-23	11-Jan-23	11-Jan-23	11-Jan-23	11-Jan-23	11-Jan-23
HumCell Leachate Vol [mL]	998	987	984	986	987	982
pH [No unit]	7.05	7.22	7.17	6.57	6.96	7.14
Alkalinity [mg/L as CaCO3]	5	6	5	2	3	6
Conductivity [uS/cm]	13	14	15	22	51	29
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	3	< 2	< 2
Tot.Reactive P [mg/L]	< 0.03	< 0.03	0.32	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	< 2	< 2	5	6	11	6
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.020	0.056	0.002	0.015	0.014	0.039
As [mg/L]	0.114	0.0036	0.951	0.0185	0.0040	0.0116
Ba [mg/L]	0.00012	0.00017	0.00048	0.00022	0.00040	0.00031
Be [mg/L]	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	< 0.002	< 0.002	0.004	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	1.81	2.30	2.01	2.65	6.84	4.28
Cd [mg/L]	< 0.000003	< 0.000003	0.000023	0.000003	0.000035	0.000004
Co [mg/L]	0.000147	0.000046	0.000474	0.000135	0.00226	0.000076
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	0.0003	0.0007	< 0.0002	0.0004	0.0004	0.0004
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	0.007
K [mg/L]	0.047	0.058	0.078	0.185	0.201	0.185
Li [mg/L]	0.0058	0.0065	0.165	0.0082	0.0120	0.0029
Mg [mg/L]	0.221	0.103	0.508	0.324	0.114	0.206
Mn [mg/L]	0.00045	0.00754	0.00144	0.00156	0.00789	0.00779

OnLine LIMS

00036038

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10109-JAN24**

Analysis	9: CV5-WR-HCT-22 Wk#37	10: CV5-WR-HCT-33 Wk#37	11: CV5-WR-HCT-36 Wk#37	12: CV5-WR-HCT-39 Wk#37	13: CV5-WR-HCT-50 Wk#37	14: CV5-WR-HCT-56 Wk#37
Mo [mg/L]	0.00024	0.00029	0.00033	0.00007	0.00025	0.00005
Na [mg/L]	0.15	0.11	1.06	0.08	0.25	0.09
Ni [mg/L]	0.0005	0.0003	0.0078	0.0005	0.0020	0.0003
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	0.00067
Sb [mg/L]	0.0057	0.0012	0.392	0.0129	0.0194	< 0.0009
Se [mg/L]	< 0.00004	0.00007	< 0.00004	0.00006	0.00055	< 0.00004
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00501	0.00199	0.00222	0.00751	0.00920	0.00406
Ti [mg/L]	0.00010	0.00020	0.00007	0.00011	< 0.00007	0.00020
Tl [mg/L]	< 0.000005	< 0.000005	< 0.000005	0.000005	0.000014	< 0.000005
U [mg/L]	0.000186	0.000091	0.000045	0.000291	0.00131	0.000381
V [mg/L]	0.00091	0.00051	0.00010	0.00024	0.00003	0.00027
W [mg/L]	0.00003	0.00003	0.00005	0.00002	< 0.00002	0.00005
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	0.010	< 0.002	< 0.002	< 0.002	0.011	< 0.002

Analysis	15: CV5-WR-HCT-59 Wk#37	16: CV5-WR-HCT-62 Wk#37	17: CV5-WR-HCT-64 Wk#37	18: CV5-WR-HCT-69 Wk#37	19: CV5-ORE-HCT-74 Wk#37	20: CV5-ORE-HCT-76 Wk#37
Sample Date & Time	11-Jan-23	11-Jan-23	11-Jan-23	11-Jan-23	11-Jan-23	11-Jan-23
HumCell Leachate Vol [mL]	992	948	993	994	996	982
pH [No unit]	6.53	7.05	7.11	7.08	6.76	7.22
Alkalinity [mg/L as CaCO3]	2	6	4	6	2	5
Conductivity [uS/cm]	14	21	10	14	5	12
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	< 2
Tot.Reactive P [mg/L]	0.06	0.18	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	3	4	< 2	< 2	< 2	< 2
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.004	0.002	0.029	0.080	0.019	0.042
As [mg/L]	0.242	0.580	0.0058	0.0038	0.0097	0.0035
Ba [mg/L]	0.00017	0.00046	0.00018	0.00013	< 0.00008	0.00022
Be [mg/L]	< 0.000007	< 0.000007	0.000011	0.000102	< 0.000007	0.000051
B [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00030	< 0.00001	0.00008
Ca [mg/L]	1.80	2.83	1.85	2.55	0.73	2.22
Cd [mg/L]	< 0.000003	< 0.000003	< 0.000003	0.000004	0.000004	0.000006
Co [mg/L]	0.000926	0.000670	0.000013	0.000016	0.000011	0.000087
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	0.0012	< 0.0002	< 0.0002	0.0003	< 0.0002	< 0.0002
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	0.011
K [mg/L]	0.047	0.023	0.219	0.083	0.103	0.255

OnLine LIMS

00036038

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10109-JAN24**

Analysis	15: CV5-WR-HCT-59 Wk#37	16: CV5-WR-HCT-62 Wk#37	17: CV5-WR-HCT-64 Wk#37	18: CV5-WR-HCT-69 Wk#37	19: CV5-ORE-HCT-74 Wk#37	20: CV5-ORE-HCT-76 Wk#37
Li [mg/L]	0.0021	0.0004	0.0020	0.0038	0.0077	0.0098
Mg [mg/L]	0.353	0.733	0.060	0.038	0.012	0.105
Mn [mg/L]	0.00212	0.00322	0.00631	0.00289	0.05151	0.00130
Mo [mg/L]	0.00054	0.00017	0.00012	< 0.00004	0.00042	0.00012
Na [mg/L]	0.04	< 0.01	0.03	0.14	0.09	0.09
Ni [mg/L]	0.0082	0.0101	0.0003	0.0003	0.0003	0.0007
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	0.00012	< 0.00009
Sb [mg/L]	0.0052	0.503	0.0015	0.0016	0.0104	0.0012
Se [mg/L]	0.00005	< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00774	0.00242	0.00240	0.00435	0.00103	0.00495
Ti [mg/L]	< 0.00007	< 0.00007	< 0.00007	< 0.00007	< 0.00007	0.00014
Tl [mg/L]	0.000005	< 0.000005	0.000030	< 0.000005	0.000023	0.000016
U [mg/L]	0.000035	0.000092	0.000678	0.00346	0.000807	0.000885
V [mg/L]	0.00031	0.00012	< 0.00001	0.00007	< 0.00001	0.00002
W [mg/L]	0.00008	0.00005	0.00004	0.00004	0.00003	0.00003
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

00036038

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

28-May-2024

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 16 May 2024
LR Report: **CA10109-MAY24**
Reference: Wk#55

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HC T-83 Wk#55	6: CV5-DMS-HC T-84 Wk#55
Sample Date & Time			16-May-24	16-May-24
HumCell Leachate Vol [mL]	16-May-24	10:21	1016	1007
pH [No unit]	17-May-24	12:11	6.10	5.98
Alkalinity [mg/L as CaCO3]	17-May-24	12:11	< 2	< 2
Conductivity [uS/cm]	17-May-24	15:51	2	< 2
Acidity [mg/L as CaCO3]	17-May-24	12:11	3	3
F [mg/L]	21-May-24	09:29	< 0.06	< 0.06
Tot.Reactive P [mg/L]	17-May-24	08:34	< 0.03	< 0.03
SO4 [mg/L]	27-May-24	16:33	< 2	< 2
Cl [mg/L]	27-May-24	16:33	< 1	< 1
NO2 [as N mg/L]	22-May-24	12:58	< 0.03	< 0.03
NO3 [as N mg/L]	22-May-24	12:58	< 0.06	< 0.06
Br [mg/L]	22-May-24	12:58	< 0.3	< 0.3
Hg [mg/L]	24-May-24	09:57	< 0.00001	< 0.00001
Ag [mg/L]	24-May-24	09:57	< 0.00005	< 0.00005
Al [mg/L]	24-May-24	09:57	0.008	0.008
As [mg/L]	24-May-24	09:57	0.0027	0.0020
Ba [mg/L]	24-May-24	09:57	< 0.00008	< 0.00008
Be [mg/L]	24-May-24	09:57	0.000008	< 0.000007
B [mg/L]	24-May-24	09:57	< 0.002	< 0.002
Bi [mg/L]	24-May-24	09:57	0.00002	0.00003
Ca [mg/L]	24-May-24	09:57	0.29	0.30
Cd [mg/L]	24-May-24	09:57	< 0.000003	< 0.000003
Co [mg/L]	24-May-24	09:57	0.000008	0.000008
Cr [mg/L]	24-May-24	09:57	< 0.00008	< 0.00008
Cu [mg/L]	24-May-24	09:57	< 0.001	< 0.001
Fe [mg/L]	24-May-24	09:57	< 0.007	< 0.007
K [mg/L]	24-May-24	09:57	0.038	0.039
Li [mg/L]	24-May-24	09:57	0.0005	0.0006
Mg [mg/L]	24-May-24	09:57	0.010	0.009

OnLine LIMS

00037252295

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10109-MAY24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#55	6: CV5-DMS-HCT-84 Wk#55
Mn [mg/L]	24-May-24	09:57	0.00086	0.00155
Mo [mg/L]	24-May-24	09:57	< 0.0004	< 0.0004
Na [mg/L]	24-May-24	09:57	0.04	0.04
Ni [mg/L]	24-May-24	09:57	< 0.0001	< 0.0001
Pb [mg/L]	24-May-24	09:57	< 0.00009	< 0.00009
Sb [mg/L]	24-May-24	09:57	0.0011	0.0010
Se [mg/L]	24-May-24	09:57	< 0.00004	< 0.00004
Sn [mg/L]	24-May-24	09:57	< 0.00006	< 0.00006
Sr [mg/L]	24-May-24	09:57	0.00066	0.00067
Ti [mg/L]	24-May-24	09:57	< 0.0001	< 0.0001
Tl [mg/L]	24-May-24	09:57	0.000008	0.000008
U [mg/L]	24-May-24	09:57	0.000574	0.000701
V [mg/L]	24-May-24	09:57	0.00002	0.00002
W [mg/L]	24-May-24	09:57	< 0.0002	< 0.0002
Y [mg/L]	24-May-24	09:57	< 0.00002	< 0.00002
Zn [mg/L]	24-May-24	09:57	< 0.002	< 0.002
Au (tot) [mg/L]	24-May-24	09:57	< 0.00001	< 0.00001
Ce (tot) [mg/L]	24-May-24	09:57	< 0.00001	< 0.00001
Cs (tot) [mg/L]	24-May-24	09:57	0.0013	0.0014
Dy (tot) [mg/L]	24-May-24	09:57	< 0.00001	< 0.00001
Er (tot) [mg/L]	24-May-24	09:57	< 0.00001	< 0.00001
Eu (tot) [mg/L]	24-May-24	09:57	< 0.00001	< 0.00001
Ga (tot) [mg/L]	24-May-24	09:57	< 0.0001	< 0.0001
Gd (tot) [mg/L]	24-May-24	09:57	< 0.00001	< 0.00001
Ge (tot) [mg/L]	24-May-24	09:57	< 0.0001	< 0.0001
Hf (tot) [mg/L]	24-May-24	09:57	< 0.0001	< 0.0001
Ho (tot) [mg/L]	24-May-24	09:57	< 0.00001	< 0.00001
In (tot) [mg/L]	24-May-24	09:57	< 0.00001	< 0.00001
Ir (tot) [mg/L]	24-May-24	09:57	< 0.00001	< 0.00001
La (tot) [mg/L]	24-May-24	09:57	< 0.00001	< 0.00001
Lu (tot) [mg/L]	24-May-24	09:57	< 0.0001	< 0.0001
Nb (tot) [mg/L]	24-May-24	09:57	< 0.00001	< 0.00001
Nd (tot) [mg/L]	24-May-24	09:57	< 0.00001	< 0.00001
Os (tot) [mg/L]	24-May-24	09:57	< 0.0001	< 0.0001
Pd (tot) [mg/L]	24-May-24	09:57	< 0.0001	< 0.0001
Pr (tot) [mg/L]	24-May-24	09:57	< 0.00001	< 0.00001
Pt (tot) [mg/L]	24-May-24	09:57	< 0.0001	< 0.0001
Rb (tot) [mg/L]	24-May-24	09:57	0.0034	0.0035
Re (tot) [mg/L]	24-May-24	09:57	< 0.0001	< 0.0001
Rh (tot) [mg/L]	24-May-24	09:57	< 0.00001	< 0.00001
Sc (tot) [mg/L]	24-May-24	09:57	< 0.0001	< 0.0001
Sm (tot) [mg/L]	24-May-24	09:57	< 0.00001	< 0.00001
Ta (tot) [mg/L]	24-May-24	09:57	< 0.0001	< 0.0001
Tb (tot) [mg/L]	24-May-24	09:57	< 0.00001	< 0.00001
Te (tot) [mg/L]	24-May-24	09:57	< 0.0001	< 0.0001

OnLine LIMS

00037252295

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10109-MAY24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HC T-83 Wk#55	6: CV5-DMS-HC T-84 Wk#55
Th (tot) [mg/L]	24-May-24	09:57	< 0.0001	< 0.0001
Tm (tot) [mg/L]	24-May-24	09:57	< 0.00001	< 0.00001
Yb (tot) [mg/L]	24-May-24	09:57	< 0.00001	< 0.00001

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003725295

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

31-May-2024

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 16 May 2024
LR Report: **CA10110-MAY24**
Reference: Wk#55

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT -2 Wk#55	6: CV5-WR-HCT -5 Wk#55	7: CV5-WR-HCT- 5 (DUP) Wk#55	8: CV5-WR-HCT -14 Wk#55	9: CV5-WR-HCT -22 Wk#55
Sample Date & Time			16-May-24	16-May-24	16-May-24	16-May-24	16-May-24
HumCell Leachate Vol [mL]	16-May-24	10:22	994	914	937	1009	964
pH [No unit]	22-May-24	09:57	6.60	6.73	6.73	7.27	6.89
Alkalinity [mg/L as CaCO3]	30-May-24	12:19	2	4	3	10	2
Conductivity [uS/cm]	17-May-24	12:28	31	19	15	28	8
Acidity [mg/L as CaCO3]	22-May-24	09:57	2	< 2	< 2	< 2	< 2
F [mg/L]	21-May-24	13:06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Tot.Reactive P [mg/L]	17-May-24	08:34	< 0.03	0.04	0.03	< 0.03	0.04
SO4 [mg/L]	27-May-24	16:33	10	4	3	< 2	< 2
Cl [mg/L]	27-May-24	16:33	< 1	< 1	< 1	< 1	< 1
NO2 [as N mg/L]	22-May-24	12:58	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	22-May-24	12:58	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	22-May-24	12:58	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	24-May-24	09:59	0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	24-May-24	09:59	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	24-May-24	09:59	0.019	0.025	0.022	0.096	0.024
As [mg/L]	24-May-24	09:59	0.0021	0.147	0.0921	0.0242	0.0828
Ba [mg/L]	24-May-24	09:59	0.00020	0.00016	0.00011	0.00011	0.00009
Be [mg/L]	24-May-24	09:59	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	24-May-24	09:59	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	24-May-24	09:59	< 0.00001	< 0.00001	< 0.00001	0.00001	< 0.00001
Ca [mg/L]	24-May-24	09:59	4.68	3.08	2.37	5.00	1.18
Cd [mg/L]	24-May-24	09:59	< 0.000003	< 0.000003	< 0.000003	0.000003	< 0.000003
Co [mg/L]	24-May-24	09:59	0.000138	0.000155	0.000176	0.000059	0.000177
Cr [mg/L]	24-May-24	09:59	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	24-May-24	09:59	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	24-May-24	09:59	< 0.007	< 0.007	< 0.007	< 0.007	0.009
K [mg/L]	24-May-24	09:59	0.128	0.066	0.054	0.022	0.017
Li [mg/L]	24-May-24	09:59	0.0047	0.0058	0.0049	0.0030	0.0035
Mg [mg/L]	24-May-24	09:59	0.209	0.125	0.116	0.150	0.151

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0003729370

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10110-MAY24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT -2 Wk#55	6: CV5-WR-HCT -5 Wk#55	7: CV5-WR-HCT-5 (DUP) Wk#55	8: CV5-WR-HCT -14 Wk#55	9: CV5-WR-HCT -22 Wk#55
Mn [mg/L]	24-May-24	09:59	0.00149	0.00089	0.00122	0.00493	0.00058
Mo [mg/L]	24-May-24	09:59	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	24-May-24	09:59	0.12	0.07	0.05	0.13	0.08
Ni [mg/L]	24-May-24	09:59	0.0003	0.0010	0.0006	< 0.0001	0.0003
Pb [mg/L]	24-May-24	09:59	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	24-May-24	09:59	0.0015	0.0278	0.0145	0.0023	0.0033
Se [mg/L]	24-May-24	09:59	0.00011	< 0.00004	< 0.00004	0.00007	< 0.00004
Sn [mg/L]	24-May-24	09:59	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	24-May-24	09:59	0.00818	0.00405	0.00392	0.00355	0.00332
Ti [mg/L]	24-May-24	09:59	< 0.0001	< 0.0001	< 0.0001	0.00017	0.00045
Tl [mg/L]	24-May-24	09:59	< 0.000005	0.000005	< 0.000005	0.000005	< 0.000005
U [mg/L]	24-May-24	09:59	0.000078	0.000014	0.000013	0.000082	0.000099
V [mg/L]	24-May-24	09:59	0.00018	0.00037	0.00030	0.00184	0.00080
W [mg/L]	24-May-24	09:59	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	24-May-24	09:59	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	24-May-24	09:59	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	24-May-24	09:59	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	24-May-24	09:59	0.00002	< 0.00001	< 0.00001	< 0.00001	0.00003
Cs (tot) [mg/L]	24-May-24	09:59	0.0052	0.0066	0.0066	0.0013	0.0028
Dy (tot) [mg/L]	24-May-24	09:59	0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er (tot) [mg/L]	24-May-24	09:59	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu (tot) [mg/L]	24-May-24	09:59	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga (tot) [mg/L]	24-May-24	09:59	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001
Gd (tot) [mg/L]	24-May-24	09:59	0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	24-May-24	09:59	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	24-May-24	09:59	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	24-May-24	09:59	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In (tot) [mg/L]	24-May-24	09:59	0.00002	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir (tot) [mg/L]	24-May-24	09:59	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La (tot) [mg/L]	24-May-24	09:59	0.00001	< 0.00001	< 0.00001	< 0.00001	0.00002
Lu (tot) [mg/L]	24-May-24	09:59	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	24-May-24	09:59	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Nd (tot) [mg/L]	24-May-24	09:59	0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Os (tot) [mg/L]	24-May-24	09:59	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	24-May-24	09:59	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	24-May-24	09:59	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt (tot) [mg/L]	24-May-24	09:59	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	24-May-24	09:59	0.0029	0.0026	0.0023	0.0004	0.0010
Re (tot) [mg/L]	24-May-24	09:59	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	24-May-24	09:59	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	24-May-24	09:59	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	24-May-24	09:59	0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ta (tot) [mg/L]	24-May-24	09:59	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	24-May-24	09:59	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te (tot) [mg/L]	24-May-24	09:59	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001

OnLine LIMS

0003729370

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10110-MAY24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT -2 Wk#55	6: CV5-WR-HCT -5 Wk#55	7: CV5-WR-HCT-5 (DUP) Wk#55	8: CV5-WR-HCT -14 Wk#55	9: CV5-WR-HCT -22 Wk#55
Th (tot) [mg/L]	24-May-24	09:59	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	24-May-24	09:59	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Yb (tot) [mg/L]	24-May-24	09:59	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Analysis	10: CV5-WR-HCT -33 Wk#55	11: CV5-WR-HCT -36 Wk#55	12: CV5-WR-HCT -39 Wk#55	13: CV5-WR-HCT -50 Wk#55	14: CV5-WR-HCT -56 Wk#55	15: CV5-WR-HCT -59 Wk#55	16: CV5-WR-HCT -62 Wk#55
Sample Date & Time	16-May-24	16-May-24	16-May-24	16-May-24	16-May-24	16-May-24	16-May-24
HumCell Leachate Vol [mL]	1002	995	970	1003	971	935	928
pH [No unit]	7.39	7.29	6.45	6.92	7.47	6.38	7.02
Alkalinity [mg/L as CaCO3]	6	4	< 2	8	5	< 2	7
Conductivity [uS/cm]	15	13	20	50	30	18	25
Acidity [mg/L as CaCO3]	< 2	< 2	2	2	< 2	6	< 2
F [mg/L]	< 0.06	< 0.06	0.15	0.50	< 0.06	< 0.06	< 0.06
Tot.Reactive P [mg/L]	< 0.03	0.21	< 0.03	< 0.03	< 0.03	0.04	0.14
SO4 [mg/L]	< 2	< 2	6	6	6	6	3
Cl [mg/L]	< 1	< 1	< 1	2	< 1	< 1	< 1
NO2 [as N mg/L]	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.054	0.001	0.008	0.036	0.037	0.007	0.002
As [mg/L]	0.0039	0.735	0.0125	0.0032	0.0086	0.106	0.541
Ba [mg/L]	0.00031	0.00040	0.00019	0.00026	0.00031	0.00020	0.00040
Be [mg/L]	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	2.71	1.90	2.86	6.97	4.82	2.64	3.11
Cd [mg/L]	< 0.000003	< 0.000003	0.000005	0.000049	< 0.000003	0.000003	< 0.000003
Co [mg/L]	0.000070	0.000453	0.000196	0.00293	0.000046	0.00237	0.000386
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008	0.00017	< 0.00008
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	0.014	< 0.007
K [mg/L]	0.031	0.024	0.114	0.141	0.120	0.021	0.027
Li [mg/L]	0.0021	0.0014	0.0051	0.0080	0.0017	0.0014	0.0004
Mg [mg/L]	0.061	0.422	0.232	0.066	0.133	0.318	0.863
Mn [mg/L]	0.00877	0.00208	0.00164	0.00767	0.00515	0.00461	0.00208
Mo [mg/L]	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	0.09	0.03	0.08	0.12	0.06	0.05	0.02
Ni [mg/L]	< 0.0001	0.0085	0.0003	0.0020	< 0.0001	0.0184	0.0058
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.0010	0.283	0.0072	0.0139	< 0.0009	0.0018	0.486
Se [mg/L]	0.00006	< 0.00004	< 0.00004	0.00048	< 0.00004	< 0.00004	0.00004

OnLine LIMS

00037293

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10110-MAY24**

Analysis	10: CV5-WR-HCT -33 Wk#55	11: CV5-WR-HCT -36 Wk#55	12: CV5-WR-HCT -39 Wk#55	13: CV5-WR-HCT -50 Wk#55	14: CV5-WR-HCT -56 Wk#55	15: CV5-WR-HCT -59 Wk#55	16: CV5-WR-HCT -62 Wk#55
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00238	0.00183	0.00637	0.00382	0.00374	0.00958	0.00141
Ti [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.00017	< 0.0001
Tl [mg/L]	< 0.000005	0.000005	0.000005	0.000025	< 0.000005	< 0.000005	< 0.000005
U [mg/L]	0.000023	0.000015	0.000187	0.00105	0.000217	0.000006	0.000053
V [mg/L]	0.00048	0.00011	0.00020	0.00004	0.00024	0.00015	0.00015
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	0.009	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Cs (tot) [mg/L]	0.0022	0.0066	0.0015	0.0336	0.0162	0.0068	0.0029
Dy (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Gd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La (tot) [mg/L]	< 0.00001	0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00002
Lu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	< 0.00001	0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Nd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Os (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	0.0004	0.0012	0.0014	0.0070	0.0007	0.0019	0.0016
Re (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ta (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Yb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

OnLine LIMS

0003729370

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10110-MAY24**

Analysis	17: CV5-WR-HCT-64 Wk#55	18: CV5-WR-HCT-69 Wk#55	19: CV5-ORE-HCT-74 Wk#55	20: CV5-ORE-HCT-76 Wk#55
Sample Date & Time	16-May-24	16-May-24	16-May-24	16-May-24
HumCell Leachate Vol [mL]	1007	992	1010	991
pH [No unit]	7.24	7.36	6.46	7.06
Alkalinity [mg/L as CaCO3]	3	4	4	4
Conductivity [uS/cm]	8	9	2	11
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2
F [mg/L]	< 0.06	< 0.06	< 0.06	< 0.06
Tot.Reactive P [mg/L]	< 0.03	< 0.03	0.04	< 0.03
SO4 [mg/L]	< 2	< 2	< 2	< 2
Cl [mg/L]	< 1	< 1	< 1	< 1
NO2 [as N mg/L]	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.025	0.042	0.013	0.028
As [mg/L]	0.0042	0.0023	0.0078	0.0015
Ba [mg/L]	< 0.00008	0.00009	< 0.00008	< 0.00008
Be [mg/L]	< 0.000007	0.000087	< 0.000007	0.000024
B [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	0.00015	< 0.00001	0.00006
Ca [mg/L]	1.61	2.02	0.50	2.24
Cd [mg/L]	< 0.000003	< 0.000003	0.000004	< 0.000003
Co [mg/L]	0.000012	0.000010	0.000007	0.000017
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	0.136	0.048	0.077	0.157
Li [mg/L]	0.0012	0.0011	0.0056	0.0051
Mg [mg/L]	0.033	0.020	0.010	0.066
Mn [mg/L]	0.00497	0.00235	0.0578	0.00065
Mo [mg/L]	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	0.04	0.10	0.08	0.08
Ni [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.0010	0.0011	0.0069	< 0.0009
Se [mg/L]	< 0.00004	< 0.00004	< 0.00004	< 0.00004
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00184	0.00326	0.00084	0.00431
Ti [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tl [mg/L]	0.000028	0.000005	0.000029	0.000016
U [mg/L]	0.000388	0.00289	0.000406	0.000744
V [mg/L]	0.00003	0.00006	0.00002	0.00004
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002

OnLine LIMS

00037293370

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10110-MAY24**

Analysis	17: CV5-WR-HCT-64 Wk#55	18: CV5-WR-HCT-69 Wk#55	19: CV5-ORE-HCT-74 Wk#55	20: CV5-ORE-HCT-76 Wk#55
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Cs (tot) [mg/L]	0.0059	0.0014	0.0097	0.0042
Dy (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga (tot) [mg/L]	< 0.0001	< 0.0001	0.0001	0.0001
Gd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Lu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	< 0.00001	0.00003	0.00001	0.00003
Nd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Os (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	0.0125	0.0029	0.0113	0.0064
Re (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ta (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Yb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

00037293 70

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

13-August-2024

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 18 July 2024
LR Report: **CA10114-JUL24**
Reference: Wk#64

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT -2 Wk#64	6: CV5-WR-HCT -5 Wk#64	7: CV5-WR-HCT-5 (DUP) Wk#64	8: CV5-WR-HCT -14 Wk#64	9: CV5-WR-HCT -22 Wk#64
Sample Date & Time			18-Jul-24	18-Jul-24	18-Jul-24	18-Jul-24	18-Jul-24
HumCell Leachate Vol [mL]	23-Jul-24	16:14	934	941	944	983	982
pH [No unit]	23-Jul-24	11:05	6.38	6.79	6.98	7.41	6.78
Alkalinity [mg/L as CaCO3]	23-Jul-24	11:05	2	4	4	11	2
Conductivity [uS/cm]	22-Jul-24	15:37	31	19	14	26	7
Acidity [mg/L as CaCO3]	25-Jul-24	10:41	2	< 2	< 2	< 2	< 2
F [mg/L]	18-Jul-24	15:39	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Tot.Reactive P [mg/L]	22-Jul-24	07:17	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	22-Jul-24	13:01	10	4	3	< 2	< 2
Cl [mg/L]	22-Jul-24	13:01	< 1	< 1	< 1	< 1	< 1
NO2 [as N mg/L]	22-Jul-24	15:57	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	22-Jul-24	15:57	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	22-Jul-24	15:57	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	25-Jul-24	11:18	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	25-Jul-24	11:18	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	25-Jul-24	11:18	0.018	0.026	0.023	0.101	0.028
As [mg/L]	25-Jul-24	11:18	0.0018	0.143	0.0845	0.0253	0.0860
Ba [mg/L]	25-Jul-24	11:18	0.00017	0.00013	0.00011	0.00012	< 0.00008
Be [mg/L]	25-Jul-24	11:18	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	25-Jul-24	11:18	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	25-Jul-24	11:18	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	25-Jul-24	11:18	4.87	3.25	2.39	5.07	1.22
Cd [mg/L]	25-Jul-24	11:18	< 0.000003	0.000012	0.000013	0.000006	< 0.000003
Co [mg/L]	25-Jul-24	11:18	0.000138	0.000147	0.000158	0.000065	0.000119
Cr [mg/L]	25-Jul-24	11:18	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	25-Jul-24	11:18	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	25-Jul-24	11:18	0.007	0.007	< 0.007	0.011	0.020
K [mg/L]	25-Jul-24	11:18	0.134	0.074	0.065	0.036	0.033
Li [mg/L]	25-Jul-24	11:18	0.0037	0.0049	0.0040	0.0024	0.0031
Mg [mg/L]	25-Jul-24	11:18	0.192	0.124	0.118	0.152	0.162

OnLine LIMS

0003816006

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10114-JUL24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT -2 Wk#64	6: CV5-WR-HCT -5 Wk#64	7: CV5-WR-HCT-5 (DUP) Wk#64	8: CV5-WR-HCT -14 Wk#64	9: CV5-WR-HCT -22 Wk#64
Mn [mg/L]	25-Jul-24	11:18	0.00190	0.00096	0.00115	0.00520	0.00107
Mo [mg/L]	25-Jul-24	11:18	0.0004	0.0318	0.0284	0.0127	0.0009
Na [mg/L]	25-Jul-24	11:18	0.12	0.09	0.11	0.15	0.10
Ni [mg/L]	25-Jul-24	11:18	0.0004	0.0010	0.0007	0.0002	0.0003
Pb [mg/L]	25-Jul-24	11:18	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	25-Jul-24	11:18	0.0013	0.0278	0.0136	0.0024	0.0034
Se [mg/L]	25-Jul-24	11:18	0.00011	< 0.00004	< 0.00004	0.00009	< 0.00004
Sn [mg/L]	25-Jul-24	11:18	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	25-Jul-24	11:18	0.00758	0.00378	0.00347	0.00327	0.00318
Ti [mg/L]	25-Jul-24	11:18	< 0.0001	< 0.0001	< 0.0001	0.00058	0.00030
Tl [mg/L]	25-Jul-24	11:18	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005
U [mg/L]	25-Jul-24	11:18	0.000049	0.000010	0.000007	0.000013	0.000098
V [mg/L]	25-Jul-24	11:18	0.00016	0.00039	0.00028	0.00209	0.00089
W [mg/L]	25-Jul-24	11:18	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	25-Jul-24	11:18	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	25-Jul-24	11:18	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	25-Jul-24	11:18	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	30-Jul-24	17:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00002
Cs (tot) [mg/L]	25-Jul-24	11:18	0.0059	0.0073	0.0071	0.0014	0.0031
Dy (tot) [mg/L]	30-Jul-24	17:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er (tot) [mg/L]	30-Jul-24	17:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu (tot) [mg/L]	30-Jul-24	17:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga (tot) [mg/L]	30-Jul-24	17:13	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001
Gd (tot) [mg/L]	30-Jul-24	17:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	25-Jul-24	11:18	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	25-Jul-24	11:18	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	30-Jul-24	17:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In (tot) [mg/L]	30-Jul-24	17:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir (tot) [mg/L]	25-Jul-24	11:18	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La (tot) [mg/L]	30-Jul-24	17:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Lu (tot) [mg/L]	30-Jul-24	17:13	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	25-Jul-24	11:18	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00002
Nd (tot) [mg/L]	30-Jul-24	17:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00001
Os (tot) [mg/L]	25-Jul-24	11:18	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	25-Jul-24	11:18	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	30-Jul-24	17:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt (tot) [mg/L]	25-Jul-24	11:18	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	25-Jul-24	11:18	0.0029	0.0026	0.0021	0.0003	0.0010
Re (tot) [mg/L]	25-Jul-24	11:18	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	25-Jul-24	11:18	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	30-Jul-24	17:13	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	30-Jul-24	17:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ta (tot) [mg/L]	25-Jul-24	11:18	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	30-Jul-24	17:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te (tot) [mg/L]	25-Jul-24	11:18	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001

OnLine LIMS

0003816006

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10114-JUL24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT -2 Wk#64	6: CV5-WR-HCT -5 Wk#64	7: CV5-WR-HCT-5 (DUP) Wk#64	8: CV5-WR-HCT -14 Wk#64	9: CV5-WR-HCT -22 Wk#64
Th (tot) [mg/L]	25-Jul-24	11:18	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	30-Jul-24	17:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Yb (tot) [mg/L]	30-Jul-24	17:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Analysis	10: CV5-WR-HCT -33 Wk#64	11: CV5-WR-HCT -36 Wk#64	12: CV5-WR-HCT -39 Wk#64	13: CV5-WR-HCT -50 Wk#64	14: CV5-WR-HCT -56 Wk#64	15: CV5-WR-HCT -59 Wk#64	16: CV5-WR-HCT -62 Wk#64
Sample Date & Time	18-Jul-24	18-Jul-24	18-Jul-24	18-Jul-24	18-Jul-24	18-Jul-24	18-Jul-24
HumCell Leachate Vol [mL]	948	950	936	991	968	998	919
pH [No unit]	7.04	7.23	6.27	6.78	7.24	5.97	7.24
Alkalinity [mg/L as CaCO3]	5	7	< 2	3	5	< 2	6
Conductivity [uS/cm]	10	13	20	44	25	13	17
Acidity [mg/L as CaCO3]	< 2	< 2	2	13	< 2	4	< 2
F [mg/L]	< 0.06	< 0.06	0.18	0.51	< 0.06	< 0.06	< 0.06
Tot.Reactive P [mg/L]	< 0.03	0.21	< 0.03	< 0.03	< 0.03	< 0.03	0.10
SO4 [mg/L]	< 2	< 2	6	8	6	3	< 2
Cl [mg/L]	< 1	< 1	< 1	5	< 1	< 1	< 1
NO2 [as N mg/L]	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	0.00008	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.064	0.001	0.009	0.013	0.036	0.005	< 0.001
As [mg/L]	0.0042	0.807	0.0110	0.0015	0.0077	0.127	0.430
Ba [mg/L]	0.00014	0.00041	0.00024	0.00034	0.00040	0.00014	0.00024
Be [mg/L]	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	< 0.002	0.002	< 0.002	< 0.002	0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	1.91	1.94	2.88	6.89	4.58	1.66	2.40
Cd [mg/L]	< 0.000003	< 0.000003	0.000003	0.000117	< 0.000003	0.000012	< 0.000003
Co [mg/L]	0.000040	0.000233	0.000142	0.00861	0.000065	0.00253	0.000374
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008	0.00008	< 0.00008
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	0.011	0.015
K [mg/L]	0.041	0.052	0.139	0.115	0.128	0.036	0.028
Li [mg/L]	0.0015	0.0014	0.0051	0.0059	0.0013	0.0012	0.0002
Mg [mg/L]	0.058	0.481	0.250	0.083	0.120	0.289	0.705
Mn [mg/L]	0.00448	0.00115	0.00228	0.0121	0.00513	0.00496	0.00314
Mo [mg/L]	< 0.0004	0.0005	< 0.0004	0.0202	0.0009	0.0297	0.0006
Na [mg/L]	0.10	0.06	0.12	0.13	0.14	0.08	0.03
Ni [mg/L]	0.0001	0.0043	0.0005	0.0077	0.0003	0.0259	0.0050
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	< 0.0009	0.359	0.0063	0.0087	< 0.0009	0.0028	0.349
Se [mg/L]	0.00007	< 0.00004	0.00007	0.00052	0.00005	0.00004	0.00006

OnLine LIMS

0003816006

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10114-JUL24**

Analysis	10: CV5-WR-HCT -33 Wk#64	11: CV5-WR-HCT -36 Wk#64	12: CV5-WR-HCT -39 Wk#64	13: CV5-WR-HCT -50 Wk#64	14: CV5-WR-HCT -56 Wk#64	15: CV5-WR-HCT -59 Wk#64	16: CV5-WR-HCT -62 Wk#64
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00165	0.00165	0.00613	0.00362	0.00342	0.00574	0.00109
Ti [mg/L]	0.00021	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tl [mg/L]	< 0.000005	< 0.000005	< 0.000005	0.000025	< 0.000005	0.000005	< 0.000005
U [mg/L]	0.000007	0.000018	0.000142	0.00105	0.000176	< 0.000002	0.000028
V [mg/L]	0.00057	0.00013	0.00019	0.00002	0.00023	0.00015	0.00010
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	0.035	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	< 0.00001	< 0.00001	0.00001	0.00001	< 0.00001	< 0.00001	< 0.00001
Cs (tot) [mg/L]	0.0019	0.0107	0.0017	0.0334	0.0170	0.0074	0.0025
Dy (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Gd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La (tot) [mg/L]	< 0.00001	0.00002	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00001
Lu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	0.00003	< 0.00001	0.00002	0.00001	< 0.00001	< 0.00001	< 0.00001
Nd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Os (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	0.0003	0.0020	0.0015	0.0059	0.0006	0.0018	0.0011
Re (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ta (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Yb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

OnLine LIMS

0003816006

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10114-JUL24**

Analysis	17: CV5-WR-HCT-64 Wk#64	18: CV5-WR-HCT-69 Wk#64	19: CV5-ORE-HCT-74 Wk#64	20: CV5-ORE-HCT-76 Wk#64
Sample Date & Time	18-Jul-24	18-Jul-24	18-Jul-24	18-Jul-24
HumCell Leachate Vol [mL]	1014	1010	978	944
pH [No unit]	6.94	7.20	6.36	7.04
Alkalinity [mg/L as CaCO3]	5	5	3	5
Conductivity [uS/cm]	7	10	2	9
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2
F [mg/L]	< 0.06	< 0.06	< 0.06	< 0.06
Tot.Reactive P [mg/L]	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	< 2	< 2	< 2	< 2
Cl [mg/L]	< 1	< 1	< 1	< 1
NO2 [as N mg/L]	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.021	0.048	0.019	0.052
As [mg/L]	0.0041	0.0024	0.0068	0.0015
Ba [mg/L]	< 0.00008	0.00013	< 0.00008	0.00010
Be [mg/L]	0.000009	0.000048	0.000007	0.000135
B [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	0.00026	< 0.00001	0.00009
Ca [mg/L]	1.52	2.21	0.42	1.68
Cd [mg/L]	0.000011	< 0.000003	0.000016	< 0.000003
Co [mg/L]	0.000011	0.000015	0.000012	0.000024
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	0.007	0.022	< 0.007	< 0.007
K [mg/L]	0.139	0.064	0.087	0.198
Li [mg/L]	0.0010	0.0009	0.0050	0.0050
Mg [mg/L]	0.034	0.022	0.011	0.061
Mn [mg/L]	0.00670	0.00370	0.0426	0.00122
Mo [mg/L]	0.0253	< 0.0004	0.0294	0.0010
Na [mg/L]	0.07	0.12	0.12	0.10
Ni [mg/L]	0.0001	0.0001	0.0002	0.0001
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.0011	0.0013	0.0066	< 0.0009
Se [mg/L]	< 0.00004	< 0.00004	< 0.00004	< 0.00004
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	0.00006
Sr [mg/L]	0.00171	0.00334	0.00073	0.00315
Ti [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tl [mg/L]	0.000028	< 0.000005	0.000028	0.000023
U [mg/L]	0.000319	0.00300	0.000363	0.000477
V [mg/L]	0.00002	0.00005	0.00002	0.00003
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002

OnLine LIMS

0003816006

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10114-JUL24**

Analysis	17: CV5-WR-HCT-64 Wk#64	18: CV5-WR-HCT-69 Wk#64	19: CV5-ORE-HCT-74 Wk#64	20: CV5-ORE-HCT-76 Wk#64
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Cs (tot) [mg/L]	0.0065	0.0016	0.0102	0.0043
Dy (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga (tot) [mg/L]	< 0.0001	0.0001	< 0.0001	0.0002
Gd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Lu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	< 0.00001	0.00002	< 0.00001	0.00001
Nd (tot) [mg/L]	0.00003	< 0.00001	< 0.00001	< 0.00001
Os (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	0.00003	< 0.00001	< 0.00001	< 0.00001
Pt (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	0.0127	0.0032	0.0110	0.0077
Re (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ta (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Yb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003816006

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

29-November-2024

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 21 November 2024
LR Report: **CA10114-NOV24**
Reference: Wk#82

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#82	6: CV5-WR-HCT-5 Wk#82	7: CV5-WR-HCT-5 (DUP) Wk#82	8: CV5-WR-HCT-14 Wk#82	9: CV5-WR-HCT-22 Wk#82	10: CV5-WR-HCT-33 Wk#82	11: CV5-WR-HCT-36 Wk#82
Sample Date & Time			21-Nov-24	21-Nov-24	21-Nov-24	21-Nov-24	21-Nov-24	21-Nov-24	21-Nov-24
HumCell Leachate Vol [mL]	22-Nov-24	15:58	938	950	948	990	998	983	956
pH [No unit]	25-Nov-24	11:39	6.72	6.98	7.10	7.24	6.95	7.04	7.08
Conductivity [uS/cm]	22-Nov-24	11:28	37	22	18	23	10	13	15

Analysis	12: CV5-WR-HCT-39 Wk#82	13: CV5-WR-HCT-50 Wk#82	14: CV5-WR-HCT-56 Wk#82	15: CV5-WR-HCT-59 Wk#82	16: CV5-WR-HCT-62 Wk#82	17: CV5-WR-HCT-64 Wk#82	18: CV5-WR-HCT-69 Wk#82	19: CV5-ORE-HCT-74 Wk#82	20: CV5-ORE-HCT-76 Wk#82
Sample Date & Time	21-Nov-24	21-Nov-24	21-Nov-24	21-Nov-24	21-Nov-24	21-Nov-24	21-Nov-24	21-Nov-24	21-Nov-24
HumCell Leachate Vol [mL]	928	1004	1005	1000	925	1022	1005	1008	923
pH [No unit]	6.41	6.69	7.08	6.43	7.15	7.00	7.08	6.54	6.93
Conductivity [uS/cm]	24	48	32	14	19	10	11	3	9

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003944842

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

10-September-2024

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 22 August 2024
LR Report: **CA10117-AUG24**
Reference: Wk#69

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#69	6: CV5-WR-HCT-5 Wk#69	7: CV5-WR-HCT-5 (DUP) Wk#69	8: CV5-WR-HCT-1 4 Wk#69	9: CV5-WR-HCT-2 2 Wk#69	10: CV5-WR-HCT-3 3 Wk#69
Sample Date & Time			22-Aug-24	22-Aug-24	22-Aug-24	22-Aug-24	22-Aug-24	22-Aug-24
HumCell Leachate Vol [mL]	23-Aug-24	16:03	924	943	967	939	959	957
pH [No unit]	26-Aug-24	13:07	6.48	6.65	6.62	7.10	6.89	6.81
Conductivity [uS/cm]	23-Aug-24	12:53	31	20	14	22	6	10

Analysis	11: CV5-WR-HCT-3 6 Wk#69	12: CV5-WR-HCT-3 9 Wk#69	13: CV5-WR-HCT-5 0 Wk#69	14: CV5-WR-HCT-5 6 Wk#69	15: CV5-WR-HCT-5 9 Wk#69	16: CV5-WR-HCT-6 2 Wk#69	17: CV5-WR-HCT-6 4 Wk#69	18: CV5-WR-HCT-6 9 Wk#69
Sample Date & Time	22-Aug-24	22-Aug-24	22-Aug-24	22-Aug-24	22-Aug-24	22-Aug-24	22-Aug-24	22-Aug-24
HumCell Leachate Vol [mL]	940	936	967	950	968	899	1009	997
pH [No unit]	6.80	6.50	6.33	6.85	6.09	6.81	6.64	6.83
Conductivity [uS/cm]	13	18	46	29	14	16	6	11

Analysis	19: CV5-ORE-HCT- 74 Wk#69	20: CV5-ORE-HCT- 76 Wk#69
Sample Date & Time	22-Aug-24	22-Aug-24
HumCell Leachate Vol [mL]	997	960
pH [No unit]	6.64	7.37
Conductivity [uS/cm]	3	9

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003851289

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

30-October-2024

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 17 October 2024
LR Report: **CA10117-OCT24**
Reference: Wk#77

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#77	6: CV5-WR-HCT-5 Wk#77	7: CV5-WR-HCT-5 (DUP) Wk#77	8: CV5-WR-HCT-14 Wk#77	9: CV5-WR-HCT-22 Wk#77	10: CV5-WR-HCT-33 Wk#77	11: CV5-WR-HCT-36 Wk#77
Sample Date & Time			17-Oct-24	17-Oct-24	17-Oct-24	17-Oct-24	17-Oct-24	17-Oct-24	17-Oct-24
HumCell Leachate Vol [mL]	18-Oct-24	16:31	941	958	964	1001	1001	958	970
pH [No unit]	18-Oct-24	11:07	6.64	6.97	6.81	7.35	7.01	7.07	7.03
Conductivity [uS/cm]	18-Oct-24	11:07	36	21	15	26	12	11	14

Analysis	12: CV5-WR-HCT-39 Wk#77	13: CV5-WR-HCT-50 Wk#77	14: CV5-WR-HCT-56 Wk#77	15: CV5-WR-HCT-59 Wk#77	16: CV5-WR-HCT-62 Wk#77	17: CV5-WR-HCT-64 Wk#77	18: CV5-WR-HCT-69 Wk#77	19: CV5-ORE-HCT-74 Wk#77	20: CV5-ORE-HCT-76 Wk#77
Sample Date & Time	17-Oct-24	17-Oct-24	17-Oct-24	17-Oct-24	17-Oct-24	17-Oct-24	17-Oct-24	17-Oct-24	17-Oct-24
HumCell Leachate Vol [mL]	927	1003	993	995	1009	1002	1012	967	916
pH [No unit]	6.45	6.68	6.96	6.81	7.16	6.82	7.08	6.50	7.04
Conductivity [uS/cm]	21	50	29	18	19	6	11	3	11

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003910321

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

15-October-2024

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 19 September 2024
LR Report: **CA10119-SEP24**
Reference: Wk#73

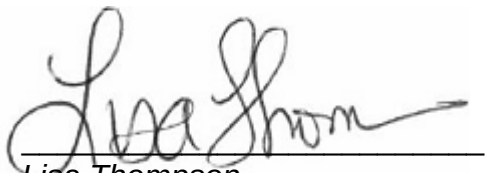
Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#73	6: CV5-WR-HCT-5 Wk#73	7: CV5-WR-HCT-5 (DUP) Wk#73	8: CV5-WR-HCT-14 Wk#73	9: CV5-WR-HCT-22 Wk#73	10: CV5-WR-HCT-33 Wk#73
Sample Date & Time			19-Sep-24	19-Sep-24	19-Sep-24	19-Sep-24	19-Sep-24	19-Sep-24
HumCell Leachate Vol [mL]	20-Sep-24	15:21	941	966	950	1000	997	1010
pH [No unit]	03-Oct-24	10:11	6.58	7.04	6.55	7.37	7.02	7.39
Conductivity [uS/cm]	26-Sep-24	14:57	31	20	18	28	8	14

Analysis	11: CV5-WR-HCT-36 Wk#73	12: CV5-WR-HCT-39 Wk#73	13: CV5-WR-HCT-50 Wk#73	14: CV5-WR-HCT-56 Wk#73	15: CV5-WR-HCT-59 Wk#73	16: CV5-WR-HCT-62 Wk#73	17: CV5-WR-HCT-64 Wk#73	18: CV5-WR-HCT-69 Wk#73
Sample Date & Time	19-Sep-24	19-Sep-24	19-Sep-24	19-Sep-24	19-Sep-24	19-Sep-24	19-Sep-24	19-Sep-24
HumCell Leachate Vol [mL]	979	948	994	1010	1004	943	1005	1007
pH [No unit]	7.03	6.46	6.80	7.16	6.33	7.15	6.91	7.00
Conductivity [uS/cm]	15	18	49	31	17	19	11	12

Analysis	19: CV5-ORE-HCT-74 Wk#73	20: CV5-ORE-HCT-76 Wk#73
Sample Date & Time	19-Sep-24	19-Sep-24
HumCell Leachate Vol [mL]	1010	981
pH [No unit]	7.32	6.96
Conductivity [uS/cm]	5	12



Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003892348

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

01-March-2024

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 15 February 2024
LR Report: **CA10120-FEB24**
Reference: Wk#42

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#42	6: CV5-DMS-HCT-84 Wk#42
Sample Date & Time			15-Feb-24	15-Feb-24
HumCell Leachate Vol [mL]	23-Feb-24	08:45	1026	987
pH [No unit]	16-Feb-24	11:18	6.23	6.32
Alkalinity [mg/L as CaCO3]	16-Feb-24	11:18	< 2	< 2
Conductivity [uS/cm]	16-Feb-24	11:18	2	< 2
Acidity [mg/L as CaCO3]	20-Feb-24	10:32	2	2
Tot.Reactive P [mg/L]	20-Feb-24	08:20	< 0.03	< 0.03
SO4 [mg/L]	28-Feb-24	10:49	< 2	< 2
Ag [mg/L]	21-Feb-24	15:18	< 0.00005	< 0.00005
Al [mg/L]	21-Feb-24	15:18	0.013	0.012
As [mg/L]	21-Feb-24	15:18	0.0037	0.0022
Ba [mg/L]	21-Feb-24	15:18	< 0.00008	< 0.00008
Be [mg/L]	21-Feb-24	15:18	0.000009	0.000008
B [mg/L]	21-Feb-24	15:18	< 0.002	< 0.002
Bi [mg/L]	21-Feb-24	15:18	0.00002	0.00003
Ca [mg/L]	21-Feb-24	15:18	0.34	0.27
Cd [mg/L]	21-Feb-24	15:18	< 0.000003	< 0.000003
Co [mg/L]	21-Feb-24	15:18	0.000005	0.000009
Cr [mg/L]	21-Feb-24	15:18	< 0.00008	< 0.00008
Cu [mg/L]	21-Feb-24	15:18	< 0.001	< 0.001
Fe [mg/L]	21-Feb-24	15:18	< 0.007	< 0.007
K [mg/L]	21-Feb-24	15:18	0.040	0.037
Li [mg/L]	21-Feb-24	15:18	0.0004	0.0005
Mg [mg/L]	21-Feb-24	15:18	0.008	0.006
Mn [mg/L]	21-Feb-24	15:18	0.00041	0.00084
Mo [mg/L]	21-Feb-24	15:18	< 0.0004	< 0.0004
Na [mg/L]	21-Feb-24	15:18	0.03	0.03
Ni [mg/L]	21-Feb-24	15:18	0.0001	0.0001
Pb [mg/L]	21-Feb-24	15:18	< 0.00009	< 0.00009
Sb [mg/L]	21-Feb-24	15:18	0.0020	0.0010
Se [mg/L]	21-Feb-24	15:18	< 0.00004	< 0.00004
Sn [mg/L]	21-Feb-24	15:18	< 0.00006	< 0.00006
Sr [mg/L]	21-Feb-24	15:18	0.00067	0.00057
Ti [mg/L]	21-Feb-24	15:18	< 0.0001	< 0.0001
Tl [mg/L]	21-Feb-24	15:18	0.000007	0.000009
U [mg/L]	21-Feb-24	15:18	0.00125	0.000923

OnLine LIMS

0003636843

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10120-FEB24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#42	6: CV5-DMS-HCT-84 Wk#42
V [mg/L]	21-Feb-24	15:18	0.00002	0.00002
W [mg/L]	21-Feb-24	15:18	< 0.0002	< 0.0002
Y [mg/L]	21-Feb-24	15:18	< 0.00002	< 0.00002
Zn [mg/L]	21-Feb-24	15:18	< 0.002	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003636843

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

01-March-2024

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700, Vancouver
Canada, V6C 0A6
Phone: 647-782-7386, Fax:

Date Rec. : 15 February 2024
LR Report: **CA10121-FEB24**
Reference: Wk#42

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT -2 Wk#42	6: CV5-WR-HCT -5 Wk#42	7: CV5-WR-HCT-5 (DUP) Wk#42	8: CV5-WR-HCT -14 Wk#42	9: CV5-WR-HCT -22 Wk#42
Sample Date & Time			15-Feb-24	15-Feb-24	15-Feb-24	15-Feb-24	15-Feb-24
HumCell Leachate Vol [mL]	23-Feb-24	08:45	970	948	994	976	981
pH [No unit]	20-Feb-24	10:57	6.67	6.99	6.95	7.88	6.86
Alkalinity [mg/L as CaCO3]	20-Feb-24	10:59	2	4	3	13	2
Conductivity [uS/cm]	16-Feb-24	11:20	25	17	19	28	6
Acidity [mg/L as CaCO3]	20-Feb-24	10:34	< 2	< 2	< 2	< 2	< 2
Tot.Reactive P [mg/L]	20-Feb-24	08:20	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	28-Feb-24	10:50	8	3	< 2	< 2	< 2
Ag [mg/L]	21-Feb-24	15:17	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	21-Feb-24	15:17	0.020	0.021	0.021	0.105	0.044
As [mg/L]	21-Feb-24	15:17	0.0029	0.149	0.103	0.0340	0.105
Ba [mg/L]	21-Feb-24	15:17	0.00016	0.00030	0.00011	0.00014	0.00012
Be [mg/L]	21-Feb-24	15:17	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	21-Feb-24	15:17	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	21-Feb-24	15:17	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	21-Feb-24	15:17	3.50	2.36	1.77	5.05	1.02
Cd [mg/L]	21-Feb-24	15:17	< 0.000003	< 0.000003	< 0.000003	< 0.000003	0.000003
Co [mg/L]	21-Feb-24	15:17	0.000099	0.000216	0.000173	0.000070	0.000270
Cr [mg/L]	21-Feb-24	15:17	< 0.00008	< 0.00008	< 0.00008	< 0.00008	0.00019
Cu [mg/L]	21-Feb-24	15:17	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	21-Feb-24	15:17	< 0.007	< 0.007	< 0.007	0.009	0.023
K [mg/L]	21-Feb-24	15:17	0.128	0.054	0.043	0.018	0.012
Li [mg/L]	21-Feb-24	15:17	0.0051	0.0050	0.0044	0.0030	0.0033
Mg [mg/L]	21-Feb-24	15:17	0.178	0.114	0.094	0.176	0.139
Mn [mg/L]	21-Feb-24	15:17	0.00115	0.00115	0.00125	0.00557	0.00107
Mo [mg/L]	21-Feb-24	15:17	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	21-Feb-24	15:17	0.10	0.05	0.04	0.13	0.07
Ni [mg/L]	21-Feb-24	15:17	0.0004	0.0013	0.0008	0.0003	0.0006
Pb [mg/L]	21-Feb-24	15:17	< 0.00009	< 0.00009	< 0.00009	0.00014	< 0.00009
Sb [mg/L]	21-Feb-24	15:17	0.0020	0.0315	0.0162	0.0026	0.0038

OnLine LIMS

0003636863

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10121-FEB24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT -2 Wk#42	6: CV5-WR-HCT -5 Wk#42	7: CV5-WR-HCT-5 (DUP) Wk#42	8: CV5-WR-HCT -14 Wk#42	9: CV5-WR-HCT -22 Wk#42
Se [mg/L]	21-Feb-24	15:17	0.00010	< 0.00004	< 0.00004	0.00010	< 0.00004
Sn [mg/L]	21-Feb-24	15:17	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	21-Feb-24	15:17	0.00759	0.00389	0.00332	0.00363	0.00308
Ti [mg/L]	21-Feb-24	15:17	< 0.0001	0.00016	< 0.0001	0.00045	0.00086
Tl [mg/L]	21-Feb-24	15:17	< 0.000005	0.000005	< 0.000005	< 0.000005	< 0.000005
U [mg/L]	21-Feb-24	15:17	0.000110	0.00173	0.000012	0.00250	0.000119
V [mg/L]	21-Feb-24	15:17	0.00023	0.00041	0.00036	0.00242	0.00084
W [mg/L]	21-Feb-24	15:17	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	21-Feb-24	15:17	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	21-Feb-24	15:17	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002

Analysis	10: CV5-WR-HCT -33 Wk#42	11: CV5-WR-HCT -36 Wk#42	12: CV5-WR-HCT -39 Wk#42	13: CV5-WR-HCT -50 Wk#42	14: CV5-WR-HCT -56 Wk#42	15: CV5-WR-HCT -59 Wk#42	16: CV5-WR-HCT -62 Wk#42
Sample Date & Time	15-Feb-24	15-Feb-24	15-Feb-24	15-Feb-24	15-Feb-24	15-Feb-24	15-Feb-24
HumCell Leachate Vol [mL]	1022	1011	1011	998	1000	1003	988
pH [No unit]	7.42	7.15	6.70	7.18	7.77	6.64	7.55
Alkalinity [mg/L as CaCO3]	7	5	3	10	8	< 2	7
Conductivity [uS/cm]	17	15	20	59	26	13	21
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	2	< 2
Tot.Reactive P [mg/L]	< 0.03	0.37	< 0.03	< 0.03	< 0.03	0.04	0.16
SO4 [mg/L]	< 2	< 2	6	12	5	3	2
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.057	< 0.001	0.012	0.021	0.042	0.006	0.002
As [mg/L]	0.0052	1.26	0.0176	0.0040	0.0117	0.231	0.675
Ba [mg/L]	0.00025	0.00056	0.00017	0.00034	0.00031	0.00017	0.00037
Be [mg/L]	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	0.000007	< 0.000007
B [mg/L]	< 0.002	0.004	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	2.94	1.98	2.48	7.66	4.41	1.67	3.04
Cd [mg/L]	< 0.000003	< 0.000003	0.000005	0.000054	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	0.000071	0.000386	0.000122	0.00323	0.000046	0.00106	0.000547
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	0.035	0.023	0.133	0.195	0.129	0.019	0.011
Li [mg/L]	0.0027	0.0019	0.0056	0.0128	0.0018	0.0016	0.0003
Mg [mg/L]	0.086	0.480	0.262	0.097	0.127	0.285	0.622
Mn [mg/L]	0.00882	0.00140	0.00165	0.0121	0.00847	0.00212	0.00429
Mo [mg/L]	< 0.0004	< 0.0004	< 0.0004	0.0005	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	0.09	0.02	0.08	0.11	0.05	0.04	0.02
Ni [mg/L]	0.0002	0.0107	0.0003	0.0023	0.0002	0.0076	0.0085
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.0020	0.458	0.0111	0.0212	< 0.0009	0.0042	0.511

OnLine LIMS

0003636863

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10121-FEB24**

Analysis	10: CV5-WR-HCT -33 Wk#42	11: CV5-WR-HCT -36 Wk#42	12: CV5-WR-HCT -39 Wk#42	13: CV5-WR-HCT -50 Wk#42	14: CV5-WR-HCT -56 Wk#42	15: CV5-WR-HCT -59 Wk#42	16: CV5-WR-HCT -62 Wk#42
Se [mg/L]	0.00008	< 0.00004	0.00006	0.00056	0.00005	< 0.00004	0.00007
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00299	0.00229	0.00670	0.00579	0.00357	0.00716	0.00160
Ti [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.00015	< 0.0001
Tl [mg/L]	< 0.000005	< 0.000005	0.000007	0.000022	< 0.000005	0.000005	< 0.000005
U [mg/L]	0.000147	0.00122	0.000447	0.00645	0.00296	0.000201	0.00330
V [mg/L]	0.00061	0.00013	0.00027	0.00007	0.00029	0.00035	0.00015
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	0.010	< 0.002	< 0.002	< 0.002

Analysis	17: CV5-WR-HCT -64 Wk#42	18: CV5-WR-HCT -69 Wk#42	19: CV5-ORE-HCT-74 Wk#42	20: CV5-ORE-HCT-76 Wk#42
Sample Date & Time	15-Feb-24	15-Feb-24	15-Feb-24	15-Feb-24
HumCell Leachate Vol [mL]	1000	1020	1021	996
pH [No unit]	7.09	7.20	6.68	7.27
Alkalinity [mg/L as CaCO3]	4	4	3	7
Conductivity [uS/cm]	6	9	4	16
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2
Tot.Reactive P [mg/L]	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	< 2	< 2	< 2	< 2
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.036	0.042	0.016	0.026
As [mg/L]	0.0050	0.0021	0.0080	0.0025
Ba [mg/L]	0.00009	0.00012	0.00012	< 0.00008
Be [mg/L]	0.000012	0.000106	0.000007	0.000022
B [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	0.00019	< 0.00001	0.00008
Ca [mg/L]	1.20	1.61	0.70	2.35
Cd [mg/L]	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	0.000013	0.000012	0.000009	0.000007
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	0.158	0.038	0.089	0.184
Li [mg/L]	0.0013	0.0011	0.0058	0.0053
Mg [mg/L]	0.033	0.018	0.012	0.081
Mn [mg/L]	0.00414	0.00229	0.0598	0.00081
Mo [mg/L]	< 0.0004	0.0005	< 0.0004	< 0.0004
Na [mg/L]	0.04	0.09	0.11	0.08
Ni [mg/L]	0.0001	< 0.0001	0.0002	< 0.0001
Pb [mg/L]	< 0.00009	< 0.00009	0.00013	< 0.00009
Sb [mg/L]	0.0013	0.0010	0.0084	0.0010

OnLine LIMS

0003636863

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10121-FEB24**

Analysis	17: CV5-WR-HCT-64 Wk#42	18: CV5-WR-HCT-69 Wk#42	19: CV5-ORE-HCT-74 Wk#42	20: CV5-ORE-HCT-76 Wk#42
Se [mg/L]	< 0.00004	< 0.00004	< 0.00004	< 0.00004
Sn [mg/L]	< 0.00006	0.00011	0.00022	< 0.00006
Sr [mg/L]	0.00164	0.00280	0.00103	0.00522
Ti [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tl [mg/L]	0.000040	< 0.000005	0.000027	0.000016
U [mg/L]	0.000467	0.00223	0.000711	0.00124
V [mg/L]	0.00001	0.00005	0.00002	0.00004
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	0.004	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003636863

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Patriot Tailings- Long - (9.5mm fraction size)

04-July-2024

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 20 June 2024
LR Report: **CA10123-JUN24**
Reference: Wk#60

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#60	6: CV5-DMS-HCT-84 Wk#60
Sample Date & Time			20-Jun-24	20-Jun-24
HumCell Leachate Vol [mL]	21-Jun-24	09:03	1011	990
pH [No unit]	24-Jun-24	16:40	6.15	6.07
Alkalinity [mg/L as CaCO3]	24-Jun-24	16:40	< 2	< 2
Conductivity [uS/cm]	24-Jun-24	16:40	< 2	< 2
Acidity [mg/L as CaCO3]	26-Jun-24	10:07	2	2
F [mg/L]	21-Jun-24	09:54	< 0.06	< 0.06
Tot.Reactive P [mg/L]	25-Jun-24	08:10	0.20	< 0.03
SO4 [mg/L]	24-Jun-24	13:53	< 2	< 2
Cl [mg/L]	24-Jun-24	13:53	< 1	< 1
NO2 [as N mg/L]	24-Jun-24	10:22	< 0.03	< 0.03
NO3 [as N mg/L]	24-Jun-24	10:22	< 0.06	< 0.06
Br [mg/L]	24-Jun-24	10:22	< 0.3	< 0.3
Hg [mg/L]	27-Jun-24	11:52	< 0.00001	< 0.00001
Ag [mg/L]	27-Jun-24	11:52	< 0.00005	< 0.00005
Al [mg/L]	27-Jun-24	11:52	0.008	0.008
As [mg/L]	27-Jun-24	11:52	0.0022	0.0020
Ba [mg/L]	27-Jun-24	11:52	0.00089	< 0.00008
Be [mg/L]	27-Jun-24	11:52	0.000007	0.000013
B [mg/L]	27-Jun-24	11:52	< 0.002	< 0.002
Bi [mg/L]	27-Jun-24	11:52	0.00003	0.00003
Ca [mg/L]	27-Jun-24	11:52	0.31	0.30
Cd [mg/L]	27-Jun-24	11:52	< 0.000003	0.000003
Co [mg/L]	27-Jun-24	11:52	< 0.000004	0.000007
Cr [mg/L]	27-Jun-24	11:52	< 0.00008	< 0.00008
Cu [mg/L]	27-Jun-24	11:52	< 0.001	< 0.001
Fe [mg/L]	27-Jun-24	11:52	< 0.007	< 0.007
K [mg/L]	27-Jun-24	11:52	0.038	0.033
Li [mg/L]	27-Jun-24	11:52	0.0005	0.0005
Mg [mg/L]	27-Jun-24	11:52	0.010	0.011

OnLine LIMS

0003769313

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10123-JUN24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#60	6: CV5-DMS-HCT-84 Wk#60
Mn [mg/L]	27-Jun-24	11:52	0.00139	0.00199
Mo [mg/L]	27-Jun-24	11:52	< 0.0004	< 0.0004
Na [mg/L]	27-Jun-24	11:52	0.02	< 0.01
Ni [mg/L]	27-Jun-24	11:52	< 0.0001	< 0.0001
Pb [mg/L]	27-Jun-24	11:52	< 0.00009	< 0.00009
Sb [mg/L]	27-Jun-24	11:52	0.0011	0.0010
Se [mg/L]	27-Jun-24	11:52	< 0.00004	< 0.00004
Sn [mg/L]	27-Jun-24	11:52	< 0.00006	< 0.00006
Sr [mg/L]	27-Jun-24	11:52	0.00067	0.00060
Ti [mg/L]	27-Jun-24	11:52	< 0.0001	< 0.0001
Tl [mg/L]	27-Jun-24	11:52	0.000009	0.000008
U [mg/L]	27-Jun-24	11:52	0.000497	0.000630
V [mg/L]	27-Jun-24	11:52	< 0.00001	< 0.00001
W [mg/L]	27-Jun-24	11:52	< 0.0002	< 0.0002
Y [mg/L]	27-Jun-24	11:52	< 0.00002	< 0.00002
Zn [mg/L]	27-Jun-24	11:52	< 0.002	< 0.002
Au (tot) [mg/L]	27-Jun-24	11:52	< 0.00001	< 0.00001
Ce (tot) [mg/L]	27-Jun-24	11:52	< 0.00001	< 0.00001
Cs (tot) [mg/L]	27-Jun-24	11:52	0.0013	0.0014
Dy (tot) [mg/L]	27-Jun-24	11:52	< 0.00001	< 0.00001
Er (tot) [mg/L]	27-Jun-24	11:52	< 0.00001	< 0.00001
Eu (tot) [mg/L]	27-Jun-24	11:52	< 0.00001	< 0.00001
Ga (tot) [mg/L]	27-Jun-24	11:52	< 0.0001	< 0.0001
Gd (tot) [mg/L]	27-Jun-24	11:52	< 0.00001	< 0.00001
Ge (tot) [mg/L]	27-Jun-24	11:52	< 0.0001	< 0.0001
Hf (tot) [mg/L]	27-Jun-24	11:52	< 0.0001	< 0.0001
Ho (tot) [mg/L]	27-Jun-24	11:52	< 0.00001	< 0.00001
In (tot) [mg/L]	27-Jun-24	11:52	< 0.00001	< 0.00001
Ir (tot) [mg/L]	27-Jun-24	11:52	< 0.00001	< 0.00001
La (tot) [mg/L]	27-Jun-24	11:52	< 0.00001	< 0.00001
Lu (tot) [mg/L]	27-Jun-24	11:52	< 0.0001	< 0.0001
Nb (tot) [mg/L]	27-Jun-24	11:52	0.00001	< 0.00001
Nd (tot) [mg/L]	27-Jun-24	11:52	< 0.00001	< 0.00001
Os (tot) [mg/L]	27-Jun-24	11:52	< 0.0001	< 0.0001
Pd (tot) [mg/L]	27-Jun-24	11:52	< 0.0001	< 0.0001
Pr (tot) [mg/L]	27-Jun-24	11:52	< 0.00001	< 0.00001
Pt (tot) [mg/L]	27-Jun-24	11:52	< 0.0001	< 0.0001
Rb (tot) [mg/L]	27-Jun-24	11:52	0.0034	0.0032
Re (tot) [mg/L]	27-Jun-24	11:52	< 0.0001	< 0.0001
Rh (tot) [mg/L]	27-Jun-24	11:52	< 0.00001	< 0.00001
Sc (tot) [mg/L]	27-Jun-24	11:52	< 0.0001	< 0.0001
Sm (tot) [mg/L]	27-Jun-24	11:52	< 0.00001	< 0.00001
Ta (tot) [mg/L]	27-Jun-24	11:52	< 0.0001	< 0.0001
Tb (tot) [mg/L]	27-Jun-24	11:52	< 0.00001	< 0.00001
Te (tot) [mg/L]	27-Jun-24	11:52	< 0.0001	< 0.0001

OnLine LIMS

0003769313

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10123-JUN24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#60	6: CV5-DMS-HCT-84 Wk#60
Th (tot) [mg/L]	27-Jun-24	11:52	< 0.0001	< 0.0001
Tm (tot) [mg/L]	27-Jun-24	11:52	< 0.00001	< 0.00001
Yb (tot) [mg/L]	27-Jun-24	11:52	< 0.00001	< 0.00001

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003769313

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

04-July-2024

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,, Montreal
Canada, H3A 1Z4
Phone: 647-782-7386, Fax:

Date Rec. : 20 June 2024
LR Report: **CA10124-JUN24**
Reference: Wk#60

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT -2 Wk#60	6: CV5-WR-HCT -5 Wk#60	7: CV5-WR-HCT-5 (DUP) Wk#60	8: CV5-WR-HCT -14 Wk#60	9: CV5-WR-HCT -22 Wk#60
Sample Date & Time			20-Jun-24	20-Jun-24	20-Jun-24	20-Jun-24	20-Jun-24
HumCell Leachate Vol [mL]	21-Jun-24	09:03	951	948	953	991	1006
pH [No unit]	25-Jun-24	14:47	6.62	7.18	6.85	7.42	6.84
Alkalinity [mg/L as CaCO3]	25-Jun-24	09:01	2	5	3	13	2
Conductivity [uS/cm]	25-Jun-24	09:01	31	20	12	26	8
Acidity [mg/L as CaCO3]	26-Jun-24	10:10	< 2	< 2	< 2	< 2	< 2
F [mg/L]	21-Jun-24	09:54	< 0.06	0.06	< 0.06	< 0.06	< 0.06
Tot.Reactive P [mg/L]	21-Jun-24	09:56	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	24-Jun-24	13:54	10	4	3	< 2	< 2
Cl [mg/L]	24-Jun-24	13:54	< 1	< 1	< 1	< 1	< 1
NO2 [as N mg/L]	24-Jun-24	10:22	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	24-Jun-24	10:22	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	24-Jun-24	10:22	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	27-Jun-24	11:53	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	27-Jun-24	11:53	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	27-Jun-24	11:53	0.019	0.021	0.022	0.088	0.016
As [mg/L]	27-Jun-24	11:53	0.0023	0.135	0.0856	0.0242	0.0800
Ba [mg/L]	27-Jun-24	11:53	0.00021	0.00017	0.00016	0.00014	0.00013
Be [mg/L]	27-Jun-24	11:53	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	27-Jun-24	11:53	0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	27-Jun-24	11:53	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	27-Jun-24	11:53	5.11	2.99	2.08	4.95	1.37
Cd [mg/L]	27-Jun-24	11:53	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	27-Jun-24	11:53	0.000127	0.000170	0.000185	0.000203	0.000119
Cr [mg/L]	27-Jun-24	11:53	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	27-Jun-24	11:53	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	27-Jun-24	11:53	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	27-Jun-24	11:53	0.117	0.053	0.045	0.023	0.018
Li [mg/L]	27-Jun-24	11:53	0.0041	0.0048	0.0039	0.0029	0.0035
Mg [mg/L]	27-Jun-24	11:53	0.205	0.124	0.100	0.165	0.159

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0003769352

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10124-JUN24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT -2 Wk#60	6: CV5-WR-HCT -5 Wk#60	7: CV5-WR-HCT-5 (DUP) Wk#60	8: CV5-WR-HCT -14 Wk#60	9: CV5-WR-HCT -22 Wk#60
Mn [mg/L]	27-Jun-24	11:53	0.00166	0.00099	0.00125	0.00536	0.00043
Mo [mg/L]	27-Jun-24	11:53	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	27-Jun-24	11:53	0.09	0.03	0.03	0.11	0.05
Ni [mg/L]	27-Jun-24	11:53	0.0006	0.0014	0.0010	0.0005	0.0005
Pb [mg/L]	27-Jun-24	11:53	< 0.00009	< 0.00009	< 0.00009	0.00014	< 0.00009
Sb [mg/L]	27-Jun-24	11:53	0.0017	0.0258	0.0129	0.0025	0.0032
Se [mg/L]	27-Jun-24	11:53	0.00011	< 0.00004	< 0.00004	0.00005	< 0.00004
Sn [mg/L]	27-Jun-24	11:53	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	27-Jun-24	11:53	0.00819	0.00385	0.00315	0.00333	0.00385
Ti [mg/L]	27-Jun-24	11:53	< 0.0001	0.00011	0.00014	0.00011	0.00016
Tl [mg/L]	27-Jun-24	11:53	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005
U [mg/L]	27-Jun-24	11:53	0.000057	0.000012	0.000011	0.000017	0.000119
V [mg/L]	27-Jun-24	11:53	0.00016	0.00035	0.00030	0.00185	0.00078
W [mg/L]	27-Jun-24	11:53	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	27-Jun-24	11:53	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	27-Jun-24	11:53	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	27-Jun-24	11:53	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	27-Jun-24	11:53	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Cs (tot) [mg/L]	27-Jun-24	11:53	0.0052	0.0062	0.0060	0.0013	0.0030
Dy (tot) [mg/L]	27-Jun-24	11:53	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er (tot) [mg/L]	27-Jun-24	11:53	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu (tot) [mg/L]	27-Jun-24	11:53	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga (tot) [mg/L]	27-Jun-24	11:53	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001
Gd (tot) [mg/L]	27-Jun-24	11:53	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	27-Jun-24	11:53	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	27-Jun-24	11:53	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	27-Jun-24	11:53	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In (tot) [mg/L]	27-Jun-24	11:53	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir (tot) [mg/L]	27-Jun-24	11:53	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La (tot) [mg/L]	27-Jun-24	11:53	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Lu (tot) [mg/L]	27-Jun-24	11:53	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	27-Jun-24	11:53	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Nd (tot) [mg/L]	27-Jun-24	11:53	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Os (tot) [mg/L]	27-Jun-24	11:53	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	27-Jun-24	11:53	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	27-Jun-24	11:53	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt (tot) [mg/L]	27-Jun-24	11:53	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	27-Jun-24	11:53	0.0027	0.0022	0.0020	0.0003	0.0010
Re (tot) [mg/L]	27-Jun-24	11:53	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	27-Jun-24	11:53	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	27-Jun-24	11:53	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	27-Jun-24	11:53	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ta (tot) [mg/L]	27-Jun-24	11:53	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	27-Jun-24	11:53	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te (tot) [mg/L]	27-Jun-24	11:53	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001

OnLine LIMS

00037693S2

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10124-JUN24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT -2 Wk#60	6: CV5-WR-HCT -5 Wk#60	7: CV5-WR-HCT-5 (DUP) Wk#60	8: CV5-WR-HCT -14 Wk#60	9: CV5-WR-HCT -22 Wk#60
Th (tot) [mg/L]	27-Jun-24	11:53	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	27-Jun-24	11:53	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Yb (tot) [mg/L]	27-Jun-24	11:53	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Analysis	10: CV5-WR-HCT -33 Wk#60	11: CV5-WR-HCT -36 Wk#60	12: CV5-WR-HCT -39 Wk#60	13: CV5-WR-HCT -50 Wk#60	14: CV5-WR-HCT -56 Wk#60	15: CV5-WR-HCT -59 Wk#60	16: CV5-WR-HCT -62 Wk#60
Sample Date & Time	20-Jun-24	20-Jun-24	20-Jun-24	20-Jun-24	20-Jun-24	20-Jun-24	20-Jun-24
HumCell Leachate Vol [mL]	977	973	939	995	1002	1006	943
pH [No unit]	7.09	7.06	6.39	7.05	6.93	6.17	7.14
Alkalinity [mg/L as CaCO3]	4	5	< 2	6	6	< 2	6
Conductivity [uS/cm]	10	14	19	48	30	14	18
Acidity [mg/L as CaCO3]	< 2	< 2	2	10	< 2	5	< 2
F [mg/L]	< 0.06	< 0.06	0.17	0.52	< 0.06	< 0.06	< 0.06
Tot.Reactive P [mg/L]	< 0.03	0.20	< 0.03	< 0.03	< 0.03	< 0.03	0.09
SO4 [mg/L]	< 2	< 2	6	9	6	3	2
Cl [mg/L]	< 1	< 1	< 1	6	< 1	< 1	< 1
NO2 [as N mg/L]	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.072	0.002	0.009	0.020	0.034	0.002	< 0.001
As [mg/L]	0.0037	0.842	0.0118	0.0025	0.0081	0.144	0.477
Ba [mg/L]	0.00016	0.00051	0.00022	0.00047	0.00040	0.00018	0.00035
Be [mg/L]	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	< 0.002	0.003	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	1.95	2.11	2.73	8.17	4.99	1.71	2.66
Cd [mg/L]	< 0.000003	< 0.000003	0.000008	0.000080	< 0.000003	0.000005	< 0.000003
Co [mg/L]	0.000052	0.000355	0.000130	0.00640	0.000060	0.00330	0.000511
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	0.009	< 0.007
K [mg/L]	0.026	0.030	0.122	0.122	0.116	0.019	0.018
Li [mg/L]	0.0017	0.0018	0.0052	0.0073	0.0017	0.0015	0.0005
Mg [mg/L]	0.057	0.513	0.260	0.090	0.141	0.299	0.749
Mn [mg/L]	0.00604	0.00176	0.00181	0.0113	0.00549	0.00538	0.00256
Mo [mg/L]	< 0.0004	0.0005	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	0.06	0.01	0.07	0.09	0.07	0.02	0.04
Ni [mg/L]	0.0002	0.0068	0.0004	0.0053	0.0003	0.0284	0.0070
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	< 0.0009	0.349	0.0068	0.0110	< 0.0009	0.0032	0.321
Se [mg/L]	0.00005	< 0.00004	0.00005	0.00060	0.00005	< 0.00004	0.00005

OnLine LIMS

0003769352

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10124-JUN24**

Analysis	10: CV5-WR-HCT -33 Wk#60	11: CV5-WR-HCT -36 Wk#60	12: CV5-WR-HCT -39 Wk#60	13: CV5-WR-HCT -50 Wk#60	14: CV5-WR-HCT -56 Wk#60	15: CV5-WR-HCT -59 Wk#60	16: CV5-WR-HCT -62 Wk#60
Sn [mg/L]	< 0.00006	0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00181	0.00203	0.00647	0.00463	0.00446	0.00655	0.00161
Ti [mg/L]	0.00015	< 0.0001	0.00016	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tl [mg/L]	< 0.000005	< 0.000005	< 0.000005	0.000026	< 0.000005	0.000006	< 0.000005
U [mg/L]	0.000009	0.000017	0.000176	0.00163	0.000359	0.000002	0.000035
V [mg/L]	0.00046	0.00011	0.00018	0.00002	0.00022	0.00016	0.00010
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	0.022	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Cs (tot) [mg/L]	0.0017	0.0085	0.0015	0.0358	0.0165	0.0074	0.0022
Dy (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Gd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La (tot) [mg/L]	< 0.00001	0.00001	0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Lu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Nd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Os (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	0.0003	0.0015	0.0015	0.0067	0.0007	0.0018	0.0010
Re (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ta (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Yb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

OnLine LIMS

0003769352

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10124-JUN24**

Analysis	17: CV5-WR-HCT-64 Wk#60	18: CV5-WR-HCT-69 Wk#60	19: CV5-ORE-HCT-74 Wk#60	20: CV5-ORE-HCT-76 Wk#60
Sample Date & Time	20-Jun-24	20-Jun-24	20-Jun-24	20-Jun-24
HumCell Leachate Vol [mL]	1009	1008	1001	980
pH [No unit]	6.90	7.14	6.44	7.07
Alkalinity [mg/L as CaCO3]	4	5	< 2	5
Conductivity [uS/cm]	8	11	3	12
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2
F [mg/L]	< 0.06	< 0.06	< 0.06	< 0.06
Tot.Reactive P [mg/L]	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	< 2	< 2	< 2	< 2
Cl [mg/L]	< 1	< 1	< 1	< 1
NO2 [as N mg/L]	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.024	0.055	0.018	0.029
As [mg/L]	0.0040	0.0032	0.0067	0.0014
Ba [mg/L]	0.00008	0.00017	0.00008	0.00011
Be [mg/L]	0.000007	0.000074	< 0.000007	0.000038
B [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	0.00018	< 0.00001	0.00010
Ca [mg/L]	1.54	2.24	0.47	1.96
Cd [mg/L]	< 0.000003	0.000003	< 0.000003	0.000003
Co [mg/L]	0.000007	0.000007	< 0.000004	0.000013
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	< 0.001	0.004	< 0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	0.134	0.053	0.079	0.149
Li [mg/L]	0.0012	0.0011	0.0055	0.0047
Mg [mg/L]	0.037	0.028	0.012	0.070
Mn [mg/L]	0.00565	0.00261	0.0555	0.00069
Mo [mg/L]	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	0.04	0.12	0.07	0.07
Ni [mg/L]	0.0001	0.0002	0.0003	0.0003
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.0009	0.0012	0.0066	< 0.0009
Se [mg/L]	< 0.00004	< 0.00004	< 0.00004	< 0.00004
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00186	0.00385	0.00090	0.00387
Ti [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tl [mg/L]	0.000029	< 0.000005	0.000031	0.000014
U [mg/L]	0.000315	0.00272	0.000365	0.000632
V [mg/L]	0.00001	0.00004	< 0.00001	0.00003
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002

OnLine LIMS

0003769352

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10124-JUN24**

Analysis	17: CV5-WR-HCT-64 Wk#60	18: CV5-WR-HCT-69 Wk#60	19: CV5-ORE-HCT-74 Wk#60	20: CV5-ORE-HCT-76 Wk#60
Zn [mg/L]	< 0.002	0.007	< 0.002	< 0.002
Au (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Cs (tot) [mg/L]	0.0059	0.0015	0.0102	0.0040
Dy (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga (tot) [mg/L]	< 0.0001	0.0001	0.0001	0.0001
Gd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Lu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	< 0.00001	0.00001	< 0.00001	0.00001
Nd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Os (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	0.0123	0.0031	0.0115	0.0059
Re (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ta (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Yb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003769352

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

27-December-2024

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 19 December 2024
LR Report: **CA10125-DEC24**
Reference: Wk#86

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Sample ID	Sample Date & Time	HumCell Leachate Vol mL	pH No unit	Conductivity uS/cm
3: Analysis Completed Date		20-Dec-24	24-Dec-24	24-Dec-24
4: Analysis Completed Time		12:58	11:45	11:47
5: CV5-WR-HCT-2 Wk#86	19-Dec-24	956	6.72	33
6: CV5-WR-HCT-5 Wk#86	19-Dec-24	958	6.97	21
7: CV5-WR-HCT-5 (DUP) Wk#86	19-Dec-24	969	7.22	15
8: CV5-WR-HCT-14 Wk#86	19-Dec-24	1015	7.39	27
9: CV5-WR-HCT-22 Wk#86	19-Dec-24	1007	6.93	8
10: CV5-WR-HCT-33 Wk#86	19-Dec-24	1045	7.33	17
11: CV5-WR-HCT-36 Wk#86	19-Dec-24	1015	7.09	16
12: CV5-WR-HCT-39 Wk#86	19-Dec-24	1057	6.97	19
13: CV5-WR-HCT-50 Wk#86	19-Dec-24	1022	6.58	50
14: CV5-WR-HCT-56 Wk#86	19-Dec-24	1010	7.25	32
15: CV5-WR-HCT-59 Wk#86	19-Dec-24	980	6.18	16
16: CV5-WR-HCT-62 Wk#86	19-Dec-24	971	7.05	21
17: CV5-WR-HCT-64 Wk#86	19-Dec-24	1013	7.29	6
18: CV5-WR-HCT-69 Wk#86	19-Dec-24	1012	7.10	9
19: CV5-ORE-HCT-74 Wk#86	19-Dec-24	1046	6.32	4
20: CV5-ORE-HCT-76 Wk#86	19-Dec-24	1053	7.05	16

Chris Sullivan

CHARTERED
Christopher Sullivan
CHEMIST

Chris Sullivan, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003973404

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

29-April-2024

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 18 April 2024
LR Report: **CA10136-APR24**
Reference: Wk#51

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#51	6: CV5-DMS-HCT-84 Wk#51
Sample Date & Time			18-Apr-24	18-Apr-24
HumCell Leachate Vol [mL]	18-Apr-24	16:36	999	989
pH [No unit]	19-Apr-24	12:51	6.12	6.11
Alkalinity [mg/L as CaCO3]	19-Apr-24	12:51	< 2	< 2
Conductivity [uS/cm]	19-Apr-24	12:51	< 2	2
Acidity [mg/L as CaCO3]	19-Apr-24	12:51	2	2
Tot.Reactive P [mg/L]	19-Apr-24	11:19	< 0.03	< 0.03
SO4 [mg/L]	26-Apr-24	16:25	< 2	< 2
Ag [mg/L]	25-Apr-24	15:50	< 0.00005	< 0.00005
Al [mg/L]	25-Apr-24	15:50	0.008	0.008
As [mg/L]	25-Apr-24	15:50	0.0028	0.0020
Ba [mg/L]	25-Apr-24	15:50	< 0.00008	< 0.00008
Be [mg/L]	25-Apr-24	15:50	< 0.000007	0.000011
B [mg/L]	25-Apr-24	15:50	< 0.002	< 0.002
Bi [mg/L]	25-Apr-24	15:50	0.00002	0.00003
Ca [mg/L]	25-Apr-24	15:50	0.30	0.31
Cd [mg/L]	25-Apr-24	15:50	< 0.000003	< 0.000003
Co [mg/L]	25-Apr-24	15:50	< 0.000004	0.000005
Cr [mg/L]	25-Apr-24	15:50	< 0.00008	< 0.00008
Cu [mg/L]	25-Apr-24	15:50	< 0.001	< 0.001
Fe [mg/L]	25-Apr-24	15:50	< 0.007	< 0.007
K [mg/L]	25-Apr-24	15:50	0.043	0.041
Li [mg/L]	25-Apr-24	15:50	0.0004	0.0004
Mg [mg/L]	25-Apr-24	15:51	0.010	0.011
Mn [mg/L]	25-Apr-24	15:51	0.00077	0.00132
Mo [mg/L]	25-Apr-24	15:51	< 0.0004	< 0.0004
Na [mg/L]	25-Apr-24	15:51	0.02	0.03
Ni [mg/L]	25-Apr-24	15:51	< 0.0001	< 0.0001
Pb [mg/L]	25-Apr-24	15:51	< 0.00009	< 0.00009
Sb [mg/L]	25-Apr-24	15:51	0.0012	0.0011
Se [mg/L]	25-Apr-24	15:51	< 0.00004	< 0.00004
Sn [mg/L]	25-Apr-24	15:51	< 0.00006	< 0.00006
Sr [mg/L]	25-Apr-24	15:51	0.00066	0.00066
Ti [mg/L]	25-Apr-24	15:51	< 0.0001	< 0.0001
Tl [mg/L]	25-Apr-24	15:51	0.000008	0.000009
U [mg/L]	25-Apr-24	15:51	0.000508	0.000683

OnLine LIMS

0003696009

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10136-APR24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#51	6: CV5-DMS-HCT-84 Wk#51
V [mg/L]	25-Apr-24	15:51	0.00001	< 0.00001
W [mg/L]	25-Apr-24	15:51	< 0.0002	< 0.0002
Y [mg/L]	25-Apr-24	15:51	< 0.00002	< 0.00002
Zn [mg/L]	25-Apr-24	15:51	< 0.002	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003696006

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

27-September-2024

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 12 September 2024
LR Report: **CA10075-SEP24**
Reference: Wk#72

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT -2 Wk#72	6: CV5-WR-HCT -5 Wk#72	7: CV5-WR-HCT- 5 (DUP) Wk#72	8: CV5-WR-HCT -14 Wk#72	9: CV5-WR-HCT -22 Wk#72
Sample Date & Time			12-Sep-24	12-Sep-24	12-Sep-24	12-Sep-24	12-Sep-24
HumCell Leachate Vol [mL]	16-Sep-24	13:08	934	960	963	1007	983
pH [No unit]	13-Sep-24	11:23	6.67	6.97	6.76	7.49	6.71
Alkalinity [mg/L as CaCO3]	13-Sep-24	11:22	3	4	2	12	2
Conductivity [uS/cm]	13-Sep-24	11:23	28	17	12	24	7
Acidity [mg/L as CaCO3]	13-Sep-24	11:22	< 2	< 2	< 2	< 2	< 2
F [mg/L]	16-Sep-24	10:18	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Tot.Reactive P [mg/L]	17-Sep-24	09:26	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	13-Sep-24	13:26	9	3	2	< 2	< 2
Cl [mg/L]	13-Sep-24	13:26	< 1	< 1	< 1	< 1	< 1
NO2 [as N mg/L]	17-Sep-24	09:42	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	17-Sep-24	09:42	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	17-Sep-24	09:42	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	16-Sep-24	15:26	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	23-Sep-24	08:31	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	23-Sep-24	08:31	0.014	0.022	0.017	0.069	0.014
As [mg/L]	23-Sep-24	08:31	0.0013	0.0981	0.0733	0.0187	0.0680
Ba [mg/L]	23-Sep-24	08:31	0.00028	0.00012	0.00013	0.00015	0.00009
Be [mg/L]	23-Sep-24	08:31	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	23-Sep-24	08:31	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	23-Sep-24	08:31	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	23-Sep-24	08:31	4.81	3.35	2.21	4.98	1.32
Cd [mg/L]	23-Sep-24	08:31	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	23-Sep-24	08:31	0.000126	0.000203	0.000144	0.000178	0.000104
Cr [mg/L]	23-Sep-24	08:31	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	23-Sep-24	08:31	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	23-Sep-24	08:31	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	23-Sep-24	08:31	0.109	0.054	0.046	0.024	0.024
Li [mg/L]	23-Sep-24	08:31	0.0032	0.0042	0.0035	0.0024	0.0030
Mg [mg/L]	23-Sep-24	08:31	0.161	0.107	0.090	0.130	0.161

OnLine LIMS

0003872679

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10075-SEP24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT -2 Wk#72	6: CV5-WR-HCT -5 Wk#72	7: CV5-WR-HCT-5 (DUP) Wk#72	8: CV5-WR-HCT -14 Wk#72	9: CV5-WR-HCT -22 Wk#72
Mn [mg/L]	23-Sep-24	08:31	0.00144	0.00115	0.00078	0.00508	0.00031
Mo [mg/L]	23-Sep-24	08:31	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	23-Sep-24	08:31	0.08	0.05	0.04	0.10	0.06
Ni [mg/L]	23-Sep-24	08:31	0.0004	0.0012	0.0006	0.0003	0.0002
Pb [mg/L]	23-Sep-24	08:31	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	23-Sep-24	08:31	0.0012	0.0223	0.0115	0.0021	0.0028
Se [mg/L]	23-Sep-24	08:31	0.00010	< 0.00004	< 0.00004	0.00006	< 0.00004
Sn [mg/L]	23-Sep-24	08:31	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	23-Sep-24	08:31	0.00614	0.00304	0.00272	0.00263	0.00293
Ti [mg/L]	23-Sep-24	08:31	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.00013
Tl [mg/L]	23-Sep-24	08:31	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005
U [mg/L]	23-Sep-24	08:31	0.000044	0.000018	0.000027	0.000020	0.000115
V [mg/L]	23-Sep-24	08:31	0.00012	0.00028	0.00026	0.00136	0.00069
W [mg/L]	23-Sep-24	08:31	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	23-Sep-24	08:31	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	23-Sep-24	08:31	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	25-Sep-24	09:38	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	26-Sep-24	13:23	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00001
Cs (tot) [mg/L]	23-Sep-24	08:31	0.0050	0.0062	0.0060	0.0012	0.0029
Dy (tot) [mg/L]	26-Sep-24	13:23	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er (tot) [mg/L]	26-Sep-24	13:23	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu (tot) [mg/L]	26-Sep-24	13:23	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga (tot) [mg/L]	26-Sep-24	13:23	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001
Gd (tot) [mg/L]	26-Sep-24	13:23	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	23-Sep-24	08:31	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	23-Sep-24	08:31	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	26-Sep-24	13:23	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In (tot) [mg/L]	26-Sep-24	13:23	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir (tot) [mg/L]	25-Sep-24	09:39	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La (tot) [mg/L]	26-Sep-24	13:23	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Lu (tot) [mg/L]	26-Sep-24	13:23	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	23-Sep-24	08:31	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Nd (tot) [mg/L]	26-Sep-24	13:23	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Os (tot) [mg/L]	25-Sep-24	09:39	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	25-Sep-24	09:39	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	26-Sep-24	13:23	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt (tot) [mg/L]	25-Sep-24	09:39	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	23-Sep-24	08:31	0.0026	0.0021	0.0018	0.0003	0.0009
Re (tot) [mg/L]	25-Sep-24	09:39	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	25-Sep-24	09:39	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	26-Sep-24	13:23	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	26-Sep-24	13:23	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ta (tot) [mg/L]	23-Sep-24	08:31	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	26-Sep-24	13:23	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te (tot) [mg/L]	23-Sep-24	08:31	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001

OnLine LIMS

0003872679

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10075-SEP24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT -2 Wk#72	6: CV5-WR-HCT -5 Wk#72	7: CV5-WR-HCT-5 (DUP) Wk#72	8: CV5-WR-HCT -14 Wk#72	9: CV5-WR-HCT -22 Wk#72
Th (tot) [mg/L]	23-Sep-24	08:31	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	26-Sep-24	13:23	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Yb (tot) [mg/L]	26-Sep-24	13:23	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Analysis	10: CV5-WR-HCT -33 Wk#72	11: CV5-WR-HCT -36 Wk#72	12: CV5-WR-HCT -39 Wk#72	13: CV5-WR-HCT -50 Wk#72	14: CV5-WR-HCT -56 Wk#72	15: CV5-WR-HCT -59 Wk#72	16: CV5-WR-HCT -62 Wk#72
Sample Date & Time	12-Sep-24	12-Sep-24	12-Sep-24	12-Sep-24	12-Sep-24	12-Sep-24	12-Sep-24
HumCell Leachate Vol [mL]	997	953	936	994	997	1005	924
pH [No unit]	7.22	7.00	6.21	6.56	7.14	6.07	7.07
Alkalinity [mg/L as CaCO3]	6	4	< 2	2	6	< 2	5
Conductivity [uS/cm]	12	11	17	47	26	15	16
Acidity [mg/L as CaCO3]	< 2	< 2	2	13	< 2	5	< 2
F [mg/L]	< 0.06	< 0.06	0.19	0.59	< 0.06	< 0.06	< 0.06
Tot.Reactive P [mg/L]	< 0.03	0.20	< 0.03	< 0.03	< 0.03	< 0.03	0.06
SO4 [mg/L]	< 2	< 2	5	11	6	4	< 2
Cl [mg/L]	< 1	< 1	< 1	4	< 1	< 1	< 1
NO2 [as N mg/L]	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.047	0.001	0.007	0.031	0.029	0.002	< 0.001
As [mg/L]	0.0030	0.704	0.0095	0.0008	0.0050	0.0943	0.353
Ba [mg/L]	0.00018	0.00028	0.00018	0.00037	0.00040	0.00017	0.00021
Be [mg/L]	< 0.000007	< 0.000007	< 0.000007	0.000042	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	< 0.002	0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	2.54	1.82	2.64	7.70	4.97	2.18	2.32
Cd [mg/L]	< 0.000003	< 0.000003	0.000020	0.000318	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	0.000049	0.000290	0.000191	0.0226	0.000070	0.00373	0.000404
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	< 0.001	< 0.001	< 0.001	0.002	< 0.001	< 0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007	< 0.007	0.050	< 0.007	0.013	< 0.007
K [mg/L]	0.035	0.037	0.116	0.113	0.097	0.026	0.021
Li [mg/L]	0.0016	0.0011	0.0044	0.0079	0.0012	0.0012	0.0002
Mg [mg/L]	0.055	0.435	0.214	0.130	0.107	0.299	0.685
Mn [mg/L]	0.00574	0.00110	0.00255	0.0199	0.00561	0.00629	0.00205
Mo [mg/L]	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	0.08	0.02	0.09	0.10	0.06	0.04	0.02
Ni [mg/L]	< 0.0001	0.0045	0.0006	0.0304	0.0001	0.0387	0.0050
Pb [mg/L]	< 0.00009	< 0.00009	0.00111	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	< 0.0009	0.224	0.0054	0.0053	< 0.0009	0.0024	0.254
Se [mg/L]	< 0.00004	< 0.00004	< 0.00004	0.00056	< 0.00004	0.00004	0.00006

OnLine LIMS

0003872679

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10075-SEP24**

Analysis	10: CV5-WR-HCT -33 Wk#72	11: CV5-WR-HCT -36 Wk#72	12: CV5-WR-HCT -39 Wk#72	13: CV5-WR-HCT -50 Wk#72	14: CV5-WR-HCT -56 Wk#72	15: CV5-WR-HCT -59 Wk#72	16: CV5-WR-HCT -62 Wk#72
Sn [mg/L]	< 0.00006	< 0.00006	0.00006	< 0.00006	0.00008	< 0.00006	< 0.00006
Sr [mg/L]	0.00203	0.00129	0.00503	0.00372	0.00296	0.00642	0.00095
Ti [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tl [mg/L]	< 0.000005	< 0.000005	0.000006	0.000035	< 0.000005	0.000008	< 0.000005
U [mg/L]	0.000013	0.000015	0.000115	0.000707	0.000301	0.000006	0.000081
V [mg/L]	0.00038	0.00011	0.00016	< 0.00001	0.00016	0.00011	0.00007
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	0.00003	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	0.003	0.130	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00002	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	< 0.00001	< 0.00001	0.00008	0.00018	< 0.00001	< 0.00001	< 0.00001
Cs (tot) [mg/L]	0.0020	0.0088	0.0015	0.0353	0.0156	0.0079	0.0021
Dy (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Gd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La (tot) [mg/L]	< 0.00001	0.00001	0.00007	0.00015	< 0.00001	< 0.00001	0.00001
Lu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Nd (tot) [mg/L]	< 0.00001	< 0.00001	0.00002	0.00005	< 0.00001	< 0.00001	< 0.00001
Os (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00002	< 0.00001	< 0.00001	< 0.00001
Pt (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	0.0004	0.0015	0.0014	0.0064	0.0006	0.0018	0.0010
Re (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ta (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Yb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

OnLine LIMS

0003872679

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10075-SEP24**

Analysis	17: CV5-WR-HCT-64 Wk#72	18: CV5-WR-HCT-69 Wk#72	19: CV5-ORE-HCT-74 Wk#72	20: CV5-ORE-HCT-76 Wk#72
Sample Date & Time	12-Sep-24	12-Sep-24	12-Sep-24	12-Sep-24
HumCell Leachate Vol [mL]	1002	1003	1000	987
pH [No unit]	6.79	7.14	6.28	6.99
Alkalinity [mg/L as CaCO3]	2	5	< 2	4
Conductivity [uS/cm]	7	10	2	10
Acidity [mg/L as CaCO3]	< 2	< 2	2	< 2
F [mg/L]	< 0.06	< 0.06	< 0.06	< 0.06
Tot.Reactive P [mg/L]	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	< 2	< 2	< 2	< 2
Cl [mg/L]	< 1	< 1	< 1	< 1
NO2 [as N mg/L]	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.016	0.056	0.010	0.021
As [mg/L]	0.0033	0.0023	0.0050	0.0012
Ba [mg/L]	< 0.00008	0.00013	< 0.00008	0.00010
Be [mg/L]	< 0.000007	0.000071	< 0.000007	0.000027
B [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	0.00019	< 0.00001	0.00006
Ca [mg/L]	1.33	2.29	0.43	2.12
Cd [mg/L]	< 0.000003	0.000003	0.000004	< 0.000003
Co [mg/L]	< 0.000004	0.000006	0.000007	0.000009
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	0.124	0.053	0.068	0.157
Li [mg/L]	0.0008	0.0008	0.0047	0.0044
Mg [mg/L]	0.025	0.018	0.008	0.060
Mn [mg/L]	0.00588	0.00228	0.0463	0.00054
Mo [mg/L]	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	0.04	0.10	0.07	0.06
Ni [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	< 0.0009	< 0.0009	0.0049	< 0.0009
Se [mg/L]	< 0.00004	< 0.00004	< 0.00004	< 0.00004
Sn [mg/L]	0.00009	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00135	0.00307	0.00074	0.00354
Ti [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tl [mg/L]	0.000028	0.000005	0.000026	0.000013
U [mg/L]	0.000162	0.00209	0.000292	0.000558
V [mg/L]	0.00002	0.00004	< 0.00001	0.00003
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002

OnLine LIMS

0003872679

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10075-SEP24**

Analysis	17: CV5-WR-HCT-64 Wk#72	18: CV5-WR-HCT-69 Wk#72	19: CV5-ORE-HCT-74 Wk#72	20: CV5-ORE-HCT-76 Wk#72
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Cs (tot) [mg/L]	0.0057	0.0015	0.0096	0.0037
Dy (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga (tot) [mg/L]	< 0.0001	0.0001	< 0.0001	< 0.0001
Gd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Lu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	< 0.00001	0.00002	0.00002	0.00004
Nd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Os (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	0.0118	0.0029	0.0097	0.0059
Re (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ta (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Yb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003872679

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

29-April-2024

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 18 April 2024
LR Report: **CA10137-APR24**
Reference: Wk#51

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT -2 Wk#51	6: CV5-WR-HCT -5 Wk#51	7: CV5-WR-HCT- 5 (DUP) Wk#51	8: CV5-WR-HCT -14 Wk#51	9: CV5-WR-HCT -22 Wk#51
Sample Date & Time			18-Apr-24	18-Apr-24	18-Apr-24	18-Apr-24	18-Apr-24
HumCell Leachate Vol [mL]	18-Apr-24	16:36	978	950	977	971	1015
pH [No unit]	23-Apr-24	10:06	6.61	6.81	6.73	7.52	6.89
Alkalinity [mg/L as CaCO3]	23-Apr-24	10:05	2	3	3	12	4
Conductivity [uS/cm]	23-Apr-24	10:05	30	18	13	29	12
Acidity [mg/L as CaCO3]	22-Apr-24	10:39	<2	< 2	< 2	< 2	< 2
Tot.Reactive P [mg/L]	19-Apr-24	11:19	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	26-Apr-24	16:25	10	3	2	< 2	< 2
Ag [mg/L]	25-Apr-24	15:48	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	25-Apr-24	15:48	0.017	0.019	0.019	0.082	0.016
As [mg/L]	25-Apr-24	15:48	0.0023	0.132	0.0957	0.0285	0.0854
Ba [mg/L]	25-Apr-24	15:48	0.00017	0.00019	0.00011	0.00024	< 0.00008
Be [mg/L]	25-Apr-24	15:48	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	25-Apr-24	15:48	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	25-Apr-24	15:48	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	25-Apr-24	15:48	4.37	2.70	2.03	4.46	1.74
Cd [mg/L]	25-Apr-24	15:48	0.000004	0.000008	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	25-Apr-24	15:49	0.000101	0.000193	0.000161	0.000042	0.000108
Cr [mg/L]	25-Apr-24	15:49	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	25-Apr-24	15:49	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	25-Apr-24	15:49	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	25-Apr-24	15:49	0.125	0.078	0.046	0.022	0.025
Li [mg/L]	25-Apr-24	15:49	0.0044	0.0054	0.0041	0.0027	0.0038
Mg [mg/L]	25-Apr-24	15:49	0.196	0.132	0.100	0.146	0.192
Mn [mg/L]	25-Apr-24	15:49	0.00092	0.00090	0.00081	0.00420	0.00037
Mo [mg/L]	25-Apr-24	15:49	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	25-Apr-24	15:49	0.10	0.05	0.04	0.11	0.07
Ni [mg/L]	25-Apr-24	15:49	0.0003	0.0013	0.0007	0.0001	0.0003
Pb [mg/L]	25-Apr-24	15:49	0.00011	0.00013	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	25-Apr-24	15:49	0.0016	0.0298	0.0154	0.0027	0.0039

OnLine LIMS

0003696013

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10137-APR24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT -2 Wk#51	6: CV5-WR-HCT -5 Wk#51	7: CV5-WR-HCT-5 (DUP) Wk#51	8: CV5-WR-HCT -14 Wk#51	9: CV5-WR-HCT -22 Wk#51
Se [mg/L]	25-Apr-24	15:49	0.00011	< 0.00004	< 0.00004	0.00008	0.00004
Sn [mg/L]	25-Apr-24	15:49	< 0.00006	< 0.00006	< 0.00006	0.00011	< 0.00006
Sr [mg/L]	25-Apr-24	15:49	0.00766	0.00406	0.00341	0.00297	0.00442
Ti [mg/L]	25-Apr-24	15:49	< 0.0001	< 0.0001	< 0.0001	0.00011	< 0.0001
Tl [mg/L]	25-Apr-24	15:49	< 0.000005	< 0.000005	0.000005	< 0.000005	< 0.000005
U [mg/L]	25-Apr-24	15:50	0.000063	0.000012	0.000031	0.000016	0.000135
V [mg/L]	25-Apr-24	15:50	0.00019	0.00031	0.00031	0.00174	0.00075
W [mg/L]	25-Apr-24	15:50	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	25-Apr-24	15:50	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	25-Apr-24	15:50	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002

Analysis	10: CV5-WR-HCT -33 Wk#51	11: CV5-WR-HCT -36 Wk#51	12: CV5-WR-HCT -39 Wk#51	13: CV5-WR-HCT -50 Wk#51	14: CV5-WR-HCT -56 Wk#51	15: CV5-WR-HCT -59 Wk#51	16: CV5-WR-HCT -62 Wk#51
Sample Date & Time	18-Apr-24	18-Apr-24	18-Apr-24	18-Apr-24	18-Apr-24	18-Apr-24	18-Apr-24
HumCell Leachate Vol [mL]	1012	996	977	1008	984	997	933
pH [No unit]	7.24	7.12	6.47	7.12	7.55	6.22	7.16
Alkalinity [mg/L as CaCO3]	7	7	2	9	6	< 2	6
Conductivity [uS/cm]	16	20	19	52	29	14	21
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	3	< 2	4	< 2
Tot.Reactive P [mg/L]	< 0.03	0.35	< 0.03	< 0.03	< 0.03	< 0.03	0.09
SO4 [mg/L]	< 2	< 2	5	4	6	3	< 2
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.049	0.002	0.007	0.031	0.033	0.002	< 0.001
As [mg/L]	0.0040	1.36	0.0133	0.0029	0.0087	0.136	0.534
Ba [mg/L]	0.00013	0.00051	0.00027	0.00020	0.00027	0.00015	0.00031
Be [mg/L]	< 0.000007	< 0.000007	0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	< 0.002	0.003	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	2.83	2.63	2.24	5.74	4.50	1.73	2.74
Cd [mg/L]	< 0.000003	< 0.000003	0.000003	0.000033	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	0.000075	0.000582	0.000093	0.00261	0.000050	0.00222	0.000483
Cr [mg/L]	< 0.00008	0.00016	< 0.00008	< 0.00008	< 0.00008	0.00010	< 0.00008
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	0.044	0.049	0.107	0.132	0.123	0.037	0.029
Li [mg/L]	0.0023	0.0020	0.0046	0.0083	0.0016	0.0013	0.0003
Mg [mg/L]	0.070	0.584	0.223	0.057	0.125	0.289	0.700
Mn [mg/L]	0.00914	0.00207	0.00127	0.00745	0.00548	0.00419	0.00263
Mo [mg/L]	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	0.07	0.02	0.08	0.09	0.05	0.04	0.01
Ni [mg/L]	< 0.0001	0.0119	0.0002	0.0018	< 0.0001	0.0161	0.0070
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.0012	0.415	0.0085	0.0128	< 0.0009	0.0030	0.369

OnLine LIMS

0003696013

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10137-APR24**

Analysis	10: CV5-WR-HCT -33 Wk#51	11: CV5-WR-HCT -36 Wk#51	12: CV5-WR-HCT -39 Wk#51	13: CV5-WR-HCT -50 Wk#51	14: CV5-WR-HCT -56 Wk#51	15: CV5-WR-HCT -59 Wk#51	16: CV5-WR-HCT -62 Wk#51
Se [mg/L]	0.00007	0.00007	0.00007	0.00041	0.00004	< 0.00004	0.00006
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00264	0.00259	0.00541	0.00340	0.00398	0.00662	0.00142
Ti [mg/L]	0.00011	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tl [mg/L]	< 0.000005	< 0.000005	0.000006	0.000021	< 0.000005	0.000006	< 0.000005
U [mg/L]	0.000060	0.000019	0.000191	0.000879	0.000278	0.000015	0.000037
V [mg/L]	0.00044	0.00017	0.00019	0.00004	0.00022	0.00018	0.00011
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	0.007	< 0.002	< 0.002	< 0.002

Analysis	17: CV5-WR-HCT -64 Wk#51	18: CV5-WR-HCT -69 Wk#51	19: CV5-ORE-HCT-74 Wk#51	20: CV5-ORE-HCT-76 Wk#51
Sample Date & Time	18-Apr-24	18-Apr-24	18-Apr-24	18-Apr-24
HumCell Leachate Vol [mL]	993	998	1012	997
pH [No unit]	7.31	7.08	6.50	7.06
Alkalinity [mg/L as CaCO3]	4	5	2	7
Conductivity [uS/cm]	9	12	3	16
Acidity [mg/L as CaCO3]	< 2	< 2	<2	< 2
Tot.Reactive P [mg/L]	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	< 2	< 2	< 2	< 2
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.026	0.043	0.009	0.026
As [mg/L]	0.0058	0.0026	0.0066	0.0021
Ba [mg/L]	0.00021	0.00009	< 0.00008	< 0.00008
Be [mg/L]	0.000011	0.000079	0.000010	0.000028
B [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	0.00022	< 0.00001	0.00008
Ca [mg/L]	1.74	1.91	0.50	2.60
Cd [mg/L]	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	0.000009	0.000007	0.000011	0.000005
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	0.00010
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	0.167	0.046	0.072	0.190
Li [mg/L]	0.0013	0.0010	0.0051	0.0052
Mg [mg/L]	0.041	0.021	0.010	0.085
Mn [mg/L]	0.00544	0.00219	0.0534	0.00059
Mo [mg/L]	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	0.05	0.09	0.07	0.07
Ni [mg/L]	< 0.0001	< 0.0001	0.0001	< 0.0001
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.0014	0.0012	0.0062	< 0.0009

OnLine LIMS

0003696013

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10137-APR24**

Analysis	17: CV5-WR-HCT-64 Wk#51	18: CV5-WR-HCT-69 Wk#51	19: CV5-ORE-HCT-74 Wk#51	20: CV5-ORE-HCT-76 Wk#51
Se [mg/L]	< 0.00004	< 0.00004	< 0.00004	< 0.00004
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00217	0.00319	0.00082	0.00505
Ti [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tl [mg/L]	0.000029	0.000005	0.000030	0.000014
U [mg/L]	0.000440	0.00263	0.000403	0.000907
V [mg/L]	0.00002	0.00005	< 0.00001	0.00003
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	0.005	< 0.002	< 0.002	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003696013

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

28-March-2024

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 21 March 2024
LR Report: **CA10151-MAR24**
Reference: Wk#47

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#47	6: CV5-DMS-HCT-84 Wk#47
Sample Date & Time			21-Mar-24	21-Mar-24
HumCell Leachate Vol [mL]	21-Mar-24	12:34	995	983
pH [No unit]	22-Mar-24	11:56	6.03	6.17
Alkalinity [mg/L as CaCO3]	22-Mar-24	11:56	< 2	< 2
Conductivity [uS/cm]	25-Mar-24	12:04	< 2	< 2
Acidity [mg/L as CaCO3]	25-Mar-24	12:04	< 2	2
Tot.Reactive P [mg/L]	25-Mar-24	09:39	< 0.03	< 0.03
SO4 [mg/L]	22-Mar-24	20:13	< 2	< 2
Ag [mg/L]	27-Mar-24	10:44	< 0.00005	< 0.00005
Al [mg/L]	27-Mar-24	10:44	0.009	0.008
As [mg/L]	27-Mar-24	10:44	0.0029	0.0022
Ba [mg/L]	27-Mar-24	10:44	< 0.00008	< 0.00008
Be [mg/L]	27-Mar-24	10:44	< 0.000007	0.000009
B [mg/L]	27-Mar-24	10:44	< 0.002	< 0.002
Bi [mg/L]	27-Mar-24	10:44	0.00003	0.00003
Ca [mg/L]	27-Mar-24	10:44	0.29	0.30
Cd [mg/L]	27-Mar-24	10:44	< 0.000003	< 0.000003
Co [mg/L]	27-Mar-24	10:44	0.000012	0.000080
Cr [mg/L]	27-Mar-24	10:44	< 0.00008	< 0.00008
Cu [mg/L]	27-Mar-24	10:44	< 0.001	< 0.001
Fe [mg/L]	27-Mar-24	10:44	< 0.007	0.008
K [mg/L]	27-Mar-24	10:44	0.058	0.049
Li [mg/L]	27-Mar-24	10:44	0.0005	0.0005
Mg [mg/L]	27-Mar-24	10:44	0.011	0.013
Mn [mg/L]	27-Mar-24	10:44	0.00071	0.00229
Mo [mg/L]	27-Mar-24	10:44	< 0.0004	< 0.0004
Na [mg/L]	27-Mar-24	10:44	0.03	0.02
Ni [mg/L]	27-Mar-24	10:44	0.0001	0.0036
Pb [mg/L]	27-Mar-24	10:44	0.00018	< 0.00009
Sb [mg/L]	27-Mar-24	10:44	0.0012	0.0011

OnLine LIMS

0003663040

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10151-MAR24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HC T-83 Wk#47	6: CV5-DMS-HC T-84 Wk#47
Se [mg/L]	27-Mar-24	10:44	< 0.00004	0.00013
Sn [mg/L]	27-Mar-24	10:44	< 0.00006	< 0.00006
Sr [mg/L]	27-Mar-24	10:44	0.00060	0.00063
Ti [mg/L]	27-Mar-24	10:44	< 0.0001	< 0.0001
Tl [mg/L]	27-Mar-24	10:44	0.000006	0.000006
U [mg/L]	27-Mar-24	10:44	0.000617	0.000706
V [mg/L]	27-Mar-24	10:44	0.00001	< 0.00001
W [mg/L]	27-Mar-24	10:44	< 0.0002	< 0.0002
Y [mg/L]	27-Mar-24	10:44	< 0.00002	< 0.00002
Zn [mg/L]	27-Mar-24	10:44	< 0.002	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003663040

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

Patriot Tailings -Short- (9.5mm fraction size)

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

04-June-2024

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 23 May 2024
LR Report: **CA10151-MAY24**
Reference: Wk#56

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#56	6: CV5-DMS-HCT-84 Wk#56
Sample Date & Time			23-May-24	23-May-24
HumCell Leachate Vol [mL]	27-May-24	13:08	992	999
pH [No unit]	27-May-24	10:34	6.18	5.90
Alkalinity [mg/L as CaCO3]	27-May-24	10:34	< 2	< 2
Conductivity [uS/cm]	27-May-24	10:34	< 2	< 2
Acidity [mg/L as CaCO3]	27-May-24	10:34	2	3
Tot.Reactive P [mg/L]	24-May-24	08:22	< 0.03	< 0.03
SO4 [mg/L]	30-May-24	15:24	< 2	< 2
Ag [mg/L]	28-May-24	14:14	< 0.00005	< 0.00005
Al [mg/L]	28-May-24	14:14	0.012	0.010
As [mg/L]	28-May-24	14:14	0.0025	0.0017
Ba [mg/L]	28-May-24	14:14	0.00012	< 0.00008
Be [mg/L]	28-May-24	14:14	< 0.000007	< 0.000007
B [mg/L]	28-May-24	14:14	< 0.002	< 0.002
Bi [mg/L]	28-May-24	14:14	0.00002	0.00003
Ca [mg/L]	28-May-24	14:14	0.30	0.23
Cd [mg/L]	28-May-24	14:14	0.000006	< 0.000003
Co [mg/L]	28-May-24	14:14	0.000010	0.000010
Cr [mg/L]	28-May-24	14:14	< 0.00008	< 0.00008
Cu [mg/L]	28-May-24	14:14	< 0.001	< 0.001
Fe [mg/L]	28-May-24	14:14	< 0.007	< 0.007
K [mg/L]	28-May-24	14:14	0.041	0.035
Li [mg/L]	28-May-24	14:14	0.0003	0.0003
Mg [mg/L]	28-May-24	14:14	0.015	0.011
Mn [mg/L]	28-May-24	14:14	0.00107	0.00108
Mo [mg/L]	28-May-24	14:13	0.0006	< 0.0004
Na [mg/L]	28-May-24	14:13	0.03	0.01
Ni [mg/L]	28-May-24	14:13	0.0005	0.0005
Pb [mg/L]	28-May-24	14:13	< 0.00009	< 0.00009
Sb [mg/L]	28-May-24	14:13	0.0011	< 0.0009
Se [mg/L]	28-May-24	14:13	< 0.00004	< 0.00004
Sn [mg/L]	28-May-24	14:13	< 0.00006	< 0.00006
Sr [mg/L]	28-May-24	14:13	0.00066	0.00053
Ti [mg/L]	28-May-24	14:13	< 0.0001	< 0.0001
Tl [mg/L]	28-May-24	14:13	0.000007	< 0.000005
U [mg/L]	28-May-24	14:13	0.000545	0.000633

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0003734271

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10151-MAY24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#56	6: CV5-DMS-HCT-84 Wk#56
V [mg/L]	28-May-24	14:13	0.00004	0.00003
W [mg/L]	28-May-24	14:13	< 0.0002	< 0.0002
Y [mg/L]	28-May-24	14:13	< 0.00002	< 0.00002
Zn [mg/L]	28-May-24	14:13	< 0.002	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003734271

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

28-March-2024

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 21 March 2024
LR Report: **CA10152-MAR24**
Reference: Wk#47

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT -2 Wk#47	6: CV5-WR-HCT -5 Wk#47	7: CV5-WR-HCT- 5 (DUP) Wk#47	8: CV5-WR-HCT -14 Wk#47	9: CV5-WR-HCT -22 Wk#47
Sample Date & Time			21-Mar-24	21-Mar-24	21-Mar-24	21-Mar-24	21-Mar-24
HumCell Leachate Vol [mL]	21-Mar-24	12:35	947	953	944	982	994
pH [No unit]	25-Mar-24	12:04	6.79	7.01	6.89	7.76	6.98
Alkalinity [mg/L as CaCO3]	25-Mar-24	12:05	2	4	3	12	4
Conductivity [uS/cm]	22-Mar-24	12:19	28	16	13	28	10
Acidity [mg/L as CaCO3]	25-Mar-24	12:05	< 2	< 2	< 2	< 2	< 2
Tot.Reactive P [mg/L]	25-Mar-24	09:39	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	25-Mar-24	14:57	10	4	3	< 2	< 2
Ag [mg/L]	27-Mar-24	10:44	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	27-Mar-24	10:44	0.019	0.016	0.019	0.099	0.013
As [mg/L]	27-Mar-24	10:44	0.0029	0.165	0.117	0.0340	0.111
Ba [mg/L]	27-Mar-24	10:44	0.00019	0.00011	0.00012	0.00016	0.00009
Be [mg/L]	27-Mar-24	10:44	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	27-Mar-24	10:44	0.003	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	27-Mar-24	10:44	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	27-Mar-24	10:44	4.28	2.55	2.02	5.66	1.43
Cd [mg/L]	27-Mar-24	10:44	< 0.000003	< 0.000003	< 0.000003	< 0.000003	0.000008
Co [mg/L]	27-Mar-24	10:44	0.000098	0.000164	0.000193	0.000064	0.000110
Cr [mg/L]	27-Mar-24	10:44	< 0.00008	< 0.00008	0.00010	< 0.00008	< 0.00008
Cu [mg/L]	27-Mar-24	10:44	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	27-Mar-24	10:44	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	27-Mar-24	10:44	0.134	0.063	0.059	0.031	0.031
Li [mg/L]	27-Mar-24	10:44	0.0050	0.0054	0.0049	0.0032	0.0037
Mg [mg/L]	27-Mar-24	10:44	0.215	0.121	0.114	0.188	0.166
Mn [mg/L]	27-Mar-24	10:44	0.00093	0.00076	0.00105	0.00540	0.00047
Mo [mg/L]	27-Mar-24	10:44	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	27-Mar-24	10:44	0.09	0.04	0.04	0.12	0.06
Ni [mg/L]	27-Mar-24	10:44	0.0004	0.0012	0.0009	0.0004	0.0005
Pb [mg/L]	27-Mar-24	10:44	< 0.00009	< 0.00009	< 0.00009	< 0.00009	0.00016
Sb [mg/L]	27-Mar-24	10:44	0.0020	0.0374	0.0195	0.0036	0.0050

OnLine LIMS

0003662968

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10152-MAR24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT -2 Wk#47	6: CV5-WR-HCT -5 Wk#47	7: CV5-WR-HCT-5 (DUP) Wk#47	8: CV5-WR-HCT -14 Wk#47	9: CV5-WR-HCT -22 Wk#47
Se [mg/L]	27-Mar-24	10:44	0.00013	0.00005	0.00005	0.00010	0.00004
Sn [mg/L]	27-Mar-24	10:44	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	27-Mar-24	10:44	0.00797	0.00371	0.00354	0.00382	0.00381
Ti [mg/L]	27-Mar-24	10:44	0.00013	< 0.0001	< 0.0001	0.00014	< 0.0001
Tl [mg/L]	27-Mar-24	10:44	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005
U [mg/L]	27-Mar-24	10:44	0.000113	0.000017	0.000016	0.000128	0.000136
V [mg/L]	27-Mar-24	10:44	0.00022	0.00034	0.00034	0.00223	0.00083
W [mg/L]	27-Mar-24	10:44	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	27-Mar-24	10:44	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	27-Mar-24	10:44	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002

Analysis	10: CV5-WR-HCT -33 Wk#47	11: CV5-WR-HCT -36 Wk#47	12: CV5-WR-HCT -39 Wk#47	13: CV5-WR-HCT -50 Wk#47	14: CV5-WR-HCT -56 Wk#47	15: CV5-WR-HCT -59 Wk#47	16: CV5-WR-HCT -62 Wk#47
Sample Date & Time	21-Mar-24	21-Mar-24	21-Mar-24	21-Mar-24	21-Mar-24	21-Mar-24	21-Mar-24
HumCell Leachate Vol [mL]	998	971	949	1001	981	991	952
pH [No unit]	7.39	7.06	6.51	7.30	7.34	6.38	7.24
Alkalinity [mg/L as CaCO3]	6	4	2	8	8	< 2	7
Conductivity [uS/cm]	13	13	21	46	26	12	18
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	4	< 2
Tot.Reactive P [mg/L]	< 0.03	0.25	< 0.03	< 0.03	< 0.03	< 0.03	0.10
SO4 [mg/L]	< 2	< 2	7	7	5	3	2
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.052	0.001	0.011	0.032	0.032	0.013	< 0.001
As [mg/L]	0.0043	0.918	0.0151	0.0036	0.0126	0.192	0.512
Ba [mg/L]	0.00013	0.00039	0.00021	0.00030	0.00031	0.00013	0.00030
Be [mg/L]	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	0.003	0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	2.36	1.81	2.90	6.53	4.33	1.59	2.50
Cd [mg/L]	< 0.000003	< 0.000003	0.000004	0.000034	< 0.000003	0.000009	< 0.000003
Co [mg/L]	0.000048	0.000346	0.000131	0.001848	0.000059	0.000780	0.000486
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	0.038	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	0.040	0.029	0.128	0.157	0.152	0.028	0.021
Li [mg/L]	0.0020	0.0013	0.0050	0.0090	0.0019	0.0012	0.0003
Mg [mg/L]	0.070	0.395	0.269	0.074	0.141	0.269	0.648
Mn [mg/L]	0.00735	0.00156	0.00150	0.00758	0.00582	0.00183	0.00270
Mo [mg/L]	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	0.0300	< 0.0004
Na [mg/L]	0.06	0.01	0.09	0.09	0.04	0.06	< 0.01
Ni [mg/L]	0.0001	0.0083	0.0005	0.0028	0.0003	0.0072	0.0075
Pb [mg/L]	< 0.00009	< 0.00009	0.00015	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.0010	0.315	0.0091	0.0175	< 0.0009	0.0037	0.438

OnLine LIMS

0003662968

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10152-MAR24**

Analysis	10: CV5-WR-HCT -33 Wk#47	11: CV5-WR-HCT -36 Wk#47	12: CV5-WR-HCT -39 Wk#47	13: CV5-WR-HCT -50 Wk#47	14: CV5-WR-HCT -56 Wk#47	15: CV5-WR-HCT -59 Wk#47	16: CV5-WR-HCT -62 Wk#47
Se [mg/L]	0.00025	0.00005	0.00008	0.00063	0.00006	< 0.00004	0.00010
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00199	0.00186	0.00684	0.00393	0.00404	0.00627	0.00127
Ti [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tl [mg/L]	< 0.000005	< 0.000005	< 0.000005	0.000020	< 0.000005	< 0.000005	< 0.000005
U [mg/L]	0.000024	0.000014	0.000270	0.00110	0.000486	0.000013	0.000044
V [mg/L]	0.00044	0.00012	0.00022	0.00005	0.00027	0.00022	0.00012
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	0.006	< 0.002	< 0.002	< 0.002

Analysis	17: CV5-WR-HCT -64 Wk#47	18: CV5-WR-HCT -69 Wk#47	19: CV5-ORE-HCT-74 Wk#47	20: CV5-ORE-HCT-76 Wk#47
Sample Date & Time	21-Mar-24	21-Mar-24	21-Mar-24	21-Mar-24
HumCell Leachate Vol [mL]	982	1008	997	975
pH [No unit]	7.06	7.09	6.48	7.10
Alkalinity [mg/L as CaCO3]	5	5	< 2	6
Conductivity [uS/cm]	9	12	2	13
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2
Tot.Reactive P [mg/L]	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	< 2	< 2	< 2	< 2
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.022	0.049	0.011	0.026
As [mg/L]	0.0058	0.0033	0.0075	0.0022
Ba [mg/L]	< 0.00008	0.00012	< 0.00008	< 0.00008
Be [mg/L]	< 0.000007	0.000052	< 0.000007	0.000017
B [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	0.00028	< 0.00001	0.00008
Ca [mg/L]	1.75	2.31	0.50	2.37
Cd [mg/L]	< 0.000003	0.000005	0.000003	< 0.000003
Co [mg/L]	0.000008	0.000011	0.000007	0.000008
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	0.149	0.067	0.080	0.180
Li [mg/L]	0.0012	0.0013	0.0047	0.0047
Mg [mg/L]	0.040	0.028	0.010	0.077
Mn [mg/L]	0.00450	0.00253	0.04556	0.00100
Mo [mg/L]	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	0.03	0.10	0.06	0.06
Ni [mg/L]	0.0001	0.0001	0.0002	0.0002
Pb [mg/L]	0.00069	0.00011	< 0.00009	< 0.00009
Sb [mg/L]	0.0012	0.0013	0.0070	< 0.0009

OnLine LIMS

00036629

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10152-MAR24**

Analysis	17: CV5-WR-HCT-64 Wk#47	18: CV5-WR-HCT-69 Wk#47	19: CV5-ORE-HCT-74 Wk#47	20: CV5-ORE-HCT-76 Wk#47
Se [mg/L]	< 0.00004	0.00004	< 0.00004	0.00004
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00208	0.00389	0.00082	0.00449
Ti [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tl [mg/L]	0.000024	0.000005	0.000022	0.000014
U [mg/L]	0.000528	0.00354	0.000476	0.000842
V [mg/L]	< 0.00001	0.00004	< 0.00001	0.00003
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

00036629

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

04-June-2024

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 23 May 2024
LR Report: **CA10152-MAY24**
Reference: Wk#56

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#56	6: CV5-WR-HCT-5 Wk#56	7: CV5-WR-HCT-5 (DUP) Wk#56	8: CV5-WR-HCT-14 Wk#56	9: CV5-WR-HCT-22 Wk#56	10: CV5-WR-HCT-33 Wk#56
Sample Date & Time			23-May-24	23-May-24	23-May-24	23-May-24	23-May-24	23-May-24
HumCell Leachate Vol [mL]	27-May-24	13:09	993	987	1000	1000	1000	996
pH [No unit]	28-May-24	11:34	6.96	7.16	7.03	7.65	7.28	7.32
Alkalinity [mg/L as CaCO3]	27-May-24	10:37	3	4	2	12	3	6
Conductivity [uS/cm]	28-May-24	11:34	32	19	15	19	11	12
Acidity [mg/L as CaCO3]	27-May-24	10:40	2	<2	<2	<2	<2	< 2
Tot.Reactive P [mg/L]	24-May-24	08:23	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	31-May-24	12:59	10	4	3	2	< 2	2
Ag [mg/L]	28-May-24	14:13	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	28-May-24	14:13	0.017	0.015	0.015	0.081	0.017	0.052
As [mg/L]	28-May-24	14:13	0.0021	0.146	0.0873	0.0223	0.0924	0.0035
Ba [mg/L]	28-May-24	14:13	0.00018	0.00015	0.00015	0.00010	0.00009	0.00012
Be [mg/L]	28-May-24	14:13	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	28-May-24	14:13	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	28-May-24	14:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	28-May-24	14:13	4.58	2.76	2.29	4.93	1.66	2.34
Cd [mg/L]	28-May-24	14:13	< 0.000003	0.000010	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	28-May-24	14:13	0.000104	0.000191	0.000228	0.000052	0.000145	0.000070
Cr [mg/L]	28-May-24	14:13	0.00008	0.00008	0.00009	< 0.00008	0.00010	< 0.00008
Cu [mg/L]	28-May-24	14:13	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	28-May-24	14:13	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	28-May-24	14:13	0.126	0.058	0.052	0.024	0.028	0.030
Li [mg/L]	28-May-24	14:13	0.0041	0.0053	0.0048	0.0026	0.0039	0.0016
Mg [mg/L]	28-May-24	14:13	0.199	0.115	0.111	0.147	0.189	0.056
Mn [mg/L]	28-May-24	14:13	0.00117	0.00091	0.00131	0.00514	0.00048	0.00756
Mo [mg/L]	28-May-24	14:13	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	28-May-24	14:13	0.09	0.04	0.04	0.10	0.07	0.06
Ni [mg/L]	28-May-24	14:13	0.0010	0.0015	0.0011	0.0007	0.0008	0.0007
Pb [mg/L]	28-May-24	14:13	< 0.00009	0.00013	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	28-May-24	14:13	0.0020	0.0360	0.0186	0.0026	0.0041	< 0.0009
Se [mg/L]	28-May-24	14:13	0.00015	< 0.00004	< 0.00004	0.00006	< 0.00004	0.00005
Sn [mg/L]	28-May-24	14:13	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	28-May-24	14:13	0.00812	0.00355	0.00367	0.00329	0.00442	0.00204
Ti [mg/L]	28-May-24	14:13	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.00015	0.00016
Tl [mg/L]	28-May-24	14:13	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005
U [mg/L]	28-May-24	14:13	0.000110	0.000013	0.000015	0.000025	0.000136	0.000017

OnLine LIMS

00037342 74

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10152-MAY24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#56	6: CV5-WR-HCT-5 Wk#56	7: CV5-WR-HCT-5 (DUP) Wk#56	8: CV5-WR-HCT-14 Wk#56	9: CV5-WR-HCT-22 Wk#56	10: CV5-WR-HCT-33 Wk#56
V [mg/L]	28-May-24	14:13	0.00021	0.00034	0.00029	0.00165	0.00086	0.00048
W [mg/L]	28-May-24	14:13	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	28-May-24	14:13	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	28-May-24	14:13	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002

Analysis	11: CV5-WR-HCT-36 Wk#56	12: CV5-WR-HCT-39 Wk#56	13: CV5-WR-HCT-50 Wk#56	14: CV5-WR-HCT-56 Wk#56	15: CV5-WR-HCT-59 Wk#56	16: CV5-WR-HCT-62 Wk#56	17: CV5-WR-HCT-64 Wk#56	18: CV5-WR-HCT-69 Wk#56
Sample Date & Time	23-May-24	23-May-24	23-May-24	23-May-24	23-May-24	23-May-24	23-May-24	23-May-24
HumCell Leachate Vol [mL]	1010	957	1010	981	1006	969	994	1002
pH [No unit]	7.12	6.42	7.19	7.28	6.19	7.24	7.11	6.58
Alkalinity [mg/L as CaCO3]	5	< 2	7	7	< 2	7	4	< 2
Conductivity [uS/cm]	14	19	44	26	15	19	8	7
Acidity [mg/L as CaCO3]	< 2	2	6	< 2	4	< 2	< 2	2
Tot.Reactive P [mg/L]	< 0.03	< 0.03	0.22	< 0.03	0.03	0.09	< 0.03	< 0.03
SO4 [mg/L]	6	6	< 2	8	4	4	< 2	< 2
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.033	0.007	0.002	0.025	0.004	< 0.001	0.024	0.047
As [mg/L]	0.0088	0.0115	0.821	0.0027	0.149	0.419	0.0040	0.0027
Ba [mg/L]	0.00029	0.00014	0.00059	0.00024	0.00017	0.00039	< 0.00008	0.00014
Be [mg/L]	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	0.000007	0.000052
B [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00015
Ca [mg/L]	4.64	2.48	2.01	6.86	1.95	2.54	1.55	2.20
Cd [mg/L]	< 0.000003	0.000004	< 0.000003	0.000049	0.000007	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	0.000057	0.000123	0.000512	0.00310	0.00259	0.000556	0.000007	0.000010
Cr [mg/L]	< 0.00008	< 0.00008	0.00013	< 0.00008	0.00012	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007	0.009	< 0.007	< 0.007	< 0.007
K [mg/L]	0.134	0.106	0.028	0.118	0.028	0.019	0.136	0.054
Li [mg/L]	0.0017	0.0045	0.0014	0.0062	0.0014	0.0002	0.0010	0.0010
Mg [mg/L]	0.136	0.221	0.463	0.069	0.340	0.707	0.034	0.025
Mn [mg/L]	0.00566	0.00148	0.00215	0.00748	0.00512	0.00288	0.00496	0.00252
Mo [mg/L]	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	0.05	0.06	0.01	0.08	0.03	< 0.01	0.03	0.08
Ni [mg/L]	0.0007	0.0006	0.0096	0.0027	0.0217	0.0076	0.0005	0.0006
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	< 0.0009	0.0068	0.319	0.0115	0.0028	0.364	< 0.0009	0.0012
Se [mg/L]	< 0.00004	< 0.00004	< 0.00004	0.00055	< 0.00004	< 0.00004	< 0.00004	< 0.00004
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00410	0.00586	0.00186	0.00382	0.00757	0.00126	0.00181	0.00357
Ti [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tl [mg/L]	< 0.000005	< 0.000005	< 0.000005	0.000019	0.000005	< 0.000005	0.000026	< 0.000005
U [mg/L]	0.000363	0.000189	0.000016	0.00128	0.000005	0.000031	0.000346	0.00297
V [mg/L]	0.00028	0.00020	0.00012	0.00005	0.00020	0.00013	0.00005	0.00007
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	0.010	< 0.002	< 0.002	< 0.002	< 0.002

Analysis	19: CV5-ORE-HCT-74 Wk#56	20: CV5-ORE-HCT-76 Wk#56
Sample Date & Time	23-May-24	23-May-24

OnLine LIMS

0003734274

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10152-MAY24**

Analysis	19: CV5-ORE-HCT-74 Wk#56	20: CV5-ORE-HCT-76 Wk#56
HumCell Leachate Vol [mL]	999	1000
pH [No unit]	7.11	7.21
Alkalinity [mg/L as CaCO3]	5	6
Conductivity [uS/cm]	11	12
Acidity [mg/L as CaCO3]	< 2	< 2
Tot.Reactive P [mg/L]	< 0.03	< 0.03
SO4 [mg/L]	< 2	< 2
Ag [mg/L]	< 0.00005	< 0.00005
Al [mg/L]	0.012	0.026
As [mg/L]	0.0064	0.0016
Ba [mg/L]	< 0.00008	< 0.00008
Be [mg/L]	< 0.000007	0.000013
B [mg/L]	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	0.00006
Ca [mg/L]	0.44	2.30
Cd [mg/L]	< 0.000003	< 0.000003
Co [mg/L]	0.000009	0.000019
Cr [mg/L]	< 0.00008	< 0.00008
Cu [mg/L]	< 0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007
K [mg/L]	0.071	0.154
Li [mg/L]	0.0049	0.0046
Mg [mg/L]	0.010	0.109
Mn [mg/L]	0.0519	0.00061
Mo [mg/L]	< 0.0004	< 0.0004
Na [mg/L]	0.06	0.05
Ni [mg/L]	0.0004	0.0004
Pb [mg/L]	< 0.00009	< 0.00009
Sb [mg/L]	0.0061	< 0.0009
Se [mg/L]	< 0.00004	< 0.00004
Sn [mg/L]	< 0.00006	< 0.00006
Sr [mg/L]	0.00081	0.00446
Ti [mg/L]	< 0.0001	< 0.0001
Tl [mg/L]	0.000026	0.000013
U [mg/L]	0.000376	0.000781
V [mg/L]	0.00003	0.00006
W [mg/L]	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

13-August-2024

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 25 July 2024
LR Report: **CA10153-JUL24**
Reference: Wk#65

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#65	6: CV5-WR-HCT-5 Wk#65	7: CV5-WR-HCT-5 (DUP) Wk#65	8: CV5-WR-HCT-14 Wk#65	9: CV5-WR-HCT-22 Wk#65	10: CV5-WR-HCT-33 Wk#65
Sample Date & Time			25-Jul-24	25-Jul-24	25-Jul-24	25-Jul-24	25-Jul-24	25-Jul-24
HumCell Leachate Vol [mL]	25-Jul-24	12:06	928	934	952	984	973	955
pH [No unit]	29-Jul-24	12:57	6.75	7.01	6.86	7.36	6.85	7.02
Conductivity [uS/cm]	29-Jul-24	10:01	38	21	16	26	9	11

Analysis	11: CV5-WR-HCT-36 Wk#65	12: CV5-WR-HCT-39 Wk#65	13: CV5-WR-HCT-50 Wk#65	14: CV5-WR-HCT-56 Wk#65	15: CV5-WR-HCT-59 Wk#65	16: CV5-WR-HCT-62 Wk#65	17: CV5-WR-HCT-64 Wk#65	18: CV5-WR-HCT-69 Wk#65
Sample Date & Time	25-Jul-24	25-Jul-24	25-Jul-24	25-Jul-24	25-Jul-24	25-Jul-24	25-Jul-24	25-Jul-24
HumCell Leachate Vol [mL]	960	947	1000	969	1007	920	1002	1002
pH [No unit]	7.17	6.50	6.73	7.11	6.47	7.16	6.87	6.98
Conductivity [uS/cm]	18	21	45	29	13	19	8	15

Analysis	19: CV5-ORE-HCT-74 Wk#65	20: CV5-ORE-HCT-76 Wk#65
Sample Date & Time	25-Jul-24	25-Jul-24
HumCell Leachate Vol [mL]	987	965
pH [No unit]	6.55	7.08
Conductivity [uS/cm]	3	12

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003816140

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

08-December-2024

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 28 November 2024
LR Report: **CA10154-NOV24**
Reference: Wk#83

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#83	6: CV5-WR-HCT-5 Wk#83	7: CV5-WR-HCT-5 (DUP) Wk#83	8: CV5-WR-HCT-14 Wk#83	9: CV5-WR-HCT-22 Wk#83	10: CV5-WR-HCT-33 Wk#83	11: CV5-WR-HCT-36 Wk#83
Sample Date & Time			28-Nov-24	28-Nov-24	28-Nov-24	28-Nov-24	28-Nov-24	28-Nov-24	28-Nov-24
HumCell Leachate Vol [mL]	28-Nov-24	15:28	930	946	977	991	960	1002	999
pH [No unit]	02-Dec-24	12:01	6.62	7.16	7.03	7.42	7.17	7.10	7.29
Conductivity [uS/cm]	29-Nov-24	15:33	30	21	14	27	9	14	18

Analysis	12: CV5-WR-HCT-39 Wk#83	13: CV5-WR-HCT-50 Wk#83	14: CV5-WR-HCT-56 Wk#83	15: CV5-WR-HCT-59 Wk#83	16: CV5-WR-HCT-62 Wk#83	17: CV5-WR-HCT-64 Wk#83	18: CV5-WR-HCT-69 Wk#83	19: CV5-ORE-HCT-74 Wk#83	20: CV5-ORE-HCT-76 Wk#83
Sample Date & Time	28-Nov-24	28-Nov-24	28-Nov-24	28-Nov-24	28-Nov-24	28-Nov-24	28-Nov-24	28-Nov-24	28-Nov-24
HumCell Leachate Vol [mL]	930	1012	1008	1006	937	1002	997	999	1005
pH [No unit]	6.49	6.79	7.25	6.50	7.15	7.01	6.95	6.67	6.92
Conductivity [uS/cm]	20	52	36	12	18	6	9	3	13

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003952978

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

11-September-2024

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 29 August 2024
LR Report: **CA10155-AUG24**
Reference: Wk#70

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#70	6: CV5-WR-HCT-5 Wk#70	7: CV5-WR-HCT-5 (DUP) Wk#70	8: CV5-WR-HCT-1 4 Wk#70	9: CV5-WR-HCT-2 2 Wk#70	10: CV5-WR-HCT-3 3 Wk#70
Sample Date & Time			29-Aug-24	29-Aug-24	29-Aug-24	29-Aug-24	29-Aug-24	29-Aug-24
HumCell Leachate Vol [mL]	05-Sep-24	10:44	934	951	958	970	984	983
pH [No unit]	30-Aug-24	09:38	6.78	6.98	6.86	7.48	6.91	7.10
Conductivity [uS/cm]	30-Aug-24	09:38	36	20	15	25	9	12

Analysis	11: CV5-WR-HCT-3 6 Wk#70	12: CV5-WR-HCT-3 9 Wk#70	13: CV5-WR-HCT-5 0 Wk#70	14: CV5-WR-HCT-5 6 Wk#70	15: CV5-WR-HCT-5 9 Wk#70	16: CV5-WR-HCT-6 2 Wk#70	17: CV5-WR-HCT-6 4 Wk#70	18: CV5-WR-HCT-6 9 Wk#70
Sample Date & Time	29-Aug-24	29-Aug-24	29-Aug-24	29-Aug-24	29-Aug-24	29-Aug-24	29-Aug-24	29-Aug-24
HumCell Leachate Vol [mL]	966	938	996	980	1004	928	1010	1006
pH [No unit]	7.14	6.49	6.50	7.07	6.37	7.17	6.92	7.15
Conductivity [uS/cm]	17	21	49	32	16	19	8	13

Analysis	19: CV5-ORE-HCT- 74 Wk#70	20: CV5-ORE-HCT- 76 Wk#70
Sample Date & Time	29-Aug-24	29-Aug-24
HumCell Leachate Vol [mL]	999	980
pH [No unit]	6.50	7.05
Conductivity [uS/cm]	3	11

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003852397

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

02-October-2024

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 26 September 2024
LR Report: **CA10159-SEP24**
Reference: Wk#74

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#74	6: CV5-WR-HCT-5 Wk#74	7: CV5-WR-HCT-5 (DUP) Wk#74	8: CV5-WR-HCT-14 Wk#74	9: CV5-WR-HCT-22 Wk#74	10: CV5-WR-HCT-33 Wk#74
Sample Date & Time			26-Sep-24	26-Sep-24	26-Sep-24	26-Sep-24	26-Sep-24	26-Sep-24
HumCell Leachate Vol [mL]	30-Sep-24	10:33	947	956	966	1012	1000	1005
pH [No unit]	01-Oct-24	10:53	6.81	7.05	6.93	7.58	6.97	7.26
Conductivity [uS/cm]	30-Sep-24	12:03	30	19	13	25	6	12

Analysis	11: CV5-WR-HCT-36 Wk#74	12: CV5-WR-HCT-39 Wk#74	13: CV5-WR-HCT-50 Wk#74	14: CV5-WR-HCT-56 Wk#74	15: CV5-WR-HCT-59 Wk#74	16: CV5-WR-HCT-62 Wk#74	17: CV5-WR-HCT-64 Wk#74	18: CV5-WR-HCT-69 Wk#74
Sample Date & Time	26-Sep-24	26-Sep-24	26-Sep-24	26-Sep-24	26-Sep-24	26-Sep-24	26-Sep-24	26-Sep-24
HumCell Leachate Vol [mL]	985	952	1012	1026	1008	945	1011	1012
pH [No unit]	7.31	6.65	6.89	7.28	6.47	7.36	6.97	7.27
Conductivity [uS/cm]	13	18	43	30	15	17	5	13

Analysis	19: CV5-ORE-HCT-74 Wk#74	20: CV5-ORE-HCT-76 Wk#74
Sample Date & Time	26-Sep-24	26-Sep-24
HumCell Leachate Vol [mL]	1007	985
pH [No unit]	6.80	7.34
Conductivity [uS/cm]	3	11

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003877527

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

30-October-2024

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 24 October 2024
LR Report: **CA10161-OCT24**
Reference: Wk#78

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#78	6: CV5-WR-HCT-5 Wk#78	7: CV5-WR-HCT-5 (DUP) Wk#78	8: CV5-WR-HCT-14 Wk#78	9: CV5-WR-HCT-22 Wk#78	10: CV5-WR-HCT-33 Wk#78
Sample Date & Time			24-Oct-24	24-Oct-24	24-Oct-24	24-Oct-24	24-Oct-24	24-Oct-24
HumCell Leachate Vol [mL]	25-Oct-24	16:52	955	971	969	1003	1003	1009
pH [No unit]	25-Oct-24	11:40	6.69	6.97	6.83	7.25	6.95	7.12
Conductivity [uS/cm]	25-Oct-24	11:40	32	20	14	26	10	14

Analysis	11: CV5-WR-HCT-36 Wk#78	12: CV5-WR-HCT-39 Wk#78	13: CV5-WR-HCT-50 Wk#78	14: CV5-WR-HCT-56 Wk#78	15: CV5-WR-HCT-59 Wk#78	16: CV5-WR-HCT-62 Wk#78	17: CV5-WR-HCT-64 Wk#78	18: CV5-WR-HCT-69 Wk#78
Sample Date & Time	24-Oct-24	24-Oct-24	24-Oct-24	24-Oct-24	24-Oct-24	24-Oct-24	24-Oct-24	24-Oct-24
HumCell Leachate Vol [mL]	994	944	1011	999	1005	941	999	1019
pH [No unit]	6.96	6.42	6.91	7.11	6.38	7.10	6.83	7.09
Conductivity [uS/cm]	15	20	47	30	14	16	6	12

Analysis	19: CV5-ORE-HCT-74 Wk#78	20: CV5-ORE-HCT-76 Wk#78
Sample Date & Time	24-Oct-24	24-Oct-24
HumCell Leachate Vol [mL]	1006	992
pH [No unit]	6.49	7.07
Conductivity [uS/cm]	3	11

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003910348

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

29-January-2025

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 27 December 2024
LR Report: **CA10163-DEC24**
Reference: Wk#87

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#87	6: CV5-WR-HCT-5 Wk#87	7: CV5-WR-HCT-5 (DUP) Wk#87	8: CV5-WR-HCT-1 4 Wk#87	9: CV5-WR-HCT-2 2 Wk#87
Sample Date & Time			27-Dec-24	27-Dec-24	27-Dec-24	27-Dec-24	27-Dec-24
HumCell Leachate Vol [mL]	30-Dec-24	13:12	966	973	953	1024	1016
pH [No unit]	31-Dec-24	15:09	6.75	7.03	7.19	7.46	7.03
Conductivity [uS/cm]	31-Dec-24	15:09	34	22	17	28	8

Analysis	10: CV5-WR-HCT-3 3 Wk#87	11: CV5-WR-HCT-3 6 Wk#87	12: CV5-WR-HCT-3 9 Wk#87	13: CV5-WR-HCT-5 0 Wk#87	14: CV5-WR-HCT-5 6 Wk#87	15: CV5-WR-HCT-5 9 Wk#87	16: CV5-WR-HCT-6 2 Wk#87
Sample Date & Time	27-Dec-24	27-Dec-24	27-Dec-24	27-Dec-24	27-Dec-24	27-Dec-24	27-Dec-24
HumCell Leachate Vol [mL]	1042	1028	1037	1040	1023	1031	987
pH [No unit]	7.20	7.08	6.49	6.59	7.07	6.10	6.80
Conductivity [uS/cm]	20	19	31	56	33	15	19

Analysis	17: CV5-WR-HCT-6 4 Wk#87	18: CV5-WR-HCT-6 9 Wk#87	19: CV5-ORE-HCT-74 Wk#87	20: CV5-ORE-HCT-76 Wk#87
Sample Date & Time	27-Dec-24	27-Dec-24	27-Dec-24	27-Dec-24
HumCell Leachate Vol [mL]	1049	1027	1043	1041
pH [No unit]	6.91	7.39	6.60	7.08
Conductivity [uS/cm]	5	13	4	19

Chris Sullivan

Chris Sullivan, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0004001393

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Patriot Tailings -Short- (9.5mm fraction size)

23-July-2024

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 27 June 2024
LR Report: **CA10165-JUN24**
Reference: Wk#61

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#61	6: CV5-DMS-HCT-84 Wk#61
Sample Date & Time			27-Jun-24	27-Jun-24
HumCell Leachate Vol [mL]	27-Jun-24	16:53	992	1000
pH [No unit]	30-Jun-24	16:21	6.84	6.67
Alkalinity [mg/L as CaCO3]	17-Jul-24	09:48	< 2	< 2
Conductivity [uS/cm]	28-Jun-24	10:42	< 2	2
Acidity [mg/L as CaCO3]	28-Jun-24	10:42	3	2
Tot.Reactive P [mg/L]	28-Jun-24	07:44	< 0.03	< 0.03
SO4 [mg/L]	27-Jun-24	17:05	< 2	< 2
Ag [mg/L]	29-Jun-24	10:26	< 0.00005	< 0.00005
Al [mg/L]	29-Jun-24	10:26	0.007	0.008
As [mg/L]	29-Jun-24	10:26	0.0026	0.0020
Ba [mg/L]	29-Jun-24	10:26	< 0.00008	< 0.00008
Be [mg/L]	29-Jun-24	10:26	0.000007	0.000011
B [mg/L]	29-Jun-24	10:26	< 0.002	< 0.002
Bi [mg/L]	29-Jun-24	10:26	0.00002	0.00003
Ca [mg/L]	29-Jun-24	10:26	0.28	0.31
Cd [mg/L]	29-Jun-24	10:26	< 0.000003	< 0.000003
Co [mg/L]	29-Jun-24	10:26	0.000007	0.000005
Cr [mg/L]	29-Jun-24	10:26	< 0.00008	< 0.00008
Cu [mg/L]	29-Jun-24	10:26	< 0.001	< 0.001
Fe [mg/L]	29-Jun-24	10:26	< 0.007	< 0.007
K [mg/L]	29-Jun-24	10:26	0.037	0.039
Li [mg/L]	29-Jun-24	10:26	0.0004	0.0004
Mg [mg/L]	29-Jun-24	10:26	0.010	0.013
Mn [mg/L]	29-Jun-24	10:26	0.00133	0.00190
Mo [mg/L]	29-Jun-24	10:26	< 0.0004	< 0.0004
Na [mg/L]	29-Jun-24	10:26	< 0.01	0.02
Ni [mg/L]	29-Jun-24	10:26	< 0.0001	< 0.0001
Pb [mg/L]	29-Jun-24	10:26	< 0.00009	< 0.00009
Sb [mg/L]	29-Jun-24	10:26	0.0013	0.0011

OnLine LIMS

0003793459

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10165-JUN24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HC T-83 Wk#61	6: CV5-DMS-HC T-84 Wk#61
Se [mg/L]	29-Jun-24	10:26	< 0.00004	< 0.00004
Sn [mg/L]	29-Jun-24	10:26	< 0.00006	< 0.00006
Sr [mg/L]	29-Jun-24	10:26	0.00061	0.00076
Ti [mg/L]	29-Jun-24	10:26	< 0.0001	< 0.0001
Tl [mg/L]	29-Jun-24	10:26	0.000008	0.000008
U [mg/L]	29-Jun-24	10:26	0.000469	0.000608
V [mg/L]	29-Jun-24	10:26	< 0.00001	0.00002
W [mg/L]	29-Jun-24	10:26	< 0.0002	< 0.0002
Y [mg/L]	29-Jun-24	10:26	< 0.00002	< 0.00002
Zn [mg/L]	29-Jun-24	10:26	< 0.002	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003793459

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

12-July-2024

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 27 June 2024
LR Report: **CA10166-JUN24**
Reference: Wk#61

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT -2 Wk#61	6: CV5-WR-HCT -5 Wk#61	7: CV5-WR-HCT- 5 (DUP) Wk#61	8: CV5-WR-HCT -14 Wk#61	9: CV5-WR-HCT -22 Wk#61
Sample Date & Time			27-Jun-24	27-Jun-24	27-Jun-24	27-Jun-24	27-Jun-24
HumCell Leachate Vol [mL]	27-Jun-24	16:53	949	959	974	1013	990
pH [No unit]	30-Jun-24	15:45	6.64	7.19	6.64	7.24	6.76
Alkalinity [mg/L as CaCO3]	30-Jun-24	15:47	3	4	3	11	4
Conductivity [uS/cm]	28-Jun-24	10:48	35	18	15	26	11
Acidity [mg/L as CaCO3]	30-Jun-24	15:37	< 2	< 2	< 2	< 2	< 2
Tot.Reactive P [mg/L]	30-Jun-24	12:42	< 0.03	0.04	0.03	< 0.03	0.05
SO4 [mg/L]	27-Jun-24	17:06	10	4	3	< 2	< 2
Ag [mg/L]	29-Jun-24	10:35	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	29-Jun-24	10:35	0.018	0.023	0.020	0.088	0.024
As [mg/L]	29-Jun-24	10:35	0.0019	0.137	0.0865	0.0250	0.0918
Ba [mg/L]	29-Jun-24	10:35	0.00029	0.00019	0.00013	0.00011	< 0.00008
Be [mg/L]	29-Jun-24	10:35	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	29-Jun-24	10:35	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	29-Jun-24	10:35	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	29-Jun-24	10:35	4.76	2.83	2.19	4.66	1.63
Cd [mg/L]	29-Jun-24	10:35	< 0.000003	0.000005	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	29-Jun-24	10:35	0.000131	0.000162	0.000147	0.000050	0.000155
Cr [mg/L]	29-Jun-24	10:35	< 0.00008	< 0.00008	< 0.00008	< 0.00008	0.00010
Cu [mg/L]	29-Jun-24	10:35	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	29-Jun-24	10:35	< 0.007	< 0.007	< 0.007	< 0.007	0.009
K [mg/L]	29-Jun-24	10:35	0.122	0.057	0.051	0.026	0.029
Li [mg/L]	29-Jun-24	10:35	0.0042	0.0050	0.0044	0.0029	0.0042
Mg [mg/L]	29-Jun-24	10:35	0.188	0.112	0.103	0.144	0.187
Mn [mg/L]	29-Jun-24	10:35	0.00216	0.00121	0.00102	0.00482	0.00076
Mo [mg/L]	29-Jun-24	10:35	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	29-Jun-24	10:35	0.08	0.03	0.04	0.09	0.06
Ni [mg/L]	29-Jun-24	10:35	0.0005	0.0012	0.0007	0.0002	0.0005
Pb [mg/L]	29-Jun-24	10:35	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	29-Jun-24	10:35	0.0015	0.0255	0.0136	0.0026	0.0039

OnLine LIMS

0003779914

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10166-JUN24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT -2 Wk#61	6: CV5-WR-HCT -5 Wk#61	7: CV5-WR-HCT-5 (DUP) Wk#61	8: CV5-WR-HCT -14 Wk#61	9: CV5-WR-HCT -22 Wk#61
Se [mg/L]	29-Jun-24	10:35	0.00010	< 0.00004	< 0.00004	0.00007	0.00004
Sn [mg/L]	29-Jun-24	10:35	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	29-Jun-24	10:35	0.00775	0.00355	0.00379	0.00315	0.00438
Ti [mg/L]	29-Jun-24	10:35	< 0.0001	0.00014	< 0.0001	0.00013	0.00045
Tl [mg/L]	29-Jun-24	10:35	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005
U [mg/L]	29-Jun-24	10:35	0.000060	0.000010	0.000029	0.000016	0.000136
V [mg/L]	29-Jun-24	10:35	0.00016	0.00038	0.00029	0.00193	0.00096
W [mg/L]	29-Jun-24	10:35	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	29-Jun-24	10:35	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	29-Jun-24	10:35	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002

Analysis	10: CV5-WR-HCT -33 Wk#61	11: CV5-WR-HCT -36 Wk#61	12: CV5-WR-HCT -39 Wk#61	13: CV5-WR-HCT -50 Wk#61	14: CV5-WR-HCT -56 Wk#61	15: CV5-WR-HCT -59 Wk#61	16: CV5-WR-HCT -62 Wk#61
Sample Date & Time	27-Jun-24	27-Jun-24	27-Jun-24	27-Jun-24	27-Jun-24	27-Jun-24	27-Jun-24
HumCell Leachate Vol [mL]	965	976	954	1008	1015	1007	926
pH [No unit]	6.95	6.90	6.28	6.77	7.02	6.36	7.10
Alkalinity [mg/L as CaCO3]	4	5	< 2	3	7	< 2	7
Conductivity [uS/cm]	10	13	18	44	31	11	20
Acidity [mg/L as CaCO3]	< 2	< 2	2	12	< 2	5	< 2
Tot.Reactive P [mg/L]	< 0.03	0.20	< 0.03	< 0.03	< 0.03	< 0.03	0.12
SO4 [mg/L]	< 2	< 2	5	8	6	3	2
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.059	0.002	0.008	0.011	0.037	0.002	< 0.001
As [mg/L]	0.0038	0.739	0.0118	0.0017	0.0088	0.0922	0.466
Ba [mg/L]	0.00011	0.00054	0.00015	0.00028	0.00037	0.00011	0.00024
Be [mg/L]	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	1.76	1.80	2.38	6.54	4.70	1.33	2.42
Cd [mg/L]	0.000004	< 0.000003	0.000004	0.000089	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	0.000228	0.000287	0.000128	0.00654	0.000059	0.00301	0.000445
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	0.012	< 0.007
K [mg/L]	0.028	0.031	0.114	0.094	0.116	0.019	0.020
Li [mg/L]	0.0015	0.0013	0.0049	0.0055	0.0017	0.0010	0.0003
Mg [mg/L]	0.058	0.423	0.208	0.071	0.121	0.220	0.734
Mn [mg/L]	0.00601	0.00158	0.00166	0.0104	0.00564	0.00472	0.00244
Mo [mg/L]	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	0.05	< 0.01	0.06	0.06	0.04	< 0.01	< 0.01
Ni [mg/L]	0.0008	0.0054	0.0004	0.0056	0.0003	0.0254	0.0061
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	< 0.0009	0.295	0.0062	0.0085	< 0.0009	0.0021	0.332

OnLine LIMS

0003779914

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10166-JUN24**

Analysis	10: CV5-WR-HCT -33 Wk#61	11: CV5-WR-HCT -36 Wk#61	12: CV5-WR-HCT -39 Wk#61	13: CV5-WR-HCT -50 Wk#61	14: CV5-WR-HCT -56 Wk#61	15: CV5-WR-HCT -59 Wk#61	16: CV5-WR-HCT -62 Wk#61
Se [mg/L]	0.00007	< 0.00004	0.00004	0.00055	< 0.00004	0.00005	0.00005
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00154	0.00158	0.00542	0.00347	0.00398	0.00508	0.00119
Ti [mg/L]	0.00015	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tl [mg/L]	< 0.000005	< 0.000005	0.000005	0.000020	< 0.000005	< 0.000005	< 0.000005
U [mg/L]	0.000006	0.000014	0.000138	0.00126	0.000339	0.000004	0.000030
V [mg/L]	0.00047	0.00011	0.00020	0.00002	0.00024	0.00012	0.00011
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	0.027	< 0.002	< 0.002	< 0.002

Analysis	17: CV5-WR-HCT -64 Wk#61	18: CV5-WR-HCT -69 Wk#61	19: CV5-ORE-HCT -74 Wk#61	20: CV5-ORE-HCT -76 Wk#61
Sample Date & Time	27-Jun-24	27-Jun-24	27-Jun-24	27-Jun-24
HumCell Leachate Vol [mL]	1014	1020	1008	975
pH [No unit]	6.76	7.10	6.44	7.46
Alkalinity [mg/L as CaCO3]	4	6	< 2	4
Conductivity [uS/cm]	8	11	2	9
Acidity [mg/L as CaCO3]	< 2	< 2	<2	< 2
Tot.Reactive P [mg/L]	< 0.03	< 0.03	0.05	0.03
SO4 [mg/L]	< 2	< 2	< 2	< 2
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.023	0.054	0.016	0.041
As [mg/L]	0.0042	0.0025	0.0062	0.0014
Ba [mg/L]	< 0.00008	0.00010	< 0.00008	< 0.00008
Be [mg/L]	< 0.000007	0.000061	< 0.000007	0.000124
B [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	0.00015	< 0.00001	0.00006
Ca [mg/L]	1.32	2.05	0.40	1.62
Cd [mg/L]	0.000003	0.000004	0.000003	< 0.000003
Co [mg/L]	0.000006	0.000080	0.000008	0.000010
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	0.127	0.054	0.076	0.143
Li [mg/L]	0.0011	0.0010	0.0055	0.0046
Mg [mg/L]	0.029	0.021	0.007	0.053
Mn [mg/L]	0.00521	0.00278	0.0498	0.00076
Mo [mg/L]	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	0.02	0.08	0.05	0.05
Ni [mg/L]	< 0.0001	0.0005	0.0001	0.0001
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.0010	0.0013	0.0058	< 0.0009

OnLine LIMS

0003779914

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10166-JUN24**

Analysis	17: CV5-WR-HCT-64 Wk#61	18: CV5-WR-HCT-69 Wk#61	19: CV5-ORE-HCT-74 Wk#61	20: CV5-ORE-HCT-76 Wk#61
Se [mg/L]	< 0.00004	< 0.00004	< 0.00004	< 0.00004
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	0.00012
Sr [mg/L]	0.00154	0.00316	0.00070	0.00319
Ti [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tl [mg/L]	0.000026	0.000006	0.000031	0.000017
U [mg/L]	0.000288	0.00262	0.000348	0.000486
V [mg/L]	0.00001	0.00004	< 0.00001	0.00003
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003779914

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

24-January-2024

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 18 January 2024
LR Report: **CA10169-JAN24**
Reference: Wk#38

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#38	6: CV5-DMS-HCT-84 Wk#38
Sample Date & Time			18-Jan-24	18-Jan-24
HumCell Leachate Vol [mL]	23-Jan-24	09:01	999	996
pH [No unit]	19-Jan-24	10:27	6.09	6.29
Alkalinity [mg/L as CaCO3]	19-Jan-24	10:27	< 2	< 2
Conductivity [uS/cm]	19-Jan-24	10:27	2	4
Acidity [mg/L as CaCO3]	19-Jan-24	10:27	2	2
Tot.Reactive P [mg/L]	23-Jan-24	11:10	< 0.03	< 0.03
SO4 [mg/L]	22-Jan-24	19:03	< 2	< 2
Ag [mg/L]	23-Jan-24	13:41	< 0.00005	< 0.00005
Al [mg/L]	23-Jan-24	13:41	0.019	0.020
As [mg/L]	23-Jan-24	13:41	0.0056	0.0049
Ba [mg/L]	23-Jan-24	13:41	< 0.00008	< 0.00008
Be [mg/L]	23-Jan-24	13:41	0.000013	0.000007
B [mg/L]	23-Jan-24	13:41	< 0.002	< 0.002
Bi [mg/L]	23-Jan-24	13:41	0.00003	0.00004
Ca [mg/L]	23-Jan-24	13:41	0.59	0.82
Cd [mg/L]	23-Jan-24	13:41	< 0.000003	< 0.000003
Co [mg/L]	23-Jan-24	13:41	0.000010	0.000015
Cr [mg/L]	23-Jan-24	13:41	< 0.00008	< 0.00008
Cu [mg/L]	23-Jan-24	13:41	0.0003	< 0.0002
Fe [mg/L]	23-Jan-24	13:41	< 0.007	< 0.007
K [mg/L]	23-Jan-24	13:41	0.070	0.082
Li [mg/L]	23-Jan-24	13:41	0.0003	0.0005
Mg [mg/L]	23-Jan-24	13:41	0.027	0.033
Mn [mg/L]	23-Jan-24	13:41	0.00060	0.00137
Mo [mg/L]	23-Jan-24	13:41	0.00026	0.00011
Na [mg/L]	23-Jan-24	13:41	0.02	0.02
Ni [mg/L]	23-Jan-24	13:41	0.0002	0.0003
Pb [mg/L]	23-Jan-24	13:41	< 0.00009	< 0.00009
Sb [mg/L]	23-Jan-24	13:41	0.0036	0.0034
Se [mg/L]	23-Jan-24	13:41	< 0.00004	< 0.00004
Sn [mg/L]	23-Jan-24	13:41	< 0.00006	< 0.00006
Sr [mg/L]	23-Jan-24	13:41	0.00143	0.00186
Ti [mg/L]	23-Jan-24	13:41	< 0.00007	< 0.00007

OnLine LIMS

0003600118

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10169-JAN24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#38	6: CV5-DMS-HCT-84 Wk#38
Tl [mg/L]	23-Jan-24	13:41	0.000010	0.000011
U [mg/L]	23-Jan-24	13:41	0.00184	0.00261
V [mg/L]	23-Jan-24	13:41	0.00002	0.00001
W [mg/L]	23-Jan-24	13:41	0.00006	< 0.00002
Y [mg/L]	23-Jan-24	13:41	< 0.00002	< 0.00002
Zn [mg/L]	23-Jan-24	13:41	< 0.002	< 0.002
pH Check <2 [pH]	23-Jan-24	13:41	1.00	1.00

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003600118

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

24-January-2024

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 18 January 2024
LR Report: **CA10170-JAN24**
Reference: Wk#38

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#38	6: CV5-WR-HCT-5 Wk#38	7: CV5-WR-HCT-5 (DUP) Wk#38	8: CV5-WR-HCT-14 Wk#38
Sample Date & Time			18-Jan-24	18-Jan-24	18-Jan-24	18-Jan-24
HumCell Leachate Vol [mL]	23-Jan-24	09:02	949	920	954	983
pH [No unit]	19-Jan-24	11:17	6.60	6.78	6.76	7.47
Alkalinity [mg/L as CaCO3]	19-Jan-24	11:17	2	3	2	12
Conductivity [uS/cm]	19-Jan-24	11:17	33	20	16	29
Acidity [mg/L as CaCO3]	23-Jan-24	15:14	< 2	< 2	< 2	< 2
Tot.Reactive P [mg/L]	24-Jan-24	08:05	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	22-Jan-24	19:03	12	4	3	2
Ag [mg/L]	23-Jan-24	13:42	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	23-Jan-24	13:42	0.026	0.029	0.034	0.096
As [mg/L]	23-Jan-24	13:42	0.0036	0.169	0.124	0.0374
Ba [mg/L]	23-Jan-24	13:42	0.00018	0.00015	0.00012	< 0.00008
Be [mg/L]	23-Jan-24	13:42	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	23-Jan-24	13:42	0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	23-Jan-24	13:42	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	23-Jan-24	13:42	4.84	3.23	2.56	5.21
Cd [mg/L]	23-Jan-24	13:42	< 0.000003	0.000003	< 0.000003	< 0.000003
Co [mg/L]	23-Jan-24	13:42	0.000104	0.000243	0.000212	0.000077
Cr [mg/L]	23-Jan-24	13:42	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	23-Jan-24	13:42	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Fe [mg/L]	23-Jan-24	13:42	< 0.007	< 0.007	< 0.007	0.007
K [mg/L]	23-Jan-24	13:42	0.175	0.095	0.072	0.036
Li [mg/L]	23-Jan-24	13:42	0.0072	0.0091	0.0070	0.0045
Mg [mg/L]	23-Jan-24	13:42	0.298	0.193	0.163	0.225
Mn [mg/L]	23-Jan-24	13:42	0.00094	0.00129	0.00139	0.00517
Mo [mg/L]	23-Jan-24	13:42	0.00085	0.00493	0.00035	0.00054
Na [mg/L]	23-Jan-24	13:42	0.11	0.06	0.04	0.24
Ni [mg/L]	23-Jan-24	13:42	0.0004	0.0014	0.0008	0.0001

OnLine LIMS

0003600166

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10170-JAN24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#38	6: CV5-WR-HCT-5 Wk#38	7: CV5-WR-HCT-5 (DUP) Wk#38	8: CV5-WR-HCT-14 Wk#38
Pb [mg/L]	23-Jan-24	13:42	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	23-Jan-24	13:42	0.0027	0.0431	0.0250	0.0046
Se [mg/L]	23-Jan-24	13:42	0.00016	< 0.00004	< 0.00004	0.00008
Sn [mg/L]	23-Jan-24	13:42	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	23-Jan-24	13:42	0.0112	0.00584	0.00519	0.00433
Ti [mg/L]	23-Jan-24	13:42	0.00010	0.00021	0.00013	0.00035
Tl [mg/L]	23-Jan-24	13:42	< 0.000005	< 0.000005	< 0.000005	< 0.000005
U [mg/L]	23-Jan-24	13:42	0.00261	0.000022	0.000061	0.00337
V [mg/L]	23-Jan-24	13:42	0.00031	0.00045	0.00041	0.00258
W [mg/L]	23-Jan-24	13:42	0.00003	0.00006	0.00006	< 0.00002
Y [mg/L]	23-Jan-24	13:42	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	23-Jan-24	13:42	< 0.002	< 0.002	< 0.002	< 0.002
pH Check <2 [pH]	23-Jan-24	13:42	1.00	1.00	1.00	1.00

Analysis	9: CV5-WR-HCT-22 Wk#38	10: CV5-WR-HCT-33 Wk#38	11: CV5-WR-HCT-36 Wk#38	12: CV5-WR-HCT-39 Wk#38	13: CV5-WR-HCT-50 Wk#38	14: CV5-WR-HCT-56 Wk#38
Sample Date & Time	18-Jan-24	18-Jan-24	18-Jan-24	18-Jan-24	18-Jan-24	18-Jan-24
HumCell Leachate Vol [mL]	997	1020	996	998	996	953
pH [No unit]	6.89	7.10	7.10	6.74	6.97	6.99
Alkalinity [mg/L as CaCO3]	5	8	8	4	7	7
Conductivity [uS/cm]	12	18	20	26	56	31
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	4	< 2
Tot.Reactive P [mg/L]	< 0.03	< 0.03	0.50	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	< 2	< 2	< 2	6	12	7
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.026	0.053	0.002	0.015	0.016	0.042
As [mg/L]	0.129	0.0039	1.61	0.0254	0.0049	0.0124
Ba [mg/L]	0.00016	0.00016	0.00071	0.00017	0.00036	0.00031
Be [mg/L]	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	< 0.002	< 0.002	0.006	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	1.87	2.99	2.73	3.32	8.04	4.70
Cd [mg/L]	< 0.000003	0.000003	< 0.000003	0.000006	0.000041	< 0.000003
Co [mg/L]	0.000167	0.000069	0.000397	0.000173	0.00226	0.000060
Cr [mg/L]	< 0.00008	< 0.00008	0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	0.0003	0.0009	< 0.0002	< 0.0002	0.0003	< 0.0002
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	0.050	0.054	0.051	0.212	0.229	0.186
Li [mg/L]	0.0053	0.0038	0.0026	0.0093	0.0152	0.0029
Mg [mg/L]	0.241	0.109	0.631	0.372	0.130	0.220

OnLine LIMS

0003600166

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10170-JAN24**

Analysis	9: CV5-WR-HCT-22 Wk#38	10: CV5-WR-HCT-33 Wk#38	11: CV5-WR-HCT-36 Wk#38	12: CV5-WR-HCT-39 Wk#38	13: CV5-WR-HCT-50 Wk#38	14: CV5-WR-HCT-56 Wk#38
Mn [mg/L]	0.00068	0.0102	0.00186	0.00240	0.0103	0.00691
Mo [mg/L]	0.00167	0.00224	0.00031	0.00021	0.00032	0.00023
Na [mg/L]	0.12	0.09	0.02	0.10	0.12	0.06
Ni [mg/L]	0.0007	0.0003	0.0122	0.0006	0.0019	0.0003
Pb [mg/L]	0.00017	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.0060	0.0018	0.599	0.0166	0.0240	< 0.0009
Se [mg/L]	0.00007	0.00007	< 0.00004	0.00007	0.00066	< 0.00004
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00586	0.00311	0.00335	0.00896	0.00662	0.00476
Ti [mg/L]	0.00024	0.00009	< 0.00007	0.00014	< 0.00007	0.00017
Tl [mg/L]	< 0.000005	< 0.000005	< 0.000005	0.000005	0.000021	< 0.000005
U [mg/L]	0.00224	0.000057	0.000076	0.000976	0.00318	0.000416
V [mg/L]	0.00108	0.00058	0.00016	0.00033	0.00006	0.00031
W [mg/L]	0.00002	0.00004	0.00008	0.00003	< 0.00002	0.00005
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	0.008	< 0.002
pH Check <2 [pH]	1.00	1.00	1.00	1.00	1.00	1.00

Analysis	15: CV5-WR-HCT-59 Wk#38	16: CV5-WR-HCT-62 Wk#38	17: CV5-WR-HCT-64 Wk#38	18: CV5-WR-HCT-69 Wk#38	19: CV5-ORE-HCT-74 Wk#38	20: CV5-ORE-HCT-76 Wk#38
Sample Date & Time	18-Jan-24	18-Jan-24	18-Jan-24	18-Jan-24	18-Jan-24	18-Jan-24
HumCell Leachate Vol [mL]	996	926	995	998	1000	1007
pH [No unit]	6.56	7.12	6.91	6.97	6.60	7.04
Alkalinity [mg/L as CaCO3]	2	9	5	6	2	8
Conductivity [uS/cm]	14	26	11	12	5	16
Acidity [mg/L as CaCO3]	3	< 2	< 2	< 2	< 2	< 2
Tot.Reactive P [mg/L]	0.03	0.15	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	3	3	< 2	< 2	< 2	< 2
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.004	0.001	0.029	0.071	0.021	0.031
As [mg/L]	0.238	0.654	0.0079	0.0039	0.0093	0.0025
Ba [mg/L]	0.00010	0.00041	0.00017	< 0.00008	< 0.00008	< 0.00008
Be [mg/L]	< 0.000007	< 0.000007	0.000009	0.000082	0.000007	0.000044
B [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00027	< 0.00001	0.00008
Ca [mg/L]	1.79	3.11	1.85	2.25	0.71	2.68
Cd [mg/L]	0.000004	< 0.000003	0.000007	0.000006	0.000007	< 0.000003
Co [mg/L]	0.000916	0.000602	0.000012	0.000008	0.000016	0.000016
Cr [mg/L]	0.00009	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	0.0004	< 0.0002	0.0002	0.0003	< 0.0002	< 0.0002

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0003609169

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10170-JAN24**

Analysis	15: CV5-WR-HCT-59 Wk#38	16: CV5-WR-HCT-62 Wk#38	17: CV5-WR-HCT-64 Wk#38	18: CV5-WR-HCT-69 Wk#38	19: CV5-ORE-HCT-74 Wk#38	20: CV5-ORE-HCT-76 Wk#38
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	0.041	0.024	0.193	0.073	0.102	0.248
Li [mg/L]	0.0018	0.0004	0.0017	0.0014	0.0073	0.0069
Mg [mg/L]	0.348	0.844	0.057	0.032	0.015	0.109
Mn [mg/L]	0.00211	0.00275	0.00520	0.00250	0.0536	0.00133
Mo [mg/L]	0.00063	0.00052	0.00806	0.00019	0.00051	0.00044
Na [mg/L]	0.06	< 0.01	0.04	0.10	0.08	0.07
Ni [mg/L]	0.0079	0.0091	0.0002	< 0.0001	< 0.0001	< 0.0001
Pb [mg/L]	0.00018	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.0050	0.560	0.0019	0.0015	0.0108	0.0011
Se [mg/L]	< 0.00004	0.00007	< 0.00004	< 0.00004	< 0.00004	< 0.00004
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00791	0.00194	0.00264	0.00396	0.00112	0.00606
Ti [mg/L]	0.00007	< 0.00007	< 0.00007	< 0.00007	< 0.00007	< 0.00007
Tl [mg/L]	0.000005	< 0.000005	0.000030	< 0.000005	0.000030	0.000018
U [mg/L]	0.00174	0.000110	0.000697	0.00358	0.000909	0.00200
V [mg/L]	0.00034	0.00015	0.00002	0.00007	0.00002	0.00006
W [mg/L]	0.00009	0.00006	0.00004	0.00004	0.00003	0.00005
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
pH Check <2 [pH]	1.00	1.00	1.00	1.00	1.00	1.00

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003600166

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Patriot Tailings -Short- (9.5mm fraction size)

01-March-2024

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 22 February 2024
LR Report: **CA10177-FEB24**
Reference: Wk#43

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#43	6: CV5-DMS-HCT-84 Wk#43
Sample Date & Time			22-Feb-24	22-Feb-24
HumCell Leachate Vol [mL]	23-Feb-24	14:45	1004	981
pH [No unit]	23-Feb-24	12:10	6.29	6.03
Alkalinity [mg/L as CaCO3]	23-Feb-24	12:10	< 2	< 2
Conductivity [uS/cm]	26-Feb-24	11:23	< 2	2
Acidity [mg/L as CaCO3]	23-Feb-24	12:10	2	2
Tot.Reactive P [mg/L]	26-Feb-24	08:40	< 0.03	< 0.03
SO4 [mg/L]	28-Feb-24	16:23	< 2	< 2
Ag [mg/L]	28-Feb-24	11:35	< 0.00005	< 0.00005
Al [mg/L]	28-Feb-24	11:35	0.013	0.011
As [mg/L]	28-Feb-24	11:35	0.0039	0.0028
Ba [mg/L]	28-Feb-24	11:35	0.00008	< 0.00008
Be [mg/L]	28-Feb-24	11:35	0.000007	0.000007
B [mg/L]	28-Feb-24	11:35	< 0.002	< 0.002
Bi [mg/L]	28-Feb-24	11:35	0.00003	0.00004
Ca [mg/L]	28-Feb-24	11:35	0.31	0.28
Cd [mg/L]	28-Feb-24	11:35	< 0.000003	0.000003
Co [mg/L]	28-Feb-24	11:35	0.000004	0.000006
Cr [mg/L]	28-Feb-24	11:35	< 0.00008	< 0.00008
Cu [mg/L]	28-Feb-24	11:35	< 0.001	< 0.001
Fe [mg/L]	28-Feb-24	11:35	< 0.007	< 0.007
K [mg/L]	28-Feb-24	11:35	0.049	0.045
Li [mg/L]	28-Feb-24	11:35	0.0005	0.0005
Mg [mg/L]	28-Feb-24	11:35	0.011	0.010
Mn [mg/L]	28-Feb-24	11:35	0.00061	0.00093
Mo [mg/L]	28-Feb-24	11:35	0.0004	< 0.0004
Na [mg/L]	28-Feb-24	11:35	0.02	0.03
Ni [mg/L]	28-Feb-24	11:35	< 0.0001	< 0.0001
Pb [mg/L]	28-Feb-24	11:35	< 0.00009	< 0.00009
Sb [mg/L]	28-Feb-24	11:35	0.0012	0.0011
Se [mg/L]	28-Feb-24	11:35	< 0.00004	< 0.00004
Sn [mg/L]	28-Feb-24	11:35	< 0.00006	< 0.00006
Sr [mg/L]	28-Feb-24	11:35	0.00079	0.00073
Ti [mg/L]	28-Feb-24	11:35	< 0.0001	< 0.0001
Tl [mg/L]	28-Feb-24	11:35	0.000009	0.000010
U [mg/L]	28-Feb-24	11:35	0.00109	0.00117

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10177-FEB24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#43	6: CV5-DMS-HCT-84 Wk#43
V [mg/L]	28-Feb-24	11:35	0.00002	0.00004
W [mg/L]	28-Feb-24	11:35	< 0.0002	< 0.0002
Y [mg/L]	28-Feb-24	11:35	< 0.00002	< 0.00002
Zn [mg/L]	28-Feb-24	11:35	< 0.002	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003636848

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

01-March-2024

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 22 February 2024
LR Report: **CA10178-FEB24**
Reference: Wk#43

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT -2 Wk#43	6: CV5-WR-HCT -5 Wk#43	7: CV5-WR-HCT- 5 (DUP) Wk#43	8: CV5-WR-HCT -14 Wk#43	9: CV5-WR-HCT -22 Wk#43
Sample Date & Time			22-Feb-24	22-Feb-24	22-Feb-24	22-Feb-24	22-Feb-24
HumCell Leachate Vol [mL]	23-Feb-24	14:46	920	913	944	953	918
pH [No unit]	26-Feb-24	11:23	6.78	6.98	6.86	7.79	6.86
Alkalinity [mg/L as CaCO3]	26-Feb-24	13:02	3	4	3	13	2
Conductivity [uS/cm]	23-Feb-24	12:13	32	18	15	29	9
Acidity [mg/L as CaCO3]	26-Feb-24	13:02	2	< 2	< 2	< 2	< 2
Tot.Reactive P [mg/L]	26-Feb-24	13:39	< 0.03	< 0.03	< 0.03	< 0.03	0.03
SO4 [mg/L]	28-Feb-24	16:24	10	4	3	2	< 2
Ag [mg/L]	28-Feb-24	11:36	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	28-Feb-24	11:36	0.020	0.023	0.024	0.108	0.045
As [mg/L]	28-Feb-24	11:36	0.0035	0.169	0.119	0.0375	0.125
Ba [mg/L]	28-Feb-24	11:36	0.00019	0.00069	0.00022	0.00009	0.00020
Be [mg/L]	28-Feb-24	11:36	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	28-Feb-24	11:36	< 0.002	0.003	< 0.002	< 0.002	< 0.002
Bi [mg/L]	28-Feb-24	11:36	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	28-Feb-24	11:36	4.24	2.83	2.36	5.19	1.34
Cd [mg/L]	28-Feb-24	11:36	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	28-Feb-24	11:36	0.000126	0.000198	0.000213	0.000070	0.000232
Cr [mg/L]	28-Feb-24	11:36	< 0.00008	< 0.00008	< 0.00008	< 0.00008	0.00017
Cu [mg/L]	28-Feb-24	11:36	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	28-Feb-24	11:36	< 0.007	< 0.007	< 0.007	0.008	0.022
K [mg/L]	28-Feb-24	11:36	0.141	0.078	0.060	0.030	0.032
Li [mg/L]	28-Feb-24	11:36	0.0061	0.0065	0.0056	0.0037	0.0046
Mg [mg/L]	28-Feb-24	11:36	0.228	0.140	0.124	0.198	0.191
Mn [mg/L]	28-Feb-24	11:36	0.00136	0.00119	0.00143	0.00557	0.00082
Mo [mg/L]	28-Feb-24	11:36	< 0.0004	< 0.0004	< 0.0004	0.0010	0.0010
Na [mg/L]	28-Feb-24	11:36	0.11	0.07	0.06	0.15	0.10
Ni [mg/L]	28-Feb-24	11:36	0.0004	0.0014	0.0010	0.0002	0.0007
Pb [mg/L]	28-Feb-24	11:36	0.00013	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	28-Feb-24	11:36	0.0024	0.0354	0.0187	0.0034	0.0045

OnLine LIMS

0003636896

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10178-FEB24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT -2 Wk#43	6: CV5-WR-HCT -5 Wk#43	7: CV5-WR-HCT-5 (DUP) Wk#43	8: CV5-WR-HCT -14 Wk#43	9: CV5-WR-HCT -22 Wk#43
Se [mg/L]	28-Feb-24	11:36	0.00019	0.00006	< 0.00004	0.00010	< 0.00004
Sn [mg/L]	28-Feb-24	11:36	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	28-Feb-24	11:36	0.00944	0.00527	0.00493	0.00396	0.00466
Ti [mg/L]	28-Feb-24	11:36	< 0.0001	0.00012	0.00012	0.00038	0.00080
Tl [mg/L]	28-Feb-24	11:36	0.000005	< 0.000005	< 0.000005	< 0.000005	0.000005
U [mg/L]	28-Feb-24	11:36	0.00806	0.000032	0.000015	0.00601	0.000189
V [mg/L]	28-Feb-24	11:36	0.00022	0.00041	0.00034	0.00249	0.00096
W [mg/L]	28-Feb-24	11:36	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	28-Feb-24	11:36	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	28-Feb-24	11:36	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002

Analysis	10: CV5-WR-HCT -33 Wk#43	11: CV5-WR-HCT -36 Wk#43	12: CV5-WR-HCT -39 Wk#43	13: CV5-WR-HCT -50 Wk#43	14: CV5-WR-HCT -56 Wk#43	15: CV5-WR-HCT -59 Wk#43	16: CV5-WR-HCT -62 Wk#43
Sample Date & Time	22-Feb-24	22-Feb-24	22-Feb-24	22-Feb-24	22-Feb-24	22-Feb-24	22-Feb-24
HumCell Leachate Vol [mL]	993	993	990	1008	934	941	900
pH [No unit]	7.25	7.06	6.55	7.22	7.45	6.47	7.71
Alkalinity [mg/L as CaCO3]	7	5	2	10	8	< 2	9
Conductivity [uS/cm]	17	15	20	58	28	18	24
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	3	< 2
Tot.Reactive P [mg/L]	< 0.03	0.39	< 0.03	< 0.03	< 0.03	< 0.03	0.20
SO4 [mg/L]	< 2	< 2	6	9	6	5	3
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.054	< 0.001	0.009	0.020	0.042	0.012	0.001
As [mg/L]	0.0046	1.42	0.0172	0.0039	0.0125	0.172	0.788
Ba [mg/L]	0.00041	0.00050	0.00022	0.00051	0.00054	0.00017	0.00044
Be [mg/L]	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	0.001192	< 0.000007
B [mg/L]	< 0.002	0.003	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	3.35	2.11	2.28	7.02	4.89	2.62	3.03
Cd [mg/L]	0.000003	< 0.000003	0.000003	0.000062	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	0.000112	0.000410	0.000133	0.003162	0.000052	0.001137	0.000373
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008	0.00020	< 0.00008
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	0.013	< 0.007
K [mg/L]	0.089	0.032	0.113	0.168	0.174	0.031	0.025
Li [mg/L]	0.0030	0.0018	0.0054	0.0115	0.0025	0.0017	0.0003
Mg [mg/L]	0.093	0.477	0.231	0.083	0.173	0.354	0.732
Mn [mg/L]	0.0122	0.00162	0.00170	0.0121	0.00896	0.00280	0.00272
Mo [mg/L]	< 0.0004	< 0.0004	0.0009	< 0.0004	0.0028	< 0.0004	< 0.0004
Na [mg/L]	0.17	0.03	0.08	0.10	0.07	0.03	0.02
Ni [mg/L]	0.0005	0.0119	0.0006	0.0022	0.0002	0.0081	0.0069
Pb [mg/L]	0.00031	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.0016	0.409	0.0096	0.0193	< 0.0009	0.0028	0.651

OnLine LIMS

0003636896

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10178-FEB24**

Analysis	10: CV5-WR-HCT -33 Wk#43	11: CV5-WR-HCT -36 Wk#43	12: CV5-WR-HCT -39 Wk#43	13: CV5-WR-HCT -50 Wk#43	14: CV5-WR-HCT -56 Wk#43	15: CV5-WR-HCT -59 Wk#43	16: CV5-WR-HCT -62 Wk#43
Se [mg/L]	0.00010	0.00005	0.00007	0.00070	0.00006	< 0.00004	0.00009
Sn [mg/L]	0.00016	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00365	0.00248	0.00652	0.00528	0.00438	0.00983	0.00180
Ti [mg/L]	0.00011	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.00024	< 0.0001
Tl [mg/L]	< 0.000005	0.000006	0.000005	0.000025	< 0.000005	< 0.000005	< 0.000005
U [mg/L]	0.000847	0.000849	0.000415	0.00186	0.000270	0.000230	0.000091
V [mg/L]	0.00058	0.00013	0.00020	0.00014	0.00027	0.00025	0.00013
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	0.008	< 0.002	< 0.002	0.010	< 0.002	< 0.002	< 0.002

Analysis	17: CV5-WR-HCT -64 Wk#43	18: CV5-WR-HCT -69 Wk#43	19: CV5-ORE-HCT-74 Wk#43	20: CV5-ORE-HCT-76 Wk#43
Sample Date & Time	22-Feb-24	22-Feb-24	22-Feb-24	22-Feb-24
HumCell Leachate Vol [mL]	929	955	1004	1009
pH [No unit]	7.00	6.89	6.68	7.19
Alkalinity [mg/L as CaCO3]	2	3	2	6
Conductivity [uS/cm]	4	7	3	18
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2
Tot.Reactive P [mg/L]	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	< 2	< 2	< 2	< 2
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.041	0.041	0.014	0.027
As [mg/L]	0.0052	0.0022	0.0089	0.0032
Ba [mg/L]	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Be [mg/L]	0.000012	0.000091	0.000007	0.000029
B [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	0.00010	< 0.00001	0.00009
Ca [mg/L]	0.80	1.11	0.63	2.58
Cd [mg/L]	< 0.000003	< 0.000003	0.000003	< 0.000003
Co [mg/L]	0.000013	0.000008	0.000008	0.000006
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	0.00009
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	0.142	0.034	0.086	0.186
Li [mg/L]	0.0012	0.0009	0.0061	0.0059
Mg [mg/L]	0.029	0.015	0.010	0.084
Mn [mg/L]	0.00288	0.00172	0.0630	0.00088
Mo [mg/L]	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	0.04	0.08	0.08	0.08
Ni [mg/L]	0.0001	< 0.0001	< 0.0001	0.0001
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.0012	0.0010	0.0086	0.0010

OnLine LIMS

00036896

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10178-FEB24**

Analysis	17: CV5-WR-HCT-64 Wk#43	18: CV5-WR-HCT-69 Wk#43	19: CV5-ORE-HCT-74 Wk#43	20: CV5-ORE-HCT-76 Wk#43
Se [mg/L]	< 0.00004	< 0.00004	< 0.00004	< 0.00004
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00129	0.00208	0.00112	0.00558
Ti [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tl [mg/L]	0.000047	0.000007	0.000031	0.000017
U [mg/L]	0.000959	0.00287	0.000794	0.00893
V [mg/L]	0.00001	0.00004	0.00004	0.00005
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003636896

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

12-May-2024

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 25 April 2024
LR Report: **CA10180-APR24**
Reference: Wk#52

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#52	6: CV5-DMS-HCT-84 Wk#52
Sample Date & Time			25-Apr-24	25-Apr-24
HumCell Leachate Vol [mL]	29-Apr-24	09:10	1005	986
pH [No unit]	26-Apr-24	10:48	6.12	6.05
Alkalinity [mg/L as CaCO3]	26-Apr-24	10:48	< 2	< 2
Conductivity [uS/cm]	26-Apr-24	10:48	< 2	< 2
Acidity [mg/L as CaCO3]	26-Apr-24	10:48	3	3
Tot.Reactive P [mg/L]	26-Apr-24	10:07	< 0.03	< 0.03
SO4 [mg/L]	08-May-24	13:23	< 2	< 2
Ag [mg/L]	30-Apr-24	14:01	< 0.00005	< 0.00005
Al [mg/L]	30-Apr-24	14:01	0.010	0.009
As [mg/L]	30-Apr-24	14:01	0.0030	0.0025
Ba [mg/L]	30-Apr-24	14:01	< 0.00008	< 0.00008
Be [mg/L]	30-Apr-24	14:01	0.000011	< 0.000007
B [mg/L]	30-Apr-24	14:01	< 0.002	< 0.002
Bi [mg/L]	30-Apr-24	14:01	0.00003	0.00003
Ca [mg/L]	30-Apr-24	14:01	0.31	0.32
Cd [mg/L]	30-Apr-24	14:01	< 0.000003	< 0.000003
Co [mg/L]	30-Apr-24	14:01	0.000012	0.000018
Cr [mg/L]	30-Apr-24	14:01	< 0.00008	< 0.00008
Cu [mg/L]	30-Apr-24	14:01	< 0.001	< 0.001
Fe [mg/L]	30-Apr-24	14:01	< 0.007	< 0.007
K [mg/L]	30-Apr-24	14:01	0.037	0.035
Li [mg/L]	30-Apr-24	14:01	0.0002	0.0002
Mg [mg/L]	30-Apr-24	14:01	0.011	0.011
Mn [mg/L]	30-Apr-24	14:01	0.00078	0.00134
Mo [mg/L]	30-Apr-24	14:01	< 0.0004	< 0.0004
Na [mg/L]	30-Apr-24	14:01	0.02	0.02
Ni [mg/L]	30-Apr-24	14:01	< 0.0001	0.0001
Pb [mg/L]	30-Apr-24	14:01	< 0.00009	< 0.00009
Sb [mg/L]	30-Apr-24	14:01	0.0013	0.0012
Se [mg/L]	30-Apr-24	14:01	< 0.00004	< 0.00004
Sn [mg/L]	30-Apr-24	14:01	< 0.00006	0.00011
Sr [mg/L]	30-Apr-24	14:01	0.00072	0.00073
Ti [mg/L]	30-Apr-24	14:01	< 0.0001	< 0.0001
Tl [mg/L]	30-Apr-24	14:01	0.000007	0.000007
U [mg/L]	30-Apr-24	14:01	0.000619	0.000803

OnLine LIMS

0003708823

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10180-APR24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#52	6: CV5-DMS-HCT-84 Wk#52
V [mg/L]	30-Apr-24	14:01	0.00002	0.00001
W [mg/L]	30-Apr-24	14:01	< 0.0002	< 0.0002
Y [mg/L]	30-Apr-24	14:01	< 0.00002	< 0.00002
Zn [mg/L]	30-Apr-24	14:01	< 0.002	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003708823

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

12-May-2024

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 25 April 2024
LR Report: **CA10181-APR24**
Reference: Wk#52

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#52	6: CV5-WR-HCT-5 Wk#52	7: CV5-WR-HCT-5 (DUP) Wk#52	8: CV5-WR-HCT-14 Wk#52	9: CV5-WR-HCT-22 Wk#52	10: CV5-WR-HCT-33 Wk#52
Sample Date & Time			25-Apr-24	25-Apr-24	25-Apr-24	25-Apr-24	25-Apr-24	25-Apr-24
HumCell Leachate Vol [mL]	29-Apr-24	09:10	952	946	970	1007	1002	1000
pH [No unit]	29-Apr-24	11:12	6.81	7.03	6.86	7.85	7.02	7.45
Alkalinity [mg/L as CaCO3]	29-Apr-24	12:27	2	4	3	13	4	7
Conductivity [uS/cm]	26-Apr-24	11:48	27	16	11	27	10	15
Acidity [mg/L as CaCO3]	29-Apr-24	14:47	<2	< 2	< 2	< 2	< 2	< 2
Tot.Reactive P [mg/L]	26-Apr-24	10:08	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	08-May-24	13:23	8	3	< 2	< 2	< 2	< 2
Ag [mg/L]	30-Apr-24	14:02	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	30-Apr-24	14:02	0.020	0.021	0.021	0.093	0.019	0.066
As [mg/L]	30-Apr-24	14:02	0.0023	0.127	0.0921	0.0277	0.0957	0.0039
Ba [mg/L]	30-Apr-24	14:02	0.00021	0.00014	0.00012	0.00009	0.00014	0.00020
Be [mg/L]	30-Apr-24	14:02	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	30-Apr-24	14:02	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	30-Apr-24	14:02	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	30-Apr-24	14:02	4.50	2.90	1.99	5.22	1.84	3.05
Cd [mg/L]	30-Apr-24	14:02	0.000021	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	30-Apr-24	14:02	0.000128	0.000213	0.000188	0.000049	0.000125	0.000074
Cr [mg/L]	30-Apr-24	14:02	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	30-Apr-24	14:02	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	30-Apr-24	14:02	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	30-Apr-24	14:02	0.130	0.051	0.044	0.017	0.025	0.031
Li [mg/L]	30-Apr-24	14:02	0.0048	0.0051	0.0040	0.0031	0.0042	0.0020
Mg [mg/L]	30-Apr-24	14:02	0.188	0.116	0.094	0.161	0.197	0.071
Mn [mg/L]	30-Apr-24	14:02	0.00141	0.00094	0.00114	0.00525	0.00085	0.00953
Mo [mg/L]	30-Apr-24	14:02	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	30-Apr-24	14:02	0.09	0.04	0.03	0.11	0.07	0.08
Ni [mg/L]	30-Apr-24	14:02	0.0004	0.0014	0.0009	0.0002	0.0004	< 0.0001
Pb [mg/L]	30-Apr-24	14:02	0.00018	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	30-Apr-24	14:02	0.0016	0.0273	0.0139	0.0031	0.0043	0.0011
Se [mg/L]	30-Apr-24	14:02	0.00011	< 0.00004	< 0.00004	0.00011	0.00004	0.00006
Sn [mg/L]	30-Apr-24	14:02	0.00009	0.00009	0.00006	0.00012	< 0.00006	0.00007
Sr [mg/L]	30-Apr-24	14:02	0.00773	0.00381	0.00331	0.00337	0.00461	0.00268
Ti [mg/L]	30-Apr-24	14:02	< 0.0001	< 0.0001	< 0.0001	0.00012	< 0.0001	< 0.0001
Tl [mg/L]	30-Apr-24	14:02	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005
U [mg/L]	30-Apr-24	14:02	0.000107	0.000017	0.000016	0.000132	0.000153	0.000032

OnLine LIMS

0003708827

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10181-APR24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#52	6: CV5-WR-HCT-5 Wk#52	7: CV5-WR-HCT-5 (DUP) Wk#52	8: CV5-WR-HCT-14 Wk#52	9: CV5-WR-HCT-22 Wk#52	10: CV5-WR-HCT-33 Wk#52
V [mg/L]	30-Apr-24	14:02	0.00020	0.00038	0.00033	0.00194	0.00091	0.00049
W [mg/L]	30-Apr-24	14:02	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	30-Apr-24	14:02	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	30-Apr-24	14:02	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002

Analysis	11: CV5-WR-HCT-36 Wk#52	12: CV5-WR-HCT-39 Wk#52	13: CV5-WR-HCT-50 Wk#52	14: CV5-WR-HCT-56 Wk#52	15: CV5-WR-HCT-59 Wk#52	16: CV5-WR-HCT-62 Wk#52	17: CV5-WR-HCT-64 Wk#52	18: CV5-WR-HCT-69 Wk#52
Sample Date & Time	25-Apr-24	25-Apr-24	25-Apr-24	25-Apr-24	25-Apr-24	25-Apr-24	25-Apr-24	25-Apr-24
HumCell Leachate Vol [mL]	989	1004	995	1003	1000	949	1001	1018
pH [No unit]	7.21	6.78	7.25	7.41	6.21	7.44	7.14	7.30
Alkalinity [mg/L as CaCO3]	7	2	9	7	< 2	9	4	7
Conductivity [uS/cm]	16	19	48	27	13	24	9	12
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	4	< 2	< 2	< 2
Tot.Reactive P [mg/L]	0.29	< 0.03	< 0.03	< 0.03	< 0.03	0.15	< 0.03	< 0.03
SO4 [mg/L]	< 2	5	6	5	4	< 2	< 2	< 2
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.001	0.008	0.029	0.042	0.002	< 0.001	0.023	0.055
As [mg/L]	1.12	0.0159	0.0032	0.0089	0.134	0.662	0.0048	0.0024
Ba [mg/L]	0.00045	0.00014	0.00025	0.00033	0.00020	0.00031	< 0.00008	0.00014
Be [mg/L]	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	0.000010	0.000065
B [mg/L]	0.003	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00018
Ca [mg/L]	2.34	2.59	6.79	5.16	1.76	3.48	1.56	2.35
Cd [mg/L]	< 0.000003	0.000009	0.000056	< 0.000003	< 0.000003	< 0.000003	0.000008	< 0.000003
Co [mg/L]	0.000430	0.000164	0.00288	0.000057	0.00207	0.000500	0.000009	0.000029
Cr [mg/L]	0.00009	< 0.00008	< 0.00008	< 0.00008	< 0.00008	0.00010	< 0.00008	< 0.00008
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	0.023	0.111	0.126	0.118	0.016	0.012	0.120	0.051
Li [mg/L]	0.0015	0.0052	0.0082	0.0017	0.0013	0.0002	0.0010	0.0011
Mg [mg/L]	0.482	0.239	0.065	0.135	0.284	0.736	0.034	0.024
Mn [mg/L]	0.00174	0.00202	0.00874	0.00583	0.00432	0.00255	0.00464	0.00269
Mo [mg/L]	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	0.0005	< 0.0004
Na [mg/L]	0.02	0.07	0.10	0.05	0.03	< 0.01	0.03	0.10
Ni [mg/L]	0.0102	0.0006	0.0020	0.0002	0.0166	0.0073	0.0002	0.0001
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.370	0.0112	0.0149	< 0.0009	0.0034	0.407	0.0011	0.0013
Se [mg/L]	< 0.00004	0.00007	0.00053	< 0.00004	< 0.00004	0.00011	< 0.00004	< 0.00004
Sn [mg/L]	0.00009	< 0.00006	0.00006	< 0.00006	0.00008	< 0.00006	0.00010	0.00010
Sr [mg/L]	0.00210	0.00562	0.00392	0.00405	0.00655	0.00161	0.00175	0.00370
Ti [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tl [mg/L]	< 0.000005	0.000005	0.000020	< 0.000005	0.000005	< 0.000005	0.000024	0.000006
U [mg/L]	0.000016	0.000342	0.00130	0.000328	0.000006	0.000097	0.000402	0.00316
V [mg/L]	0.00015	0.00023	0.00005	0.00024	0.00021	0.00018	0.00002	0.00004
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	0.007	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002

Analysis	19: CV5-ORE-HCT-74 Wk#52	20: CV5-ORE-HCT-76 Wk#52
Sample Date & Time	25-Apr-24	25-Apr-24

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

OnLine LIMS

0003708827

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10181-APR24**

Analysis	19: CV5-ORE-HCT-74 Wk#52	20: CV5-ORE-HCT-76 Wk#52
HumCell Leachate Vol [mL]	999	1006
pH [No unit]	6.64	7.34
Alkalinity [mg/L as CaCO3]	2	8
Conductivity [uS/cm]	3	15
Acidity [mg/L as CaCO3]	< 2	< 2
Tot.Reactive P [mg/L]	< 0.03	< 0.03
SO4 [mg/L]	< 2	< 2
Ag [mg/L]	< 0.00005	< 0.00005
Al [mg/L]	0.011	0.026
As [mg/L]	0.0064	0.0019
Ba [mg/L]	< 0.00008	< 0.00008
Be [mg/L]	< 0.000007	0.000022
B [mg/L]	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	0.00007
Ca [mg/L]	0.55	2.63
Cd [mg/L]	0.000003	< 0.000003
Co [mg/L]	0.000010	0.000035
Cr [mg/L]	< 0.00008	< 0.00008
Cu [mg/L]	< 0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007
K [mg/L]	0.071	0.151
Li [mg/L]	0.0059	0.0051
Mg [mg/L]	0.009	0.073
Mn [mg/L]	0.0618	0.00061
Mo [mg/L]	< 0.0004	< 0.0004
Na [mg/L]	0.07	0.06
Ni [mg/L]	< 0.0001	0.0002
Pb [mg/L]	< 0.00009	< 0.00009
Sb [mg/L]	0.0067	< 0.0009
Se [mg/L]	< 0.00004	< 0.00004
Sn [mg/L]	0.00009	0.00010
Sr [mg/L]	0.00085	0.00472
Ti [mg/L]	< 0.0001	< 0.0001
Tl [mg/L]	0.000025	0.000014
U [mg/L]	0.000437	0.000912
V [mg/L]	< 0.00001	0.00003
W [mg/L]	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003708827

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

17-June-2024

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 30 May 2024
LR Report: **CA10199-MAY24**
Reference: Wk#57

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#57	6: CV5-DMS-HCT-84 Wk#57
Sample Date & Time			30-May-24	30-May-24
HumCell Leachate Vol [mL]	31-May-24	10:29	995	995
pH [No unit]	03-Jun-24	15:39	5.94	6.21
Alkalinity [mg/L as CaCO3]	03-Jun-24	15:40	< 2	< 2
Conductivity [uS/cm]	03-Jun-24	15:40	< 2	< 2
Acidity [mg/L as CaCO3]	03-Jun-24	15:40	2	2
Tot.Reactive P [mg/L]	03-Jun-24	08:34	< 0.03	< 0.03
SO4 [mg/L]	04-Jun-24	19:58	< 2	< 2
Ag [mg/L]	05-Jun-24	09:01	< 0.00005	< 0.00005
Al [mg/L]	05-Jun-24	09:01	0.004	0.005
As [mg/L]	05-Jun-24	09:01	0.0023	0.0018
Ba [mg/L]	05-Jun-24	09:01	< 0.00008	< 0.00008
Be [mg/L]	05-Jun-24	09:01	0.000009	0.000007
B [mg/L]	05-Jun-24	09:01	< 0.002	< 0.002
Bi [mg/L]	05-Jun-24	09:01	0.00002	0.00002
Ca [mg/L]	05-Jun-24	09:01	0.24	0.29
Cd [mg/L]	05-Jun-24	09:01	0.000003	< 0.000003
Co [mg/L]	05-Jun-24	09:01	0.000035	0.000008
Cr [mg/L]	05-Jun-24	09:01	0.00012	0.00010
Cu [mg/L]	05-Jun-24	09:01	< 0.001	< 0.001
Fe [mg/L]	05-Jun-24	09:01	< 0.007	< 0.007
K [mg/L]	05-Jun-24	09:01	0.042	0.042
Li [mg/L]	05-Jun-24	09:01	0.0003	0.0003
Mg [mg/L]	05-Jun-24	09:01	0.010	0.010
Mn [mg/L]	05-Jun-24	09:01	0.00084	0.00145
Mo [mg/L]	05-Jun-24	09:01	< 0.0004	< 0.0004
Na [mg/L]	05-Jun-24	09:01	0.04	0.03
Ni [mg/L]	05-Jun-24	09:01	0.0003	0.0001
Pb [mg/L]	05-Jun-24	09:01	< 0.00009	< 0.00009
Sb [mg/L]	05-Jun-24	09:01	0.0011	0.0009
Se [mg/L]	05-Jun-24	09:01	< 0.00004	< 0.00004
Sn [mg/L]	05-Jun-24	09:01	< 0.00006	< 0.00006
Sr [mg/L]	05-Jun-24	09:01	0.00050	0.00059
Ti [mg/L]	05-Jun-24	09:01	< 0.0001	< 0.0001
Tl [mg/L]	05-Jun-24	09:01	< 0.000005	0.000005
U [mg/L]	05-Jun-24	09:01	0.000405	0.000607

OnLine LIMS

00037489 10

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10199-MAY24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#57	6: CV5-DMS-HCT-84 Wk#57
V [mg/L]	05-Jun-24	09:01	0.00004	0.00003
W [mg/L]	05-Jun-24	09:01	< 0.0002	< 0.0002
Y [mg/L]	05-Jun-24	09:01	< 0.00002	< 0.00002
Zn [mg/L]	05-Jun-24	09:01	< 0.002	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

00037489 10

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

05-November-2024

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 31 October 2024
LR Report: **CA10199-OCT24**
Reference: Wk#79

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#79	6: CV5-WR-HCT-5 Wk#79	7: CV5-WR-HCT-5 (DUP) Wk#79	8: CV5-WR-HCT-14 Wk#79	9: CV5-WR-HCT-22 Wk#79	10: CV5-WR-HCT-33 Wk#79	11: CV5-WR-HCT-36 Wk#79
Sample Date & Time			31-Oct-24	31-Oct-24	31-Oct-24	31-Oct-24	31-Oct-24	31-Oct-24	31-Oct-24
HumCell Leachate Vol [mL]	31-Oct-24	13:38	944	964	963	997	980	988	973
pH [No unit]	04-Nov-24	14:35	6.69	7.00	6.85	7.31	7.20	6.95	7.28
Conductivity [uS/cm]	01-Nov-24	11:47	33	21	14	24	13	13	13

Analysis	12: CV5-WR-HCT-39 Wk#79	13: CV5-WR-HCT-50 Wk#79	14: CV5-WR-HCT-56 Wk#79	15: CV5-WR-HCT-59 Wk#79	16: CV5-WR-HCT-62 Wk#79	17: CV5-WR-HCT-64 Wk#79	18: CV5-WR-HCT-69 Wk#79	19: CV5-ORE-HCT-74 Wk#79	20: CV5-ORE-HCT-76 Wk#79
Sample Date & Time	31-Oct-24	31-Oct-24	31-Oct-24	31-Oct-24	31-Oct-24	31-Oct-24	31-Oct-24	31-Oct-24	31-Oct-24
HumCell Leachate Vol [mL]	910	983	998	1008	931	1014	1004	1009	972
pH [No unit]	6.51	6.82	7.01	6.50	7.14	6.92	6.92	6.47	6.73
Conductivity [uS/cm]	19	50	28	14	16	6	11	3	10

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003917175

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

17-June-2024

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 30 May 2024
LR Report: **CA10200-MAY24**
Reference: Wk#57

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#57	6: CV5-WR-HCT-5 Wk#57	7: CV5-WR-HCT-5 (DUP) Wk#57	8: CV5-WR-HCT-14 Wk#57	9: CV5-WR-HCT-22 Wk#57	10: CV5-WR-HCT-33 Wk#57
Sample Date & Time			30-May-24	30-May-24	30-May-24	30-May-24	30-May-24	30-May-24
HumCell Leachate Vol [mL]	31-May-24	10:30	942	936	946	1005	984	1011
pH [No unit]	03-Jun-24	15:42	6.74	7.11	7.11	7.59	6.83	7.28
Alkalinity [mg/L as CaCO3]	03-Jun-24	15:43	2	3	3	13	2	5
Conductivity [uS/cm]	03-Jun-24	15:43	28	16	13	25	7	11
Acidity [mg/L as CaCO3]	03-Jun-24	15:42	< 2	< 2	< 2	< 2	< 2	< 2
Tot.Reactive P [mg/L]	03-Jun-24	14:53	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	04-Jun-24	19:59	9	3	3	2	< 2	< 2
Ag [mg/L]	05-Jun-24	09:01	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	05-Jun-24	09:01	0.014	0.018	0.017	0.071	0.014	0.043
As [mg/L]	05-Jun-24	09:01	0.0017	0.127	0.0771	0.0209	0.0647	0.0033
Ba [mg/L]	05-Jun-24	09:01	0.00017	0.00013	0.00011	0.00008	< 0.00008	0.00015
Be [mg/L]	05-Jun-24	09:01	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	05-Jun-24	09:01	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	05-Jun-24	09:01	0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	05-Jun-24	09:01	4.89	2.76	2.24	4.83	1.08	2.13
Cd [mg/L]	05-Jun-24	09:01	0.000013	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	05-Jun-24	09:01	0.000116	0.000169	0.000183	0.000051	0.000138	0.000064
Cr [mg/L]	05-Jun-24	09:01	0.00010	0.00013	0.00012	0.00012	0.00019	0.00011
Cu [mg/L]	05-Jun-24	09:01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	05-Jun-24	09:01	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	05-Jun-24	09:01	0.123	0.063	0.056	0.031	0.032	0.035
Li [mg/L]	05-Jun-24	09:01	0.0039	0.0045	0.0039	0.0024	0.0029	0.0015
Mg [mg/L]	05-Jun-24	09:01	0.196	0.118	0.106	0.144	0.142	0.055
Mn [mg/L]	05-Jun-24	09:01	0.00141	0.00099	0.00169	0.00479	0.00041	0.00713
Mo [mg/L]	05-Jun-24	09:01	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	05-Jun-24	09:01	0.11	0.06	0.05	0.10	0.07	0.07
Ni [mg/L]	05-Jun-24	09:01	0.0005	0.0012	0.0008	0.0002	0.0005	0.0001
Pb [mg/L]	05-Jun-24	09:01	0.00074	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	05-Jun-24	09:01	0.0013	0.0245	0.0124	0.0021	0.0025	< 0.0009
Se [mg/L]	05-Jun-24	09:01	0.00011	< 0.00004	< 0.00004	0.00004	< 0.00004	< 0.00004
Sn [mg/L]	05-Jun-24	09:01	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	05-Jun-24	09:01	0.00678	0.00310	0.00294	0.00261	0.00261	0.00167
Ti [mg/L]	05-Jun-24	09:01	< 0.0001	0.0001	0.0001	0.0002	0.0001	< 0.0001
Tl [mg/L]	05-Jun-24	09:01	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005
U [mg/L]	05-Jun-24	09:01	0.000062	0.000013	0.000008	0.000037	0.000089	0.000012

OnLine LIMS

00037489967

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10200-MAY24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#57	6: CV5-WR-HCT-5 Wk#57	7: CV5-WR-HCT-5 (DUP) Wk#57	8: CV5-WR-HCT-14 Wk#57	9: CV5-WR-HCT-22 Wk#57	10: CV5-WR-HCT-33 Wk#57
V [mg/L]	05-Jun-24	09:01	0.00014	0.00031	0.00026	0.00133	0.00063	0.00036
W [mg/L]	05-Jun-24	09:01	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	05-Jun-24	09:01	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	05-Jun-24	09:01	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002

Analysis	11: CV5-WR-HCT-36 Wk#57	12: CV5-WR-HCT-39 Wk#57	13: CV5-WR-HCT-50 Wk#57	14: CV5-WR-HCT-56 Wk#57	15: CV5-WR-HCT-59 Wk#57	16: CV5-WR-HCT-62 Wk#57	17: CV5-WR-HCT-64 Wk#57	18: CV5-WR-HCT-69 Wk#57
Sample Date & Time	30-May-24	30-May-24	30-May-24	30-May-24	30-May-24	30-May-24	30-May-24	30-May-24
HumCell Leachate Vol [mL]	982	960	993	1010	992	937	1010	1017
pH [No unit]	7.24	6.26	7.04	7.27	6.39	7.23	6.95	7.08
Alkalinity [mg/L as CaCO3]	4	< 2	6	7	< 2	7	4	5
Conductivity [uS/cm]	12	17	40	25	11	19	7	10
Acidity [mg/L as CaCO3]	< 2	2	5	< 2	3	< 2	< 2	< 2
Tot.Reactive P [mg/L]	0.14	< 0.03	< 0.03	< 0.03	< 0.03	0.08	< 0.03	< 0.03
SO4 [mg/L]	< 2	5	7	5	4	3	< 2	< 2
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.001	0.008	0.016	0.031	0.002	< 0.001	0.018	0.045
As [mg/L]	0.725	0.0106	0.0024	0.0082	0.101	0.496	0.0041	0.0022
Ba [mg/L]	0.00041	0.00015	0.00022	0.00035	0.00014	0.00037	< 0.00008	0.00009
Be [mg/L]	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	0.000087
B [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00014
Ca [mg/L]	1.83	2.38	7.18	4.69	1.50	2.58	1.46	2.14
Cd [mg/L]	< 0.000003	0.000007	0.000048	< 0.000003	0.000011	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	0.000392	0.000124	0.00347	0.000044	0.00201	0.000369	0.000010	0.000008
Cr [mg/L]	0.00015	0.00011	0.00012	0.00009	0.00019	0.00013	0.00011	0.00009
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007	0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	0.031	0.108	0.107	0.113	0.030	0.029	0.123	0.056
Li [mg/L]	0.0011	0.0044	0.0058	0.0015	0.0010	0.0002	0.0010	0.0010
Mg [mg/L]	0.436	0.222	0.070	0.124	0.245	0.740	0.032	0.023
Mn [mg/L]	0.00180	0.00144	0.00892	0.00450	0.00381	0.00207	0.00463	0.00246
Mo [mg/L]	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	0.03	0.08	0.08	0.06	0.04	0.03	0.05	0.10
Ni [mg/L]	0.0074	0.0004	0.0026	0.0002	0.0178	0.0057	0.0002	0.0002
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	0.00025	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.245	0.0062	0.0105	< 0.0009	0.0020	0.368	0.0011	0.0011
Se [mg/L]	< 0.00004	< 0.00004	0.00046	< 0.00004	< 0.00004	0.00005	< 0.00004	< 0.00004
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00144	0.00484	0.00329	0.00321	0.00510	0.00109	0.00145	0.00299
Ti [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001
Tl [mg/L]	< 0.000005	< 0.000005	0.000014	< 0.000005	< 0.000005	< 0.000005	0.000021	< 0.000005
U [mg/L]	0.000014	0.000169	0.00120	0.000278	0.000006	0.000041	0.000290	0.00275
V [mg/L]	0.00012	0.00019	0.00006	0.00022	0.00014	0.00013	0.00005	0.00007
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	0.011	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002

Analysis	19: CV5-ORE-HCT-74 Wk#57	20: CV5-ORE-HCT-76 Wk#57
Sample Date & Time	30-May-24	30-May-24

OnLine LIMS

00037489 67

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10200-MAY24**

Analysis	19: CV5-ORE-HCT-74 Wk#57	20: CV5-ORE-HCT-76 Wk#57
HumCell Leachate Vol [mL]	1021	1023
pH [No unit]	6.55	7.02
Alkalinity [mg/L as CaCO3]	2	6
Conductivity [uS/cm]	2	11
Acidity [mg/L as CaCO3]	2	< 2
Tot.Reactive P [mg/L]	< 0.03	< 0.03
SO4 [mg/L]	< 2	< 2
Ag [mg/L]	< 0.00005	< 0.00005
Al [mg/L]	0.011	0.019
As [mg/L]	0.0071	0.0014
Ba [mg/L]	< 0.00008	< 0.00008
Be [mg/L]	< 0.000007	0.000026
B [mg/L]	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	0.00005
Ca [mg/L]	0.46	2.08
Cd [mg/L]	< 0.000003	< 0.000003
Co [mg/L]	0.000010	0.000009
Cr [mg/L]	0.00013	0.00013
Cu [mg/L]	< 0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007
K [mg/L]	0.078	0.140
Li [mg/L]	0.0048	0.0045
Mg [mg/L]	0.010	0.066
Mn [mg/L]	0.0494	0.00057
Mo [mg/L]	< 0.0004	< 0.0004
Na [mg/L]	0.08	0.07
Ni [mg/L]	0.0002	0.0002
Pb [mg/L]	< 0.00009	< 0.00009
Sb [mg/L]	0.0063	< 0.0009
Se [mg/L]	< 0.00004	< 0.00004
Sn [mg/L]	< 0.00006	< 0.00006
Sr [mg/L]	0.00071	0.00356
Ti [mg/L]	< 0.0001	< 0.0001
Tl [mg/L]	0.000024	0.000011
U [mg/L]	0.000281	0.000651
V [mg/L]	0.00005	0.00006
W [mg/L]	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

00037489967

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

08-April-2024

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 28 March 2024
LR Report: **CA10201-MAR24**
Reference: Wk#48

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#48	6: CV5-DMS-HCT-84 Wk#48
Sample Date & Time			28-Mar-24	28-Mar-24
HumCell Leachate Vol [mL]	01-Apr-24	12:45	973	963
pH [No unit]	02-Apr-24	11:32	6.39	6.26
Alkalinity [mg/L as CaCO3]	01-Apr-24	10:53	< 2	< 2
Conductivity [uS/cm]	03-Apr-24	12:24	< 2	2
Acidity [mg/L as CaCO3]	04-Apr-24	09:10	2	2
Tot.Reactive P [mg/L]	01-Apr-24	09:48	< 0.03	< 0.03
SO4 [mg/L]	01-Apr-24	20:01	< 2	< 2
Ag [mg/L]	02-Apr-24	14:27	< 0.00005	< 0.00005
Al [mg/L]	02-Apr-24	14:27	0.007	0.007
As [mg/L]	02-Apr-24	14:27	0.0025	0.0018
Ba [mg/L]	02-Apr-24	14:27	< 0.00008	< 0.00008
Be [mg/L]	02-Apr-24	14:27	0.000015	0.000009
B [mg/L]	02-Apr-24	14:27	< 0.002	< 0.002
Bi [mg/L]	02-Apr-24	14:27	0.00002	0.00003
Ca [mg/L]	02-Apr-24	14:27	0.29	0.28
Cd [mg/L]	02-Apr-24	14:27	< 0.000003	0.000003
Co [mg/L]	02-Apr-24	14:27	0.000004	0.000007
Cr [mg/L]	02-Apr-24	14:27	< 0.00008	< 0.00008
Cu [mg/L]	02-Apr-24	14:27	< 0.001	< 0.001
Fe [mg/L]	02-Apr-24	14:27	< 0.007	< 0.007
K [mg/L]	02-Apr-24	14:27	0.044	0.044
Li [mg/L]	02-Apr-24	14:27	0.0005	0.0006
Mg [mg/L]	02-Apr-24	14:27	0.011	0.009
Mn [mg/L]	02-Apr-24	14:27	0.00075	0.00117
Mo [mg/L]	02-Apr-24	14:27	< 0.0004	< 0.0004
Na [mg/L]	02-Apr-24	14:27	0.02	0.02
Ni [mg/L]	02-Apr-24	14:27	0.0001	0.0001
Pb [mg/L]	02-Apr-24	14:27	< 0.00009	< 0.00009
Sb [mg/L]	02-Apr-24	14:27	0.0010	< 0.0009
Se [mg/L]	02-Apr-24	14:27	< 0.00004	< 0.00004
Sn [mg/L]	02-Apr-24	14:27	< 0.00006	0.00011
Sr [mg/L]	02-Apr-24	14:27	0.00062	0.00063
Ti [mg/L]	02-Apr-24	14:27	< 0.0001	< 0.0001
Tl [mg/L]	02-Apr-24	14:27	0.000007	0.000008
U [mg/L]	02-Apr-24	14:27	0.000620	0.000656

OnLine LIMS

00036723 72

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10201-MAR24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#48	6: CV5-DMS-HCT-84 Wk#48
V [mg/L]	02-Apr-24	14:27	0.00001	0.00002
W [mg/L]	02-Apr-24	14:27	< 0.0002	< 0.0002
Y [mg/L]	02-Apr-24	14:27	< 0.00002	< 0.00002
Zn [mg/L]	02-Apr-24	14:27	< 0.002	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003672372

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

10-April-2024

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 28 March 2024
LR Report: **CA10202-MAR24**
Reference: Wk#48

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT -2 Wk#48	6: CV5-WR-HCT -5 Wk#48	7: CV5-WR-HCT- 5 (DUP) Wk#48	8: CV5-WR-HCT -14 Wk#48	9: CV5-WR-HCT -22 Wk#48
Sample Date & Time			28-Mar-24	28-Mar-24	28-Mar-24	28-Mar-24	28-Mar-24
HumCell Leachate Vol [mL]	01-Apr-24	12:45	905	912	920	961	978
pH [No unit]	02-Apr-24	11:40	6.71	6.92	6.94	7.48	6.96
Alkalinity [mg/L as CaCO3]	02-Apr-24	11:39	2	4	3	15	4
Conductivity [uS/cm]	02-Apr-24	11:39	39	19	16	28	12
Acidity [mg/L as CaCO3]	04-Apr-24	11:00	< 2	< 2	< 2	< 2	< 2
Tot.Reactive P [mg/L]	01-Apr-24	09:48	< 0.03	< 0.03	< 0.03	< 0.03	0.03
SO4 [mg/L]	01-Apr-24	19:40	15	5	4	2	< 2
Ag [mg/L]	02-Apr-24	14:27	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	02-Apr-24	14:27	0.025	0.078	0.025	0.102	0.031
As [mg/L]	02-Apr-24	14:27	0.0027	0.170	0.130	0.0310	0.124
Ba [mg/L]	02-Apr-24	14:27	0.00024	0.00095	0.00015	0.00011	< 0.00008
Be [mg/L]	02-Apr-24	14:27	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	02-Apr-24	14:27	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	02-Apr-24	14:27	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	02-Apr-24	14:27	5.40	3.49	2.17	4.89	1.70
Cd [mg/L]	02-Apr-24	14:27	< 0.000003	0.000005	0.000008	< 0.000003	0.000003
Co [mg/L]	02-Apr-24	14:27	0.000101	0.000175	0.000215	0.000053	0.000162
Cr [mg/L]	02-Apr-24	14:27	< 0.00008	< 0.00008	< 0.00008	< 0.00008	0.00015
Cu [mg/L]	02-Apr-24	14:27	< 0.001	< 0.001	< 0.001	< 0.001	0.002
Fe [mg/L]	02-Apr-24	14:27	< 0.007	0.028	< 0.007	< 0.007	0.008
K [mg/L]	02-Apr-24	14:27	0.153	0.070	0.060	0.028	0.033
Li [mg/L]	03-Apr-24	11:59	0.0052	0.0058	0.0051	0.0028	0.0046
Mg [mg/L]	02-Apr-24	14:27	0.293	0.162	0.127	0.171	0.207
Mn [mg/L]	02-Apr-24	14:27	0.00091	0.00293	0.00089	0.00467	0.00054
Mo [mg/L]	02-Apr-24	14:27	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	02-Apr-24	14:27	0.12	0.09	0.05	0.12	0.09
Ni [mg/L]	02-Apr-24	14:27	0.0004	0.0011	0.0010	0.0002	0.0005
Pb [mg/L]	02-Apr-24	14:27	0.00031	0.00023	< 0.00009	0.00017	0.00012
Sb [mg/L]	02-Apr-24	14:27	0.0019	0.0297	0.0178	0.0026	0.0051

OnLine LIMS

0003674483

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10202-MAR24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT -2 Wk#48	6: CV5-WR-HCT -5 Wk#48	7: CV5-WR-HCT-5 (DUP) Wk#48	8: CV5-WR-HCT -14 Wk#48	9: CV5-WR-HCT -22 Wk#48
Se [mg/L]	02-Apr-24	14:27	0.00018	0.00004	< 0.00004	0.00009	< 0.00004
Sn [mg/L]	02-Apr-24	14:27	0.00008	0.00009	< 0.00006	0.00009	0.00014
Sr [mg/L]	02-Apr-24	14:27	0.00986	0.00517	0.00426	0.00335	0.00456
Ti [mg/L]	02-Apr-24	14:27	0.0003	0.0003	0.0002	0.0002	0.0003
Tl [mg/L]	02-Apr-24	14:27	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005
U [mg/L]	02-Apr-24	14:27	0.000114	0.000056	0.000017	0.000070	0.000201
V [mg/L]	02-Apr-24	14:27	0.00025	0.00049	0.00038	0.00208	0.00105
W [mg/L]	02-Apr-24	14:27	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	02-Apr-24	14:27	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	03-Apr-24	11:59	< 0.002	0.006	< 0.002	< 0.002	< 0.002

Analysis	10: CV5-WR-HCT -33 Wk#48	11: CV5-WR-HCT -36 Wk#48	12: CV5-WR-HCT -39 Wk#48	13: CV5-WR-HCT -50 Wk#48	14: CV5-WR-HCT -56 Wk#48	15: CV5-WR-HCT -59 Wk#48	16: CV5-WR-HCT -62 Wk#48
Sample Date & Time	28-Mar-24	28-Mar-24	28-Mar-24	28-Mar-24	28-Mar-24	28-Mar-24	28-Mar-24
HumCell Leachate Vol [mL]	916	968	898	977	957	983	874
pH [No unit]	7.26	7.13	6.55	7.11	7.41	6.55	7.48
Alkalinity [mg/L as CaCO3]	5	5	3	9	6	2	8
Conductivity [uS/cm]	12	14	21	50	29	13	24
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	3	< 2	< 2	< 2
Tot.Reactive P [mg/L]	< 0.03	0.26	< 0.03	< 0.03	< 0.03	< 0.03	0.13
SO4 [mg/L]	< 2	2	7	8	6	4	4
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.062	0.001	0.020	0.036	0.037	0.003	0.009
As [mg/L]	0.0042	1.08	0.0157	0.0036	0.0111	0.186	0.711
Ba [mg/L]	0.00011	0.00034	0.00025	0.00031	0.00027	0.00016	0.00033
Be [mg/L]	< 0.000007	0.00155	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	< 0.002	0.005	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	1.92	1.82	2.43	6.29	4.13	1.75	3.01
Cd [mg/L]	< 0.000003	< 0.000003	0.000005	0.000029	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	0.000057	0.000329	0.000111	0.00192	0.000049	0.000904	0.000338
Cr [mg/L]	< 0.00008	0.00010	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007	0.007	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	0.029	0.027	0.126	0.140	0.129	0.032	0.035
Li [mg/L]	0.0017	0.0018	0.0050	0.0076	0.0017	0.0013	0.0004
Mg [mg/L]	0.055	0.413	0.275	0.064	0.136	0.283	1.01
Mn [mg/L]	0.00442	0.00130	0.00135	0.00693	0.00597	0.00222	0.00174
Mo [mg/L]	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	0.07	0.02	0.09	0.09	0.05	0.05	0.02
Ni [mg/L]	0.0002	0.0085	0.0004	0.0015	0.0002	0.0092	0.0057
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	< 0.0009	0.335	0.0093	0.0150	< 0.0009	0.0036	0.607

OnLine LIMS

0003674483

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10202-MAR24**

Analysis	10: CV5-WR-HCT -33 Wk#48	11: CV5-WR-HCT -36 Wk#48	12: CV5-WR-HCT -39 Wk#48	13: CV5-WR-HCT -50 Wk#48	14: CV5-WR-HCT -56 Wk#48	15: CV5-WR-HCT -59 Wk#48	16: CV5-WR-HCT -62 Wk#48
Se [mg/L]	0.00008	0.00004	0.00008	0.00045	0.00005	< 0.00004	0.00006
Sn [mg/L]	< 0.00006	0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00170	0.00185	0.00589	0.00363	0.00364	0.00660	0.00159
Ti [mg/L]	0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tl [mg/L]	< 0.000005	< 0.000005	< 0.000005	0.000020	< 0.000005	< 0.000005	< 0.000005
U [mg/L]	0.000020	0.000021	0.000311	0.00101	0.000381	0.000036	0.000098
V [mg/L]	0.00050	0.00011	0.00022	0.00006	0.00025	0.00025	0.00014
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	0.009	< 0.002	0.005	< 0.002	0.003	0.002

Analysis	17: CV5-WR-HCT -64 Wk#48	18: CV5-WR-HCT -69 Wk#48	19: CV5-ORE-HCT-74 Wk#48	20: CV5-ORE-HCT-76 Wk#48
Sample Date & Time	28-Mar-24	28-Mar-24	28-Mar-24	28-Mar-24
HumCell Leachate Vol [mL]	1003	979	988	910
pH [No unit]	7.16	7.28	6.78	7.35
Alkalinity [mg/L as CaCO3]	5	6	2	6
Conductivity [uS/cm]	9	12	3	10
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2
Tot.Reactive P [mg/L]	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	< 2	< 2	< 2	< 2
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.020	0.042	0.014	0.044
As [mg/L]	0.0048	0.0030	0.0080	0.0017
Ba [mg/L]	< 0.00008	0.00010	< 0.00008	0.00008
Be [mg/L]	0.000012	0.000059	< 0.000007	0.000060
B [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	0.00023	< 0.00001	0.00009
Ca [mg/L]	1.64	2.06	0.48	1.60
Cd [mg/L]	< 0.000003	0.000003	< 0.000003	< 0.000003
Co [mg/L]	0.000009	0.000010	0.000006	0.000011
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	0.135	0.052	0.071	0.159
Li [mg/L]	0.0012	0.0011	0.0048	0.0044
Mg [mg/L]	0.037	0.024	0.010	0.060
Mn [mg/L]	0.00466	0.00239	0.0480	0.00067
Mo [mg/L]	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	0.04	0.10	0.08	0.07
Ni [mg/L]	< 0.0001	0.0001	< 0.0001	0.0002
Pb [mg/L]	< 0.00009	0.00026	< 0.00009	< 0.00009
Sb [mg/L]	0.0010	0.0012	0.0070	< 0.0009

OnLine LIMS

0003674483

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10202-MAR24**

Analysis	17: CV5-WR-HCT-64 Wk#48	18: CV5-WR-HCT-69 Wk#48	19: CV5-ORE-HCT-74 Wk#48	20: CV5-ORE-HCT-76 Wk#48
Se [mg/L]	< 0.00004	< 0.00004	< 0.00004	< 0.00004
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00202	0.00333	0.00084	0.00321
Ti [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tl [mg/L]	0.000027	< 0.000005	0.000026	0.000016
U [mg/L]	0.000481	0.00329	0.000490	0.000667
V [mg/L]	0.00001	0.00009	< 0.00001	0.00003
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003674483

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Patriot Tailings -Short- (9.5mm fraction size)

22-March-2024

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700, Vancouver
Canada, V6C 0A6
Phone: 647-782-7386, Fax:

Date Rec. : 29 February 2024
LR Report: **CA10227-FEB24**
Reference: Wk#44

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#44	6: CV5-DMS-HCT-84 Wk#44
Sample Date & Time			29-Feb-24	29-Feb-24
HumCell Leachate Vol [mL]	02-Mar-24	10:48	988	988
pH [No unit]	04-Mar-24	09:32	6.38	6.20
Alkalinity [mg/L as CaCO3]	04-Mar-24	09:32	< 2	< 2
Conductivity [uS/cm]	04-Mar-24	09:32	< 2	< 2
Acidity [mg/L as CaCO3]	04-Mar-24	09:32	< 2	2
Tot.Reactive P [mg/L]	04-Mar-24	08:22	< 0.03	< 0.03
SO4 [mg/L]	01-Mar-24	14:21	< 2	< 2
Ag [mg/L]	05-Mar-24	11:02	< 0.00005	< 0.00005
Al [mg/L]	05-Mar-24	11:02	0.012	0.011
As [mg/L]	05-Mar-24	11:02	0.0034	0.0026
Ba [mg/L]	05-Mar-24	11:02	0.00008	< 0.00008
Be [mg/L]	05-Mar-24	11:02	0.000007	< 0.000007
B [mg/L]	05-Mar-24	11:02	< 0.002	< 0.002
Bi [mg/L]	05-Mar-24	11:02	0.00003	0.00004
Ca [mg/L]	05-Mar-24	11:02	0.30	0.32
Cd [mg/L]	05-Mar-24	11:02	< 0.000003	< 0.000003
Co [mg/L]	05-Mar-24	11:02	0.000004	0.000008
Cr [mg/L]	05-Mar-24	11:02	< 0.00008	< 0.00008
Cu [mg/L]	05-Mar-24	11:02	< 0.001	< 0.001
Fe [mg/L]	05-Mar-24	11:02	< 0.007	< 0.007
K [mg/L]	05-Mar-24	11:02	0.036	0.039
Li [mg/L]	05-Mar-24	11:02	0.0003	0.0004
Mg [mg/L]	05-Mar-24	11:02	0.015	0.011
Mn [mg/L]	05-Mar-24	11:02	0.00043	0.00090
Mo [mg/L]	05-Mar-24	11:02	0.0008	0.0017
Na [mg/L]	05-Mar-24	11:02	0.02	< 0.01
Ni [mg/L]	05-Mar-24	11:02	0.0001	0.0004
Pb [mg/L]	05-Mar-24	11:02	< 0.00009	0.00014
Sb [mg/L]	05-Mar-24	11:02	0.0015	0.0013

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0003655696

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10227-FEB24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HC T-83 Wk#44	6: CV5-DMS-HC T-84 Wk#44
Se [mg/L]	05-Mar-24	11:02	< 0.00004	< 0.00004
Sn [mg/L]	05-Mar-24	11:02	< 0.00006	< 0.00006
Sr [mg/L]	05-Mar-24	11:02	0.00542	0.00079
Ti [mg/L]	05-Mar-24	11:02	< 0.0001	< 0.0001
Tl [mg/L]	05-Mar-24	11:02	0.000006	0.000008
U [mg/L]	05-Mar-24	11:02	0.000998	0.00105
V [mg/L]	05-Mar-24	11:02	0.00002	< 0.00001
W [mg/L]	05-Mar-24	11:02	< 0.0002	< 0.0002
Y [mg/L]	05-Mar-24	11:02	< 0.00002	< 0.00002
Zn [mg/L]	05-Mar-24	11:02	< 0.002	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

00036556696

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

22-March-2024

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700, Vancouver
Canada, V6C 0A6
Phone: 647-782-7386, Fax:

Date Rec. : 29 February 2024
LR Report: **CA10228-FEB24**
Reference: Wk#44

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#44	6: CV5-WR-HCT-5 Wk#44	7: CV5-WR-HCT-5 (DUP) Wk#44	8: CV5-WR-HCT-14 Wk#44	9: CV5-WR-HCT-22 Wk#44	10: CV5-WR-HCT-33 Wk#44
Sample Date & Time			29-Feb-24	29-Feb-24	29-Feb-24	29-Feb-24	29-Feb-24	29-Feb-24
HumCell Leachate Vol [mL]	02-Mar-24	10:48	922	916	948	948	939	1000
pH [No unit]	04-Mar-24	11:51	6.67	6.92	6.81	8.09	6.87	7.21
Alkalinity [mg/L as CaCO3]	04-Mar-24	11:55	2	4	3	13	3	7
Conductivity [uS/cm]	01-Mar-24	13:05	30	20	15	30	9	17
Acidity [mg/L as CaCO3]	04-Mar-24	11:55	< 2	< 2	< 2	< 2	< 2	< 2
Tot.Reactive P [mg/L]	04-Mar-24	08:22	< 0.03	< 0.03	< 0.03	< 0.03	0.03	< 0.03
SO4 [mg/L]	01-Mar-24	14:22	9	3	2	4	< 2	< 2
Ag [mg/L]	05-Mar-24	11:00	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	05-Mar-24	11:00	0.021	0.026	0.105	0.021	0.047	0.048
As [mg/L]	05-Mar-24	11:00	0.0027	0.106	0.0316	0.151	0.120	0.0040
Ba [mg/L]	05-Mar-24	11:00	0.00018	0.00012	0.00103	0.00012	0.00011	0.00018
Be [mg/L]	05-Mar-24	11:00	< 0.000007	< 0.000007	< 0.000007	< 0.000007	0.000007	< 0.000007
B [mg/L]	05-Mar-24	11:00	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	05-Mar-24	11:00	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	05-Mar-24	11:00	3.99	2.13	4.87	2.58	1.29	2.68
Cd [mg/L]	05-Mar-24	11:00	< 0.000003	0.000010	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	05-Mar-24	11:00	0.000103	0.000281	0.000067	0.000171	0.000247	0.000067
Cr [mg/L]	05-Mar-24	11:00	< 0.00008	< 0.00008	< 0.00008	< 0.00008	0.00024	< 0.00008
Cu [mg/L]	05-Mar-24	11:00	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	05-Mar-24	11:00	< 0.007	< 0.007	0.011	< 0.007	0.027	< 0.007
K [mg/L]	05-Mar-24	11:00	0.148	0.071	0.024	0.082	0.029	0.034
Li [mg/L]	05-Mar-24	11:00	0.0060	0.0061	0.0034	0.0065	0.0051	0.0026
Mg [mg/L]	05-Mar-24	11:00	0.233	0.136	0.192	0.140	0.214	0.076
Mn [mg/L]	05-Mar-24	11:00	0.00260	0.00146	0.00567	0.00102	0.00101	0.00880
Mo [mg/L]	05-Mar-24	11:00	0.0007	0.0229	0.0011	0.0017	< 0.0004	< 0.0004
Na [mg/L]	05-Mar-24	11:00	0.09	0.05	0.12	0.04	0.08	0.06
Ni [mg/L]	05-Mar-24	11:00	0.0004	0.0010	0.0003	0.0015	0.0006	0.0002
Pb [mg/L]	05-Mar-24	11:00	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	0.00019
Sb [mg/L]	05-Mar-24	11:00	0.0021	0.0185	0.0027	0.0326	0.0047	0.0013
Se [mg/L]	05-Mar-24	11:00	0.00014	< 0.00004	0.00006	< 0.00004	< 0.00004	0.00006
Sn [mg/L]	05-Mar-24	11:00	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	05-Mar-24	11:00	0.00918	0.00446	0.00490	0.00448	0.00425	0.00288
Ti [mg/L]	05-Mar-24	11:00	0.0001	< 0.0001	0.0005	0.0001	0.0011	< 0.0001
Tl [mg/L]	05-Mar-24	11:00	< 0.000005	0.000005	< 0.000005	< 0.000005	0.000005	< 0.000005
U [mg/L]	05-Mar-24	10:59	0.000142	0.000038	0.000571	0.000474	0.000137	0.000200

OnLine LIMS

0003656935

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10228-FEB24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#44	6: CV5-WR-HCT-5 Wk#44	7: CV5-WR-HCT-5 (DUP) Wk#44	8: CV5-WR-HCT-1 4 Wk#44	9: CV5-WR-HCT-2 2 Wk#44	10: CV5-WR-HCT-3 3 Wk#44
V [mg/L]	05-Mar-24	10:59	0.00018	0.00032	0.00218	0.00035	0.00107	0.00047
W [mg/L]	05-Mar-24	10:59	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	05-Mar-24	10:59	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	05-Mar-24	10:59	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002

Analysis	11: CV5-WR-HCT-3 6 Wk#44	12: CV5-WR-HCT-3 9 Wk#44	13: CV5-WR-HCT-5 0 Wk#44	14: CV5-WR-HCT-5 6 Wk#44	15: CV5-WR-HCT-5 9 Wk#44	16: CV5-WR-HCT-6 2 Wk#44	17: CV5-WR-HCT-6 4 Wk#44	18: CV5-WR-HCT- 69 Wk#44
Sample Date & Time	29-Feb-24	29-Feb-24	29-Feb-24	29-Feb-24	29-Feb-24	29-Feb-24	29-Feb-24	29-Feb-24
HumCell Leachate Vol [mL]	1000	996	1001	952	951	914	971	992
pH [No unit]	7.10	6.51	7.11	7.33	6.38	7.23	6.91	6.93
Alkalinity [mg/L as CaCO3]	5	2	11	7	< 2	7	3	4
Conductivity [uS/cm]	15	20	55	30	19	25	5	8
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Tot.Reactive P [mg/L]	0.36	< 0.03	< 0.03	< 0.03	0.03	0.14	< 0.03	< 0.03
SO4 [mg/L]	< 2	6	6	6	6	3	< 2	< 2
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	< 0.001	0.011	0.023	0.036	0.012	0.001	0.030	0.047
As [mg/L]	1.27	0.0157	0.0030	0.0106	0.195	0.659	0.0043	0.0020
Ba [mg/L]	0.00043	0.00017	0.00027	0.00035	0.00017	0.00034	0.00031	0.00010
Be [mg/L]	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	0.000015	0.000179
B [mg/L]	0.003	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00020
Ca [mg/L]	2.01	2.49	5.85	4.45	2.21	2.89	1.00	1.46
Cd [mg/L]	< 0.000003	0.000004	0.000041	< 0.000003	< 0.000003	< 0.000003	< 0.000003	0.000005
Co [mg/L]	0.000345	0.000141	0.00259	0.000070	0.00110	0.000403	0.000008	0.000080
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	< 0.00008	0.00029	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007	0.016	< 0.007	< 0.007	< 0.007
K [mg/L]	0.029	0.129	0.166	0.155	0.020	0.022	0.142	0.044
Li [mg/L]	0.0017	0.0057	0.0105	0.0024	0.0013	0.0002	0.0013	0.0011
Mg [mg/L]	0.488	0.266	0.074	0.172	0.330	0.725	0.036	0.022
Mn [mg/L]	0.00143	0.00182	0.00926	0.00810	0.00259	0.00287	0.00321	0.00216
Mo [mg/L]	< 0.0004	0.0005	0.0022	< 0.0004	0.0005	0.0005	< 0.0004	< 0.0004
Na [mg/L]	< 0.01	0.06	0.10	0.04	0.03	< 0.01	0.03	0.08
Ni [mg/L]	0.0106	0.0006	0.0020	0.0004	0.0080	0.0070	0.0002	0.0006
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.399	0.0100	0.0169	< 0.0009	0.0033	0.588	0.0011	0.0012
Se [mg/L]	< 0.00004	0.00005	0.00040	< 0.00004	< 0.00004	0.00005	< 0.00004	< 0.00004
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00239	0.00688	0.00460	0.00396	0.00951	0.00158	0.00170	0.00290
Ti [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0003	< 0.0001	< 0.0001	< 0.0001
Tl [mg/L]	< 0.000005	0.000006	0.000024	< 0.000005	< 0.000005	< 0.000005	0.000032	0.000006
U [mg/L]	0.000048	0.000462	0.00111	0.000838	0.000123	0.000595	0.000562	0.00286
V [mg/L]	0.00013	0.00022	0.00005	0.00025	0.00024	0.00013	< 0.00001	0.00003
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	0.011	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002

Analysis	19: CV5-ORE-HCT- 74 Wk#44	20: CV5-ORE-HCT- 76 Wk#44
Sample Date & Time	29-Feb-24	29-Feb-24

OnLine LIMS

0003656935

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10228-FEB24**

Analysis	19: CV5-ORE-HCT-74 Wk#44	20: CV5-ORE-HCT-76 Wk#44
HumCell Leachate Vol [mL]	1019	1015
pH [No unit]	6.52	7.16
Alkalinity [mg/L as CaCO3]	2	7
Conductivity [uS/cm]	3	15
Acidity [mg/L as CaCO3]	< 2	< 2
Tot.Reactive P [mg/L]	< 0.03	< 0.03
SO4 [mg/L]	< 2	< 2
Ag [mg/L]	< 0.00005	< 0.00005
Al [mg/L]	0.016	0.028
As [mg/L]	0.0079	0.0024
Ba [mg/L]	< 0.00008	0.00012
Be [mg/L]	0.000011	0.000056
B [mg/L]	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	0.00009
Ca [mg/L]	0.55	2.58
Cd [mg/L]	< 0.000003	< 0.000003
Co [mg/L]	0.000008	0.000010
Cr [mg/L]	< 0.00008	0.00011
Cu [mg/L]	< 0.001	< 0.001
Fe [mg/L]	0.009	< 0.007
K [mg/L]	0.082	0.189
Li [mg/L]	0.0057	0.0058
Mg [mg/L]	0.010	0.089
Mn [mg/L]	0.0536	0.00089
Mo [mg/L]	< 0.0004	< 0.0004
Na [mg/L]	0.07	0.06
Ni [mg/L]	0.0004	0.0001
Pb [mg/L]	< 0.00009	0.00009
Sb [mg/L]	0.0078	0.0010
Se [mg/L]	< 0.00004	< 0.00004
Sn [mg/L]	< 0.00006	< 0.00006
Sr [mg/L]	0.00104	0.00586
Ti [mg/L]	< 0.0001	< 0.0001
Tl [mg/L]	0.000028	0.000016
U [mg/L]	0.000797	0.00122
V [mg/L]	0.00001	0.00009
W [mg/L]	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003656935

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Patriot Tailings -Short- (9.5mm fraction size)

14-February-2024

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 25 January 2024
LR Report: **CA10232-JAN24**
Reference: Wk#39

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#39	6: CV5-DMS-HCT-84 Wk#39
Sample Date & Time			25-Jan-24	25-Jan-24
HumCell Leachate Vol [mL]	29-Jan-24	14:39	992	950
pH [No unit]	26-Jan-24	15:03	6.38	6.40
Alkalinity [mg/L as CaCO3]	26-Jan-24	15:03	< 2	< 2
Conductivity [uS/cm]	26-Jan-24	15:03	< 2	2
Acidity [mg/L as CaCO3]	26-Jan-24	15:03	3	3
Tot.Reactive P [mg/L]	29-Jan-24	11:08	< 0.03	< 0.03
SO4 [mg/L]	26-Jan-24	18:49	< 2	< 2
Ag [mg/L]	29-Jan-24	14:26	< 0.00005	< 0.00005
Al [mg/L]	29-Jan-24	14:26	0.010	0.010
As [mg/L]	29-Jan-24	14:26	0.0036	0.0024
Ba [mg/L]	29-Jan-24	14:26	< 0.00008	0.00021
Be [mg/L]	29-Jan-24	14:26	0.000009	0.000010
B [mg/L]	29-Jan-24	14:26	< 0.002	< 0.002
Bi [mg/L]	29-Jan-24	14:26	0.00002	0.00002
Ca [mg/L]	29-Jan-24	14:26	0.43	0.44
Cd [mg/L]	29-Jan-24	14:26	< 0.000003	< 0.000003
Co [mg/L]	29-Jan-24	14:26	0.000004	0.000012
Cr [mg/L]	29-Jan-24	14:26	< 0.00008	< 0.00008
Cu [mg/L]	29-Jan-24	14:26	< 0.002	< 0.002
Fe [mg/L]	29-Jan-24	14:26	< 0.007	0.009
K [mg/L]	29-Jan-24	14:26	0.080	0.081
Li [mg/L]	29-Jan-24	14:26	0.0006	0.0006
Mg [mg/L]	29-Jan-24	14:26	0.016	0.019
Mn [mg/L]	29-Jan-24	14:26	0.00075	0.00132
Mo [mg/L]	29-Jan-24	14:26	< 0.0004	0.00041
Na [mg/L]	29-Jan-24	14:26	< 0.01	0.01
Ni [mg/L]	29-Jan-24	14:26	< 0.0001	0.0002
Pb [mg/L]	29-Jan-24	14:26	< 0.00009	< 0.00009
Sb [mg/L]	29-Jan-24	14:26	0.0015	0.0012
Se [mg/L]	29-Jan-24	14:26	< 0.00004	< 0.00004
Sn [mg/L]	29-Jan-24	14:26	< 0.00006	< 0.00006
Sr [mg/L]	29-Jan-24	14:26	0.00098	0.00116
Ti [mg/L]	29-Jan-24	14:26	< 0.0001	< 0.0001
Tl [mg/L]	29-Jan-24	14:26	0.000009	0.000010
U [mg/L]	29-Jan-24	14:26	0.000911	0.00108

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0003620226

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10232-JAN24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-DMS-HCT-83 Wk#39	6: CV5-DMS-HCT-84 Wk#39
V [mg/L]	29-Jan-24	14:26	0.00002	0.00002
W [mg/L]	29-Jan-24	14:26	< 0.0002	< 0.0002
Y [mg/L]	29-Jan-24	14:26	< 0.00002	< 0.00002
Zn [mg/L]	29-Jan-24	14:26	< 0.002	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003620226

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

14-February-2024

Patriot Battery Metals Inc
Attn : Andree Drolet/Alix Drapack

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 25 January 2024
LR Report: **CA10233-JAN24**
Reference: Wk#39

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#39	6: CV5-WR-HCT-5 Wk#39	7: CV5-WR-HCT-5 (DUP) Wk#39	8: CV5-WR-HCT-14 Wk#39	9: CV5-WR-HCT-22 Wk#39
Sample Date & Time			25-Jan-24	25-Jan-24	25-Jan-24	25-Jan-24	25-Jan-24
HumCell Leachate Vol [mL]	29-Jan-24	14:40	964	941	965	1017	1000
pH [No unit]	29-Jan-24	11:44	6.76	6.97	6.87	7.71	6.95
Alkalinity [mg/L as CaCO3]	01-Feb-24	11:00	3	4	3	12	4
Conductivity [uS/cm]	30-Jan-24	09:31	36	23	16	30	12
Acidity [mg/L as CaCO3]	29-Jan-24	12:52	< 2	< 2	< 2	< 2	< 2
Tot.Reactive P [mg/L]	29-Jan-24	11:09	< 0.03	0.04	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	26-Jan-24	18:49	12	5	4	2	< 2
Ag [mg/L]	29-Jan-24	14:27	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	29-Jan-24	14:27	0.028	0.035	0.030	0.090	0.026
As [mg/L]	29-Jan-24	14:27	0.0033	0.178	0.123	0.0356	0.132
Ba [mg/L]	29-Jan-24	14:27	0.00027	0.00026	0.00014	0.00075	0.00017
Be [mg/L]	29-Jan-24	14:27	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	29-Jan-24	14:27	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	29-Jan-24	14:27	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	29-Jan-24	14:27	5.23	3.58	2.51	5.31	1.88
Cd [mg/L]	29-Jan-24	14:27	0.000004	< 0.000003	< 0.000003	< 0.000003	0.000006
Co [mg/L]	29-Jan-24	14:27	0.000160	0.000247	0.000175	0.000071	0.000133
Cr [mg/L]	29-Jan-24	14:27	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	29-Jan-24	14:27	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Fe [mg/L]	29-Jan-24	14:27	< 0.007	0.010	0.007	< 0.007	< 0.007
K [mg/L]	29-Jan-24	14:27	0.190	0.111	0.085	0.045	0.050
Li [mg/L]	29-Jan-24	14:27	0.0064	0.0091	0.0071	0.0040	0.0054
Mg [mg/L]	29-Jan-24	14:27	0.303	0.196	0.155	0.213	0.228
Mn [mg/L]	29-Jan-24	14:27	0.00108	0.00173	0.00170	0.00575	0.00130
Mo [mg/L]	29-Jan-24	14:27	0.00056	< 0.0004	< 0.0004	< 0.0004	0.01081
Na [mg/L]	29-Jan-24	14:27	0.11	0.05	0.04	0.14	0.09
Ni [mg/L]	29-Jan-24	14:27	0.0007	0.0015	0.0009	0.0003	0.0006
Pb [mg/L]	29-Jan-24	14:27	< 0.00009	< 0.00009	< 0.00009	< 0.00009	0.00056
Sb [mg/L]	29-Jan-24	14:27	0.0025	0.0437	0.0226	0.0044	0.0059

OnLine LIMS

0003620272

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10233-JAN24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#39	6: CV5-WR-HCT-5 Wk#39	7: CV5-WR-HCT-5 (DUP) Wk#39	8: CV5-WR-HCT-1 4 Wk#39	9: CV5-WR-HCT-2 2 Wk#39
Se [mg/L]	29-Jan-24	14:27	0.00014	< 0.00004	< 0.00004	0.00008	< 0.00004
Sn [mg/L]	29-Jan-24	14:27	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	29-Jan-24	14:27	0.0115	0.00638	0.00528	0.00488	0.00562
Ti [mg/L]	29-Jan-24	14:27	0.00016	0.00034	0.00020	0.00018	0.00016
Tl [mg/L]	29-Jan-24	14:27	< 0.000005	< 0.000005	0.000005	< 0.000005	< 0.000005
U [mg/L]	29-Jan-24	14:27	0.00127	0.000025	0.000033	0.000090	0.000194
V [mg/L]	29-Jan-24	14:27	0.00028	0.00050	0.00040	0.00239	0.00114
W [mg/L]	29-Jan-24	14:27	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	29-Jan-24	14:27	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	29-Jan-24	14:27	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002

Analysis	10: CV5-WR-HCT-3 3 Wk#39	11: CV5-WR-HCT-3 6 Wk#39	12: CV5-WR-HCT-3 9 Wk#39	13: CV5-WR-HCT-5 0 Wk#39	14: CV5-WR-HCT-5 6 Wk#39	15: CV5-WR-HCT-5 9 Wk#39	16: CV5-WR-HCT-6 2 Wk#39
Sample Date & Time	25-Jan-24	25-Jan-24	25-Jan-24	25-Jan-24	25-Jan-24	25-Jan-24	25-Jan-24
HumCell Leachate Vol [mL]	952	980	938	986	982	1009	966
pH [No unit]	7.19	6.94	6.48	6.84	7.54	6.65	7.76
Alkalinity [mg/L as CaCO3]	5	4	< 2	4	15	2	14
Conductivity [uS/cm]	13	13	23	50	55	18	39
Acidity [mg/L as CaCO3]	< 2	< 2	2	6	< 2	3	< 2
Tot.Reactive P [mg/L]	< 0.03	0.25	< 0.03	< 0.03	0.05	0.15	0.21
SO4 [mg/L]	< 2	< 2	7	10	9	4	4
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.068	0.004	0.027	0.022	0.119	0.025	0.004
As [mg/L]	0.0044	0.973	0.0219	0.0039	0.0284	0.373	0.709
Ba [mg/L]	0.00077	0.00047	0.00082	0.00034	0.00112	0.00022	0.00052
Be [mg/L]	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	< 0.002	0.003	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	2.45	1.86	3.10	6.83	8.52	2.32	5.79
Cd [mg/L]	< 0.000003	0.000009	0.000007	0.000033	< 0.000003	0.000003	< 0.000003
Co [mg/L]	0.000054	0.000237	0.000127	0.001917	0.000133	0.001605	0.000633
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008	0.00047	0.00017
Cu [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Fe [mg/L]	0.007	< 0.007	0.009	< 0.007	0.021	0.035	0.017
K [mg/L]	0.054	0.051	0.201	0.211	0.360	0.064	0.030
Li [mg/L]	0.0029	0.0018	0.0077	0.0118	0.0048	0.0025	0.0004
Mg [mg/L]	0.094	0.395	0.333	0.098	0.344	0.449	0.908
Mn [mg/L]	0.00655	0.00177	0.00165	0.00773	0.0170	0.00417	0.00557
Mo [mg/L]	0.00041	< 0.0004	0.00054	0.00053	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	0.12	< 0.01	0.13	0.10	0.09	0.04	< 0.01
Ni [mg/L]	0.0006	0.0067	0.0005	0.0015	0.0004	0.0116	0.0089
Pb [mg/L]	0.00047	0.00011	0.00010	< 0.00009	< 0.00009	0.00050	< 0.00009
Sb [mg/L]	0.0012	0.369	0.0114	0.0192	< 0.0009	0.0064	0.578

OnLine LIMS

0003620272

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10233-JAN24**

Analysis	10: CV5-WR-HCT-3 3 Wk#39	11: CV5-WR-HCT-3 6 Wk#39	12: CV5-WR-HCT-3 9 Wk#39	13: CV5-WR-HCT-5 0 Wk#39	14: CV5-WR-HCT-5 6 Wk#39	15: CV5-WR-HCT-5 9 Wk#39	16: CV5-WR-HCT-6 2 Wk#39
Se [mg/L]	0.00007	0.00004	0.00007	0.00051	0.00009	< 0.00004	0.00012
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00369	0.00239	0.00984	0.00531	0.00832	0.0104	0.00290
Ti [mg/L]	0.00027	< 0.0001	0.00035	< 0.0001	0.00100	0.00097	< 0.0001
Tl [mg/L]	< 0.000005	< 0.000005	< 0.000005	0.000031	< 0.000005	0.000006	< 0.000005
U [mg/L]	0.000193	0.000034	0.000367	0.00205	0.000739	0.000014	0.000196
V [mg/L]	0.00060	0.00014	0.00032	0.00007	0.00071	0.00062	0.00021
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	0.008	< 0.002	< 0.002	< 0.002

Analysis	17: CV5-WR-HCT-6 4 Wk#39	18: CV5-WR-HCT-6 9 Wk#39	19: CV5-ORE-HCT-7 4 Wk#39	20: CV5-ORE-HCT-7 6 Wk#39
Sample Date & Time	25-Jan-24	25-Jan-24	25-Jan-24	25-Jan-24
HumCell Leachate Vol [mL]	998	1010	1023	987
pH [No unit]	7.00	7.24	6.64	7.12
Alkalinity [mg/L as CaCO3]	5	6	< 2	5
Conductivity [uS/cm]	11	13	3	13
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2
Tot.Reactive P [mg/L]	0.04	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	< 2	< 2	< 2	< 2
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.079	0.125	0.024	0.039
As [mg/L]	0.0067	0.0041	0.0097	0.0028
Ba [mg/L]	0.00010	0.00016	0.00043	0.00011
Be [mg/L]	0.000026	0.000281	< 0.000007	0.000040
B [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	0.00038	< 0.00001	0.00010
Ca [mg/L]	1.93	2.60	0.75	2.51
Cd [mg/L]	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	0.000018	0.000018	0.000015	0.000013
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002
Fe [mg/L]	< 0.007	< 0.007	< 0.007	0.012
K [mg/L]	0.277	0.097	0.110	0.261
Li [mg/L]	0.0022	0.0019	0.0067	0.0068
Mg [mg/L]	0.057	0.034	0.013	0.098
Mn [mg/L]	0.00677	0.00335	0.0544	0.00108
Mo [mg/L]	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	0.02	0.12	0.06	0.06
Ni [mg/L]	0.0002	0.0001	0.0001	0.0001
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.0014	0.0017	0.0104	0.0010

OnLine LIMS

0003620272

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10233-JAN24**

Analysis	17: CV5-WR-HCT-6 4 Wk#39	18: CV5-WR-HCT-6 9 Wk#39	19: CV5-ORE-HCT-7 4 Wk#39	20: CV5-ORE-HCT-7 6 Wk#39
Se [mg/L]	< 0.00004	< 0.00004	< 0.00004	< 0.00004
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00263	0.00449	0.00143	0.00548
Ti [mg/L]	< 0.0001	0.00020	< 0.0001	< 0.0001
Tl [mg/L]	0.000077	0.000012	0.000030	0.000023
U [mg/L]	0.000658	0.00316	0.000753	0.00189
V [mg/L]	0.00003	0.00008	0.00001	0.00005
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003620272

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

22-January-2024

Patriot Battery Metals Inc
Attn : Alix Drapack

838 W. Hastings Street, Suite 700
Vancouver, BC
V6C 0A6, Canada

Phone:
Fax:

Date Rec. : 20 September 2023
LR Report: **CA11026-SEP23**

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV13-ORE-01	6: CV13-WR-02	7: CV13-WR-03	8: CV13-WR-04	9: CV13-WR-05
Sample Date & Time			NA	NA	NA	NA	NA
Sample weight [g]	16-Jan-24	13:46	20	20	20	21	20
Ext Fluid [#1 or #2]	16-Jan-24	13:46	1	1	1	1	1
Ext Volume [mL]	16-Jan-24	13:46	400	400	400	400	400
Final pH [no unit]	16-Jan-24	13:46	---	---	---	---	---
pH [No unit]	18-Jan-24	15:58	7.76	7.79	8.49	8.69	8.04
Conductivity [uS/cm]	18-Jan-24	15:58	31	48	69	80	50
Alkalinity [mg/L as CaCO3]	18-Jan-24	15:58	11	18	28	34	21
Acidity [mg/L as CaCO3]	18-Jan-24	15:58	< 2	< 2	< 2	< 2	< 2
F [mg/L]	17-Jan-24	12:27	< 0.06	0.14	0.15	0.12	< 0.06
Br [mg/L]	17-Jan-24	19:24	< 30	< 30	< 30	< 30	< 30
Cl [mg/L]	17-Jan-24	19:24	< 20	< 20	< 20	< 20	< 20
SO4 [mg/L]	17-Jan-24	19:24	< 20	< 20	< 20	< 20	< 20
NO2 [as N mg/L]	17-Jan-24	19:24	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	17-Jan-24	19:24	< 6	< 6	< 6	< 6	< 6
Tot.Reactive P [mg/L]	17-Jan-24	12:07	< 0.03	0.05	< 0.03	< 0.03	< 0.03
Hg [mg/L]	18-Jan-24	16:55	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	18-Jan-24	16:55	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	18-Jan-24	16:55	0.364	0.595	0.134	0.557	0.387
As [mg/L]	18-Jan-24	16:55	0.0505	0.171	0.0958	0.0456	0.0100
Ba [mg/L]	18-Jan-24	16:55	0.00081	0.00149	0.00082	0.00247	0.00128
Be [mg/L]	18-Jan-24	16:55	0.000052	0.000118	0.000041	< 0.000007	< 0.000007
B [mg/L]	18-Jan-24	16:55	0.007	0.012	0.094	0.039	0.005
Bi [mg/L]	18-Jan-24	16:55	0.00002	0.00026	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	18-Jan-24	16:55	2.98	6.17	3.10	5.11	7.47
Cd [mg/L]	18-Jan-24	16:55	0.000003	0.000070	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	18-Jan-24	16:55	0.000009	0.000039	0.000091	0.000116	0.000008
Cr [mg/L]	18-Jan-24	16:55	0.00016	0.00026	0.00270	0.00102	0.00023
Cu [mg/L]	18-Jan-24	16:55	< 0.0002	0.0007	< 0.0002	0.0005	< 0.0002
Fe [mg/L]	18-Jan-24	16:55	< 0.007	0.015	0.111	0.147	0.011
K [mg/L]	18-Jan-24	16:55	0.578	0.356	0.926	1.74	0.596

OnLine LIMS

0003598493

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11026-SEP23**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV13-ORE-01	6: CV13-WR-02	7: CV13-WR-03	8: CV13-WR-04	9: CV13-WR-05
Li [mg/L]	18-Jan-24	16:55	0.147	0.0242	0.0254	0.0965	0.0333
Mg [mg/L]	18-Jan-24	16:55	0.032	0.183	1.00	0.690	0.974
Mn [mg/L]	18-Jan-24	16:55	0.0319	0.0130	0.00287	0.00236	0.00035
Mo [mg/L]	18-Jan-24	16:55	0.00093	0.00127	0.00019	0.00035	0.00049
Na [mg/L]	18-Jan-24	16:55	2.49	3.08	10.5	11.2	0.75
Ni [mg/L]	18-Jan-24	16:55	0.0001	0.0005	0.0009	0.0005	0.0001
P [mg/L]	18-Jan-24	16:55	0.022	0.024	0.006	0.018	0.006
Pb [mg/L]	18-Jan-24	16:55	< 0.00009	0.00267	< 0.00009	0.00009	< 0.00009
Sb [mg/L]	18-Jan-24	16:55	0.0051	0.0292	0.108	0.0156	0.0021
Se [mg/L]	18-Jan-24	16:55	< 0.00004	0.00046	0.00005	0.00017	< 0.00004
Si [mg/L]	18-Jan-24	16:55	1.58	2.08	2.45	2.51	2.34
Sn [mg/L]	18-Jan-24	16:55	< 0.00006	0.00007	< 0.00006	< 0.00006	0.00007
Ti [mg/L]	18-Jan-24	16:55	0.00010	0.00040	0.00208	0.00796	0.00023
Tl [mg/L]	18-Jan-24	16:55	0.000035	0.000027	0.000016	0.000026	0.000010
U [mg/L]	18-Jan-24	16:55	0.00309	0.110	0.000008	0.000087	0.000015
V [mg/L]	18-Jan-24	16:55	0.00023	0.00070	0.00199	0.00484	0.00287
Zn [mg/L]	18-Jan-24	16:55	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002

Analysis	10: CV13-WR-06	11: CV13-WR-07	12: CV13-WR-08	13: CV13-WR-09	14: CV13-WR-10	15: CV13-WR-11	16: CV13-WR-12
Sample Date & Time	NA	NA	NA	NA	NA	NA	NA
Sample weight [g]	20	20	20	20	20	20	20
Ext Fluid [#1 or #2]	1	1	1	1	1	1	1
Ext Volume [mL]	400	400	400	400	400	400	400
Final pH [no unit]	---	---	---	---	---	---	---
pH [No unit]	7.88	7.43	8.98	8.33	9.04	7.81	8.67
Conductivity [uS/cm]	43	30	62	60	67	38	59
Alkalinity [mg/L as CaCO3]	16	8	26	25	30	14	25
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	< 2	< 2
F [mg/L]	< 0.06	< 0.06	0.11	0.11	< 0.06	< 0.06	< 0.06
Br [mg/L]	< 30	< 30	< 30	< 30	< 30	< 30	< 30
Cl [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20
SO4 [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20
NO2 [as N mg/L]	< 3	< 3	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Tot.Reactive P [mg/L]	< 0.03	0.46	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.519	0.122	0.350	0.464	0.370	0.499	0.388
As [mg/L]	0.0279	5.13	0.0215	0.0139	0.0032	0.0309	0.0014
Ba [mg/L]	0.00030	0.00053	0.00062	0.00179	0.00048	0.00031	0.00075
Be [mg/L]	0.000012	0.000045	0.000008	< 0.000007	< 0.000007	0.000097	< 0.000007
B [mg/L]	0.003	0.027	0.046	0.054	0.031	0.011	0.034

OnLine LIMS

0003598493

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11026-SEP23**

Analysis	10: CV13-WR-06	11: CV13-WR-07	12: CV13-WR-08	13: CV13-WR-09	14: CV13-WR-10	15: CV13-WR-11	16: CV13-WR-12
Bi [mg/L]	0.00006	0.00007	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	6.36	1.92	3.90	1.92	6.22	4.11	4.53
Cd [mg/L]	0.000004	0.000005	< 0.000003	< 0.000003	< 0.000003	0.000008	0.000003
Co [mg/L]	0.000009	0.000115	0.000120	0.000115	0.000045	0.000029	0.000058
Cr [mg/L]	0.00010	0.00034	0.00144	0.00127	0.00072	0.00017	0.00084
Cu [mg/L]	< 0.0002	0.0005	0.0003	0.0004	< 0.0002	< 0.0002	0.0005
Fe [mg/L]	< 0.007	0.010	0.166	0.141	0.077	0.013	0.108
K [mg/L]	0.570	1.17	0.145	1.81	0.085	0.262	0.112
Li [mg/L]	0.0052	0.0206	0.0294	0.0876	0.0291	0.0084	0.0048
Mg [mg/L]	0.059	0.090	0.657	0.532	0.805	0.189	0.621
Mn [mg/L]	0.00711	0.0116	0.00405	0.00203	0.00200	0.00368	0.00240
Mo [mg/L]	0.00056	0.00208	0.00027	0.00051	0.00020	0.00131	0.00043
Na [mg/L]	1.83	3.10	9.30	9.73	7.24	3.26	8.40
Ni [mg/L]	0.0001	0.0006	0.0008	0.0003	0.0002	0.0002	0.0003
P [mg/L]	0.013	0.066	0.019	0.009	0.006	0.024	0.010
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	0.00027	< 0.00009
Sb [mg/L]	0.0023	0.172	0.0204	0.0038	0.0011	0.0087	< 0.0009
Se [mg/L]	< 0.00004	0.00058	0.00010	0.00006	0.00010	0.00021	0.00013
Si [mg/L]	1.72	1.07	2.37	1.99	2.48	1.85	2.10
Sn [mg/L]	0.00010	0.00006	< 0.00006	< 0.00006	< 0.00006	0.00013	< 0.00006
Ti [mg/L]	0.00013	0.00024	0.0116	0.00812	0.00389	0.00042	0.00421
Tl [mg/L]	0.000027	0.000473	< 0.000005	0.000011	< 0.000005	0.000008	< 0.000005
U [mg/L]	0.000519	0.000170	0.000056	0.000061	0.000006	0.00529	0.000009
V [mg/L]	0.00023	0.00079	0.00522	0.00576	0.00397	0.00135	0.00314
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002

Analysis	17: CV13-ORE-13	18: CV13-WR-14	19: CV13-WR-15	20: CV13-ORE-16	21: CV13-WR-17	22: CV13-WR-18	23: CV13-WR-19
Sample Date & Time	NA	NA	NA	NA	NA	NA	NA
Sample weight [g]	20	20	20	20	20	21	20
Ext Fluid [#1 or #2]	1	1	1	1	1	1	1
Ext Volume [mL]	400	400	400	400	400	400	400
Final pH [no unit]	---	---	---	---	---	---	---
pH [No unit]	7.33	9.14	9.09	7.07	9.27	9.16	9.27
Conductivity [uS/cm]	22	52	72	20	61	44	51
Alkalinity [mg/L as CaCO3]	6	21	31	5	29	21	22
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	< 2	< 2
F [mg/L]	0.38	0.18	0.07	0.26	0.11	0.13	0.17
Br [mg/L]	< 30	< 30	< 30	< 30	< 30	< 30	< 30
Cl [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20
SO4 [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20
NO2 [as N mg/L]	< 3	< 3	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	< 6	< 6	< 6	< 6	< 6	< 6	< 6

OnLine LIMS

0003598493

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11026-SEP23**

Analysis	17: CV13-ORE-13	18: CV13-WR-14	19: CV13-WR-15	20: CV13-ORE-16	21: CV13-WR-17	22: CV13-WR-18	23: CV13-WR-19
Tot.Reactive P [mg/L]	0.15	0.03	< 0.03	0.21	< 0.03	< 0.03	< 0.03
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.097	0.281	0.507	0.115	0.290	0.317	0.302
As [mg/L]	0.761	0.0976	0.0013	12.9	0.137	0.0407	0.0745
Ba [mg/L]	0.00051	0.00104	0.00097	0.00027	0.00102	0.00045	0.00095
Be [mg/L]	0.000067	0.000007	< 0.000007	0.000125	< 0.000007	0.000014	0.000026
B [mg/L]	0.033	0.056	0.036	0.032	0.035	0.046	0.052
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	0.94	1.75	6.17	1.36	3.43	2.29	2.22
Cd [mg/L]	< 0.000003	< 0.000003	< 0.000003	0.000003	< 0.000003	0.000003	< 0.000003
Co [mg/L]	0.000031	0.000169	0.000035	0.000014	0.000072	0.000196	0.000210
Cr [mg/L]	0.00014	0.00092	0.00044	0.00011	0.00163	0.00089	0.00165
Cu [mg/L]	< 0.0002	0.0004	< 0.0002	< 0.0002	0.0002	< 0.0002	0.0002
Fe [mg/L]	0.018	0.174	0.102	< 0.007	0.058	0.151	0.172
K [mg/L]	0.734	0.855	0.320	0.365	1.26	0.136	0.644
Li [mg/L]	0.0751	0.0759	0.0075	0.0036	0.0733	0.0348	0.0748
Mg [mg/L]	0.121	0.470	0.541	0.053	1.08	0.662	0.596
Mn [mg/L]	0.01604	0.00411	0.00194	0.00949	0.00140	0.00326	0.00347
Mo [mg/L]	0.00077	0.00036	0.00020	0.00108	0.00009	0.00026	0.00061
Na [mg/L]	2.77	8.48	8.98	3.21	9.39	7.58	9.38
Ni [mg/L]	0.0003	0.0005	0.0001	0.0003	0.0008	0.0009	0.0010
P [mg/L]	0.035	0.016	0.020	0.018	0.006	0.007	0.009
Pb [mg/L]	< 0.00009	0.00014	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.0852	0.0551	< 0.0009	0.222	0.114	0.123	0.0616
Se [mg/L]	< 0.00004	0.00014	0.00011	< 0.00004	0.00005	0.00012	0.00009
Si [mg/L]	1.07	1.60	2.39	0.96	2.06	2.11	2.16
Sn [mg/L]	0.00011	< 0.00006	< 0.00006	0.00008	< 0.00006	< 0.00006	< 0.00006
Ti [mg/L]	0.00049	0.0117	0.00514	0.00012	0.00256	0.00606	0.00687
Tl [mg/L]	0.000122	0.000037	< 0.000005	0.000019	< 0.000005	0.000005	0.000038
U [mg/L]	0.00653	0.000040	0.000015	0.008693	0.000012	0.000056	0.000018
V [mg/L]	0.00081	0.00417	0.00334	0.00025	0.00325	0.00329	0.00375
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002

Analysis	24: CV13-WR-20	25: CV13-WR-21	26: CV13-WR-22	27: CV13-WR-23	28: CV13-WR-24	29: CV13-WR-25	30: CV13-WR-26
Sample Date & Time	NA	NA	NA	NA	NA	NA	NA
Sample weight [g]	20	20	20	20	20	20	20
Ext Fluid [#1 or #2]	1	1	1	1	1	1	1
Ext Volume [mL]	400	400	400	400	400	400	400
Final pH [no unit]	---	---	9.24	---	---	---	---
pH [No unit]	9.31	8.54	7.74	8.99	8.22	7.78	7.91
Conductivity [uS/cm]	62	43	61	60	46	112	95

OnLine LIMS

0003598493

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11026-SEP23**

Analysis	24: CV13-WR-20	25: CV13-WR-21	26: CV13-WR-22	27: CV13-WR-23	28: CV13-WR-24	29: CV13-WR-25	30: CV13-WR-26
Alkalinity [mg/L as CaCO3]	29	20	25	28	33	24	28
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	< 2	< 2
F [mg/L]	0.14	< 0.06	< 0.06	< 0.06	0.09	< 0.06	< 0.06
Br [mg/L]	< 30	< 30	< 30	< 30	< 30	< 30	< 30
Cl [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20
SO4 [mg/L]	< 20	< 20	< 20	< 20	< 20	22	< 20
NO2 [as N mg/L]	< 3	< 3	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Tot.Reactive P [mg/L]	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.554	0.128	0.005	0.003	0.450	0.055	0.205
As [mg/L]	0.142	0.175	0.0103	0.113	0.0110	0.0008	0.0043
Ba [mg/L]	0.00135	0.00141	0.00156	0.00074	0.00231	0.00636	0.00432
Be [mg/L]	0.000020	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	0.051	0.010	0.043	0.022	0.034	0.066	0.041
Bi [mg/L]	0.00002	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	5.41	6.70	5.89	5.02	5.31	8.88	7.45
Cd [mg/L]	0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	0.000003
Co [mg/L]	0.000197	0.000013	0.000013	0.000010	0.000098	0.000098	0.000086
Cr [mg/L]	0.00180	0.00139	0.00196	0.00864	0.00049	0.00105	0.00147
Cu [mg/L]	0.0004	< 0.0002	< 0.0002	< 0.0002	0.0003	0.0003	0.0008
Fe [mg/L]	0.110	< 0.007	< 0.007	< 0.007	0.203	0.128	0.089
K [mg/L]	0.446	0.225	0.224	0.032	1.07	2.61	1.86
Li [mg/L]	0.0498	0.0038	0.0003	0.0009	0.0682	0.0770	0.0513
Mg [mg/L]	0.583	1.37	3.75	5.42	0.617	1.64	1.03
Mn [mg/L]	0.00309	0.00028	0.00026	0.00019	0.00274	0.00150	0.00203
Mo [mg/L]	0.00023	0.00028	0.00037	0.00006	0.00022	0.00029	0.00063
Na [mg/L]	9.18	0.78	0.08	0.10	10.6	9.10	8.91
Ni [mg/L]	0.0009	0.0002	0.0010	0.0005	0.0002	0.0028	0.0007
P [mg/L]	0.009	0.004	0.003	0.003	0.008	< 0.003	0.004
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.0414	0.0038	0.0032	0.0058	0.0116	< 0.0009	0.0011
Se [mg/L]	0.00010	< 0.00004	< 0.00004	< 0.00004	0.00007	0.00063	0.00029
Si [mg/L]	2.66	2.34	2.07	3.43	1.98	1.20	1.84
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Ti [mg/L]	0.00487	0.00013	< 0.00007	< 0.00007	0.00963	0.00197	0.00276
Tl [mg/L]	0.000009	0.000013	0.000017	< 0.000005	< 0.000005	0.000028	0.000012
U [mg/L]	0.000029	0.000021	0.000010	0.000002	0.00187	0.000013	0.000012
V [mg/L]	0.00508	0.00200	0.00017	0.00051	0.00434	0.00031	0.00140
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002

OnLine LIMS

0003598493

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11026-SEP23**

Analysis	31: CV13-WR-27	32: CV13-WR-28	33: CV13-ORE-29	34: CV13-WR-30	35: CV13-WR-22	36: CV13-WR-30	37:BLK: $SPLP1312 Blank #1
Sample Date & Time	NA	NA	NA	NA			
Sample weight [g]	20	21	20	20	20	20	---
Ext Fluid [#1 or #2]	1	1	1	1	1	1	1
Ext Volume [mL]	400	400	400	400	400	400	400
Final pH [no unit]	---	---	---	9.56	9.29	9.60	4.15
pH [No unit]	8.08	8.19	7.82	8.24	7.81	8.28	4.32
Conductivity [uS/cm]	116	82	40	69	60	67	23
Alkalinity [mg/L as CaCO3]	39	35	15	33	25	29	< 2
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	< 2	5
F [mg/L]	< 0.06	0.33	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	< 30	< 30	< 30	< 30	< 30	< 30	< 30
Cl [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20
SO4 [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20
NO2 [as N mg/L]	< 3	< 3	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Tot.Reactive P [mg/L]	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.072	0.497	0.490	0.467	0.004	0.554	0.002
As [mg/L]	0.0005	0.0016	0.0273	0.0157	0.0106	0.0152	< 0.0002
Ba [mg/L]	0.00212	0.00366	0.00019	0.00364	0.00167	0.00068	0.00059
Be [mg/L]	< 0.000007	0.000016	0.000067	< 0.000007	< 0.000007	< 0.000007	0.000008
B [mg/L]	0.033	0.036	0.006	0.034	0.042	0.029	< 0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	13.0	5.54	4.79	5.87	5.87	6.08	0.06
Cd [mg/L]	< 0.000003	0.000005	0.000004	0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	0.000006	0.000015	0.000011	0.000064	0.000011	0.000076	0.000016
Cr [mg/L]	0.00038	0.00070	0.00020	0.00139	0.00182	0.00066	< 0.00008
Cu [mg/L]	< 0.0002	< 0.0002	< 0.0002	0.0006	< 0.0002	0.0002	0.0007
Fe [mg/L]	< 0.007	0.056	< 0.007	0.042	< 0.007	0.109	< 0.007
K [mg/L]	0.670	2.17	0.349	0.583	0.206	0.156	0.075
Li [mg/L]	0.0023	0.0035	0.360	0.0428	0.0003	0.0433	< 0.0001
Mg [mg/L]	0.400	0.341	0.061	0.770	3.77	0.777	0.006
Mn [mg/L]	0.00403	0.00169	0.03978	0.00137	0.00024	0.00385	0.00060
Mo [mg/L]	0.00041	0.00063	0.00047	0.00028	0.00027	0.00031	< 0.00004
Na [mg/L]	8.11	10.9	1.83	7.27	0.07	7.47	0.02
Ni [mg/L]	0.0001	0.0002	0.0001	0.0006	0.0010	0.0003	0.0002
P [mg/L]	< 0.003	0.003	0.027	0.008	0.003	0.008	< 0.003
Pb [mg/L]	< 0.00009	0.00029	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	< 0.0009	< 0.0009	0.0074	0.0013	0.0044	0.0012	< 0.0009
Se [mg/L]	0.00004	0.00005	< 0.00004	0.00007	< 0.00004	0.00008	< 0.00004
Si [mg/L]	0.59	2.49	1.80	2.46	2.08	2.58	< 0.02
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Ti [mg/L]	< 0.00007	0.00272	0.00008	0.00126	0.00009	0.00455	0.00009
Tl [mg/L]	< 0.000005	< 0.000005	0.000017	0.000007	0.000016	< 0.000005	< 0.000005

OnLine LIMS

0003598493

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11026-SEP23**

Analysis	31: CV13-WR-27	32: CV13-WR-28	33: CV13-ORE-29	34: CV13-WR-30	35: CV13-WR-22	36: CV13-WR-30	37:BLK: $SPLP1312 Blank #1
U [mg/L]	0.000020	0.000218	0.000584	0.000075	0.000017	0.000123	0.000006
V [mg/L]	0.00012	0.00019	0.00010	0.00384	0.00017	0.00393	0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002

Catharine Arnold

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003598493

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

24-June-2024

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,, Montreal
Canada, H3A 1Z4
Phone: 647-782-7386, Fax:

Date Rec. : 18 June 2024
LR Report: **CA14546-JUN24**
Reference: Wk#56

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT -36 Wk#56
Sample Date & Time			23-May-24
Ag [mg/L]	20-Jun-24	10:57	< 0.00005
Al [mg/L]	20-Jun-24	10:57	0.034
As [mg/L]	20-Jun-24	10:57	0.0088
Ba [mg/L]	20-Jun-24	10:57	0.00031
Be [mg/L]	20-Jun-24	10:57	< 0.000007
B [mg/L]	20-Jun-24	10:57	< 0.002
Bi [mg/L]	20-Jun-24	10:57	< 0.00001
Ca [mg/L]	20-Jun-24	10:57	4.82
Cd [mg/L]	20-Jun-24	10:57	< 0.000003
Co [mg/L]	20-Jun-24	10:57	0.000064
Cr [mg/L]	20-Jun-24	10:57	< 0.00008
Cu [mg/L]	20-Jun-24	10:57	< 0.001
Fe [mg/L]	20-Jun-24	10:57	< 0.007
K [mg/L]	20-Jun-24	10:57	0.141
Li [mg/L]	20-Jun-24	10:57	0.0019
Mg [mg/L]	20-Jun-24	10:57	0.141
Mn [mg/L]	20-Jun-24	10:57	0.00581
Mo [mg/L]	20-Jun-24	10:57	< 0.0004
Na [mg/L]	20-Jun-24	10:57	0.05
Ni [mg/L]	20-Jun-24	10:57	0.0002
Pb [mg/L]	20-Jun-24	10:57	< 0.00009
Sb [mg/L]	20-Jun-24	10:57	< 0.0009
Se [mg/L]	20-Jun-24	10:57	< 0.00004
Sn [mg/L]	20-Jun-24	10:57	< 0.00006
Sr [mg/L]	20-Jun-24	10:57	0.00414
Ti [mg/L]	20-Jun-24	10:57	0.0001
Tl [mg/L]	20-Jun-24	10:57	< 0.000005
U [mg/L]	20-Jun-24	10:57	0.000360
V [mg/L]	20-Jun-24	10:57	0.00019

OnLine LIMS

00037981

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA14546-JUN24**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT -36 Wk#56
W [mg/L]	20-Jun-24	10:57	< 0.0002
Y [mg/L]	20-Jun-24	10:57	< 0.00002
Zn [mg/L]	20-Jun-24	10:57	< 0.002

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

00037981

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

13-August-2024

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,, Montreal
Canada, H3A 1Z4
Phone: 647-782-7386, Fax:

Date Rec. : 01 August 2024
LR Report: **CA10000-AUG24**
Reference: Wk#66

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#66	6: CV5-WR-HCT-5 Wk#66	7: CV5-WR-HCT-5 (DUP) Wk#66	8: CV5-WR-HCT-14 Wk#66	9: CV5-WR-HCT-22 Wk#66	10: CV5-WR-HCT-33 Wk#66	11: CV5-WR-HCT-36 Wk#66
Sample Date & Time			01-Aug-24	01-Aug-24	01-Aug-24	01-Aug-24	01-Aug-24	01-Aug-24	01-Aug-24
HumCell Leachate Vol [mL]	02-Aug-24	15:36	931	941	945	990	960	966	969
pH [No unit]	02-Aug-24	12:31	6.77	6.90	6.77	7.56	6.65	6.95	6.94
Conductivity [uS/cm]	02-Aug-24	12:31	35	21	17	27	8	12	16

Analysis	12: CV5-WR-HCT-39 Wk#66	13: CV5-WR-HCT-50 Wk#66	14: CV5-WR-HCT-56 Wk#66	15: CV5-WR-HCT-59 Wk#66	16: CV5-WR-HCT-62 Wk#66	17: CV5-WR-HCT-64 Wk#66	18: CV5-WR-HCT-69 Wk#66	19: CV5-ORE-HCT-74 Wk#66	20: CV5-ORE-HCT-76 Wk#66
Sample Date & Time	01-Aug-24	01-Aug-24	01-Aug-24	01-Aug-24	01-Aug-24	01-Aug-24	01-Aug-24	01-Aug-24	01-Aug-24
HumCell Leachate Vol [mL]	958	967	976	993	927	1012	1010	1000	953
pH [No unit]	6.29	6.60	7.09	6.37	7.25	6.94	7.15	6.59	7.05
Conductivity [uS/cm]	17	47	32	14	20	9	13	3	10

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0003816376

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

29-January-2025

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 02 January 2025
LR Report: **CA10000-JAN25**
Reference: Wk#88

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#88	6: CV5-WR-HCT-5 Wk#88	7: CV5-WR-HCT-5 (DUP) Wk#88	8: CV5-WR-HCT-14 Wk#88	9: CV5-WR-HCT-22 Wk#88
Sample Date & Time			02-Jan-25	02-Jan-25	02-Jan-25	02-Jan-25	02-Jan-25
HumCell Leachate Vol [mL]	03-Jan-25	16:55	964	992	1015	1014	1026
pH [No unit]	08-Jan-25	11:02	6.37	6.51	6.42	7.14	6.75
Alkalinity [mg/L as CaCO3]	06-Jan-25	11:09	2	4	3	11	4
Conductivity [uS/cm]	08-Jan-25	11:02	30	25	17	27	9
Acidity [mg/L as CaCO3]	08-Jan-25	11:03	3	< 2	< 2	< 2	< 2
F [mg/L]	03-Jan-25	11:16	< 0.06	0.07	< 0.06	< 0.06	< 0.06
Tot.Reactive P [mg/L]	03-Jan-25	08:13	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	03-Jan-25	11:24	11	4	3	< 2	< 2
Cl [mg/L]	03-Jan-25	11:24	< 1	< 1	< 1	< 1	< 1
NO2 [as N mg/L]	03-Jan-25	13:12	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	03-Jan-25	13:12	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	03-Jan-25	13:12	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	06-Jan-25	09:54	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	06-Jan-25	10:08	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	06-Jan-25	10:08	0.011	0.022	0.014	0.078	0.016
As [mg/L]	06-Jan-25	10:08	0.0011	0.0772	0.0602	0.0164	0.0533
As [mg/L]	27-Jan-25	10:14	---	---	---	---	---
Ba [mg/L]	06-Jan-25	10:08	0.00021	0.00012	0.00010	< 0.00008	< 0.00008
Be [mg/L]	06-Jan-25	10:08	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	06-Jan-25	10:08	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	06-Jan-25	10:08	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	06-Jan-25	10:08	5.04	3.55	2.53	4.79	1.24
Cd [mg/L]	06-Jan-25	10:08	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	06-Jan-25	10:08	0.000563	0.000228	0.000291	0.000059	0.000209
Cr [mg/L]	06-Jan-25	10:08	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	06-Jan-25	10:08	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	06-Jan-25	10:08	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	06-Jan-25	10:08	0.099	0.037	0.035	0.021	0.010
Li [mg/L]	06-Jan-25	10:08	0.0036	0.0039	0.0034	0.0023	0.0030
Mg [mg/L]	06-Jan-25	10:08	0.163	0.102	0.085	0.124	0.135

OnLine LIMS

0004001399

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10000-JAN25**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#88	6: CV5-WR-HCT-5 Wk#88	7: CV5-WR-HCT-5 (DUP) Wk#88	8: CV5-WR-HCT-1 4 Wk#88	9: CV5-WR-HCT-2 2 Wk#88
Mn [mg/L]	06-Jan-25	10:08	0.00447	0.00150	0.00178	0.00567	0.00045
Mo [mg/L]	06-Jan-25	10:08	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	06-Jan-25	10:08	0.08	0.04	0.03	0.09	0.05
Ni [mg/L]	06-Jan-25	10:08	0.0017	0.0011	0.0009	0.0002	0.0004
Pb [mg/L]	06-Jan-25	10:08	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	06-Jan-25	10:08	< 0.0009	0.0188	0.0097	0.0015	0.0021
Se [mg/L]	06-Jan-25	10:08	0.00009	< 0.00004	< 0.00004	0.00005	< 0.00004
Sn [mg/L]	06-Jan-25	10:08	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	06-Jan-25	10:08	0.00656	0.00306	0.00285	0.00282	0.00288
Ti [mg/L]	06-Jan-25	10:08	< 0.0001	< 0.0001	< 0.0001	0.00011	< 0.0001
Tl [mg/L]	06-Jan-25	10:08	0.000005	0.000005	0.000008	< 0.000005	< 0.000005
U [mg/L]	06-Jan-25	10:08	0.000011	0.000086	< 0.000002	< 0.000002	0.000042
V [mg/L]	06-Jan-25	10:08	0.00010	0.00025	0.00021	0.00134	0.00068
W [mg/L]	06-Jan-25	10:08	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	06-Jan-25	10:08	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	06-Jan-25	10:08	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	06-Jan-25	10:08	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	07-Jan-25	08:12	0.00002	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Cs (tot) [mg/L]	06-Jan-25	10:08	0.0059	0.0057	0.0071	0.0014	0.0030
Dy (tot) [mg/L]	07-Jan-25	08:12	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er (tot) [mg/L]	07-Jan-25	08:12	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu (tot) [mg/L]	07-Jan-25	08:12	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga (tot) [mg/L]	07-Jan-25	08:12	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Gd (tot) [mg/L]	07-Jan-25	08:12	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	06-Jan-25	10:08	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	06-Jan-25	10:08	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	21-Jan-25	10:25	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In (tot) [mg/L]	21-Jan-25	10:25	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir (tot) [mg/L]	21-Jan-25	10:25	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La (tot) [mg/L]	07-Jan-25	08:12	0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Lu (tot) [mg/L]	07-Jan-25	08:12	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	06-Jan-25	10:08	< 0.00001	0.00002	< 0.00001	< 0.00001	< 0.00001
Nd (tot) [mg/L]	07-Jan-25	08:12	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Os (tot) [mg/L]	07-Jan-25	08:12	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	06-Jan-25	10:08	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	07-Jan-25	08:12	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt (tot) [mg/L]	06-Jan-25	10:08	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	06-Jan-25	10:08	0.0024	0.0018	0.0018	0.0003	0.0008
Re (tot) [mg/L]	06-Jan-25	10:08	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	06-Jan-25	10:08	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	07-Jan-25	08:12	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	07-Jan-25	08:12	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ta (tot) [mg/L]	06-Jan-25	10:08	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	07-Jan-25	08:12	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te (tot) [mg/L]	06-Jan-25	10:08	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	06-Jan-25	10:08	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	07-Jan-25	08:12	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

OnLine LIMS

0004001399

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10000-JAN25**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#88	6: CV5-WR-HCT-5 Wk#88	7: CV5-WR-HCT-5 (DUP) Wk#88	8: CV5-WR-HCT-1 4 Wk#88	9: CV5-WR-HCT-2 2 Wk#88
Yb (tot) [mg/L]	07-Jan-25	08:12	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Analysis	10: CV5-WR-HCT-3 3 Wk#88	11: CV5-WR-HCT-3 6 Wk#88	12: CV5-WR-HCT-3 9 Wk#88	13: CV5-WR-HCT-5 0 Wk#88	14: CV5-WR-HCT-5 6 Wk#88	15: CV5-WR-HCT-5 9 Wk#88	16: CV5-WR-HCT-6 2 Wk#88
Sample Date & Time	02-Jan-25	02-Jan-25	02-Jan-25	02-Jan-25	02-Jan-25	02-Jan-25	02-Jan-25
HumCell Leachate Vol [mL]	1030	1008	1002	1020	1016	1019	994
pH [No unit]	6.94	6.99	6.41	6.44	6.85	5.80	6.61
Alkalinity [mg/L as CaCO3]	7	8	< 2	3	6	< 2	5
Conductivity [uS/cm]	10	26	11	53	32	16	13
Acidity [mg/L as CaCO3]	< 2	< 2	2	10	< 2	5	< 2
F [mg/L]	< 0.06	< 0.06	0.30	0.79	< 0.06	< 0.06	< 0.06
Tot.Reactive P [mg/L]	< 0.03	0.44	< 0.03	< 0.03	< 0.03	< 0.03	0.06
SO4 [mg/L]	< 2	< 2	6	14	6	3	< 2
Cl [mg/L]	< 1	< 1	< 1	1	< 1	< 1	< 1
NO2 [as N mg/L]	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.059	0.003	0.008	0.024	0.030	0.001	< 0.001
As [mg/L]	0.0045	1.30	0.0075	0.0010	0.0047	0.0354	0.403
As [mg/L]	---	---	---	---	---	---	---
Ba [mg/L]	0.00021	0.00063	0.00017	0.00048	0.00028	0.00015	0.00019
Be [mg/L]	< 0.000007	< 0.000007	< 0.000007	0.000057	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	< 0.002	0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	2.97	3.64	3.04	7.14	5.08	1.60	2.07
Cd [mg/L]	< 0.000003	< 0.000003	0.000020	0.000386	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	0.000063	0.000821	0.000438	0.0327	0.000113	0.00567	0.000451
Cr [mg/L]	< 0.00008	0.00023	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	< 0.001	< 0.001	< 0.001	0.002	< 0.001	< 0.001	< 0.001
Fe [mg/L]	< 0.007	0.009	< 0.007	0.239	< 0.007	0.010	< 0.007
K [mg/L]	0.022	0.044	0.120	0.111	0.064	0.015	0.012
Li [mg/L]	0.0015	0.0020	0.0052	0.0099	0.0010	0.0011	0.0002
Mg [mg/L]	0.055	0.766	0.288	0.177	0.088	0.265	0.559
Mn [mg/L]	0.00974	0.00260	0.00723	0.0392	0.00429	0.00763	0.00208
Mo [mg/L]	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	0.06	< 0.01	0.08	0.11	0.03	0.02	< 0.01
Ni [mg/L]	< 0.0001	0.0107	0.0009	0.0427	0.0001	0.0750	0.0049
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	< 0.0009	0.439	0.0055	0.0066	< 0.0009	0.0013	0.252
Se [mg/L]	0.00005	< 0.00004	0.00009	0.00042	< 0.00004	< 0.00004	< 0.00004
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00216	0.00249	0.00509	0.00394	0.00298	0.00506	0.00081
Ti [mg/L]	< 0.0001	0.00016	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001

OnLine LIMS

0004001399

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10000-JAN25**

Analysis	10: CV5-WR-HCT-3 3 Wk#88	11: CV5-WR-HCT-3 6 Wk#88	12: CV5-WR-HCT-3 9 Wk#88	13: CV5-WR-HCT-5 0 Wk#88	14: CV5-WR-HCT-5 6 Wk#88	15: CV5-WR-HCT-5 9 Wk#88	16: CV5-WR-HCT-6 2 Wk#88
Tl [mg/L]	< 0.000005	0.000010	0.000010	0.000031	< 0.000005	< 0.000005	0.000007
U [mg/L]	< 0.000002	< 0.000002	0.000039	0.000244	0.000113	< 0.000002	< 0.000002
V [mg/L]	0.00038	0.00020	0.00015	< 0.00001	0.00015	0.00005	0.00008
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	0.00004	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	0.002	0.174	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00002	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	< 0.00001	< 0.00001	0.00001	0.00017	< 0.00001	< 0.00001	< 0.00001
Cs (tot) [mg/L]	0.0025	0.0135	0.0024	0.0431	0.0132	0.0067	0.0017
Dy (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Gd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La (tot) [mg/L]	< 0.00001	0.00003	< 0.00001	0.00016	< 0.00001	< 0.00001	0.00001
Lu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00002	< 0.00001	< 0.00001	0.00004
Nd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00004	< 0.00001	< 0.00001	< 0.00001
Os (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00001	< 0.00001	< 0.00001	< 0.00001
Pt (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	0.0005	0.0023	0.0017	0.0072	0.0005	0.0012	0.0007
Re (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ta (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Yb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Analysis	17: CV5-WR-HCT-6 4 Wk#88	18: CV5-WR-HCT-6 9 Wk#88	19: CV5-ORE-HCT-7 4 Wk#88	20: CV5-ORE-HCT-7 6 Wk#88
Sample Date & Time	02-Jan-25	02-Jan-25	02-Jan-25	02-Jan-25
HumCell Leachate Vol [mL]	1022	1047	1037	1016
pH [No unit]	6.76	7.09	6.57	6.75
Alkalinity [mg/L as CaCO3]	< 2	6	< 2	7

OnLine LIMS

0004001399

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10000-JAN25**

Analysis	17: CV5-WR-HCT-6 4 Wk#88	18: CV5-WR-HCT-6 9 Wk#88	19: CV5-ORE-HCT-7 4 Wk#88	20: CV5-ORE-HCT-7 6 Wk#88
Conductivity [uS/cm]	6	10	2	17
Acidity [mg/L as CaCO3]	3	< 2	3	< 2
F [mg/L]	< 0.06	< 0.06	< 0.06	< 0.06
Tot.Reactive P [mg/L]	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	< 2	< 2	< 2	< 2
Cl [mg/L]	< 1	< 1	< 1	< 1
NO2 [as N mg/L]	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.021	0.042	0.077	0.035
As [mg/L]	0.0033	0.0015	---	0.0056
As [mg/L]	---	---	0.0034	---
Ba [mg/L]	< 0.00008	0.00009	0.00038	< 0.00008
Be [mg/L]	0.000009	0.000076	0.000011	0.000075
B [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	0.00021	< 0.00001	0.00007
Ca [mg/L]	0.79	1.84	0.35	2.92
Cd [mg/L]	< 0.000003	0.000004	0.000003	< 0.000003
Co [mg/L]	0.000004	0.000019	0.000054	0.000012
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	0.115	0.039	0.089	0.152
Li [mg/L]	0.0008	0.0008	0.0049	0.0048
Mg [mg/L]	0.019	0.013	0.013	0.065
Mn [mg/L]	0.00623	0.00256	0.0481	0.00148
Mo [mg/L]	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	0.02	0.08	0.08	0.06
Ni [mg/L]	< 0.0001	< 0.0001	0.0001	< 0.0001
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	< 0.0009	< 0.0009	0.0049	0.0012
Se [mg/L]	< 0.00004	< 0.00004	< 0.00004	< 0.00004
Sn [mg/L]	< 0.00006	< 0.00006	0.00012	0.00006
Sr [mg/L]	0.00083	0.00247	0.00185	0.00438
Ti [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tl [mg/L]	0.000030	0.000006	0.000065	0.000015
U [mg/L]	0.000048	0.001303	0.000087	0.000558
V [mg/L]	0.00002	0.00003	0.00001	0.00004
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Cs (tot) [mg/L]	0.0059	0.0014	0.0143	0.0044
Dy (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001

OnLine LIMS

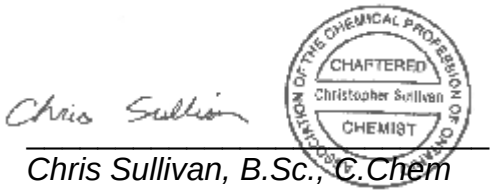
0004001399

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10000-JAN25**

Analysis	17: CV5-WR-HCT-6 4 Wk#88	18: CV5-WR-HCT-6 9 Wk#88	19: CV5-ORE-HCT-7 4 Wk#88	20: CV5-ORE-HCT-7 6 Wk#88
Er (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	0.0001
Gd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Lu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	< 0.00001	0.00004	< 0.00001	0.00006
Nd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Os (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	0.0116	0.0026	0.0137	0.0062
Re (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ta (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Yb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001



Chris Sullivan, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0004001399

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

17-July-2025

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 02 July 2025
LR Report: **CA10009-JUL25**
Reference: Columns - Wk#18

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: CV5-CL-1 Wk#18	6: CV5-CL-2 Wk#18	7: CV5-CL-3 Wk#18	8: CV5-CL-4 Wk#18	9: CV5-CL-5 Wk#18
Sample Date & Time			02-Jul-25	02-Jul-25	02-Jul-25	02-Jul-25	02-Jul-25
HumCell Leachate Vol [mL]	04-Jul-25	08:54	1951	1997	2017	1997	1988
pH [No unit]	07-Jul-25	15:55	7.48	7.77	7.39	7.90	7.73
Conductivity [uS/cm]	07-Jul-25	15:56	28	33	39	73	47
Alkalinity [mg/L as CaCO3]	07-Jul-25	15:56	14	15	11	35	21
Acidity [mg/L as CaCO3]	07-Jul-25	15:56	< 2	< 2	< 2	< 2	< 2
SO4 [mg/L]	10-Jul-25	13:45	0.3	1.9	5.9	6.3	3.0
F [mg/L]	04-Jul-25	10:17	< 0.06	0.08	---	0.32	0.08
F [mg/L]	16-Jul-25	11:13	---	---	0.06	---	---
NO2 [as N mg/L]	09-Jul-25	13:51	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	09-Jul-25	13:51	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
NO2+NO3 [as N mg/L]	09-Jul-25	13:51	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Cl [mg/L]	10-Jul-25	13:46	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Hg [mg/L]	08-Jul-25	11:08	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	08-Jul-25	11:08	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	08-Jul-25	11:08	0.193	0.178	0.040	0.142	0.110
As [mg/L]	08-Jul-25	11:08	0.0948	0.509	2.86	1.38	1.37
Ba [mg/L]	08-Jul-25	11:08	0.00017	0.00022	0.00066	0.00120	0.00049
B [mg/L]	08-Jul-25	11:08	0.002	0.006	0.008	0.029	0.011
Be [mg/L]	08-Jul-25	11:08	0.000023	0.000034	0.000010	0.000062	0.000037
Bi [mg/L]	08-Jul-25	11:08	0.00023	0.00015	0.00001	0.00034	0.00014
Ca [mg/L]	08-Jul-25	11:08	4.56	5.19	6.12	7.85	6.26
Cd [mg/L]	08-Jul-25	11:08	0.000007	0.000006	0.000003	0.000004	0.000005
Co [mg/L]	08-Jul-25	11:08	0.000016	0.000064	0.000843	0.000147	0.000149
Cr [mg/L]	08-Jul-25	11:08	< 0.00008	0.00008	0.00010	0.00017	0.00010
Cu [mg/L]	08-Jul-25	11:08	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	10-Jul-25	13:39	< 0.007	< 0.007	0.007	0.009	< 0.007
K [mg/L]	08-Jul-25	11:10	0.846	0.923	0.465	5.11	1.63
Li [mg/L]	08-Jul-25	11:10	0.0182	0.0398	0.0349	0.262	0.0867
Mg [mg/L]	08-Jul-25	11:10	0.274	0.586	0.659	1.65	0.749

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0004187763

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10009-JUL25**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: CV5-CL-1 Wk#18	6: CV5-CL-2 Wk#18	7: CV5-CL-3 Wk#18	8: CV5-CL-4 Wk#18	9: CV5-CL-5 Wk#18
Mn [mg/L]	08-Jul-25	11:10	0.0124	0.00936	0.0105	0.0128	0.0139
Mo [mg/L]	08-Jul-25	11:10	< 0.0004	0.0005	< 0.0004	0.0009	0.0005
Na [mg/L]	08-Jul-25	11:10	0.90	0.73	0.56	2.56	1.74
Ni [mg/L]	08-Jul-25	11:10	< 0.0001	0.0006	0.0166	0.0021	0.0019
Pb [mg/L]	10-Jul-25	13:39	0.00010	< 0.00009	< 0.00009	0.00010	< 0.00009
Sb [mg/L]	08-Jul-25	11:10	0.0679	0.136	0.659	0.204	0.251
Se [mg/L]	08-Jul-25	11:10	0.00008	0.00008	0.00023	0.00012	0.00009
Sn [mg/L]	08-Jul-25	11:10	0.00146	0.00324	0.00204	0.00292	0.00213
Sr [mg/L]	08-Jul-25	11:10	0.0112	0.0148	0.0261	0.0297	0.0211
Ti [mg/L]	08-Jul-25	11:10	< 0.0001	0.0001	0.0001	0.0003	0.0002
Tl [mg/L]	08-Jul-25	11:10	0.000054	0.000056	0.000071	0.000200	0.000094
U [mg/L]	08-Jul-25	11:10	0.143	0.143	0.0303	0.391	0.248
V [mg/L]	08-Jul-25	11:10	0.00015	0.00073	0.00299	0.00136	0.00116
W [mg/L]	08-Jul-25	11:10	0.00040	0.00049	0.00063	0.0117	0.00171
Y [mg/L]	08-Jul-25	11:10	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	08-Jul-25	11:10	< 0.002	0.002	< 0.002	< 0.002	< 0.002
Au [mg/L]	08-Jul-25	11:10	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce [mg/L]	11-Jul-25	16:42	< 0.00001	< 0.00001	< 0.00001	0.00002	< 0.00001
Cs [mg/L]	08-Jul-25	11:10	0.0103	0.0483	0.178	0.193	0.0930
Dy [mg/L]	11-Jul-25	16:42	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er [mg/L]	11-Jul-25	16:42	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu [mg/L]	11-Jul-25	16:42	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga [mg/L]	11-Jul-25	16:42	0.0006	0.0007	< 0.0001	0.0032	0.0006
Gd (tot) [mg/L]	11-Jul-25	16:42	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge [mg/L]	08-Jul-25	11:10	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001
Hf [mg/L]	08-Jul-25	11:10	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho [mg/L]	11-Jul-25	16:42	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In [mg/L]	11-Jul-25	16:42	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir [mg/L]	08-Jul-25	11:10	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La [mg/L]	11-Jul-25	16:42	< 0.00001	0.00001	0.00004	0.00002	0.00002
Lu [mg/L]	11-Jul-25	16:42	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb [mg/L]	08-Jul-25	11:10	< 0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001
Nd [mg/L]	11-Jul-25	16:42	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Os [mg/L]	08-Jul-25	11:10	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd [mg/L]	08-Jul-25	11:10	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr [mg/L]	11-Jul-25	16:42	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt [mg/L]	08-Jul-25	11:10	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh [mg/L]	08-Jul-25	11:10	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Rb [mg/L]	08-Jul-25	11:10	0.0453	0.0457	0.0292	0.249	0.0794
Re [mg/L]	08-Jul-25	11:10	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ru [mg/L]	08-Jul-25	11:10	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sm [mg/L]	11-Jul-25	16:42	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc [mg/L]	11-Jul-25	16:42	< 0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001
Ta [mg/L]	08-Jul-25	11:10	< 0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001
Tb [mg/L]	11-Jul-25	16:42	< 0.00001	< 0.00001	< 0.00001	0.00002	< 0.00001

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0004187763

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10009-JUL25**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: CV5-CL-1 Wk#18	6: CV5-CL-2 Wk#18	7: CV5-CL-3 Wk#18	8: CV5-CL-4 Wk#18	9: CV5-CL-5 Wk#18
Te [mg/L]	08-Jul-25	11:10	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th [mg/L]	08-Jul-25	11:10	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm [mg/L]	11-Jul-25	16:42	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Analysis	10: CV5-CL-6 Wk#18
Sample Date & Time	02-Jul-25
HumCell Leachate Vol [mL]	2020
pH [No unit]	7.82
Conductivity [uS/cm]	50
Alkalinity [mg/L as CaCO3]	23
Acidity [mg/L as CaCO3]	< 2
SO4 [mg/L]	3.4
F [mg/L]	0.12
F [mg/L]	---
NO2 [as N mg/L]	< 0.03
NO3 [as N mg/L]	< 0.06
NO2+NO3 [as N mg/L]	< 0.06
Cl [mg/L]	< 0.2
Hg [mg/L]	< 0.00001
Ag [mg/L]	< 0.00005
Al [mg/L]	0.110
As [mg/L]	1.48
Ba [mg/L]	0.00051
B [mg/L]	0.013
Be [mg/L]	0.000025
Bi [mg/L]	0.00015
Ca [mg/L]	6.44
Cd [mg/L]	< 0.000003
Co [mg/L]	0.000127
Cr [mg/L]	< 0.00008
Cu [mg/L]	< 0.001
Fe [mg/L]	< 0.007
K [mg/L]	1.75
Li [mg/L]	0.106
Mg [mg/L]	0.784
Mn [mg/L]	0.0121
Mo [mg/L]	0.0007
Na [mg/L]	2.16
Ni [mg/L]	0.0017
Pb [mg/L]	< 0.00009
Sb [mg/L]	0.287
Se [mg/L]	0.00009

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0004187763

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10009-JUL25**

Analysis	10: CV5-CL-6 Wk#18
Sn [mg/L]	0.00205
Sr [mg/L]	0.0213
Ti [mg/L]	0.0001
Tl [mg/L]	0.000098
U [mg/L]	0.276
V [mg/L]	0.00124
W [mg/L]	0.00485
Y [mg/L]	< 0.00002
Zn [mg/L]	< 0.002
Au [mg/L]	< 0.00001
Ce [mg/L]	0.00001
Cs [mg/L]	0.0955
Dy [mg/L]	< 0.00001
Er [mg/L]	< 0.00001
Eu [mg/L]	< 0.00001
Ga [mg/L]	0.0006
Gd (tot) [mg/L]	< 0.00001
Ge [mg/L]	< 0.0001
Hf [mg/L]	< 0.0001
Ho [mg/L]	< 0.00001
In [mg/L]	< 0.00001
Ir [mg/L]	< 0.00001
La [mg/L]	0.00002
Lu [mg/L]	< 0.0001
Nb [mg/L]	< 0.0001
Nd [mg/L]	< 0.00001
Os [mg/L]	< 0.0001
Pd [mg/L]	< 0.0001
Pr [mg/L]	< 0.00001
Pt [mg/L]	< 0.0001
Rh [mg/L]	< 0.00001
Rb [mg/L]	0.0861
Re [mg/L]	< 0.0001
Ru [mg/L]	< 0.00001
Sm [mg/L]	< 0.00001
Sc [mg/L]	< 0.0001
Ta [mg/L]	< 0.0001
Tb [mg/L]	< 0.00001
Te [mg/L]	< 0.0001
Th [mg/L]	< 0.0001
Tm [mg/L]	< 0.00001

NA - Not applicable

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10009-JUL25**

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0004187763

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

09-July-2025

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 03 July 2025
LR Report: **CA10015-JUL25**
Reference: Wk#114

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#114	6: CV5-WR-HCT-5 Wk#114	7: CV5-WR-HCT-5 (DUP) Wk#114	8: CV5-WR-HCT-14 Wk#114	9: CV5-WR-HCT-22 Wk#114	10: CV5-WR-HCT-33 Wk#114
Sample Date & Time			03-Jul-25	03-Jul-25	03-Jul-25	03-Jul-25	03-Jul-25	03-Jul-25
HumCell Leachate Vol [mL]	04-Jul-25	08:56	930	935	944	950	994	956
pH [No unit]	07-Jul-25	14:18	6.45	6.39	6.20	7.15	7.32	7.42
Conductivity [uS/cm]	07-Jul-25	14:18	40	23	14	23	10	11

Analysis	11: CV5-WR-HCT-36 Wk#114	12: CV5-WR-HCT-39 Wk#114	13: CV5-WR-HCT-50 Wk#114	14: CV5-WR-HCT-56 Wk#114	15: CV5-WR-HCT-59 Wk#114	16: CV5-WR-HCT-62 Wk#114	17: CV5-WR-HCT-64 Wk#114	18: CV5-WR-HCT-69 Wk#114
Sample Date & Time	03-Jul-25	03-Jul-25	03-Jul-25	03-Jul-25	03-Jul-25	03-Jul-25	03-Jul-25	03-Jul-25
HumCell Leachate Vol [mL]	1004	922	998	1011	1002	924	993	999
pH [No unit]	6.80	6.40	5.09	6.48	6.18	6.64	7.10	7.11
Conductivity [uS/cm]	15	22	66	37	15	18	3	10

Analysis	19: CV5-ORE-HCT-74 Wk#114	20: CV5-ORE-HCT-76 Wk#114
Sample Date & Time	03-Jul-25	03-Jul-25
HumCell Leachate Vol [mL]	994	989
pH [No unit]	6.75	6.89
Conductivity [uS/cm]	2	16

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0004176930

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

23-June-2025

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 04 June 2025
LR Report: **CA10024-JUN25**
Reference: Columns - Wk#14

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: CV5-CL-1 Wk#14	6: CV5-CL-2 Wk#14	7: CV5-CL-3 Wk#14	8: CV5-CL-4 Wk#14	9: CV5-CL-5 Wk#14	10: CV5-CL-6 Wk#14
Sample Date & Time			04-Jun-25	04-Jun-25	04-Jun-25	04-Jun-25	04-Jun-25	04-Jun-25
HumCell Leachate Vol [mL]	05-Jun-25	16:09	2061	2004	1974	1966	2026	2009
pH [No unit]	06-Jun-25	13:16	7.97	8.12	7.67	7.60	8.06	8.08
Conductivity [uS/cm]	06-Jun-25	13:16	36	40	41	84	55	57
Alkalinity [mg/L as CaCO3]	06-Jun-25	13:16	20	20	12	39	26	27
Acidity [mg/L as CaCO3]	06-Jun-25	13:16	< 2	< 2	< 2	< 2	< 2	< 2
SO4 [mg/L]	13-Jun-25	10:40	0.3	2.1	6.1	6.1	3.7	4.0
F [mg/L]	09-Jun-25	08:47	< 0.06	0.11	< 0.06	0.36	0.14	0.17
NO2 [as N mg/L]	12-Jun-25	15:55	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	12-Jun-25	15:55	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
NO2+NO3 [as N mg/L]	12-Jun-25	15:55	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Cl [mg/L]	12-Jun-25	13:33	0.2	< 0.2	< 0.2	< 0.2	0.2	0.2
Hg [mg/L]	10-Jun-25	14:31	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	10-Jun-25	14:31	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	10-Jun-25	14:31	0.213	0.192	0.042	0.112	0.113	0.110
As [mg/L]	10-Jun-25	14:31	0.126	0.600	3.00	1.62	1.86	1.88
Ba [mg/L]	10-Jun-25	14:31	0.00017	0.00028	0.00076	0.00119	0.00059	0.00058
B [mg/L]	10-Jun-25	14:31	0.003	0.009	0.010	0.039	0.017	0.019
Be [mg/L]	10-Jun-25	14:31	0.000031	0.000038	0.000010	0.000051	0.000039	0.000049
Bi [mg/L]	10-Jun-25	14:31	0.00049	0.00019	0.00001	0.00021	0.00023	0.00025
Ca [mg/L]	10-Jun-25	14:31	4.86	5.21	5.50	7.35	6.05	5.71
Cd [mg/L]	10-Jun-25	14:31	0.000004	< 0.000003	< 0.000003	0.000005	< 0.000003	0.000003
Co [mg/L]	10-Jun-25	14:31	0.000014	0.000063	0.000689	0.000114	0.000165	0.000154
Cr [mg/L]	10-Jun-25	14:31	< 0.00008	0.00008	0.00015	0.00008	0.00010	< 0.00008
Cu [mg/L]	10-Jun-25	14:31	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	10-Jun-25	14:31	< 0.007	< 0.007	0.007	0.007	< 0.007	< 0.007
K [mg/L]	10-Jun-25	14:31	1.12	1.20	0.559	6.26	2.02	2.13
Li [mg/L]	10-Jun-25	14:31	0.0280	0.0534	0.0411	0.317	0.119	0.139
Mg [mg/L]	10-Jun-25	14:31	0.343	0.700	0.679	1.61	0.869	0.854
Mn [mg/L]	10-Jun-25	14:31	0.0113	0.00844	0.00953	0.0128	0.0139	0.0122
Mo [mg/L]	10-Jun-25	14:31	< 0.0004	0.0007	< 0.0004	0.0012	0.0007	0.0009
Na [mg/L]	10-Jun-25	14:31	1.28	1.04	0.85	3.68	2.59	3.13
Ni [mg/L]	10-Jun-25	14:32	< 0.0001	0.0007	0.0151	0.0017	0.0022	0.0021
Pb [mg/L]	10-Jun-25	14:32	< 0.00009	< 0.00009	< 0.00009	0.00017	< 0.00009	< 0.00009
Sb [mg/L]	10-Jun-25	14:32	0.0839	0.161	0.702	0.246	0.322	0.359
Se [mg/L]	10-Jun-25	14:32	0.00010	0.00010	0.00024	0.00011	0.00010	0.00010
Sn [mg/L]	10-Jun-25	14:32	0.00192	0.00209	0.00218	0.00365	0.00263	0.00257
Sr [mg/L]	10-Jun-25	14:32	0.0130	0.0161	0.0260	0.0305	0.0235	0.0239
Ti [mg/L]	10-Jun-25	14:32	< 0.0001	0.0002	0.0002	0.0003	0.0001	0.0001

OnLine LIMS

00004158558

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10024-JUN25**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: CV5-CL-1 Wk#14	6: CV5-CL-2 Wk#14	7: CV5-CL-3 Wk#14	8: CV5-CL-4 Wk#14	9: CV5-CL-5 Wk#14	10: CV5-CL-6 Wk#14
Tl [mg/L]	10-Jun-25	14:32	0.000070	0.000073	0.000080	0.000197	0.000123	0.000120
U [mg/L]	10-Jun-25	14:32	0.189	0.180	0.0322	0.476	0.298	0.302
V [mg/L]	10-Jun-25	14:32	0.00018	0.00096	0.00337	0.00164	0.00139	0.00150
W [mg/L]	10-Jun-25	14:32	0.00078	0.00078	0.00096	0.0139	0.00301	0.0103
Y [mg/L]	10-Jun-25	10:42	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	10-Jun-25	10:42	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au [mg/L]	10-Jun-25	10:42	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce [mg/L]	10-Jun-25	10:42	< 0.00001	0.00001	< 0.00001	0.00002	0.00001	0.00001
Cs [mg/L]	10-Jun-25	14:32	0.0128	0.0586	0.177	0.234	0.106	0.102
Dy [mg/L]	10-Jun-25	10:42	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er [mg/L]	10-Jun-25	10:42	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu [mg/L]	10-Jun-25	10:42	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga [mg/L]	10-Jun-25	14:32	0.0009	0.0008	< 0.0001	0.0029	0.0007	0.0006
Gd (tot) [mg/L]	10-Jun-25	10:41	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge [mg/L]	10-Jun-25	10:41	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001
Hf [mg/L]	10-Jun-25	10:41	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho [mg/L]	10-Jun-25	10:41	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In [mg/L]	10-Jun-25	10:41	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir [mg/L]	10-Jun-25	10:41	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La [mg/L]	10-Jun-25	14:32	< 0.00001	0.00001	0.00004	0.00002	0.00002	0.00003
Lu [mg/L]	10-Jun-25	10:41	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb [mg/L]	12-Jun-25	14:35	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	0.0001
Nd [mg/L]	10-Jun-25	10:41	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Os [mg/L]	10-Jun-25	10:41	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd [mg/L]	10-Jun-25	10:41	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr [mg/L]	10-Jun-25	10:41	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt [mg/L]	10-Jun-25	10:41	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh [mg/L]	10-Jun-25	10:41	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Rb [mg/L]	10-Jun-25	14:32	0.0585	0.0565	0.0322	0.300	0.0960	0.0973
Re [mg/L]	10-Jun-25	10:41	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ru [mg/L]	10-Jun-25	10:41	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sm [mg/L]	10-Jun-25	10:41	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc [mg/L]	10-Jun-25	10:41	< 0.0001	< 0.0001	< 0.0001	0.0003	0.0001	< 0.0001
Ta [mg/L]	10-Jun-25	10:41	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb [mg/L]	10-Jun-25	10:41	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te [mg/L]	10-Jun-25	10:41	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th [mg/L]	10-Jun-25	10:41	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm [mg/L]	10-Jun-25	10:41	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

NA - Not applicable

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

00004158558

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

19-March-2025

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 06 March 2025
LR Report: **CA10029-MAR25**
Reference: Wk#97

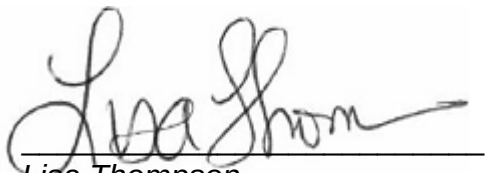
Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#97	6: CV5-WR-HCT-5 Wk#97	7: CV5-WR-HCT-5 (DUP) Wk#97	8: CV5-WR-HCT-14 Wk#97	9: CV5-WR-HCT-22 Wk#97	10: CV5-WR-HCT-33 Wk#97
Sample Date & Time			06-Mar-25	06-Mar-25	06-Mar-25	06-Mar-25	06-Mar-25	06-Mar-25
HumCell Leachate Vol [mL]	06-Mar-25	15:05	1004	1002	1016	1019	994	1009
pH [No unit]	11-Mar-25	10:41	6.78	6.99	6.57	6.98	6.73	7.10
Conductivity [uS/cm]	11-Mar-25	14:29	41	24	18	27	9	18

Analysis	11: CV5-WR-HCT-36 Wk#97	12: CV5-WR-HCT-39 Wk#97	13: CV5-WR-HCT-50 Wk#97	14: CV5-WR-HCT-56 Wk#97	15: CV5-WR-HCT-59 Wk#97	16: CV5-WR-HCT-62 Wk#97	17: CV5-WR-HCT-64 Wk#97	18: CV5-WR-HCT-69 Wk#97
Sample Date & Time	06-Mar-25	06-Mar-25	06-Mar-25	06-Mar-25	06-Mar-25	06-Mar-25	06-Mar-25	06-Mar-25
HumCell Leachate Vol [mL]	1013	1008	1011	1003	1003	999	1010	998
pH [No unit]	6.87	6.66	6.49	7.00	6.21	6.63	6.80	6.84
Conductivity [uS/cm]	23	31	51	32	14	20	4	10

Analysis	19: CV5-ORE-HCT-74 Wk#97	20: CV5-ORE-HCT-76 Wk#97
Sample Date & Time	06-Mar-25	06-Mar-25
HumCell Leachate Vol [mL]	999	1000
pH [No unit]	6.98	6.49
Conductivity [uS/cm]	2	15



Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0004050810

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

16-June-2025

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 05 June 2025
LR Report: **CA10030-JUN25**
Reference: Wk#110

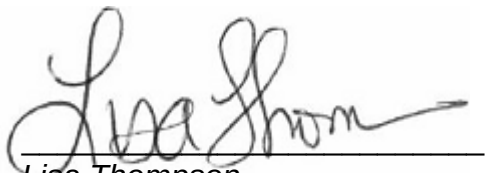
Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#110	6: CV5-WR-HCT-5 Wk#110	7: CV5-WR-HCT-5 (DUP) Wk#110	8: CV5-WR-HCT-14 Wk#110	9: CV5-WR-HCT-22 Wk#110	10: CV5-WR-HCT-33 Wk#110
Sample Date & Time			05-Jun-25	05-Jun-25	05-Jun-25	05-Jun-25	05-Jun-25	05-Jun-25
HumCell Leachate Vol [mL]	05-Jun-25	16:11	936	934	953	962	965	941
pH [No unit]	09-Jun-25	10:49	6.25	6.27	6.22	7.04	6.23	6.63
Conductivity [uS/cm]	06-Jun-25	14:11	51	24	15	24	10	11

Analysis	11: CV5-WR-HCT-36 Wk#110	12: CV5-WR-HCT-39 Wk#110	13: CV5-WR-HCT-50 Wk#110	14: CV5-WR-HCT-56 Wk#110	15: CV5-WR-HCT-59 Wk#110	16: CV5-WR-HCT-62 Wk#110	17: CV5-WR-HCT-64 Wk#110	18: CV5-WR-HCT-69 Wk#110
Sample Date & Time	05-Jun-25	05-Jun-25	05-Jun-25	05-Jun-25	05-Jun-25	05-Jun-25	05-Jun-25	05-Jun-25
HumCell Leachate Vol [mL]	956	1010	974	1003	977	921	1003	1000
pH [No unit]	6.64	5.98	5.22	6.47	6.22	6.82	6.60	6.67
Conductivity [uS/cm]	20	31	88	43	24	21	4	12

Analysis	19: CV5-ORE-HCT-74 Wk#110	20: CV5-ORE-HCT-76 Wk#110
Sample Date & Time	05-Jun-25	05-Jun-25
HumCell Leachate Vol [mL]	1001	989
pH [No unit]	6.56	6.59
Conductivity [uS/cm]	3	15



Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0004150412

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

21-February-2025

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 06 February 2025
LR Report: **CA10031-FEB25**
Reference: Wk#93

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#93	6: CV5-WR-HCT-5 Wk#93	7: CV5-WR-HCT-5 (DUP) Wk#93	8: CV5-WR-HCT-14 Wk#93	9: CV5-WR-HCT-22 Wk#93	10: CV5-WR-HCT-33 Wk#93
Sample Date & Time			06-Feb-25	06-Feb-25	06-Feb-25	06-Feb-25	06-Feb-25	06-Feb-25
HumCell Leachate Vol [mL]	06-Feb-25	11:41	947	945	982	998	942	1016
pH [No unit]	10-Feb-25	14:38	6.29	6.77	6.71	7.01	6.41	7.16
Conductivity [uS/cm]	07-Feb-25	11:13	40	25	17	28	9	16

Analysis	11: CV5-WR-HCT-36 Wk#93	12: CV5-WR-HCT-39 Wk#93	13: CV5-WR-HCT-50 Wk#93	14: CV5-WR-HCT-56 Wk#93	15: CV5-WR-HCT-59 Wk#93	16: CV5-WR-HCT-62 Wk#93	17: CV5-WR-HCT-64 Wk#93	18: CV5-WR-HCT-69 Wk#93
Sample Date & Time	06-Feb-25	06-Feb-25	06-Feb-25	06-Feb-25	06-Feb-25	06-Feb-25	06-Feb-25	06-Feb-25
HumCell Leachate Vol [mL]	1019	985	1014	976	994	973	1001	1017
pH [No unit]	7.15	6.47	5.90	6.86	6.40	6.90	6.98	6.70
Conductivity [uS/cm]	26	28	61	37	21	20	5	10

Analysis	19: CV5-ORE-HCT-74 Wk#93	20: CV5-ORE-HCT-76 Wk#93
Sample Date & Time	06-Feb-25	06-Feb-25
HumCell Leachate Vol [mL]	1032	1038
pH [No unit]	6.14	7.08
Conductivity [uS/cm]	6	19

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0004023978

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

09-September-2025

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 04 September 2025
LR Report: **CA10032-SEP25**
Reference: Wk#123

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#123	6: CV5-WR-HCT-5 Wk#123	7: CV5-WR-HCT-5 (DUP) Wk#123	8: CV5-WR-HCT-14 Wk#123	9: CV5-WR-HCT-22 Wk#123	10: CV5-WR-HCT-33 Wk#123
Sample Date & Time			04-Sep-25	04-Sep-25	04-Sep-25	04-Sep-25	04-Sep-25	04-Sep-25
HumCell Leachate Vol [mL]	04-Sep-25	16:28	932	950	950	954	990	1020
pH [No unit]	08-Sep-25	15:35	6.56	6.13	7.42	7.23	6.41	6.79
Conductivity [uS/cm]	08-Sep-25	10:26	39	22	14	22	8	19

Analysis	11: CV5-WR-HCT-36 Wk#123	12: CV5-WR-HCT-39 Wk#123	13: CV5-WR-HCT-50 Wk#123	14: CV5-WR-HCT-56 Wk#123	15: CV5-WR-HCT-59 Wk#123	16: CV5-WR-HCT-62 Wk#123	17: CV5-WR-HCT-64 Wk#123	18: CV5-WR-HCT-69 Wk#123
Sample Date & Time	04-Sep-25	04-Sep-25	04-Sep-25	04-Sep-25	04-Sep-25	04-Sep-25	04-Sep-25	04-Sep-25
HumCell Leachate Vol [mL]	1012	929	1021	992	963	930	993	1017
pH [No unit]	7.05	5.75	4.45	6.41	5.88	6.62	6.51	6.42
Conductivity [uS/cm]	16	21	92	33	17	17	3	9

Analysis	19: CV5-ORE-HCT-74 Wk#123	20: CV5-ORE-HCT-76 Wk#123
Sample Date & Time	04-Sep-25	04-Sep-25
HumCell Leachate Vol [mL]	1001	1024
pH [No unit]	7.38	6.62
Conductivity [uS/cm]	2	17

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0004249850

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

14-May-2025

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 07 May 2025
LR Report: **CA10036-MAY25**
Reference: Columns - Wk#10

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: CV5-CL-1 Wk#10	6: CV5-CL-2 Wk#10	7: CV5-CL-3 Wk#10	8: CV5-CL-4 Wk#10	9: CV5-CL-5 Wk#10	10: CV5-CL-6 Wk#10
Sample Date & Time			07-May-25	07-May-25	07-May-25	07-May-25	07-May-25	07-May-25
HumCell Leachate Vol [mL]	08-May-25	11:50	1994	2042	1968	1992	2004	1994
pH [No unit]	09-May-25	10:43	7.76	7.55	7.25	7.96	7.48	7.47
Conductivity [uS/cm]	12-May-25	15:14	39	42	42	104	59	64
Alkalinity [mg/L as CaCO3]	09-May-25	10:43	22	27	15	40	27	28
Acidity [mg/L as CaCO3]	09-May-25	10:43	< 2	< 2	< 2	< 2	< 2	< 2
SO4 [mg/L]	12-May-25	19:46	0.4	2.5	6.7	6.1	4.8	5.3
F [mg/L]	09-May-25	13:30	< 0.06	0.12	< 0.06	0.53	0.19	0.25
NO2 [as N mg/L]	12-May-25	20:15	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	12-May-25	20:15	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
NO2+NO3 [as N mg/L]	12-May-25	20:15	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Cl [mg/L]	12-May-25	19:46	0.4	< 0.2	0.3	< 0.2	0.5	0.8
Hg [mg/L]	12-May-25	12:55	< 0.00001	< 0.00001	< 0.00001	0.00002	< 0.00001	< 0.00001
Ag [mg/L]	12-May-25	12:55	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	12-May-25	12:55	0.208	0.186	0.040	0.124	0.102	0.101
As [mg/L]	12-May-25	12:55	0.181	0.744	3.66	2.21	2.44	2.52
Ba [mg/L]	12-May-25	12:55	0.00026	0.00031	0.00091	0.00155	0.00067	0.00062
B [mg/L]	12-May-25	12:55	0.005	0.012	0.014	0.066	0.025	0.028
Be [mg/L]	12-May-25	12:55	0.000051	0.000029	0.000013	0.000054	0.000024	0.000033
Bi [mg/L]	12-May-25	12:55	0.00037	0.00014	0.00001	0.00018	0.00016	0.00023
Ca [mg/L]	12-May-25	12:55	5.13	5.52	5.92	6.80	6.11	5.87
Cd [mg/L]	12-May-25	12:55	0.000004	0.000004	< 0.000003	< 0.000003	0.000008	0.000004
Co [mg/L]	12-May-25	12:55	0.000014	0.000056	0.000570	0.000142	0.000158	0.000169
Cr [mg/L]	12-May-25	12:55	< 0.00008	0.00008	0.00011	0.00010	0.00011	< 0.00008
Cu [mg/L]	12-May-25	12:55	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	12-May-25	12:55	< 0.007	< 0.007	< 0.007	0.008	< 0.007	< 0.007
K [mg/L]	12-May-25	12:55	1.46	1.53	0.754	7.78	2.37	2.50
Li [mg/L]	12-May-25	12:55	0.0449	0.0791	0.0617	0.450	0.191	0.226
Mg [mg/L]	12-May-25	12:55	0.428	0.835	0.780	1.48	0.949	0.884
Mn [mg/L]	12-May-25	12:55	0.00830	0.00710	0.00923	0.0103	0.0126	0.0113
Mo [mg/L]	12-May-25	12:54	0.0005	0.0010	0.0009	0.0011	0.0010	0.0010
Na [mg/L]	12-May-25	12:54	2.15	1.69	1.70	5.24	4.26	5.08
Ni [mg/L]	12-May-25	12:54	< 0.0001	0.0007	0.0140	0.0027	0.0024	0.0026
Pb [mg/L]	12-May-25	12:54	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	12-May-25	12:54	0.100	0.176	0.702	0.356	0.403	0.444
Se [mg/L]	12-May-25	12:54	0.00013	0.00012	0.00034	0.00012	0.00010	0.00013

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0004112871

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10036-MAY25**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: CV5-CL-1 Wk#10	6: CV5-CL-2 Wk#10	7: CV5-CL-3 Wk#10	8: CV5-CL-4 Wk#10	9: CV5-CL-5 Wk#10	10: CV5-CL-6 Wk#10
Sn [mg/L]	12-May-25	12:54	0.00463	0.00538	0.00405	0.00507	0.00377	0.00328
Sr [mg/L]	12-May-25	12:54	0.0140	0.0174	0.0293	0.0311	0.0229	0.0217
Ti [mg/L]	12-May-25	12:54	< 0.0001	0.0001	0.0001	0.0004	0.0001	0.0001
Tl [mg/L]	12-May-25	12:54	0.000083	0.000085	0.000093	0.000275	0.000139	0.000145
U [mg/L]	12-May-25	12:54	0.272	0.231	0.0368	0.652	0.351	0.348
V [mg/L]	12-May-25	12:54	0.00023	0.00117	0.00403	0.00298	0.00170	0.00169
W [mg/L]	12-May-25	12:54	0.00089	0.00104	0.00134	0.0190	0.00652	0.0200
Y [mg/L]	12-May-25	12:54	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	12-May-25	12:54	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au [mg/L]	12-May-25	12:54	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce [mg/L]	12-May-25	12:54	< 0.00001	< 0.00001	< 0.00001	0.00001	0.00001	0.00001
Cs [mg/L]	12-May-25	12:54	0.0144	0.0640	0.197	0.259	0.120	0.116
Dy [mg/L]	12-May-25	12:54	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er [mg/L]	12-May-25	12:54	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu [mg/L]	12-May-25	12:54	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga [mg/L]	12-May-25	12:54	0.0010	0.0009	< 0.0001	0.0023	0.0007	0.0006
Gd (tot) [mg/L]	12-May-25	12:54	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge [mg/L]	12-May-25	12:54	0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001
Hf [mg/L]	12-May-25	12:54	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho [mg/L]	12-May-25	12:54	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In [mg/L]	12-May-25	12:54	0.00002	0.00002	0.00002	0.00002	0.00001	0.00001
Ir [mg/L]	12-May-25	12:54	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La [mg/L]	12-May-25	12:54	< 0.00001	0.00001	0.00005	0.00002	0.00002	0.00002
Lu [mg/L]	12-May-25	12:54	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb [mg/L]	12-May-25	12:54	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001
Nd [mg/L]	12-May-25	12:54	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Os [mg/L]	12-May-25	12:54	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd [mg/L]	12-May-25	12:54	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr [mg/L]	12-May-25	12:54	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt [mg/L]	12-May-25	12:54	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh [mg/L]	12-May-25	12:54	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Rb [mg/L]	12-May-25	12:54	0.0739	0.0714	0.0368	0.337	0.115	0.118
Re [mg/L]	12-May-25	12:54	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ru [mg/L]	12-May-25	12:54	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sm [mg/L]	12-May-25	12:54	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc [mg/L]	13-May-25	09:00	< 0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001
Ta [mg/L]	12-May-25	12:53	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	0.0001
Tb [mg/L]	12-May-25	12:53	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te [mg/L]	12-May-25	12:53	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th [mg/L]	12-May-25	12:53	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm [mg/L]	12-May-25	12:53	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

NA - Not applicable

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0004112871

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

19-August-2025

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 07 August 2025
LR Report: **CA10046-AUG25**
Reference: Wk#119

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#119	6: CV5-WR-HCT-5 Wk#119	7: CV5-WR-HCT-5 (DUP) Wk#119	8: CV5-WR-HCT-14 Wk#119	9: CV5-WR-HCT-22 Wk#119	10: CV5-WR-HCT-33 Wk#119
Sample Date & Time			07-Aug-25	07-Aug-25	07-Aug-25	07-Aug-25	07-Aug-25	07-Aug-25
HumCell Leachate Vol [mL]	07-Aug-25	13:45	931	951	956	1002	1000	983
pH [No unit]	15-Aug-25	12:07	6.00	6.43	7.39	6.79	6.43	6.62
Conductivity [uS/cm]	11-Aug-25	08:05	35	21	14	25	9	12

Analysis	11: CV5-WR-HCT-36 Wk#119	12: CV5-WR-HCT-39 Wk#119	13: CV5-WR-HCT-50 Wk#119	14: CV5-WR-HCT-56 Wk#119	15: CV5-WR-HCT-59 Wk#119	16: CV5-WR-HCT-62 Wk#119	17: CV5-WR-HCT-64 Wk#119	18: CV5-WR-HCT-69 Wk#119
Sample Date & Time	07-Aug-25	07-Aug-25	07-Aug-25	07-Aug-25	07-Aug-25	07-Aug-25	07-Aug-25	07-Aug-25
HumCell Leachate Vol [mL]	990	930	1003	995	979	931	1016	1004
pH [No unit]	7.48	6.38	4.70	6.68	5.54	7.75	6.49	6.31
Conductivity [uS/cm]	17	23	118	32	17	22	3	11

Analysis	19: CV5-ORE-HCT-74 Wk#119	20: CV5-ORE-HCT-76 Wk#119
Sample Date & Time	07-Aug-25	07-Aug-25
HumCell Leachate Vol [mL]	1000	1004
pH [No unit]	6.88	6.23
Conductivity [uS/cm]	2	15

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0004224956

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

21-July-2025

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 10 July 2025
LR Report: **CA10067-JUL25**
Reference: Wk#115

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#115	6: CV5-WR-HCT-5 Wk#115	7: CV5-WR-HCT-5 (DUP) Wk#115	8: CV5-WR-HCT-14 Wk#115	9: CV5-WR-HCT-22 Wk#115	10: CV5-WR-HCT-33 Wk#115
Sample Date & Time			10-Jul-25	10-Jul-25	10-Jul-25	10-Jul-25	10-Jul-25	10-Jul-25
HumCell Leachate Vol [mL]	10-Jul-25	12:04	973	978	967	988	1015	940
pH [No unit]	14-Jul-25	16:04	6.22	6.84	6.72	7.12	6.64	6.74
Conductivity [uS/cm]	11-Jul-25	14:08	34	20	12	21	9	9

Analysis	11: CV5-WR-HCT-36 Wk#115	12: CV5-WR-HCT-39 Wk#115	13: CV5-WR-HCT-50 Wk#115	14: CV5-WR-HCT-56 Wk#115	15: CV5-WR-HCT-59 Wk#115	16: CV5-WR-HCT-62 Wk#115	17: CV5-WR-HCT-64 Wk#115	18: CV5-WR-HCT-69 Wk#115
Sample Date & Time	10-Jul-25	10-Jul-25	10-Jul-25	10-Jul-25	10-Jul-25	10-Jul-25	10-Jul-25	10-Jul-25
HumCell Leachate Vol [mL]	1007	938	1005	1003	979	921	1003	1018
pH [No unit]	6.99	6.06	4.86	6.68	5.66	6.64	6.87	6.71
Conductivity [uS/cm]	13	21	62	34	15	18	3	10

Analysis	19: CV5-ORE-HCT-74 Wk#115	20: CV5-ORE-HCT-76 Wk#115
Sample Date & Time	10-Jul-25	10-Jul-25
HumCell Leachate Vol [mL]	1018	969
pH [No unit]	6.94	6.77
Conductivity [uS/cm]	2	11

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0004192271

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

24-April-2025

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 09 April 2025
LR Report: **CA10068-APR25**
Reference: Columns - Wk#6

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: CV5-CL-1 Wk#6	6: CV5-CL-2 Wk#6	7: CV5-CL-3 Wk#6	8: CV5-CL-4 Wk#6	9: CV5-CL-5 Wk#6	10: CV5-CL-6 Wk#6
Sample Date & Time			09-Apr-25	09-Apr-25	09-Apr-25	09-Apr-25	09-Apr-25	09-Apr-25
HumCell Leachate Vol [mL]	10-Apr-25	16:28	2005	1999	2003	2010	1980	1988
pH [No unit]	11-Apr-25	12:07	8.49	8.14	7.36	8.00	8.34	8.34
Conductivity [uS/cm]	11-Apr-25	12:07	58	60	63	123	93	106
Alkalinity [mg/L as CaCO3]	11-Apr-25	12:07	30	28	14	58	32	37
Acidity [mg/L as CaCO3]	11-Apr-25	12:07	< 2	< 2	< 2	< 2	< 2	< 2
SO4 [mg/L]	17-Apr-25	13:03	0.5	3.4	5.9	6.8	7.9	7.8
F [mg/L]	11-Apr-25	12:50	0.08	0.20	0.12	0.86	0.32	0.37
NO2 [as N mg/L]	15-Apr-25	10:14	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	15-Apr-25	10:14	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
NO2+NO3 [as N mg/L]	15-Apr-25	10:14	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Cl [mg/L]	17-Apr-25	12:57	0.8	0.2	1.4	0.6	3.6	4.4
Hg [mg/L]	11-Apr-25	12:21	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	14-Apr-25	09:58	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	14-Apr-25	09:58	0.210	0.197	0.049	0.131	0.108	0.116
As [mg/L]	14-Apr-25	09:58	0.351	1.12	4.67	4.81	3.59	3.66
Ba [mg/L]	14-Apr-25	09:58	0.00026	0.00043	0.00098	0.00186	0.00073	0.00083
B [mg/L]	14-Apr-25	09:58	0.011	0.021	0.021	0.141	0.044	0.052
Be [mg/L]	14-Apr-25	09:58	0.000045	0.000031	0.000013	0.000079	0.000038	0.000055
Bi [mg/L]	14-Apr-25	09:58	0.00050	0.00022	0.00002	0.00029	0.00024	0.00027
Ca [mg/L]	14-Apr-25	09:58	4.91	5.13	6.00	6.08	5.81	6.15
Cd [mg/L]	14-Apr-25	09:58	0.000009	< 0.000003	< 0.000003	0.000003	0.000008	< 0.000003
Co [mg/L]	14-Apr-25	09:58	0.000025	0.000073	0.000489	0.000198	0.000196	0.000198
Cr [mg/L]	14-Apr-25	09:58	0.00009	0.00012	0.00019	0.00021	0.00014	0.00013
Cu [mg/L]	14-Apr-25	09:58	< 0.001	< 0.001	< 0.001	< 0.001	0.001	< 0.001
Fe [mg/L]	14-Apr-25	09:58	< 0.007	< 0.007	0.008	0.011	< 0.007	< 0.007
K [mg/L]	14-Apr-25	09:58	2.36	2.33	1.18	10.5	3.33	3.72
Li [mg/L]	14-Apr-25	09:58	0.0988	0.165	0.103	0.849	0.347	0.411
Mg [mg/L]	14-Apr-25	09:58	0.467	0.881	0.755	1.46	0.936	0.954
Mn [mg/L]	14-Apr-25	09:58	0.00649	0.00651	0.00868	0.00869	0.0117	0.0107
Mo [mg/L]	14-Apr-25	09:58	0.0009	0.0019	0.0008	0.0019	0.0023	0.0026
Na [mg/L]	14-Apr-25	09:58	4.75	3.65	4.38	11.8	8.41	10.1
Ni [mg/L]	14-Apr-25	09:58	0.0001	0.0011	0.0147	0.0062	0.0036	0.0043
Pb [mg/L]	14-Apr-25	09:58	< 0.00009	0.00009	< 0.00009	0.00010	< 0.00009	0.00013
Sb [mg/L]	14-Apr-25	09:58	0.150	0.249	0.778	0.829	0.598	0.651
Se [mg/L]	14-Apr-25	09:58	0.00020	0.00017	0.00051	0.00018	0.00016	0.00017

OnLine LIMS

0004089320

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10068-APR25**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: CV5-CL-1 Wk#6	6: CV5-CL-2 Wk#6	7: CV5-CL-3 Wk#6	8: CV5-CL-4 Wk#6	9: CV5-CL-5 Wk#6	10: CV5-CL-6 Wk#6
Sn [mg/L]	14-Apr-25	09:58	0.00536	0.00530	0.00350	0.00802	0.00494	0.00409
Sr [mg/L]	14-Apr-25	09:58	0.0157	0.0185	0.0319	0.02944	0.0261	0.0263
Ti [mg/L]	14-Apr-25	09:58	< 0.0001	0.00026	0.00028	0.00045	0.00017	0.00018
Tl [mg/L]	14-Apr-25	09:58	0.000127	0.000118	0.000112	0.000363	0.000190	0.000204
U [mg/L]	14-Apr-25	09:58	0.423	0.269	0.0559	0.550	0.341	0.351
V [mg/L]	14-Apr-25	09:58	0.00044	0.00187	0.00655	0.00617	0.00244	0.00255
W [mg/L]	14-Apr-25	09:58	0.00223	0.00224	0.00288	0.0456	0.0203	0.0549
Y [mg/L]	14-Apr-25	09:58	< 0.00002	< 0.00002	< 0.00002	0.00003	< 0.00002	< 0.00002
Zn [mg/L]	14-Apr-25	09:58	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au [mg/L]	14-Apr-25	09:58	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce [mg/L]	21-Apr-25	13:15	0.00002	0.00003	0.00001	0.00002	0.00001	0.00002
Cs [mg/L]	14-Apr-25	09:58	0.0187	0.0785	0.215	0.277	0.133	0.139
Dy [mg/L]	21-Apr-25	13:15	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er [mg/L]	21-Apr-25	13:15	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu [mg/L]	21-Apr-25	13:15	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga [mg/L]	21-Apr-25	13:15	0.0013	0.0011	< 0.0001	0.0017	0.0007	0.0007
Gd (tot) [mg/L]	21-Apr-25	13:15	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge [mg/L]	14-Apr-25	09:58	0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001
Hf [mg/L]	14-Apr-25	09:58	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho [mg/L]	21-Apr-25	13:15	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In [mg/L]	21-Apr-25	13:15	0.00002	0.00002	0.00001	0.00003	0.00002	0.00002
Ir [mg/L]	14-Apr-25	09:58	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La [mg/L]	21-Apr-25	13:15	0.00002	0.00002	0.00004	0.00005	0.00003	0.00004
Lu [mg/L]	21-Apr-25	13:15	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb [mg/L]	14-Apr-25	09:58	< 0.0001	< 0.0001	< 0.0001	0.0003	0.0002	0.0002
Nd [mg/L]	21-Apr-25	13:15	< 0.00001	0.00001	< 0.00001	0.00001	< 0.00001	0.00001
Os [mg/L]	14-Apr-25	09:58	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd [mg/L]	14-Apr-25	09:58	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr [mg/L]	21-Apr-25	13:15	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt [mg/L]	14-Apr-25	09:58	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh [mg/L]	14-Apr-25	09:58	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Rb [mg/L]	14-Apr-25	09:58	0.118	0.101	0.0467	0.445	0.154	0.166
Re [mg/L]	14-Apr-25	09:58	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ru [mg/L]	14-Apr-25	09:58	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sm [mg/L]	21-Apr-25	13:14	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc [mg/L]	21-Apr-25	13:14	< 0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001
Ta [mg/L]	24-Apr-25	11:09	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb [mg/L]	21-Apr-25	13:14	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te [mg/L]	14-Apr-25	09:58	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th [mg/L]	14-Apr-25	09:58	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm [mg/L]	21-Apr-25	13:14	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

NA - Not applicable

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0004089320

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

27-March-2025

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 12 March 2025
LR Report: **CA10069-MAR25**
Reference: Columns - Wk#2

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: CV5-CL-1 Wk#2	6: CV5-CL-2 Wk#2	7: CV5-CL-3 Wk#2	8: CV5-CL-4 Wk#2	9: CV5-CL-5 Wk#2	10: CV5-CL-6 Wk#2
Sample Date & Time			12-Mar-25	12-Mar-25	12-Mar-25	12-Mar-25	12-Mar-25	12-Mar-25
HumCell Leachate Vol [mL]	13-Mar-25	11:59	2016	2006	1935	1986	2031	2015
pH [No unit]	14-Mar-25	13:03	8.56	8.00	7.50	8.51	7.93	8.02
Conductivity [uS/cm]	14-Mar-25	13:03	176	117	168	479	200	204
Alkalinity [mg/L as CaCO3]	14-Mar-25	13:03	50	39	25	169	49	50
Acidity [mg/L as CaCO3]	14-Mar-25	13:03	< 2	< 2	< 2	< 2	< 2	< 2
SO4 [mg/L]	24-Mar-25	13:13	3.8	11	15	49	17	17
F [mg/L]	14-Mar-25	08:21	0.34	0.53	0.21	4.92	0.76	0.73
NO2 [as N mg/L]	19-Mar-25	10:07	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	19-Mar-25	10:07	< 0.06	0.07	0.20	< 0.06	< 0.06	< 0.06
NO2+NO3 [as N mg/L]	19-Mar-25	10:07	< 0.06	0.07	0.20	< 0.06	< 0.06	< 0.06
Cl [mg/L]	24-Mar-25	13:13	44	9.7	47	7.7	42	42
Hg [mg/L]	17-Mar-25	16:57	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	18-Mar-25	22:45	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	18-Mar-25	22:45	0.218	0.211	0.049	0.157	0.105	0.099
As [mg/L]	19-Mar-25	10:48	0.877	1.51	4.39	17.6	4.47	4.09
Ba [mg/L]	18-Mar-25	22:45	0.00048	0.00058	0.00172	0.00482	0.00130	0.00155
B [mg/L]	18-Mar-25	22:45	0.042	0.051	0.047	0.567	0.099	0.095
Be [mg/L]	18-Mar-25	22:45	0.000045	0.000026	0.000008	0.000101	0.000034	0.000035
Bi [mg/L]	18-Mar-25	22:45	0.00051	0.00023	0.00002	0.00030	0.00023	0.00023
Ca [mg/L]	18-Mar-25	22:45	5.29	5.48	9.92	6.17	7.36	7.43
Cd [mg/L]	18-Mar-25	22:45	0.000014	0.000006	0.000005	0.000016	0.000011	0.000008
Co [mg/L]	18-Mar-25	22:45	0.000083	0.000119	0.000365	0.00111	0.000286	0.000271
Cr [mg/L]	18-Mar-25	22:45	0.00011	0.00025	0.00027	0.00032	0.00015	0.00015
Cu [mg/L]	18-Mar-25	22:45	0.002	< 0.001	< 0.001	0.003	0.001	< 0.001
Fe [mg/L]	18-Mar-25	22:45	< 0.007	0.008	0.011	0.017	< 0.007	< 0.007
K [mg/L]	18-Mar-25	22:45	6.17	4.64	2.61	18.8	7.19	7.18
Li [mg/L]	18-Mar-25	22:45	0.516	0.634	0.436	4.48	1.08	1.10
Mg [mg/L]	18-Mar-25	22:45	0.660	1.14	1.52	2.10	1.49	1.46
Mn [mg/L]	18-Mar-25	22:45	0.00559	0.00530	0.0113	0.0136	0.0106	0.0106
Mo [mg/L]	18-Mar-25	22:45	0.0072	0.0084	0.0034	0.0292	0.0106	0.0090
Na [mg/L]	18-Mar-25	22:45	27.6	14.2	21.4	77.2	29.6	29.9
Ni [mg/L]	18-Mar-25	22:45	0.0011	0.0034	0.0241	0.0894	0.0099	0.0113
Pb [mg/L]	18-Mar-25	22:45	0.00012	< 0.00009	0.00010	0.00016	0.00014	0.00010
Sb [mg/L]	18-Mar-25	22:45	0.302	0.350	0.663	5.47	0.999	0.973
Se [mg/L]	18-Mar-25	22:45	0.00037	0.00044	0.00075	0.00056	0.00033	0.00030

OnLine LIMS

0004058817

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10069-MAR25**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: CV5-CL-1 Wk#2	6: CV5-CL-2 Wk#2	7: CV5-CL-3 Wk#2	8: CV5-CL-4 Wk#2	9: CV5-CL-5 Wk#2	10: CV5-CL-6 Wk#2
Sn [mg/L]	18-Mar-25	22:45	0.0165	0.0204	0.0126	0.0111	0.0132	0.0104
Sr [mg/L]	18-Mar-25	22:45	0.0204	0.0205	0.0584	0.0396	0.0356	0.0356
Ti [mg/L]	18-Mar-25	22:45	0.00013	0.00029	0.00026	0.00067	0.00018	0.00018
Tl [mg/L]	18-Mar-25	22:45	0.000320	0.000205	0.000179	0.000696	0.000359	0.000343
U [mg/L]	18-Mar-25	22:45	1.27	0.321	0.109	0.946	0.461	0.402
V [mg/L]	18-Mar-25	22:45	0.00096	0.00320	0.00822	0.0136	0.00341	0.00328
W [mg/L]	18-Mar-25	22:45	0.0148	0.0125	0.00813	0.700	0.0961	0.0967
Y [mg/L]	18-Mar-25	22:45	0.00002	< 0.00002	< 0.00002	0.00005	< 0.00002	< 0.00002
Zn [mg/L]	18-Mar-25	22:45	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au [mg/L]	18-Mar-25	22:45	< 0.00001	< 0.00001	< 0.00001	0.00002	< 0.00001	< 0.00001
Ce [mg/L]	18-Mar-25	22:45	0.00002	0.00002	0.00001	0.00004	0.00002	0.00002
Cs [mg/L]	18-Mar-25	22:45	0.0336	0.104	0.308	0.439	0.198	0.186
Dy [mg/L]	18-Mar-25	22:45	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er [mg/L]	18-Mar-25	22:45	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu [mg/L]	18-Mar-25	22:45	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga [mg/L]	18-Mar-25	22:45	0.0021	0.0016	0.0001	0.0009	0.0008	0.0007
Gd (tot) [mg/L]	18-Mar-25	22:45	< 0.00001	< 0.00001	< 0.00001	0.00001	< 0.00001	< 0.00001
Ge [mg/L]	18-Mar-25	22:45	< 0.0001	< 0.0001	< 0.0001	0.0003	< 0.0001	0.0001
Hf [mg/L]	18-Mar-25	22:45	< 0.0001	< 0.0001	< 0.0001	0.0003	< 0.0001	< 0.0001
Ho [mg/L]	18-Mar-25	22:45	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In [mg/L]	18-Mar-25	22:45	0.00005	0.00007	0.00004	0.00004	0.00005	0.00004
Ir [mg/L]	18-Mar-25	22:45	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La [mg/L]	18-Mar-25	22:45	0.00003	0.00003	0.00005	0.00032	0.00007	0.00006
Lu [mg/L]	18-Mar-25	22:45	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb [mg/L]	18-Mar-25	22:45	0.0002	0.0001	< 0.0001	0.0008	0.0003	0.0002
Nd [mg/L]	18-Mar-25	22:45	0.00001	0.00001	< 0.00001	0.00002	0.00001	< 0.00001
Os [mg/L]	18-Mar-25	22:45	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd [mg/L]	18-Mar-25	22:45	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr [mg/L]	18-Mar-25	22:45	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt [mg/L]	18-Mar-25	22:45	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh [mg/L]	18-Mar-25	22:45	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Rb [mg/L]	18-Mar-25	22:45	0.268	0.190	0.0833	0.754	0.300	0.298
Re [mg/L]	18-Mar-25	22:45	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ru [mg/L]	18-Mar-25	22:45	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sm [mg/L]	18-Mar-25	22:45	< 0.00001	< 0.00001	< 0.00001	0.00001	< 0.00001	< 0.00001
Sc [mg/L]	18-Mar-25	22:45	0.0001	< 0.0001	< 0.0001	0.0005	0.0001	0.0001
Ta [mg/L]	18-Mar-25	22:45	< 0.0001	< 0.0001	< 0.0001	0.0004	< 0.0001	< 0.0001
Tb [mg/L]	18-Mar-25	22:45	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te [mg/L]	18-Mar-25	22:45	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th [mg/L]	18-Mar-25	22:45	< 0.0001	< 0.0001	< 0.0001	0.0003	< 0.0001	< 0.0001
Tm [mg/L]	18-Mar-25	22:45	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

NA - Not applicable

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0004058817

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

20-March-2025

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 13 March 2025
LR Report: **CA10070-MAR25**
Reference: Wk#98

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#98	6: CV5-WR-HCT-5 Wk#98	7: CV5-WR-HCT-5 (DUP) Wk#98	8: CV5-WR-HCT-14 Wk#98	9: CV5-WR-HCT-22 Wk#98	10: CV5-WR-HCT-33 Wk#98
Sample Date & Time			13-Mar-25	13-Mar-25	13-Mar-25	13-Mar-25	13-Mar-25	13-Mar-25
HumCell Leachate Vol [mL]	13-Mar-25	12:00	947	945	953	1000	979	1007
pH [No unit]	17-Mar-25	16:00	6.57	6.72	6.72	6.85	6.59	6.82
Conductivity [uS/cm]	17-Mar-25	13:02	42	24	18	24	9	15

Analysis	11: CV5-WR-HCT-36 Wk#98	12: CV5-WR-HCT-39 Wk#98	13: CV5-WR-HCT-50 Wk#98	14: CV5-WR-HCT-56 Wk#98	15: CV5-WR-HCT-59 Wk#98	16: CV5-WR-HCT-62 Wk#98	17: CV5-WR-HCT-64 Wk#98	18: CV5-WR-HCT-69 Wk#98
Sample Date & Time	13-Mar-25	13-Mar-25	13-Mar-25	13-Mar-25	13-Mar-25	13-Mar-25	13-Mar-25	13-Mar-25
HumCell Leachate Vol [mL]	1000	943	1018	998	1012	925	1009	1003
pH [No unit]	6.51	6.49	6.37	6.74	6.40	6.80	6.58	6.91
Conductivity [uS/cm]	18	26	54	36	15	18	4	11

Analysis	19: CV5-ORE-HCT-74 Wk#98	20: CV5-ORE-HCT-76 Wk#98
Sample Date & Time	13-Mar-25	13-Mar-25
HumCell Leachate Vol [mL]	1011	1002
pH [No unit]	6.71	6.74
Conductivity [uS/cm]	2	14

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0004051822

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Project : 2024 Tailings Columns

23-September-2025

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 10 September 2025
LR Report: **CA10071-SEP25**
Reference: Wk#28 - 2024 Tailings Columns

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: CV5-CL-1 Wk#28	6: CV5-CL-2 Wk#28	7: CV5-CL-3 Wk#28	8: CV5-CL-4 Wk#28	9: CV5-CL-5 Wk#28	10: CV5-CL-6 Wk#28
Sample Date & Time			10-Sep-25	10-Sep-25	10-Sep-25	10-Sep-25	10-Sep-25	10-Sep-25
HumCell Leachate Vol [mL]	11-Sep-25	13:54	2005	1920	1920	1967	1991	2004
pH [No unit]	15-Sep-25	13:36	7.48	7.42	7.10	7.98	7.69	7.71
Conductivity [uS/cm]	15-Sep-25	13:36	22	24	22	75	39	39
Alkalinity [mg/L as CaCO3]	15-Sep-25	13:37	12	12	8	34	21	22
Acidity [mg/L as CaCO3]	12-Sep-25	13:20	< 2	< 2	< 2	< 2	< 2	< 2
SO4 [mg/L]	15-Sep-25	16:12	< 0.2	1.2	3.1	6.5	2.0	2.0
F [mg/L]	12-Sep-25	13:13	< 0.06	< 0.06	< 0.06	0.23	0.06	< 0.06
NO2 [as N mg/L]	17-Sep-25	11:01	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	17-Sep-25	11:01	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
NO2+NO3 [as N mg/L]	17-Sep-25	11:01	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Cl [mg/L]	15-Sep-25	16:13	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Hg [mg/L]	16-Sep-25	12:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	16-Sep-25	12:13	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	16-Sep-25	12:13	0.183	0.115	0.012	0.142	0.110	0.109
As [mg/L]	16-Sep-25	12:13	0.0558	0.233	1.23	1.38	0.826	0.916
Ba [mg/L]	16-Sep-25	12:13	0.00014	0.00014	0.00040	0.00113	0.00043	0.00045
B [mg/L]	16-Sep-25	12:13	< 0.002	0.003	0.003	0.014	0.005	0.007
Be [mg/L]	16-Sep-25	12:13	0.000014	0.000027	< 0.000007	0.000085	0.000067	0.000063
Bi [mg/L]	16-Sep-25	12:13	0.00041	0.00014	< 0.00001	0.00041	0.00025	0.00024
Ca [mg/L]	16-Sep-25	12:13	3.72	3.06	2.97	9.48	5.89	5.83
Cd [mg/L]	16-Sep-25	12:13	0.000005	0.000004	0.000003	0.000005	< 0.000003	0.000003
Co [mg/L]	16-Sep-25	12:13	0.000017	0.000067	0.000874	0.000244	0.000161	0.000148
Cr [mg/L]	16-Sep-25	12:13	< 0.00008	< 0.00008	< 0.00008	0.00019	0.00009	< 0.00008
Cu [mg/L]	16-Sep-25	12:13	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	16-Sep-25	12:13	< 0.007	< 0.007	< 0.007	0.012	< 0.007	< 0.007
K [mg/L]	16-Sep-25	12:13	0.516	0.433	0.151	3.13	0.968	1.08
Li [mg/L]	16-Sep-25	12:13	0.0082	0.0165	0.0126	0.183	0.0513	0.0611
Mg [mg/L]	16-Sep-25	12:13	0.180	0.300	0.307	1.56	0.602	0.649
Mn [mg/L]	16-Sep-25	12:13	0.0175	0.00699	0.00797	0.0144	0.0154	0.0139
Mo [mg/L]	16-Sep-25	12:13	< 0.0004	< 0.0004	< 0.0004	0.0004	< 0.0004	< 0.0004
Na [mg/L]	16-Sep-25	12:13	0.50	0.28	0.14	1.59	0.93	1.12
Ni [mg/L]	16-Sep-25	12:13	< 0.0001	0.0004	0.0129	0.0024	0.0014	0.0015
Pb [mg/L]	16-Sep-25	12:13	0.00010	0.00011	< 0.00009	0.00011	< 0.00009	< 0.00009
Sb [mg/L]	16-Sep-25	12:13	0.0415	0.0674	0.351	0.187	0.153	0.176

OnLine LIMS

00004267263

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Project : 2024 Tailings Columns

LR Report : **CA10071-SEP25**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: CV5-CL-1 Wk#28	6: CV5-CL-2 Wk#28	7: CV5-CL-3 Wk#28	8: CV5-CL-4 Wk#28	9: CV5-CL-5 Wk#28	10: CV5-CL-6 Wk#28
Se [mg/L]	16-Sep-25	12:13	0.00005	< 0.00004	< 0.00004	0.00009	0.00006	0.00006
Sn [mg/L]	16-Sep-25	12:13	0.00063	0.00039	0.00037	0.00152	0.00117	0.00094
Sr [mg/L]	16-Sep-25	12:13	0.00874	0.00833	0.01191	0.03121	0.01857	0.01883
Ti [mg/L]	16-Sep-25	12:13	< 0.0001	0.0002	0.0001	0.0005	0.0003	< 0.0001
Tl [mg/L]	16-Sep-25	12:13	0.000032	0.000034	0.000034	0.000165	0.000071	0.000074
U [mg/L]	16-Sep-25	12:13	0.0820	0.0684	0.0124	0.367	0.199	0.211
V [mg/L]	16-Sep-25	12:13	0.00008	0.00028	0.00082	0.00256	0.00077	0.00085
W [mg/L]	16-Sep-25	12:13	< 0.0002	0.00023	0.00025	0.0105	0.00079	0.00103
Y [mg/L]	16-Sep-25	12:13	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	16-Sep-25	12:13	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au [mg/L]	16-Sep-25	12:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce [mg/L]	16-Sep-25	12:13	< 0.00001	< 0.00001	0.00001	0.00002	0.00001	0.00001
Cs [mg/L]	16-Sep-25	12:13	0.0077	0.0317	0.0916	0.191	0.0756	0.0805
Dy [mg/L]	16-Sep-25	12:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er [mg/L]	16-Sep-25	12:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu [mg/L]	16-Sep-25	12:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga [mg/L]	16-Sep-25	12:13	0.0004	0.0003	< 0.0001	0.0033	0.0006	0.0005
Gd (tot) [mg/L]	16-Sep-25	12:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge [mg/L]	16-Sep-25	12:13	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001
Hf [mg/L]	16-Sep-25	12:13	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho [mg/L]	16-Sep-25	12:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In [mg/L]	16-Sep-25	12:13	< 0.00001	0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir [mg/L]	16-Sep-25	12:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La [mg/L]	16-Sep-25	12:13	< 0.00001	< 0.00001	0.00002	0.00002	0.00001	0.00001
Lu [mg/L]	16-Sep-25	12:13	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb [mg/L]	16-Sep-25	12:13	< 0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001
Nd [mg/L]	16-Sep-25	12:13	< 0.00001	< 0.00001	< 0.00001	0.00001	< 0.00001	< 0.00001
Os [mg/L]	16-Sep-25	12:13	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd [mg/L]	16-Sep-25	12:13	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr [mg/L]	16-Sep-25	12:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt [mg/L]	16-Sep-25	12:13	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh [mg/L]	16-Sep-25	12:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Rb [mg/L]	16-Sep-25	12:13	0.0311	0.0253	0.0134	0.166	0.0575	0.0631
Re [mg/L]	16-Sep-25	12:13	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ru [mg/L]	16-Sep-25	12:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sm [mg/L]	16-Sep-25	12:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc [mg/L]	16-Sep-25	12:13	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001
Ta [mg/L]	16-Sep-25	12:13	< 0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001
Tb [mg/L]	16-Sep-25	12:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te [mg/L]	16-Sep-25	12:13	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th [mg/L]	16-Sep-25	12:13	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm [mg/L]	16-Sep-25	12:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

NA - Not applicable

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0004267263

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

21-February-2025

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 13 February 2025
LR Report: **CA10073-FEB25**
Reference: Wk#94

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#94	6: CV5-WR-HCT-5 Wk#94	7: CV5-WR-HCT-5 (DUP) Wk#94	8: CV5-WR-HCT-14 Wk#94	9: CV5-WR-HCT-22 Wk#94	10: CV5-WR-HCT-33 Wk#94	11: CV5-WR-HCT-36 Wk#94
Sample Date & Time			13-Feb-25	13-Feb-25	13-Feb-25	13-Feb-25	13-Feb-25	13-Feb-25	13-Feb-25
HumCell Leachate Vol [mL]	14-Feb-25	09:07	940	940	969	989	944	1004	1006
pH [No unit]	18-Feb-25	15:40	6.51	7.43	6.61	6.85	6.58	6.86	7.06
Conductivity [uS/cm]	14-Feb-25	15:56	41	21	23	24	9	12	24
Conductivity [uS/cm]	20-Feb-25	10:31	---	---	---	---	---	---	---

Analysis	12: CV5-WR-HCT-39 Wk#94	13: CV5-WR-HCT-50 Wk#94	14: CV5-WR-HCT-56 Wk#94	15: CV5-WR-HCT-59 Wk#94	16: CV5-WR-HCT-62 Wk#94	17: CV5-WR-HCT-64 Wk#94	18: CV5-WR-HCT-69 Wk#94	19: CV5-ORE-HCT-74 Wk#94	20: CV5-ORE-HCT-76 Wk#94
Sample Date & Time	13-Feb-25	13-Feb-25	13-Feb-25	13-Feb-25	13-Feb-25	13-Feb-25	13-Feb-25	13-Feb-25	13-Feb-25
HumCell Leachate Vol [mL]	963	1008	958	961	968	963	962	996	988
pH [No unit]	6.47	6.21	6.72	6.07	6.55	6.53	6.92	6.48	6.56
Conductivity [uS/cm]	22	60	35	19	25	3	7	---	15
Conductivity [uS/cm]	---	---	---	---	---	---	---	2	---

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0004024396

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

23-June-2025

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 12 June 2025
LR Report: **CA10078-JUN25**
Reference: Wk#111

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#111	6: CV5-WR-HCT-5 Wk#111	7: CV5-WR-HCT-5 (DUP) Wk#111	8: CV5-WR-HCT-14 Wk#111	9: CV5-WR-HCT-22 Wk#111	10: CV5-WR-HCT-33 Wk#111
Sample Date & Time			12-Jun-25	12-Jun-25	12-Jun-25	12-Jun-25	12-Jun-25	12-Jun-25
HumCell Leachate Vol [mL]	12-Jun-25	16:56	921	945	955	1012	987	929
pH [No unit]	17-Jun-25	10:20	6.39	6.22	6.63	7.06	6.66	7.02
Alkalinity [mg/L as CaCO3]	***	***	***	***	***	***	***	***
Conductivity [uS/cm]	17-Jun-25	10:21	36	22	13	27	8	10

Analysis	11: CV5-WR-HCT-36 Wk#111	12: CV5-WR-HCT-39 Wk#111	13: CV5-WR-HCT-50 Wk#111	14: CV5-WR-HCT-56 Wk#111	15: CV5-WR-HCT-59 Wk#111	16: CV5-WR-HCT-62 Wk#111	17: CV5-WR-HCT-64 Wk#111	18: CV5-WR-HCT-69 Wk#111
Sample Date & Time	12-Jun-25	12-Jun-25	12-Jun-25	12-Jun-25	12-Jun-25	12-Jun-25	12-Jun-25	12-Jun-25
HumCell Leachate Vol [mL]	973	939	967	1005	977	948	992	1016
pH [No unit]	6.86	6.51	4.72	6.54	5.92	6.83	6.70	6.95
Alkalinity [mg/L as CaCO3]	***	***	***	***	***	***	***	***
Conductivity [uS/cm]	15	26	172	37	24	20	4	11

Analysis	19: CV5-ORE-HCT-74 Wk#111	20: CV5-ORE-HCT-76 Wk#111
Sample Date & Time	12-Jun-25	12-Jun-25
HumCell Leachate Vol [mL]	1009	1003
pH [No unit]	7.22	6.60
Alkalinity [mg/L as CaCO3]	***	***
Conductivity [uS/cm]	3	15

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0004158598

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

22-September-2025

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 11 September 2025
LR Report: **CA10079-SEP25**
Reference: Wk#124

CERTIFICATE OF ANALYSIS

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT -2 Wk#124	6: CV5-WR-HCT -5 Wk#124	7: CV5-WR-HCT-5 (DUP) Wk#124	8: CV5-WR-HCT -14 Wk#124	9: CV5-WR-HCT -22 Wk#124
Sample Date & Time			11-Sep-25	11-Sep-25	11-Sep-25	11-Sep-25	11-Sep-25
HumCell Leachate Vol [mL]	11-Sep-25	13:56	926	924	958	957	956
pH [No unit]	16-Sep-25	14:31	6.01	7.06	6.33	8.05	7.56
Alkalinity [mg/L as CaCO3]	17-Sep-25	13:26	2	7	7	9	7
Conductivity [uS/cm]	15-Sep-25	13:35	36	22	16	17	7

Analysis	10: CV5-WR-HCT -33 Wk#124	11: CV5-WR-HCT -36 Wk#124	12: CV5-WR-HCT -39 Wk#124	13: CV5-WR-HCT -50 Wk#124	14: CV5-WR-HCT -56 Wk#124	15: CV5-WR-HCT -59 Wk#124	16: CV5-WR-HCT -62 Wk#124
Sample Date & Time	11-Sep-25	11-Sep-25	11-Sep-25	11-Sep-25	11-Sep-25	11-Sep-25	11-Sep-25
HumCell Leachate Vol [mL]	955	999	938	987	976	947	932
pH [No unit]	6.24	6.32	6.29	4.64	6.85	5.78	6.36
Alkalinity [mg/L as CaCO3]	7	7	<2	< 2	7	<2	7
Conductivity [uS/cm]	10	15	19	93	29	16	21

Analysis	17: CV5-WR-HCT -64 Wk#124	18: CV5-WR-HCT -69 Wk#124	19: CV5-ORE-HCT-74 Wk#124	20: CV5-ORE-HCT-76 Wk#124
Sample Date & Time	11-Sep-25	11-Sep-25	11-Sep-25	11-Sep-25
HumCell Leachate Vol [mL]	1000	997	1006	999
pH [No unit]	6.60	6.51	6.30	6.42
Alkalinity [mg/L as CaCO3]	2	7	<2	7
Conductivity [uS/cm]	3	10	2	14

Lisa Thompson
Project Specialist Assistant,

OnLine LIMS

0004266071

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10079-SEP25**

Environment, Health & Safety

OnLine LIMS

0004266071

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

25-August-2025

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 13 August 2025
LR Report: **CA10087-AUG25**
Reference: Columns - Wk#24

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: CV5-CL-1 Wk#24	6: CV5-CL-2 Wk#24	7: CV5-CL-3 Wk#24	8: CV5-CL-4 Wk#24	9: CV5-CL-5 Wk#24	10: CV5-CL-6 Wk#24
Sample Date & Time			13-Aug-25	13-Aug-25	13-Aug-25	13-Aug-25	13-Aug-25	13-Aug-25
HumCell Leachate Vol [mL]	15-Aug-25	13:02	1999	2002	1998	2009	2005	1981
pH [No unit]	19-Aug-25	10:16	7.27	7.15	6.97	7.37	7.19	7.35
Conductivity [uS/cm]	18-Aug-25	11:51	25	31	35	74	47	44
Alkalinity [mg/L as CaCO3]	15-Aug-25	14:45	12	14	12	33	22	18
Acidity [mg/L as CaCO3]	19-Aug-25	10:17	< 2	< 2	< 2	< 2	< 2	< 2
SO4 [mg/L]	19-Aug-25	15:45	0.2	1.4	4.3	6.8	2.4	2.2
F [mg/L]	15-Aug-25	13:26	< 0.06	0.07	< 0.06	0.26	0.06	0.06
NO2 [as N mg/L]	19-Aug-25	10:49	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	19-Aug-25	10:49	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
NO2+NO3 [as N mg/L]	19-Aug-25	10:49	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Cl [mg/L]	19-Aug-25	15:45	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Hg [mg/L]	19-Aug-25	14:02	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	19-Aug-25	14:02	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	19-Aug-25	14:02	0.200	0.181	0.039	0.122	0.117	0.118
As [mg/L]	19-Aug-25	14:02	0.0656	0.427	2.31	1.53	1.08	1.06
Ba [mg/L]	19-Aug-25	14:02	0.00011	0.00022	0.00061	0.00117	0.00050	0.00045
B [mg/L]	19-Aug-25	14:02	< 0.002	0.005	0.006	0.017	0.009	0.009
Be [mg/L]	19-Aug-25	14:02	0.000037	0.000026	0.000010	0.000059	0.000023	0.000055
Bi [mg/L]	19-Aug-25	14:02	0.00041	0.00015	0.00002	0.00038	0.00023	0.00024
Ca [mg/L]	19-Aug-25	14:02	4.23	4.82	5.57	9.48	6.59	5.82
Cd [mg/L]	19-Aug-25	14:02	0.000003	0.000004	< 0.000003	0.000004	0.000004	0.000003
Co [mg/L]	19-Aug-25	14:02	0.000014	0.000058	0.000870	0.000251	0.000165	0.000147
Cr [mg/L]	19-Aug-25	14:02	< 0.00008	0.00008	0.00012	0.00014	< 0.00008	0.00009
Cu [mg/L]	19-Aug-25	14:02	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	19-Aug-25	14:02	< 0.007	< 0.007	0.007	0.008	< 0.007	< 0.007
K [mg/L]	19-Aug-25	14:02	0.620	0.684	0.323	3.75	1.29	1.32
Li [mg/L]	19-Aug-25	14:02	0.0126	0.0326	0.0283	0.198	0.0820	0.0831
Mg [mg/L]	19-Aug-25	14:02	0.216	0.511	0.592	1.61	0.778	0.711
Mn [mg/L]	19-Aug-25	14:02	0.0156	0.00914	0.0100	0.0148	0.0152	0.0126
Mo [mg/L]	19-Aug-25	14:02	< 0.0004	< 0.0004	< 0.0004	0.0008	< 0.0004	< 0.0004
Na [mg/L]	19-Aug-25	14:02	0.58	0.48	0.30	1.97	1.26	1.35
Ni [mg/L]	19-Aug-25	14:02	0.0001	0.0006	0.0152	0.0032	0.0017	0.0015
Pb [mg/L]	19-Aug-25	14:02	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	19-Aug-25	14:02	0.0445	0.0976	0.546	0.193	0.196	0.206
Se [mg/L]	19-Aug-25	14:02	0.00006	0.00007	0.00019	0.00009	0.00007	0.00007

OnLine LIMS

0004232900

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10087-AUG25**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: CV5-CL-1 Wk#24	6: CV5-CL-2 Wk#24	7: CV5-CL-3 Wk#24	8: CV5-CL-4 Wk#24	9: CV5-CL-5 Wk#24	10: CV5-CL-6 Wk#24
Sn [mg/L]	19-Aug-25	14:02	0.00091	0.00086	0.00101	0.00193	0.00164	0.00140
Sr [mg/L]	19-Aug-25	14:02	0.00974	0.0132	0.0227	0.0306	0.0213	0.0193
Ti [mg/L]	19-Aug-25	14:02	< 0.0001	0.00012	0.00011	0.00031	0.00015	0.00020
Tl [mg/L]	19-Aug-25	14:02	0.000042	0.000047	0.000062	0.000169	0.000082	0.000081
U [mg/L]	19-Aug-25	14:02	0.106	0.121	0.0291	0.405	0.254	0.236
V [mg/L]	19-Aug-25	14:02	0.00009	0.00057	0.00223	0.00233	0.00096	0.00095
W [mg/L]	19-Aug-25	14:02	0.00024	0.00034	0.00041	0.0120	0.00111	0.00153
Y [mg/L]	19-Aug-25	14:02	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	19-Aug-25	14:02	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au [mg/L]	19-Aug-25	14:02	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce [mg/L]	21-Aug-25	15:45	< 0.00001	< 0.00001	< 0.00001	0.00001	0.00001	< 0.00001
Cs [mg/L]	19-Aug-25	14:02	0.0092	0.0462	0.185	0.203	0.0957	0.0960
Dy [mg/L]	21-Aug-25	15:45	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er [mg/L]	21-Aug-25	15:45	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu [mg/L]	21-Aug-25	15:45	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga [mg/L]	21-Aug-25	15:45	0.0005	0.0006	< 0.0001	0.0033	0.0006	0.0005
Gd (tot) [mg/L]	21-Aug-25	15:45	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge [mg/L]	19-Aug-25	14:02	< 0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001
Hf [mg/L]	19-Aug-25	14:02	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho [mg/L]	21-Aug-25	15:45	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In [mg/L]	21-Aug-25	15:45	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir [mg/L]	19-Aug-25	14:02	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La [mg/L]	21-Aug-25	15:45	< 0.00001	< 0.00001	0.00003	0.00001	0.00002	0.00001
Lu [mg/L]	21-Aug-25	15:45	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb [mg/L]	19-Aug-25	14:02	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001
Nd [mg/L]	21-Aug-25	15:45	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Os [mg/L]	19-Aug-25	14:02	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd [mg/L]	19-Aug-25	14:02	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr [mg/L]	21-Aug-25	15:45	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt [mg/L]	19-Aug-25	14:02	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh [mg/L]	19-Aug-25	14:02	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Rb [mg/L]	19-Aug-25	14:02	0.0366	0.0373	0.0255	0.205	0.0734	0.0723
Re [mg/L]	19-Aug-25	14:02	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ru [mg/L]	19-Aug-25	14:02	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sm [mg/L]	21-Aug-25	15:45	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc [mg/L]	21-Aug-25	15:45	< 0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001
Ta [mg/L]	19-Aug-25	14:02	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001
Tb [mg/L]	21-Aug-25	15:45	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te [mg/L]	19-Aug-25	14:02	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th [mg/L]	19-Aug-25	14:02	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm [mg/L]	21-Aug-25	15:45	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

NA - Not applicable

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0004232900

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

29-January-2025

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 16 January 2025
LR Report: **CA10090-JAN25**
Reference: Wk#90

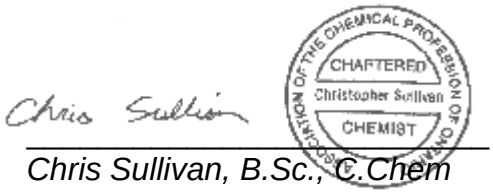
Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#90	6: CV5-WR-HCT-5 Wk#90	7: CV5-WR-HCT-5 (DUP) Wk#90	8: CV5-WR-HCT-1 4 Wk#90	9: CV5-WR-HCT-2 2 Wk#90
Sample Date & Time			16-Jan-24	16-Jan-24	16-Jan-24	16-Jan-24	16-Jan-24
HumCell Leachate Vol [mL]	17-Jan-25	15:54	948	976	991	997	1014
pH [No unit]	21-Jan-25	11:51	6.52	6.50	6.58	6.95	6.70
Conductivity [uS/cm]	20-Jan-25	14:40	50	24	18	27	12

Analysis	10: CV5-WR-HCT-3 3 Wk#90	11: CV5-WR-HCT-3 6 Wk#90	12: CV5-WR-HCT-3 9 Wk#90	13: CV5-WR-HCT-5 0 Wk#90	14: CV5-WR-HCT-5 6 Wk#90	15: CV5-WR-HCT-5 9 Wk#90	16: CV5-WR-HCT-6 2 Wk#90
Sample Date & Time	16-Jan-24	16-Jan-24	16-Jan-24	16-Jan-24	16-Jan-24	16-Jan-24	16-Jan-24
HumCell Leachate Vol [mL]	1040	1029	983	993	998	1003	972
pH [No unit]	6.81	7.06	6.40	5.92	6.98	6.10	6.92
Conductivity [uS/cm]	16	20	26	63	35	15	21

Analysis	17: CV5-WR-HCT-6 4 Wk#90	18: CV5-WR-HCT-6 9 Wk#90	19: CV5-ORE-HCT-7 4 Wk#90	20: CV5-ORE-HCT-7 6 Wk#90
Sample Date & Time	16-Jan-24	16-Jan-24	16-Jan-24	16-Jan-24
HumCell Leachate Vol [mL]	1005	1036	1041	1057
pH [No unit]	6.55	7.17	6.74	6.58
Conductivity [uS/cm]	6	12	3	15



Chris Sullivan, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0004001412

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

03-September-2025

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 14 August 2025
LR Report: **CA10094-AUG25**
Reference: Wk#120

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#120	6: CV5-WR-HCT-5 Wk#120	7: CV5-WR-HCT-5 (DUP) Wk#120	8: CV5-WR-HCT-14 Wk#120	9: CV5-WR-HCT-22 Wk#120	10: CV5-WR-HCT-33 Wk#120
Sample Date & Time			14-Aug-25	14-Aug-25	14-Aug-25	14-Aug-25	14-Aug-25	14-Aug-25
HumCell Leachate Vol [mL]	15-Aug-25	13:04	927	947	952	1021	1004	961
pH [No unit]	19-Aug-25	10:45	6.30	6.44	7.45	6.94	6.88	6.63
Alkalinity [mg/L as CaCO3]	15-Aug-25	14:50	< 2	3	3	10	3	4
Conductivity [uS/cm]	18-Aug-25	12:45	34	22	14	26	7	7
Acidity [mg/L as CaCO3]	19-Aug-25	10:45	< 2	< 2	< 2	< 2	< 2	< 2
F [mg/L]	18-Aug-25	13:47	< 0.06	0.11	< 0.06	0.10	< 0.06	< 0.06
Tot.Reactive P [mg/L]	20-Aug-25	08:25	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	19-Aug-25	12:00	11	4	2	< 2	< 2	< 2
Cl [mg/L]	19-Aug-25	12:00	< 1	< 1	< 1	< 1	< 1	< 1
NO2 [as N mg/L]	18-Aug-25	20:01	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	18-Aug-25	20:01	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	18-Aug-25	20:01	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	19-Aug-25	14:02	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	19-Aug-25	14:02	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	19-Aug-25	14:02	0.008	0.024	0.017	0.059	0.017	0.053
As [mg/L]	20-Aug-25	12:24	0.0012	0.0642	0.0508	0.0125	0.0374	0.0027
Ba [mg/L]	19-Aug-25	14:03	0.00016	0.00010	< 0.00008	< 0.00008	< 0.00008	0.00009
Be [mg/L]	19-Aug-25	14:03	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	19-Aug-25	14:03	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	19-Aug-25	14:03	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	19-Aug-25	14:03	4.97	3.41	2.12	4.32	1.32	1.83
Cd [mg/L]	19-Aug-25	14:03	0.000004	< 0.000003	0.000004	0.000003	0.000003	< 0.000003
Cd [mg/L]	19-Aug-25	14:03	---	---	---	---	---	---
Co [mg/L]	19-Aug-25	14:03	0.000375	0.000227	0.000142	0.000041	0.000055	0.000040
Cr [mg/L]	19-Aug-25	14:03	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	19-Aug-25	14:03	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	19-Aug-25	14:03	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	19-Aug-25	14:03	0.069	0.030	0.027	0.017	0.012	0.020
Li [mg/L]	19-Aug-25	14:03	0.0027	0.0031	0.0028	0.0023	0.0020	0.0009
Mg [mg/L]	19-Aug-25	14:03	0.145	0.086	0.078	0.092	0.092	0.038
Mn [mg/L]	19-Aug-25	14:03	0.00321	0.00170	0.00112	0.00463	0.00020	0.00401
Mo [mg/L]	19-Aug-25	14:07	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	19-Aug-25	14:07	0.07	0.04	0.03	0.07	0.04	0.05
Ni [mg/L]	19-Aug-25	14:07	0.0012	0.0009	0.0005	0.0001	0.0002	< 0.0001
Pb [mg/L]	20-Aug-25	12:24	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0004242922

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10094-AUG25**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#120	6: CV5-WR-HCT-5 Wk#120	7: CV5-WR-HCT-5 (DUP) Wk#120	8: CV5-WR-HCT-14 Wk#120	9: CV5-WR-HCT-22 Wk#120	10: CV5-WR-HCT-33 Wk#120
Sb [mg/L]	19-Aug-25	14:07	< 0.0009	0.0127	0.0075	0.0015	0.0015	< 0.0009
Se [mg/L]	19-Aug-25	14:07	0.00006	< 0.00004	< 0.00004	0.00004	< 0.00004	< 0.00004
Sn [mg/L]	19-Aug-25	14:07	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	19-Aug-25	14:07	0.00440	0.00226	0.00176	0.00213	0.00244	0.00126
Ti [mg/L]	19-Aug-25	14:07	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tl [mg/L]	19-Aug-25	14:07	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005
U [mg/L]	19-Aug-25	14:07	0.000065	0.000013	0.000039	0.000829	0.000068	0.000006
V [mg/L]	19-Aug-25	14:07	0.00006	0.00020	0.00021	0.00106	0.00048	0.00034
W [mg/L]	19-Aug-25	14:07	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	19-Aug-25	14:07	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	19-Aug-25	14:07	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	19-Aug-25	14:07	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	21-Aug-25	15:45	0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Cs (tot) [mg/L]	19-Aug-25	14:05	0.0043	0.0044	0.0047	0.0015	0.0025	0.0012
Dy (tot) [mg/L]	21-Aug-25	15:45	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er (tot) [mg/L]	21-Aug-25	15:45	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu (tot) [mg/L]	21-Aug-25	15:45	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga (tot) [mg/L]	21-Aug-25	15:46	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Gd (tot) [mg/L]	21-Aug-25	15:46	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	19-Aug-25	14:05	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	19-Aug-25	14:05	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	21-Aug-25	15:46	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In (tot) [mg/L]	21-Aug-25	15:46	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir (tot) [mg/L]	19-Aug-25	14:05	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La (tot) [mg/L]	21-Aug-25	15:46	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Lu (tot) [mg/L]	21-Aug-25	15:46	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	19-Aug-25	14:05	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Nd (tot) [mg/L]	21-Aug-25	15:46	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Os (tot) [mg/L]	19-Aug-25	14:05	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	19-Aug-25	14:05	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	21-Aug-25	15:46	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt (tot) [mg/L]	19-Aug-25	14:05	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	19-Aug-25	14:05	0.0018	0.0013	0.0012	0.0002	0.0006	0.0003
Re (tot) [mg/L]	19-Aug-25	14:05	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	19-Aug-25	14:05	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	21-Aug-25	15:46	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	21-Aug-25	15:46	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ta (tot) [mg/L]	19-Aug-25	14:05	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	21-Aug-25	15:46	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te (tot) [mg/L]	19-Aug-25	14:05	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	19-Aug-25	14:05	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	21-Aug-25	15:46	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Yb (tot) [mg/L]	21-Aug-25	15:46	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Analysis	11: CV5-WR-HCT-36 Wk#120	12: CV5-WR-HCT-39 Wk#120	13: CV5-WR-HCT-50 Wk#120	14: CV5-WR-HCT-56 Wk#120	15: CV5-WR-HCT-59 Wk#120	16: CV5-WR-HCT-62 Wk#120	17: CV5-WR-HCT-64 Wk#120	18: CV5-WR-HCT-69 Wk#120
Sample Date & Time	14-Aug-25	14-Aug-25	14-Aug-25	14-Aug-25	14-Aug-25	14-Aug-25	14-Aug-25	14-Aug-25
HumCell Leachate Vol [mL]	1008	942	987	999	974	933	1022	1022
pH [No unit]	6.61	6.01	4.68	6.62	5.56	7.62	6.78	6.27
Alkalinity [mg/L as CaCO3]	6	< 2	< 2	7	< 2	6	2	5
Conductivity [uS/cm]	13	19	90	34	14	17	2	9
Acidity [mg/L as CaCO3]	< 2	3	21	< 2	13	< 2	< 2	< 2
F [mg/L]	< 0.06	0.53	0.73	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0004242922

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10094-AUG25**

Analysis	11: CV5-WR-HCT-36 Wk#120	12: CV5-WR-HCT-39 Wk#120	13: CV5-WR-HCT-50 Wk#120	14: CV5-WR-HCT-56 Wk#120	15: CV5-WR-HCT-59 Wk#120	16: CV5-WR-HCT-62 Wk#120	17: CV5-WR-HCT-64 Wk#120	18: CV5-WR-HCT-69 Wk#120
Tot.Reactive P [mg/L]	0.05	< 0.03	< 0.03	< 0.03	< 0.03	0.03	< 0.03	< 0.03
SO4 [mg/L]	< 2	5	40	6	3	< 2	< 2	< 2
Cl [mg/L]	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
NO2 [as N mg/L]	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	< 0.001	0.024	0.654	0.044	0.002	0.002	0.011	0.059
As [mg/L]	0.526	0.0021	0.0007	0.0037	0.0071	0.393	0.0027	0.0016
Ba [mg/L]	0.00027	0.00022	0.00249	0.00032	0.00015	0.00014	< 0.00008	< 0.00008
Be [mg/L]	< 0.000007	0.000042	0.000821	< 0.000007	< 0.000007	< 0.000007	0.000010	0.000068
B [mg/L]	< 0.002	< 0.002	0.003	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00025
Ca [mg/L]	2.23	2.40	6.33	5.64	1.62	2.32	0.52	1.88
Cd [mg/L]	< 0.000003	0.000085	0.00399	0.000003	0.000007	---	< 0.000003	0.000003
Cd [mg/L]	---	---	---	---	---	< 0.000003	---	---
Co [mg/L]	0.000612	0.00380	0.272	0.000144	0.0158	0.000479	0.000006	0.000006
Cr [mg/L]	0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	< 0.001	< 0.001	0.009	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007	5.90	< 0.007	0.092	< 0.007	< 0.007	< 0.007
K [mg/L]	0.022	0.083	0.224	0.067	0.012	0.018	0.095	0.043
Li [mg/L]	0.0009	0.0059	0.0258	0.0009	0.0010	0.0002	0.0008	0.0005
Mg [mg/L]	0.447	0.313	1.10	0.087	0.264	0.706	0.016	0.010
Mn [mg/L]	0.00157	0.0344	0.101	0.00889	0.0126	0.00201	0.00552	0.00227
Mo [mg/L]	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	0.01	0.07	0.22	0.05	0.02	0.02	0.03	0.08
Ni [mg/L]	0.0060	0.0071	0.617	0.0003	0.169	0.0045	< 0.0001	< 0.0001
Pb [mg/L]	< 0.00009	0.00022	0.00016	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.140	0.0013	< 0.0009	< 0.0009	< 0.0009	0.202	< 0.0009	< 0.0009
Se [mg/L]	< 0.00004	0.00012	0.00060	< 0.00004	0.00009	0.00005	< 0.00004	< 0.00004
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	0.00007
Sr [mg/L]	0.00118	0.00422	0.00803	0.00262	0.00438	0.00088	0.00056	0.00191
Ti [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tl [mg/L]	< 0.000005	0.000005	0.000082	< 0.000005	< 0.000005	< 0.000005	0.000027	< 0.000005
U [mg/L]	0.000011	0.000031	0.00228	0.000202	0.000007	0.000022	0.000083	0.00117
V [mg/L]	0.00009	0.00003	< 0.00001	0.00016	< 0.00001	0.00007	0.00002	0.00003
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	0.00124	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	0.015	2.00	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	< 0.00001	0.00005	0.00537	< 0.00001	0.00002	< 0.00001	< 0.00001	< 0.00001
Cs (tot) [mg/L]	0.0066	0.0017	0.0790	0.0145	0.0061	0.0022	0.0049	0.0014
Dy (tot) [mg/L]	< 0.00001	< 0.00001	0.00024	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er (tot) [mg/L]	< 0.00001	< 0.00001	0.00011	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu (tot) [mg/L]	< 0.00001	< 0.00001	0.00005	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Gd (tot) [mg/L]	< 0.00001	< 0.00001	0.00039	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	< 0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	< 0.00001	< 0.00001	0.00004	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La (tot) [mg/L]	< 0.00001	0.00004	0.00359	< 0.00001	0.00001	0.00001	< 0.00001	< 0.00001
Lu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001

OnLine LIMS

0004242922

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10094-AUG25**

Analysis	11: CV5-WR-HCT-36 Wk#120	12: CV5-WR-HCT-39 Wk#120	13: CV5-WR-HCT-50 Wk#120	14: CV5-WR-HCT-56 Wk#120	15: CV5-WR-HCT-59 Wk#120	16: CV5-WR-HCT-62 Wk#120	17: CV5-WR-HCT-64 Wk#120	18: CV5-WR-HCT-69 Wk#120
Nb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Nd (tot) [mg/L]	< 0.00001	0.00001	0.00183	< 0.00001	0.00001	< 0.00001	< 0.00001	< 0.00001
Os (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	< 0.00001	< 0.00001	0.00052	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	0.0011	0.0013	0.0154	0.0005	0.0010	0.0008	0.0105	0.0028
Re (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	< 0.00001	< 0.00001	0.00032	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ta (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	< 0.00001	< 0.00001	0.00005	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	< 0.00001	< 0.00001	0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Yb (tot) [mg/L]	< 0.00001	< 0.00001	0.00007	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Analysis	19: CV5-ORE-HCT-74 Wk#120	20: CV5-ORE-HCT-76 Wk#120
Sample Date & Time	14-Aug-25	14-Aug-25
HumCell Leachate Vol [mL]	1003	1004
pH [No unit]	6.61	6.77
Alkalinity [mg/L as CaCO3]	< 2	7
Conductivity [uS/cm]	2	13
Acidity [mg/L as CaCO3]	< 2	< 2
F [mg/L]	< 0.06	< 0.06
Tot.Reactive P [mg/L]	< 0.03	< 0.03
SO4 [mg/L]	< 2	< 2
Cl [mg/L]	< 1	< 1
NO2 [as N mg/L]	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06
Br [mg/L]	< 0.3	< 0.3
Hg [mg/L]	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005
Al [mg/L]	0.014	0.034
As [mg/L]	0.0034	0.0012
Ba [mg/L]	< 0.00008	< 0.00008
Be [mg/L]	< 0.000007	0.000030
B [mg/L]	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	0.00007
Ca [mg/L]	0.24	2.89
Cd [mg/L]	0.000003	< 0.000003
Cd [mg/L]	---	---
Co [mg/L]	0.000048	0.000028
Cr [mg/L]	< 0.00008	< 0.00008
Cu [mg/L]	< 0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007
K [mg/L]	0.048	0.099
Li [mg/L]	0.0055	0.0038
Mg [mg/L]	0.005	0.039
Mn [mg/L]	0.0442	0.00065
Mo [mg/L]	< 0.0004	< 0.0004

OnLine LIMS

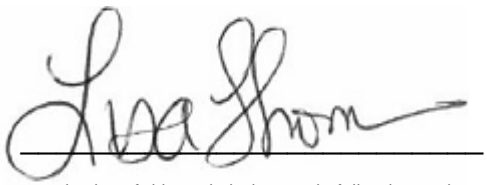
0004242922

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10094-AUG25**

Analysis	19: CV5-ORE-HCT-74 Wk#120	20: CV5-ORE-HCT-76 Wk#120
Na [mg/L]	0.05	0.05
Ni [mg/L]	0.0001	< 0.0001
Pb [mg/L]	< 0.00009	< 0.00009
Sb [mg/L]	0.0033	< 0.0009
Se [mg/L]	< 0.00004	< 0.00004
Sn [mg/L]	< 0.00006	< 0.00006
Sr [mg/L]	0.00045	0.00335
Ti [mg/L]	< 0.0001	< 0.0001
Tl [mg/L]	0.000022	0.000006
U [mg/L]	0.000093	0.000633
V [mg/L]	< 0.00001	0.00003
W [mg/L]	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002
Au (tot) [mg/L]	< 0.00001	< 0.00001
Ce (tot) [mg/L]	< 0.00001	< 0.00001
Cs (tot) [mg/L]	0.0122	0.0034
Dy (tot) [mg/L]	< 0.00001	< 0.00001
Er (tot) [mg/L]	< 0.00001	< 0.00001
Eu (tot) [mg/L]	< 0.00001	< 0.00001
Ga (tot) [mg/L]	< 0.0001	0.0001
Gd (tot) [mg/L]	< 0.00001	< 0.00001
Ge (tot) [mg/L]	< 0.0001	< 0.0001
Hf (tot) [mg/L]	< 0.0001	< 0.0001
Ho (tot) [mg/L]	< 0.00001	< 0.00001
In (tot) [mg/L]	< 0.00001	< 0.00001
Ir (tot) [mg/L]	< 0.00001	< 0.00001
La (tot) [mg/L]	< 0.00001	< 0.00001
Lu (tot) [mg/L]	< 0.0001	< 0.0001
Nb (tot) [mg/L]	< 0.00001	< 0.00001
Nd (tot) [mg/L]	< 0.00001	< 0.00001
Os (tot) [mg/L]	< 0.0001	< 0.0001
Pd (tot) [mg/L]	< 0.0001	< 0.0001
Pr (tot) [mg/L]	< 0.00001	< 0.00001
Pt (tot) [mg/L]	< 0.0001	< 0.0001
Rb (tot) [mg/L]	0.0084	0.0047
Re (tot) [mg/L]	< 0.0001	< 0.0001
Rh (tot) [mg/L]	< 0.00001	< 0.00001
Sc (tot) [mg/L]	< 0.0001	< 0.0001
Sm (tot) [mg/L]	< 0.00001	< 0.00001
Ta (tot) [mg/L]	< 0.0001	< 0.0001
Tb (tot) [mg/L]	< 0.00001	< 0.00001
Te (tot) [mg/L]	< 0.0001	< 0.0001
Th (tot) [mg/L]	< 0.0001	< 0.0001
Tm (tot) [mg/L]	< 0.00001	< 0.00001
Yb (tot) [mg/L]	< 0.00001	< 0.00001



Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

OnLine LIMS

0004242922

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10094-AUG25**

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0004242922

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

12-August-2025

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 16 July 2025
LR Report: **CA10107-JUL25**
Reference: Columns - Wk#20

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: CV5-CL-1 Wk#20	6: CV5-CL-2 Wk#20	7: CV5-CL-3 Wk#20	8: CV5-CL-4 Wk#20	9: CV5-CL-5 Wk#20	10: CV5-CL-6 Wk#20
Sample Date & Time			16-Jul-25	16-Jul-25	16-Jul-25	16-Jul-25	16-Jul-25	16-Jul-25
HumCell Leachate Vol [mL]	17-Jul-25	08:45	2065	1999	2007	2006	2008	1986
pH [No unit]	18-Jul-25	15:16	7.55	8.01	6.93	7.51	7.00	7.02
Conductivity [uS/cm]	18-Jul-25	15:15	30	34	39	82	46	47
Alkalinity [mg/L as CaCO3]	18-Jul-25	15:15	14	20	13	37	23	23
Acidity [mg/L as CaCO3]	18-Jul-25	15:11	< 2	< 2	< 2	< 2	< 2	< 2
SO4 [mg/L]	22-Jul-25	12:33	0.2	1.5	4.6	6.9	2.5	2.5
F [mg/L]	18-Jul-25	08:07	< 0.06	0.08	< 0.06	0.32	0.07	0.10
NO2 [as N mg/L]	23-Jul-25	15:21	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	23-Jul-25	15:21	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
NO2+NO3 [as N mg/L]	23-Jul-25	15:21	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Cl [mg/L]	22-Jul-25	12:34	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Hg [mg/L]	31-Jul-25	15:41	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	31-Jul-25	15:41	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	31-Jul-25	15:41	0.198	0.168	0.040	0.142	0.114	0.101
As [mg/L]	31-Jul-25	15:41	0.0864	0.458	2.60	1.67	1.24	1.21
Ba [mg/L]	31-Jul-25	15:41	0.00017	0.00028	0.00065	0.00132	0.00068	0.00047
B [mg/L]	31-Jul-25	15:41	0.002	0.006	0.007	0.023	0.011	0.012
Be [mg/L]	31-Jul-25	15:41	0.000029	0.000034	0.000022	0.000050	0.000032	0.000035
Bi [mg/L]	31-Jul-25	15:41	0.00043	0.00016	0.00002	0.00028	0.00025	0.00024
Ca [mg/L]	31-Jul-25	15:41	4.80	4.74	5.68	8.80	6.32	5.66
Cd [mg/L]	31-Jul-25	15:41	0.000005	< 0.000003	0.000004	0.000003	0.000004	0.000006
Co [mg/L]	31-Jul-25	15:41	0.000027	0.000055	0.000838	0.000227	0.000169	0.000164
Cr [mg/L]	31-Jul-25	15:41	< 0.00008	0.00009	0.00009	0.00017	< 0.00008	< 0.00008
Cu [mg/L]	31-Jul-25	15:41	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	31-Jul-25	15:41	< 0.007	< 0.007	< 0.007	0.011	< 0.007	< 0.007
K [mg/L]	31-Jul-25	15:41	0.842	0.814	0.407	4.86	1.53	1.52
Li [mg/L]	31-Jul-25	15:41	0.0174	0.0380	0.0335	0.246	0.0887	0.0967
Mg [mg/L]	31-Jul-25	15:41	0.279	0.545	0.642	1.82	0.774	0.704
Mn [mg/L]	31-Jul-25	15:41	0.0143	0.0083	0.0106	0.0157	0.0145	0.0116
Mo [mg/L]	31-Jul-25	15:41	< 0.0004	0.0004	< 0.0004	0.0008	0.0005	0.0005
Na [mg/L]	31-Jul-25	15:41	0.83	0.62	0.46	2.56	1.60	1.72
Ni [mg/L]	31-Jul-25	15:41	< 0.0001	0.0006	0.0146	0.0034	0.0017	0.0014
Pb [mg/L]	31-Jul-25	15:41	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	31-Jul-25	15:41	0.0607	0.120	0.607	0.247	0.226	0.247
Se [mg/L]	31-Jul-25	15:41	0.00008	0.00006	0.00020	0.00011	0.00009	0.00007

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0004215968

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10107-JUL25**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: CV5-CL-1 Wk#20	6: CV5-CL-2 Wk#20	7: CV5-CL-3 Wk#20	8: CV5-CL-4 Wk#20	9: CV5-CL-5 Wk#20	10: CV5-CL-6 Wk#20
Sn [mg/L]	31-Jul-25	15:41	0.00098	0.00193	0.00208	0.00260	0.00212	0.00194
Sr [mg/L]	31-Jul-25	15:41	0.0111	0.0133	0.0238	0.0338	0.0209	0.0186
Ti [mg/L]	31-Jul-25	15:41	< 0.0001	0.0002	0.0001	0.0003	0.0002	< 0.0001
Tl [mg/L]	31-Jul-25	15:41	0.000053	0.000057	0.000073	0.000215	0.000097	0.000102
U [mg/L]	31-Jul-25	15:41	0.131	0.136	0.0286	0.417	0.259	0.256
V [mg/L]	31-Jul-25	15:41	0.00013	0.00065	0.00278	0.00282	0.00112	0.00108
W [mg/L]	31-Jul-25	15:41	0.00036	0.00051	0.00056	0.0136	0.00160	0.00312
Y [mg/L]	31-Jul-25	15:41	< 0.00002	< 0.00002	< 0.00002	0.00002	< 0.00002	< 0.00002
Zn [mg/L]	31-Jul-25	15:41	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au [mg/L]	31-Jul-25	15:41	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce [mg/L]	31-Jul-25	15:41	0.00003	0.00003	0.00002	0.00003	0.00002	0.00003
Cs [mg/L]	31-Jul-25	15:41	0.0111	0.0493	0.189	0.208	0.101	0.0977
Dy [mg/L]	31-Jul-25	15:41	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er [mg/L]	31-Jul-25	15:41	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu [mg/L]	31-Jul-25	15:41	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga [mg/L]	31-Jul-25	15:41	0.0007	0.0006	< 0.0001	0.0032	0.0006	0.0005
Gd (tot) [mg/L]	31-Jul-25	15:41	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge [mg/L]	31-Jul-25	15:41	< 0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001
Hf [mg/L]	31-Jul-25	15:41	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho [mg/L]	31-Jul-25	15:41	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In [mg/L]	31-Jul-25	15:41	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir [mg/L]	31-Jul-25	15:41	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La [mg/L]	31-Jul-25	15:41	0.00002	0.00002	0.00003	0.00002	0.00002	0.00002
Lu [mg/L]	31-Jul-25	15:41	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb [mg/L]	31-Jul-25	15:41	< 0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001
Nd [mg/L]	31-Jul-25	15:41	0.00001	0.00001	0.00001	0.00001	< 0.00001	0.00001
Os [mg/L]	31-Jul-25	15:41	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd [mg/L]	31-Jul-25	15:41	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr [mg/L]	31-Jul-25	15:41	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt [mg/L]	31-Jul-25	15:41	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh [mg/L]	31-Jul-25	15:41	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Rb [mg/L]	31-Jul-25	15:41	0.0440	0.0408	0.0275	0.248	0.0789	0.0769
Re [mg/L]	31-Jul-25	15:41	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ru [mg/L]	31-Jul-25	15:41	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sm [mg/L]	31-Jul-25	15:41	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc [mg/L]	31-Jul-25	15:41	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001
Ta [mg/L]	31-Jul-25	15:41	< 0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001
Tb [mg/L]	31-Jul-25	15:41	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te [mg/L]	31-Jul-25	15:41	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th [mg/L]	31-Jul-25	15:41	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001
Tm [mg/L]	31-Jul-25	15:41	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

NA - Not applicable

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0004215968

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

12-August-2025

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 17 July 2025
LR Report: **CA10113-JUL25**
Reference: Wk#116

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT -2 Wk#116	6: CV5-WR-HCT -5 Wk#116	7: CV5-WR-HCT- 5 (DUP) Wk#116	8: CV5-WR-HCT- 14 Wk#116	9: CV5-WR-HCT- 22 Wk#116
Sample Date & Time			17-Jul-25	17-Jul-25	17-Jul-25	17-Jul-25	17-Jul-25
HumCell Leachate Vol [mL]	18-Jul-25	16:35	982	978	982	1001	1012
pH [No unit]	21-Jul-25	10:31	6.23	6.92	6.58	6.84	6.31
Alkalinity [mg/L as CaCO3]	18-Jul-25	09:54	< 2	4	2	9	5
Conductivity [uS/cm]	18-Jul-25	09:55	36	21	11	21	8
Acidity [mg/L as CaCO3]	21-Jul-25	09:58	<2	< 2	2	< 2	< 2
F [mg/L]	18-Jul-25	13:28	< 0.06	0.08	< 0.06	< 0.06	< 0.06
Tot.Reactive P [mg/L]	21-Jul-25	08:04	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	28-Jul-25	14:14	12	4	2	< 2	< 2
Cl [mg/L]	28-Jul-25	14:14	< 1	< 1	< 1	< 1	< 1
NO2 [as N mg/L]	24-Jul-25	13:33	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	24-Jul-25	13:33	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	24-Jul-25	13:33	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	25-Jul-25	10:30	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	25-Jul-25	10:30	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	25-Jul-25	10:30	0.009	0.023	0.017	0.064	0.018
As [mg/L]	25-Jul-25	10:30	0.0007	0.0732	0.0595	0.0144	0.0485
Ba [mg/L]	25-Jul-25	10:30	0.00018	0.00012	< 0.00008	0.00009	< 0.00008
Be [mg/L]	25-Jul-25	10:30	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	25-Jul-25	10:30	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	25-Jul-25	10:30	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	25-Jul-25	10:30	5.51	3.52	1.94	4.26	1.55
Cd [mg/L]	25-Jul-25	10:30	< 0.000003	0.000007	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	25-Jul-25	10:30	0.000250	0.000256	0.000170	0.000057	0.000048
Cr [mg/L]	25-Jul-25	10:30	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	25-Jul-25	10:30	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	25-Jul-25	10:30	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	25-Jul-25	10:30	0.081	0.036	0.030	0.021	0.022
Li [mg/L]	25-Jul-25	10:30	0.0025	0.0033	0.0028	0.0019	0.0024
Mg [mg/L]	25-Jul-25	10:30	0.156	0.093	0.075	0.098	0.111

OnLine LIMS

0004215978

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10113-JUL25**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT -2 Wk#116	6: CV5-WR-HCT -5 Wk#116	7: CV5-WR-HCT-5 (DUP) Wk#116	8: CV5-WR-HCT-14 Wk#116	9: CV5-WR-HCT-22 Wk#116
Mn [mg/L]	25-Jul-25	10:30	0.00185	0.00202	0.00121	0.00452	0.00021
Mo [mg/L]	25-Jul-25	10:30	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	25-Jul-25	10:30	0.08	0.04	0.04	0.08	0.05
Ni [mg/L]	25-Jul-25	10:30	0.0009	0.0011	0.0006	0.0001	0.0001
Pb [mg/L]	25-Jul-25	10:30	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	25-Jul-25	10:30	< 0.0009	0.0160	0.0084	0.0012	0.0020
Se [mg/L]	25-Jul-25	10:30	0.00008	< 0.00004	< 0.00004	0.00005	< 0.00004
Sn [mg/L]	25-Jul-25	10:30	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	25-Jul-25	10:30	0.00529	0.00451	0.00191	0.00234	0.00316
Ti [mg/L]	25-Jul-25	10:30	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tl [mg/L]	25-Jul-25	10:30	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005
U [mg/L]	25-Jul-25	10:30	0.000018	0.000007	0.000027	0.000110	0.000084
V [mg/L]	25-Jul-25	10:30	0.00004	0.00025	0.00024	0.00131	0.00064
W [mg/L]	25-Jul-25	10:30	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	25-Jul-25	10:30	< 0.00002	0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	25-Jul-25	10:30	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	25-Jul-25	10:30	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	25-Jul-25	10:30	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Cs (tot) [mg/L]	25-Jul-25	10:30	0.0046	0.0050	0.0051	0.0012	0.0029
Dy (tot) [mg/L]	25-Jul-25	10:30	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er (tot) [mg/L]	25-Jul-25	10:30	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu (tot) [mg/L]	25-Jul-25	10:30	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga (tot) [mg/L]	25-Jul-25	10:30	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001
Gd (tot) [mg/L]	25-Jul-25	10:30	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	25-Jul-25	10:27	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	25-Jul-25	10:27	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	25-Jul-25	10:27	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In (tot) [mg/L]	25-Jul-25	10:27	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir (tot) [mg/L]	25-Jul-25	10:27	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La (tot) [mg/L]	25-Jul-25	10:27	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Lu (tot) [mg/L]	25-Jul-25	10:27	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	25-Jul-25	10:27	< 0.00001	---	0.00004	< 0.00001	< 0.00001
Nb (tot) [mg/L]	25-Jul-25	10:27	---	< 0.00001	---	---	---
Nd (tot) [mg/L]	25-Jul-25	10:27	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Os (tot) [mg/L]	25-Jul-25	10:27	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	25-Jul-25	10:27	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	25-Jul-25	10:27	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt (tot) [mg/L]	25-Jul-25	10:27	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	25-Jul-25	10:27	0.0019	0.0015	0.0014	0.0003	0.0008
Re (tot) [mg/L]	25-Jul-25	10:27	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	25-Jul-25	10:27	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	25-Jul-25	10:27	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	25-Jul-25	10:27	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ta (tot) [mg/L]	25-Jul-25	10:27	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	25-Jul-25	10:27	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

OnLine LIMS

0004215978

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10113-JUL25**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT -2 Wk#116	6: CV5-WR-HCT -5 Wk#116	7: CV5-WR-HCT-5 (DUP) Wk#116	8: CV5-WR-HCT-14 Wk#116	9: CV5-WR-HCT-22 Wk#116
Te (tot) [mg/L]	25-Jul-25	10:27	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	25-Jul-25	10:27	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	25-Jul-25	10:27	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Yb (tot) [mg/L]	25-Jul-25	10:27	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Analysis	10: CV5-WR-HCT-33 Wk#116	11: CV5-WR-HCT-36 Wk#116	12: CV5-WR-HCT-39 Wk#116	13: CV5-WR-HCT-50 Wk#116	14: CV5-WR-HCT-56 Wk#116	15: CV5-WR-HCT-59 Wk#116
Sample Date & Time	17-Jul-25	17-Jul-25	17-Jul-25	17-Jul-25	17-Jul-25	17-Jul-25
HumCell Leachate Vol [mL]	917	958	918	991	1005	1003
pH [No unit]	6.57	7.25	6.01	4.89	6.57	5.70
Alkalinity [mg/L as CaCO3]	5	6	< 2	< 2	9	< 2
Conductivity [uS/cm]	8	13	23	94	34	15
Acidity [mg/L as CaCO3]	< 2	< 2	5	17	< 2	8
F [mg/L]	<0.06	< 0.06	0.29	0.74	< 0.06	< 0.06
Tot.Reactive P [mg/L]	< 0.03	0.08	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	< 2	< 2	7	42	6	3
Cl [mg/L]	< 1	< 1	< 1	< 1	< 1	1
NO2 [as N mg/L]	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.061	0.002	0.011	0.611	0.070	0.002
As [mg/L]	0.0030	0.519	0.0024	0.0019	0.0056	0.0067
Ba [mg/L]	0.00009	0.00026	0.00020	0.00235	0.00034	0.00017
Be [mg/L]	< 0.000007	< 0.000007	0.000027	0.000632	< 0.000007	< 0.000007
B [mg/L]	< 0.002	< 0.002	< 0.002	0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	1.61	1.88	2.95	8.76	6.48	1.64
Cd [mg/L]	< 0.000003	< 0.000003	0.000058	0.00426	< 0.000003	< 0.000003
Co [mg/L]	0.000038	0.000440	0.00217	0.300	0.000084	0.0151
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	< 0.001	< 0.001	< 0.001	0.010	< 0.001	< 0.001
Fe [mg/L]	< 0.007	0.007	< 0.007	4.69	< 0.007	0.075
K [mg/L]	0.025	0.021	0.095	0.225	0.093	0.011
Li [mg/L]	0.0007	0.0008	0.0065	0.0198	0.0012	0.0009
Mg [mg/L]	0.036	0.425	0.352	1.11	0.102	0.265
Mn [mg/L]	0.00354	0.00123	0.0275	0.139	0.0104	0.0131
Mo [mg/L]	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	0.05	0.02	0.08	0.22	0.06	0.03
Ni [mg/L]	< 0.0001	0.0044	0.0045	0.652	0.0001	0.163
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	0.00014	< 0.00009	< 0.00009
Sb [mg/L]	< 0.0009	0.136	0.0016	< 0.0009	< 0.0009	< 0.0009

OnLine LIMS

0004215978

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10113-JUL25**

Analysis	10: CV5-WR-HCT-33 Wk#116	11: CV5-WR-HCT-36 Wk#116	12: CV5-WR-HCT-39 Wk#116	13: CV5-WR-HCT-50 Wk#116	14: CV5-WR-HCT-56 Wk#116	15: CV5-WR-HCT-59 Wk#116
Se [mg/L]	< 0.00004	< 0.00004	0.00014	0.00034	0.00006	0.00009
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00110	0.00105	0.00518	0.0108	0.00389	0.00485
Ti [mg/L]	0.00013	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tl [mg/L]	< 0.000005	< 0.000005	< 0.000005	0.000069	< 0.000005	0.000006
U [mg/L]	0.000011	0.000012	0.000029	0.00232	0.000293	< 0.000002
V [mg/L]	0.00039	0.00009	0.00003	< 0.00001	0.00027	< 0.00001
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	0.00126	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	0.008	2.22	< 0.002	< 0.002
Au (tot) [mg/L]	< 0.00001	0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	< 0.00001	< 0.00001	0.00004	0.00508	< 0.00001	0.00001
Cs (tot) [mg/L]	0.0012	0.0064	0.0018	0.0732	0.0203	0.0064
Dy (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00023	< 0.00001	< 0.00001
Er (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00009	< 0.00001	< 0.00001
Eu (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00005	< 0.00001	< 0.00001
Ga (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Gd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00035	< 0.00001	< 0.00001
Ge (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001
Hf (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00004	< 0.00001	< 0.00001
In (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La (tot) [mg/L]	< 0.00001	< 0.00001	0.00003	0.00343	< 0.00001	0.00001
Lu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00003	< 0.00001	< 0.00001
Nb (tot) [mg/L]	---	---	---	---	---	---
Nd (tot) [mg/L]	< 0.00001	< 0.00001	0.00001	0.00176	< 0.00001	< 0.00001
Os (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00048	< 0.00001	< 0.00001
Pt (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	0.0002	0.0009	0.0014	0.0146	0.0006	0.0011
Re (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00030	< 0.00001	< 0.00001
Ta (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00004	< 0.00001	< 0.00001
Te (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00001	< 0.00001	< 0.00001
Yb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00006	< 0.00001	< 0.00001

OnLine LIMS

0004215978

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10113-JUL25**

Analysis	16: CV5-WR-HCT-62 Wk#116	17: CV5-WR-HCT-64 Wk#116	18: CV5-WR-HCT-69 Wk#116	19: CV5-ORE-HCT-74 Wk#116	20: CV5-ORE-HCT-76 Wk#116
Sample Date & Time	17-Jul-25	17-Jul-25	17-Jul-25	17-Jul-25	17-Jul-25
HumCell Leachate Vol [mL]	953	1000	1018	981	976
pH [No unit]	6.11	6.88	6.59	6.80	6.66
Alkalinity [mg/L as CaCO3]	6	< 2	5	2	6
Conductivity [uS/cm]	16	3	10	2	13
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2
F [mg/L]	< 0.06	< 0.06	< 0.06	<0.06	< 0.06
Tot.Reactive P [mg/L]	0.04	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	< 2	< 2	< 2	< 2	< 2
Cl [mg/L]	< 1	< 1	< 1	< 1	< 1
NO2 [as N mg/L]	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	< 0.001	0.011	0.083	0.024	0.042
As [mg/L]	0.420	0.0027	0.0022	0.0047	0.0011
Ba [mg/L]	0.00026	< 0.00008	0.00010	< 0.00008	< 0.00008
Be [mg/L]	< 0.000007	0.000007	0.000060	0.000012	0.000050
B [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	< 0.00001	0.00033	< 0.00001	0.00009
Ca [mg/L]	2.14	0.49	2.01	0.27	2.64
Cd [mg/L]	< 0.000003	< 0.000003	0.000003	0.000005	< 0.000003
Co [mg/L]	0.000406	0.000005	< 0.000004	0.000023	0.000004
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	0.012	0.102	0.052	0.065	0.111
Li [mg/L]	< 0.0001	0.0007	0.0005	0.0068	0.0041
Mg [mg/L]	0.646	0.017	0.012	0.007	0.041
Mn [mg/L]	0.00221	0.00667	0.00240	0.0525	0.00077
Mo [mg/L]	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	0.02	0.03	0.09	0.07	0.06
Ni [mg/L]	0.0046	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	0.00011	< 0.00009
Sb [mg/L]	0.203	< 0.0009	0.0009	0.0040	< 0.0009
Se [mg/L]	0.00005	< 0.00004	< 0.00004	< 0.00004	< 0.00004
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00095	0.00060	0.00224	0.00059	0.00350
Ti [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tl [mg/L]	< 0.000005	0.000025	< 0.000005	0.000030	0.000006
U [mg/L]	0.000019	0.000051	0.00125	0.000103	0.000514
V [mg/L]	0.00006	0.00001	0.00004	< 0.00001	0.00002
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002

OnLine LIMS

0004215978

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10113-JUL25**

Analysis	16: CV5-WR-HCT-62 Wk#116	17: CV5-WR-HCT-64 Wk#116	18: CV5-WR-HCT-69 Wk#116	19: CV5-ORE-HCT-74 Wk#116	20: CV5-ORE-HCT-76 Wk#116
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Cs (tot) [mg/L]	0.0018	0.0048	0.0016	0.0142	0.0036
Dy (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga (tot) [mg/L]	< 0.0001	< 0.0001	0.0001	< 0.0001	0.0001
Gd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Lu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	0.00002	< 0.00001	0.00002	< 0.00001	< 0.00001
Nb (tot) [mg/L]	---	---	---	---	---
Nd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Os (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	0.0007	0.0107	0.0030	0.0111	0.0051
Re (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ta (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Yb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0004215978

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

07-July-2025

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 18 June 2025
LR Report: **CA10113-JUN25**
Reference: Columns - Wk#16

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: CV5-CL-1 Wk#16	6: CV5-CL-2 Wk#16	7: CV5-CL-3 Wk#16	8: CV5-CL-4 Wk#16	9: CV5-CL-5 Wk#16	10: CV5-CL-6 Wk#16
Sample Date & Time			18-Jun-25	18-Jun-25	18-Jun-25	18-Jun-25	18-Jun-25	18-Jun-25
HumCell Leachate Vol [mL]	20-Jun-25	16:15	1981	1986	1913	2015	1992	1948
pH [No unit]	20-Jun-25	11:29	7.77	8.11	7.65	8.04	7.84	7.85
Conductivity [uS/cm]	20-Jun-25	11:29	28	36	39	73	47	46
Alkalinity [mg/L as CaCO3]	20-Jun-25	11:29	16	20	12	35	23	25
Acidity [mg/L as CaCO3]	20-Jun-25	11:29	< 2	< 2	< 2	< 2	< 2	< 2
SO4 [mg/L]	26-Jun-25	09:49	0.2	1.8	6.2	5.9	3.2	3.3
F [mg/L]	23-Jun-25	13:20	0.09	0.08	< 0.06	0.35	0.12	0.14
NO2 [as N mg/L]	26-Jun-25	09:43	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	26-Jun-25	09:43	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
NO2+NO3 [as N mg/L]	26-Jun-25	09:43	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Cl [mg/L]	26-Jun-25	09:49	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Hg [mg/L]	30-Jun-25	15:43	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	24-Jun-25	13:26	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	24-Jun-25	13:26	0.212	0.195	0.041	0.107	0.107	0.107
As [mg/L]	24-Jun-25	13:26	0.107	0.542	3.03	1.45	1.50	1.52
Ba [mg/L]	24-Jun-25	13:26	0.00014	0.00022	0.00079	0.00116	0.00058	0.00053
B [mg/L]	24-Jun-25	13:26	0.003	0.007	0.010	0.033	0.014	0.015
Be [mg/L]	24-Jun-25	13:26	0.000036	0.000026	0.000011	0.000045	0.000039	0.000028
Bi [mg/L]	24-Jun-25	13:26	0.00040	0.00019	0.00003	0.00033	0.00049	0.00026
Ca [mg/L]	24-Jun-25	13:26	4.79	5.70	6.36	7.77	6.45	6.15
Cd [mg/L]	24-Jun-25	13:26	0.000004	< 0.000003	0.000006	0.000005	< 0.000003	0.000004
Co [mg/L]	24-Jun-25	13:26	0.000014	0.000049	0.00102	0.000137	0.000179	0.000175
Cr [mg/L]	24-Jun-25	13:26	< 0.00008	0.00008	0.00015	0.00010	< 0.00008	0.00008
Cu [mg/L]	24-Jun-25	13:26	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	24-Jun-25	13:26	< 0.007	< 0.007	0.009	< 0.007	< 0.007	< 0.007
K [mg/L]	24-Jun-25	13:26	0.950	1.00	0.545	5.59	1.73	1.88
Li [mg/L]	24-Jun-25	13:26	0.0220	0.0460	0.0419	0.316	0.105	0.122
Mg [mg/L]	24-Jun-25	13:26	0.327	0.667	0.770	1.63	0.850	0.832
Mn [mg/L]	24-Jun-25	13:26	0.0123	0.0110	0.0116	0.0123	0.0147	0.0127
Mo [mg/L]	24-Jun-25	13:26	< 0.0004	0.0004	< 0.0004	0.0006	0.0005	0.0007
Na [mg/L]	24-Jun-25	13:26	1.06	0.86	0.74	3.08	2.15	2.59
Ni [mg/L]	24-Jun-25	13:26	< 0.0001	0.0005	0.0192	0.0019	0.0020	0.0018
Pb [mg/L]	24-Jun-25	13:26	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	0.00009
Sb [mg/L]	24-Jun-25	13:26	0.0660	0.132	0.723	0.229	0.275	0.307
Se [mg/L]	24-Jun-25	13:26	0.00010	0.00008	0.00024	0.00011	0.00010	0.00009

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0004173779

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10113-JUN25**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: CV5-CL-1 Wk#16	6: CV5-CL-2 Wk#16	7: CV5-CL-3 Wk#16	8: CV5-CL-4 Wk#16	9: CV5-CL-5 Wk#16	10: CV5-CL-6 Wk#16
Sn [mg/L]	24-Jun-25	13:26	0.00336	0.00323	0.00447	0.00335	0.00260	0.00268
Sr [mg/L]	24-Jun-25	13:26	0.0122	0.0156	0.0289	0.0318	0.0224	0.0214
Ti [mg/L]	24-Jun-25	13:26	< 0.0001	0.00013	0.00024	0.00030	0.00012	< 0.0001
Tl [mg/L]	24-Jun-25	13:26	0.000061	0.000062	0.000090	0.000200	0.000107	0.000108
U [mg/L]	24-Jun-25	13:26	0.183	0.181	0.0433	0.455	0.298	0.302
V [mg/L]	24-Jun-25	13:26	0.00015	0.00081	0.00338	0.00161	0.00123	0.00128
W [mg/L]	24-Jun-25	13:26	0.00067	0.00057	0.00078	0.0101	0.00192	0.00477
Y [mg/L]	24-Jun-25	13:26	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	24-Jun-25	13:26	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au [mg/L]	24-Jun-25	13:26	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce [mg/L]	25-Jun-25	12:52	< 0.00001	< 0.00001	< 0.00001	0.00001	< 0.00001	< 0.00001
Cs [mg/L]	24-Jun-25	13:26	0.0119	0.0525	0.203	0.217	0.104	0.107
Dy [mg/L]	25-Jun-25	12:52	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er [mg/L]	25-Jun-25	12:52	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu [mg/L]	25-Jun-25	12:52	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga [mg/L]	25-Jun-25	12:52	0.0007	0.0007	< 0.0001	0.0030	0.0006	0.0005
Gd (tot) [mg/L]	25-Jun-25	12:52	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge [mg/L]	25-Jun-25	12:52	< 0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001
Hf [mg/L]	25-Jun-25	12:52	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho [mg/L]	25-Jun-25	12:52	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In [mg/L]	25-Jun-25	12:52	0.00001	0.00001	0.00002	0.00001	< 0.00001	0.00001
Ir [mg/L]	25-Jun-25	12:52	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La [mg/L]	25-Jun-25	12:52	< 0.00001	0.00001	0.00004	0.00002	0.00002	0.00002
Lu [mg/L]	25-Jun-25	12:52	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb [mg/L]	25-Jun-25	12:52	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001
Nd [mg/L]	25-Jun-25	12:52	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Os [mg/L]	25-Jun-25	12:52	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd [mg/L]	25-Jun-25	12:52	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr [mg/L]	25-Jun-25	12:52	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt [mg/L]	25-Jun-25	12:52	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh [mg/L]	25-Jun-25	12:52	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Rb [mg/L]	25-Jun-25	12:52	0.0513	0.0500	0.0323	0.258	0.0886	0.0905
Re [mg/L]	25-Jun-25	12:52	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ru [mg/L]	25-Jun-25	12:52	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sm [mg/L]	25-Jun-25	12:52	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc [mg/L]	25-Jun-25	12:52	< 0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001
Ta [mg/L]	25-Jun-25	12:52	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb [mg/L]	25-Jun-25	12:52	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te [mg/L]	25-Jun-25	12:52	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th [mg/L]	25-Jun-25	12:52	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm [mg/L]	25-Jun-25	12:52	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

NA - Not applicable

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0004173779

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

28-February-2025

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 20 February 2025
LR Report: **CA10116-FEB25**
Reference: Wk#95

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#95	6: CV5-WR-HCT-5 Wk#95	7: CV5-WR-HCT-5 (DUP) Wk#95	8: CV5-WR-HCT-14 Wk#95	9: CV5-WR-HCT-22 Wk#95	10: CV5-WR-HCT-33 Wk#95
Sample Date & Time			20-Feb-25	20-Feb-25	20-Feb-25	20-Feb-25	20-Feb-25	20-Feb-25
HumCell Leachate Vol [mL]	21-Feb-25	08:51	938	956	967	1020	994	974
pH [No unit]	26-Feb-25	12:26	6.20	6.55	6.54	6.74	6.30	7.25
Conductivity [uS/cm]	21-Feb-25	11:38	46	31	21	25	9	12

Analysis	11: CV5-WR-HCT-36 Wk#95	12: CV5-WR-HCT-39 Wk#95	13: CV5-WR-HCT-50 Wk#95	14: CV5-WR-HCT-56 Wk#95	15: CV5-WR-HCT-59 Wk#95	16: CV5-WR-HCT-62 Wk#95	17: CV5-WR-HCT-64 Wk#95	18: CV5-WR-HCT-69 Wk#95
Sample Date & Time	20-Feb-25	20-Feb-25	20-Feb-25	20-Feb-25	20-Feb-25	20-Feb-25	20-Feb-25	20-Feb-25
HumCell Leachate Vol [mL]	971	964	1026	1010	1012	948	1013	1018
pH [No unit]	7.15	6.76	6.09	6.66	5.92	6.66	6.93	6.88
Conductivity [uS/cm]	20	22	60	38	18	20	6	11

Analysis	19: CV5-ORE-HCT-74 Wk#95	20: CV5-ORE-HCT-76 Wk#95
Sample Date & Time	20-Feb-25	20-Feb-25
HumCell Leachate Vol [mL]	953	969
pH [No unit]	6.72	6.84
Conductivity [uS/cm]	4	12

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0004032229

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

27-March-2025

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 20 March 2025
LR Report: **CA10116-MAR25**
Reference: Wk#99

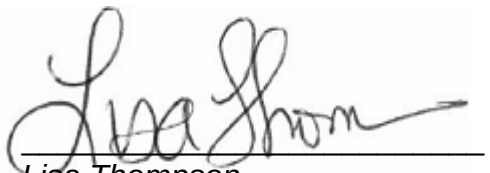
Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#99	6: CV5-WR-HCT-5 Wk#99	7: CV5-WR-HCT-5 (DUP) Wk#99	8: CV5-WR-HCT-14 Wk#99	9: CV5-WR-HCT-22 Wk#99	10: CV5-WR-HCT-33 Wk#99
Sample Date & Time			20-Mar-25	20-Mar-25	20-Mar-25	20-Mar-25	20-Mar-25	20-Mar-25
HumCell Leachate Vol [mL]	20-Mar-25	10:01	926	952	943	987	991	1021
pH [No unit]	21-Mar-25	15:37	6.62	7.36	6.77	7.11	6.92	7.12
Conductivity [uS/cm]	21-Mar-25	15:08	42	24	18	24	10	17

Analysis	11: CV5-WR-HCT-36 Wk#99	12: CV5-WR-HCT-39 Wk#99	13: CV5-WR-HCT-50 Wk#99	14: CV5-WR-HCT-56 Wk#99	15: CV5-WR-HCT-59 Wk#99	16: CV5-WR-HCT-62 Wk#99	17: CV5-WR-HCT-64 Wk#99	18: CV5-WR-HCT-69 Wk#99
Sample Date & Time	20-Mar-25	20-Mar-25	20-Mar-25	20-Mar-25	20-Mar-25	20-Mar-25	20-Mar-25	20-Mar-25
HumCell Leachate Vol [mL]	974	947	1021	990	1007	927	1022	984
pH [No unit]	6.98	6.16	6.40	6.77	6.48	6.98	7.01	6.96
Conductivity [uS/cm]	17	26	58	32	16	18	5	11

Analysis	19: CV5-ORE-HCT-74 Wk#99	20: CV5-ORE-HCT-76 Wk#99
Sample Date & Time	20-Mar-25	20-Mar-25
HumCell Leachate Vol [mL]	1000	1023
pH [No unit]	7.08	6.73
Conductivity [uS/cm]	2	19



Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0004059325

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

09-July-2025

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 19 June 2025
LR Report: **CA10119-JUN25**
Reference: Wk#112

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#112	6: CV5-WR-HCT-5 Wk#112	7: CV5-WR-HCT-5 (DUP) Wk#112	8: CV5-WR-HCT-14 Wk#112	9: CV5-WR-HCT-22 Wk#112
Sample Date & Time			19-Jun-25	19-Jun-25	19-Jun-25	19-Jun-25	19-Jun-25
HumCell Leachate Vol [mL]	20-Jun-25	16:17	958	967	980	1003	1002
pH [No unit]	27-Jun-25	13:33	6.61	7.16	6.94	7.48	7.04
Alkalinity [mg/L as CaCO3]	20-Jun-25	11:32	< 2	4	3	11	3
Alkalinity [mg/L as CaCO3]	03-Jul-25	11:14	---	---	---	---	---
Conductivity [uS/cm]	23-Jun-25	09:55	31	18	11	20	9
Acidity [mg/L as CaCO3]	23-Jun-25	10:38	2	< 2	< 2	< 2	< 2
F [mg/L]	23-Jun-25	13:21	< 0.06	0.10	< 0.06	< 0.06	< 0.06
F [mg/L]	02-Jul-25	15:25	---	---	---	---	---
Tot.Reactive P [mg/L]	24-Jun-25	09:39	0.07	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	25-Jun-25	16:11	11	3	2	< 2	< 2
Cl [mg/L]	25-Jun-25	16:11	< 1	< 1	< 1	< 1	< 1
NO2 [as N mg/L]	27-Jun-25	08:03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	27-Jun-25	08:03	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	27-Jun-25	08:03	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	24-Jun-25	13:30	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	24-Jun-25	13:30	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	26-Jun-25	14:17	0.009	0.021	0.014	0.065	0.016
As [mg/L]	26-Jun-25	14:17	0.0016	0.0778	0.0613	0.0154	0.0498
Ba [mg/L]	26-Jun-25	14:17	0.00017	0.00009	0.00010	< 0.00008	0.00024
Be [mg/L]	24-Jun-25	13:30	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	24-Jun-25	13:30	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	24-Jun-25	13:30	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	26-Jun-25	14:17	5.37	3.10	2.08	4.63	1.65
Cd [mg/L]	24-Jun-25	13:30	< 0.000003	< 0.000003	< 0.000003	< 0.000003	0.000003
Co [mg/L]	26-Jun-25	14:17	0.000244	0.000227	0.000149	0.000053	0.000067
Cr [mg/L]	24-Jun-25	13:30	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	24-Jun-25	13:30	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	24-Jun-25	13:30	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	26-Jun-25	14:17	0.079	0.015	0.030	0.018	0.016
Li [mg/L]	26-Jun-25	14:17	0.0032	0.0039	0.0030	0.0024	0.0029

OnLine LIMS

00041768O5

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10119-JUN25**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#112	6: CV5-WR-HCT-5 Wk#112	7: CV5-WR-HCT-5 (DUP) Wk#112	8: CV5-WR-HCT-14 Wk#112	9: CV5-WR-HCT-22 Wk#112
Mg [mg/L]	26-Jun-25	14:17	0.168	0.094	0.075	0.109	0.132
Mn [mg/L]	26-Jun-25	14:17	0.00211	0.00202	0.00130	0.00506	0.00043
Mo [mg/L]	24-Jun-25	13:30	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	24-Jun-25	13:30	0.08	0.05	0.04	0.08	0.07
Ni [mg/L]	26-Jun-25	14:17	0.0009	0.0010	0.0006	< 0.0001	0.0002
Pb [mg/L]	24-Jun-25	13:29	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	26-Jun-25	14:17	< 0.0009	0.0178	0.0105	0.0015	0.0023
Se [mg/L]	24-Jun-25	13:29	0.00010	< 0.00004	< 0.00004	0.00006	< 0.00004
Sn [mg/L]	24-Jun-25	13:29	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	26-Jun-25	14:17	0.00510	0.00233	0.00176	0.00253	0.00350
Ti [mg/L]	25-Jun-25	12:51	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tl [mg/L]	26-Jun-25	14:17	0.000008	0.000006	< 0.000005	< 0.000005	< 0.000005
U [mg/L]	26-Jun-25	14:17	0.000083	0.000100	0.000007	0.000074	0.000106
U [mg/L]	26-Jun-25	14:17	---	---	---	---	---
V [mg/L]	24-Jun-25	13:29	0.00008	0.00029	0.00022	0.00137	0.00069
W [mg/L]	24-Jun-25	13:29	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
W [mg/L]	24-Jun-25	13:29	---	---	---	---	---
Y [mg/L]	24-Jun-25	13:29	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	25-Jun-25	12:50	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	24-Jun-25	13:29	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	25-Jun-25	12:50	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Cs (tot) [mg/L]	24-Jun-25	13:29	0.0050	0.0061	0.0056	0.0012	0.0031
Dy (tot) [mg/L]	25-Jun-25	12:50	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er (tot) [mg/L]	25-Jun-25	12:50	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu (tot) [mg/L]	25-Jun-25	12:50	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga (tot) [mg/L]	25-Jun-25	12:50	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001
Gd (tot) [mg/L]	25-Jun-25	12:50	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	24-Jun-25	13:29	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	24-Jun-25	13:28	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	25-Jun-25	12:50	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In (tot) [mg/L]	25-Jun-25	12:50	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir (tot) [mg/L]	24-Jun-25	13:28	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La (tot) [mg/L]	25-Jun-25	12:50	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Lu (tot) [mg/L]	25-Jun-25	12:50	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	24-Jun-25	13:28	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Nd (tot) [mg/L]	25-Jun-25	12:50	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Os (tot) [mg/L]	24-Jun-25	13:28	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	24-Jun-25	13:28	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	25-Jun-25	12:50	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt (tot) [mg/L]	24-Jun-25	13:28	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	24-Jun-25	13:28	0.0022	0.0018	0.0016	0.0003	0.0008
Re (tot) [mg/L]	24-Jun-25	13:28	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	24-Jun-25	13:28	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	25-Jun-25	12:50	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	25-Jun-25	12:50	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ta (tot) [mg/L]	24-Jun-25	13:28	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	25-Jun-25	12:50	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

OnLine LIMS

0004176805

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10119-JUN25**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#112	6: CV5-WR-HCT-5 Wk#112	7: CV5-WR-HCT-5 (DUP) Wk#112	8: CV5-WR-HCT-14 Wk#112	9: CV5-WR-HCT-22 Wk#112
Te (tot) [mg/L]	24-Jun-25	13:28	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	24-Jun-25	13:28	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	25-Jun-25	12:50	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Yb (tot) [mg/L]	25-Jun-25	12:50	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Analysis	10: CV5-WR-HCT-33 Wk#112	11: CV5-WR-HCT-36 Wk#112	12: CV5-WR-HCT-39 Wk#112	13: CV5-WR-HCT-50 Wk#112	14: CV5-WR-HCT-56 Wk#112	15: CV5-WR-HCT-59 Wk#112	16: CV5-WR-HCT-62 Wk#112
Sample Date & Time	19-Jun-25	19-Jun-25	19-Jun-25	19-Jun-25	19-Jun-25	19-Jun-25	19-Jun-25
HumCell Leachate Vol [mL]	964	991	991	1014	1002	1004	930
pH [No unit]	7.33	7.26	6.18	4.85	7.40	5.91	7.36
Alkalinity [mg/L as CaCO3]	4	---	< 2	< 2	10	< 2	6
Alkalinity [mg/L as CaCO3]	---	8	---	---	---	---	---
Conductivity [uS/cm]	8	12	20	109	32	15	15
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	22	< 2	8	< 2
F [mg/L]	< 0.06	---	0.29	0.59	< 0.06	< 0.06	< 0.06
F [mg/L]	---	< 0.06	---	---	---	---	---
Tot.Reactive P [mg/L]	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	0.06
SO4 [mg/L]	< 2	< 2	7	47	6	4	< 2
Cl [mg/L]	< 1	< 1	< 1	< 1	< 1	1	< 1
NO2 [as N mg/L]	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.054	0.001	0.005	0.410	0.056	0.002	< 0.001
As [mg/L]	0.0048	0.577	0.0025	0.0016	0.0048	0.0084	0.449
Ba [mg/L]	< 0.00008	0.00029	0.00022	0.00220	0.00033	0.00019	0.00016
Be [mg/L]	< 0.000007	< 0.000007	0.000014	0.000550	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	< 0.002	< 0.002	< 0.002	0.003	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	1.91	1.98	3.17	10.0	6.46	2.11	2.34
Cd [mg/L]	< 0.000003	< 0.000003	0.000044	0.00417	< 0.000003	0.000011	< 0.000003
Co [mg/L]	0.000048	0.000597	0.00114	0.319	0.000092	0.0159	0.000482
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008	0.00009	< 0.00008
Cu [mg/L]	< 0.001	< 0.001	< 0.001	0.008	< 0.001	< 0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007	< 0.007	8.16	< 0.007	0.076	< 0.007
K [mg/L]	0.015	0.021	0.093	0.267	0.103	0.014	0.009
Li [mg/L]	0.0011	0.0010	0.0066	0.0293	0.0019	0.0013	0.0002
Mg [mg/L]	0.045	0.453	0.359	1.14	0.113	0.325	0.694
Mn [mg/L]	0.00426	0.00152	0.0173	0.173	0.0103	0.0148	0.00209
Mo [mg/L]	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	0.05	0.02	0.08	0.23	0.06	0.03	< 0.01
Ni [mg/L]	< 0.0001	0.0060	0.0023	0.559	0.0001	0.155	0.0053
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	0.00042	< 0.00009	0.00009	< 0.00009
Sb [mg/L]	0.0012	0.149	0.0026	< 0.0009	0.0011	< 0.0009	0.239

OnLine LIMS

00041768O5

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10119-JUN25**

Analysis	10: CV5-WR-HCT-3 3 Wk#112	11: CV5-WR-HCT-3 6 Wk#112	12: CV5-WR-HCT- 39 Wk#112	13: CV5-WR-HCT- 50 Wk#112	14: CV5-WR-HCT-5 6 Wk#112	15: CV5-WR-HCT-5 9 Wk#112	16: CV5-WR-HCT-6 2 Wk#112
Se [mg/L]	< 0.00004	< 0.00004	0.00008	0.00017	0.00006	0.00010	< 0.00004
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00130	0.00119	0.00526	0.01126	0.00360	0.00613	0.00090
Ti [mg/L]	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tl [mg/L]	< 0.000005	0.000006	0.000010	0.000094	0.000012	0.000014	< 0.000005
U [mg/L]	0.000136	0.000034	0.000065	---	---	0.000047	0.000026
U [mg/L]	---	---	---	0.00164	0.000263	---	---
V [mg/L]	0.00036	0.00010	0.00005	< 0.00001	0.00021	0.00001	0.00008
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002	---	< 0.0002	< 0.0002
W [mg/L]	---	---	---	---	< 0.0002	---	---
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	0.00112	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	0.005	1.90	< 0.002	0.003	< 0.002
Au (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	< 0.00001	< 0.00001	0.00002	0.00443	< 0.00001	0.00002	< 0.00001
Cs (tot) [mg/L]	0.0015	0.0070	0.0021	0.0965	0.0213	0.0075	0.0017
Dy (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00017	< 0.00001	< 0.00001	< 0.00001
Er (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00008	< 0.00001	< 0.00001	< 0.00001
Eu (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00004	< 0.00001	< 0.00001	< 0.00001
Ga (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Gd (tot) [mg/L]	< 0.00001	0.00006	< 0.00001	0.00031	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	0.0003	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00003	< 0.00001	< 0.00001	< 0.00001
In (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La (tot) [mg/L]	< 0.00001	< 0.00001	0.00002	0.00316	< 0.00001	0.00001	< 0.00001
Lu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	0.00002	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00003
Nd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00147	< 0.00001	0.00002	< 0.00001
Os (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00043	< 0.00001	< 0.00001	< 0.00001
Pt (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	0.0003	0.0010	0.0015	0.0175	0.0012	0.0012	0.0007
Re (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00025	< 0.00001	< 0.00001	< 0.00001
Ta (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00004	< 0.00001	< 0.00001	< 0.00001
Te (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Yb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00005	< 0.00001	< 0.00001	< 0.00001

OnLine LIMS

00041768O5

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10119-JUN25**

Analysis	17: CV5-WR-HCT-64 Wk#112	18: CV5-WR-HCT-69 Wk#112	19: CV5-ORE-HCT-74 Wk#112	20: CV5-ORE-HCT-76 Wk#112
Sample Date & Time	19-Jun-25	19-Jun-25	19-Jun-25	19-Jun-25
HumCell Leachate Vol [mL]	1006	1010	998	1003
pH [No unit]	6.90	7.29	6.70	7.38
Alkalinity [mg/L as CaCO3]	3	6	< 2	9
Alkalinity [mg/L as CaCO3]	---	---	---	---
Conductivity [uS/cm]	2	9	2	16
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2
F [mg/L]	< 0.06	< 0.06	< 0.06	< 0.06
F [mg/L]	---	---	---	---
Tot.Reactive P [mg/L]	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	< 2	< 2	< 2	< 2
Cl [mg/L]	< 1	< 1	< 1	< 1
NO2 [as N mg/L]	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.010	0.072	0.013	0.036
As [mg/L]	0.0027	0.0033	0.0055	0.0026
Ba [mg/L]	< 0.00008	0.00010	< 0.00008	< 0.00008
Be [mg/L]	0.000011	0.000069	0.000008	0.000036
B [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	0.00018	< 0.00001	0.00010
Ca [mg/L]	0.67	2.20	0.37	3.55
Cd [mg/L]	< 0.000003	0.000003	0.000008	< 0.000003
Co [mg/L]	0.000007	0.000014	0.000007	0.000009
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	0.112	0.052	0.071	0.129
Li [mg/L]	0.0010	0.0008	0.0080	0.0053
Mg [mg/L]	0.024	0.015	0.008	0.054
Mn [mg/L]	0.00813	0.00257	0.0575	0.00090
Mo [mg/L]	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	0.03	0.10	0.06	0.06
Ni [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.0011	0.0011	0.0044	< 0.0009
Se [mg/L]	< 0.00004	< 0.00004	< 0.00004	< 0.00004
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00077	0.00265	0.00073	0.00449
Ti [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tl [mg/L]	0.000034	0.000007	0.000034	0.000016
U [mg/L]	0.00118	0.00195	0.000283	0.00139
U [mg/L]	---	---	---	---
V [mg/L]	0.00001	0.00004	< 0.00001	0.00003
W [mg/L]	0.0003	< 0.0002	< 0.0002	< 0.0002

OnLine LIMS

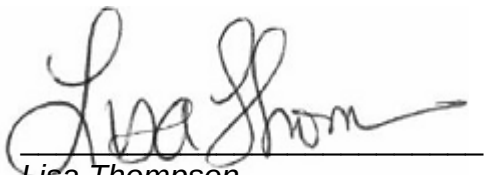
0004176805

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10119-JUN25**

Analysis	17: CV5-WR-HCT-64 Wk#112	18: CV5-WR-HCT-69 Wk#112	19: CV5-ORE-HCT-74 Wk#112	20: CV5-ORE-HCT-76 Wk#112
W [mg/L]	---	---	---	---
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	< 0.00001	0.00004	0.00001	< 0.00001
Cs (tot) [mg/L]	0.0061	0.0018	0.0159	0.0043
Dy (tot) [mg/L]	< 0.00001	0.00002	< 0.00001	< 0.00001
Er (tot) [mg/L]	< 0.00001	0.00002	< 0.00001	< 0.00001
Eu (tot) [mg/L]	< 0.00001	0.00002	< 0.00001	< 0.00001
Ga (tot) [mg/L]	< 0.0001	0.0001	< 0.0001	0.0001
Gd (tot) [mg/L]	< 0.00001	0.00002	< 0.00001	< 0.00001
Ge (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	< 0.00001	0.00002	< 0.00001	< 0.00001
In (tot) [mg/L]	< 0.00001	0.00003	< 0.00001	< 0.00001
Ir (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La (tot) [mg/L]	< 0.00001	0.00003	< 0.00001	< 0.00001
Lu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	< 0.00001	0.00003	< 0.00001	< 0.00001
Nd (tot) [mg/L]	< 0.00001	0.00003	< 0.00001	< 0.00001
Os (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	< 0.00001	0.00002	< 0.00001	< 0.00001
Pt (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	0.0121	0.0032	0.0119	0.0058
Re (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	< 0.00001	0.00002	< 0.00001	< 0.00001
Ta (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	< 0.00001	0.00002	< 0.00001	< 0.00001
Te (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	< 0.00001	0.00002	< 0.00001	< 0.00001
Yb (tot) [mg/L]	< 0.00001	0.00002	< 0.00001	< 0.00001



Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

00041768O5

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

09-June-2025

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 21 May 2025
LR Report: **CA10122-MAY25**
Reference: Columns - Wk#12

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: CV5-CL-1 Wk#12	6: CV5-CL-2 Wk#12	7: CV5-CL-3 Wk#12	8: CV5-CL-4 Wk#12	9: CV5-CL-5 Wk#12	10: CV5-CL-6 Wk#12
Sample Date & Time			21-May-25	21-May-25	21-May-25	21-May-25	21-May-25	21-May-25
HumCell Leachate Vol [mL]	22-May-25	16:39	1959	1997	2029	2012	1944	2016
pH [No unit]	26-May-25	09:02	7.84	7.89	7.60	7.88	7.78	7.60
Conductivity [uS/cm]	23-May-25	15:01	42	47	44	80	59	57
Alkalinity [mg/L as CaCO3]	23-May-25	12:59	20	21	13	40	24	27
Acidity [mg/L as CaCO3]	23-May-25	12:59	< 2	< 2	< 2	< 2	< 2	< 2
SO4 [mg/L]	28-May-25	10:24	0.4	2.5	6.7	6.2	4.2	4.8
F [mg/L]	29-May-25	10:55	< 0.06	0.09	< 0.06	0.32	0.13	0.16
NO2 [as N mg/L]	28-May-25	14:08	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	28-May-25	14:08	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
NO2+NO3 [as N mg/L]	28-May-25	14:08	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Cl [mg/L]	28-May-25	10:24	0.3	< 0.2	< 0.2	< 0.2	0.3	0.4
Hg [mg/L]	26-May-25	15:27	< 0.00001	< 0.00001	< 0.00001	---	< 0.00001	< 0.00001
Hg [mg/L]	05-Jun-25	15:33	---	---	---	< 0.00001	---	---
Ag [mg/L]	26-May-25	15:27	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	26-May-25	15:27	0.213	0.195	0.039	0.125	0.095	0.102
As [mg/L]	26-May-25	15:27	0.145	0.671	3.41	1.92	2.03	2.19
Ba [mg/L]	26-May-25	15:27	0.00020	0.00031	0.00087	0.00133	0.00055	0.00064
B [mg/L]	26-May-25	15:27	0.005	0.010	0.012	0.047	0.019	0.023
Be [mg/L]	26-May-25	15:27	0.000021	0.000049	0.000009	0.000050	0.000030	0.000048
Bi [mg/L]	26-May-25	15:27	0.00027	0.00019	0.00002	0.00018	0.00019	0.00024
Ca [mg/L]	26-May-25	15:27	5.27	5.64	6.22	6.45	6.03	6.17
Cd [mg/L]	26-May-25	15:27	0.000004	< 0.000003	0.000004	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	26-May-25	15:27	0.000018	0.000051	0.000685	0.000141	0.000158	0.000154
Cr [mg/L]	26-May-25	15:27	< 0.00008	< 0.00008	0.00009	0.00014	< 0.00008	< 0.00008
Cu [mg/L]	26-May-25	15:27	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	26-May-25	15:27	< 0.007	< 0.007	< 0.007	0.009	< 0.007	< 0.007
K [mg/L]	26-May-25	15:27	1.33	1.40	0.666	6.20	2.15	2.35
Li [mg/L]	26-May-25	15:27	0.0339	0.0651	0.0502	0.352	0.139	0.171
Mg [mg/L]	26-May-25	15:27	0.383	0.759	0.768	1.47	0.866	0.871
Mn [mg/L]	26-May-25	15:27	0.00979	0.00776	0.0102	0.0117	0.0135	0.0116
Mo [mg/L]	26-May-25	15:27	0.0006	0.0009	0.0004	0.0009	0.0008	0.0009
Na [mg/L]	26-May-25	15:27	1.59	1.28	1.15	3.86	3.09	3.80
Ni [mg/L]	26-May-25	15:27	< 0.0001	0.0006	0.0160	0.0023	0.0022	0.0023
Pb [mg/L]	26-May-25	15:27	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	26-May-25	15:27	0.0809	0.146	0.644	0.252	0.300	0.354

OnLine LIMS

00004140778

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10122-MAY25**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: CV5-CL-1 Wk#12	6: CV5-CL-2 Wk#12	7: CV5-CL-3 Wk#12	8: CV5-CL-4 Wk#12	9: CV5-CL-5 Wk#12	10: CV5-CL-6 Wk#12
Se [mg/L]	26-May-25	15:27	0.00013	0.00014	0.00035	0.00012	0.00013	0.00016
Sn [mg/L]	26-May-25	15:27	0.00269	0.00341	0.00227	0.00402	0.00281	0.00248
Sr [mg/L]	26-May-25	15:27	0.0136	0.0169	0.0304	0.0296	0.0222	0.0221
Ti [mg/L]	26-May-25	15:27	< 0.0001	0.0001	0.0002	0.0004	< 0.0001	0.0001
Tl [mg/L]	26-May-25	15:27	0.000072	0.000078	0.000083	0.000234	0.000115	0.000124
U [mg/L]	26-May-25	15:27	0.229	0.212	0.0362	0.585	0.302	0.305
V [mg/L]	26-May-25	15:27	0.00019	0.00112	0.00398	0.00205	0.00149	0.00162
W [mg/L]	26-May-25	15:18	0.00072	0.00098	0.00110	0.0152	0.00407	0.0130
Y [mg/L]	26-May-25	15:18	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	26-May-25	15:18	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au [mg/L]	26-May-25	15:18	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce [mg/L]	28-May-25	12:13	< 0.00001	< 0.00001	< 0.00001	0.00002	< 0.00001	0.00001
Cs [mg/L]	26-May-25	15:18	0.0135	0.0599	0.193	0.229	0.104	0.107
Dy [mg/L]	28-May-25	12:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er [mg/L]	28-May-25	12:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu [mg/L]	28-May-25	12:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga [mg/L]	28-May-25	12:13	0.0010	0.0010	< 0.0001	0.0025	0.0007	0.0006
Gd (tot) [mg/L]	28-May-25	12:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge [mg/L]	26-May-25	15:18	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001
Hf [mg/L]	26-May-25	15:18	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho [mg/L]	28-May-25	12:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In [mg/L]	28-May-25	12:13	0.00001	0.00001	< 0.00001	0.00002	0.00001	0.00001
Ir [mg/L]	26-May-25	15:17	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La [mg/L]	28-May-25	12:13	0.00001	0.00001	0.00005	0.00002	0.00003	0.00004
Lu [mg/L]	28-May-25	12:13	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb [mg/L]	26-May-25	15:17	< 0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001
Nd [mg/L]	28-May-25	12:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Os [mg/L]	26-May-25	15:17	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd [mg/L]	26-May-25	15:17	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr [mg/L]	28-May-25	12:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt [mg/L]	26-May-25	15:17	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh [mg/L]	26-May-25	15:17	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Rb [mg/L]	26-May-25	15:17	0.0661	0.0655	0.0357	0.317	0.101	0.110
Re [mg/L]	26-May-25	15:17	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ru [mg/L]	26-May-25	15:17	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sm [mg/L]	28-May-25	12:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc [mg/L]	28-May-25	12:13	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001
Ta [mg/L]	26-May-25	15:17	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001
Tb [mg/L]	28-May-25	12:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te [mg/L]	26-May-25	15:17	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th [mg/L]	26-May-25	15:17	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm [mg/L]	28-May-25	12:13	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

NA - Not applicable

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

00041407778

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

02-June-2025

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 22 May 2025
LR Report: **CA10126-MAY25**
Reference: Wk#108

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT -2 Wk#108	6: CV5-WR-HCT -5 Wk#108	7: CV5-WR-HCT-5 (DUP) Wk#108	8: CV5-WR-HCT -14 Wk#108	9: CV5-WR-HCT -22 Wk#108
Sample Date & Time			22-May-25	22-May-25	22-May-25	22-May-25	22-May-25
HumCell Leachate Vol [mL]	22-May-25	16:42	1086	1090	1170	1095	1083
pH [No unit]	27-May-25	14:21	6.27	6.51	6.60	6.88	6.89
Alkalinity [mg/L as CaCO3]	27-May-25	14:22	3	7	4	15	4
Conductivity [uS/cm]	28-May-25	10:15	110	49	28	35	15
Acidity [mg/L as CaCO3]	27-May-25	14:25	5	< 2	2	< 2	<2
F [mg/L]	29-May-25	14:17	< 0.06	0.15	< 0.06	< 0.06	< 0.06
Tot.Reactive P [mg/L]	27-May-25	07:55	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	30-May-25	14:54	49	19	8	3	< 2
Cl [mg/L]	30-May-25	14:54	< 1	< 1	< 1	< 1	< 1
NO2 [as N mg/L]	28-May-25	14:16	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	28-May-25	14:16	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	28-May-25	14:16	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	28-May-25	12:19	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	28-May-25	12:19	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	28-May-25	12:19	0.010	0.023	0.013	0.068	0.011
As [mg/L]	28-May-25	12:19	0.0010	0.135	0.0686	0.0213	0.0572
Ba [mg/L]	28-May-25	12:19	0.00068	0.00042	0.00020	0.00012	< 0.00008
Be [mg/L]	28-May-25	12:19	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	28-May-25	12:19	0.004	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	28-May-25	12:19	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	28-May-25	12:19	18.4	10.1	4.48	6.87	1.99
Cd [mg/L]	28-May-25	12:19	0.000009	0.000003	< 0.000003	< 0.000003	0.000004
Co [mg/L]	28-May-25	12:19	0.00149	0.000811	0.000911	0.000080	0.000355
Cr [mg/L]	28-May-25	12:19	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	28-May-25	12:19	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	28-May-25	12:19	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	28-May-25	12:19	0.156	0.070	0.041	0.026	0.018
Li [mg/L]	28-May-25	12:19	0.0051	0.0086	0.0053	0.0037	0.0040
Mg [mg/L]	28-May-25	12:19	0.534	0.291	0.161	0.171	0.163

OnLine LIMS

0004132874

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10126-MAY25**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT -2 Wk#108	6: CV5-WR-HCT -5 Wk#108	7: CV5-WR-HCT-5 (DUP) Wk#108	8: CV5-WR-HCT -14 Wk#108	9: CV5-WR-HCT -22 Wk#108
Mn [mg/L]	28-May-25	12:19	0.00969	0.00767	0.00459	0.0101	0.00111
Mo [mg/L]	28-May-25	12:19	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	28-May-25	12:19	0.17	0.09	0.06	0.13	0.06
Ni [mg/L]	28-May-25	12:19	0.0040	0.0040	0.0033	0.0001	0.0007
Pb [mg/L]	28-May-25	12:19	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	28-May-25	12:18	0.0016	0.0446	0.0169	0.0026	0.0026
Se [mg/L]	28-May-25	12:18	0.00024	< 0.00004	< 0.00004	0.00005	< 0.00004
Sn [mg/L]	28-May-25	12:18	0.00008	0.00012	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	28-May-25	12:18	0.0192	0.00738	0.00394	0.00404	0.00456
Ti [mg/L]	28-May-25	12:18	< 0.0001	< 0.0001	< 0.0001	0.0003	< 0.0001
Tl [mg/L]	28-May-25	12:18	0.000005	0.000005	< 0.000005	< 0.000005	< 0.000005
U [mg/L]	28-May-25	12:18	0.000111	0.000020	0.000043	0.000233	0.000093
V [mg/L]	28-May-25	12:18	0.00007	0.00038	0.00023	0.00192	0.00071
W [mg/L]	28-May-25	12:16	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	28-May-25	12:16	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	28-May-25	12:16	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	28-May-25	12:16	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	28-May-25	12:16	0.00008	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Cs (tot) [mg/L]	28-May-25	12:16	0.0094	0.0104	0.0081	0.0016	0.0037
Dy (tot) [mg/L]	28-May-25	12:16	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er (tot) [mg/L]	28-May-25	12:16	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu (tot) [mg/L]	28-May-25	12:16	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga (tot) [mg/L]	28-May-25	12:16	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001
Gd (tot) [mg/L]	28-May-25	12:16	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	28-May-25	12:16	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	28-May-25	12:16	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	28-May-25	12:16	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In (tot) [mg/L]	28-May-25	12:16	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir (tot) [mg/L]	28-May-25	12:16	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La (tot) [mg/L]	28-May-25	12:16	0.00009	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Lu (tot) [mg/L]	28-May-25	12:16	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	28-May-25	12:16	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Nd (tot) [mg/L]	28-May-25	12:16	0.00003	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Os (tot) [mg/L]	28-May-25	12:16	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	28-May-25	12:16	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	28-May-25	12:16	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt (tot) [mg/L]	28-May-25	12:16	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	28-May-25	12:16	0.0044	0.0034	0.0023	0.0004	0.0011
Re (tot) [mg/L]	28-May-25	12:15	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	28-May-25	12:15	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	28-May-25	12:15	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	28-May-25	12:15	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ta (tot) [mg/L]	28-May-25	12:15	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	28-May-25	12:15	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te (tot) [mg/L]	28-May-25	12:15	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001

OnLine LIMS

0004132874

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10126-MAY25**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT -2 Wk#108	6: CV5-WR-HCT -5 Wk#108	7: CV5-WR-HCT-5 (DUP) Wk#108	8: CV5-WR-HCT -14 Wk#108	9: CV5-WR-HCT -22 Wk#108
Th (tot) [mg/L]	28-May-25	12:15	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	28-May-25	12:15	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Yb (tot) [mg/L]	28-May-25	12:15	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Analysis	10: CV5-WR-HCT -33 Wk#108	11: CV5-WR-HCT -36 Wk#108	12: CV5-WR-HCT -39 Wk#108	13: CV5-WR-HCT -50 Wk#108	14: CV5-WR-HCT -56 Wk#108	15: CV5-WR-HCT -59 Wk#108	16: CV5-WR-HCT -62 Wk#108
Sample Date & Time	22-May-25	22-May-25	22-May-25	22-May-25	22-May-25	22-May-25	22-May-25
HumCell Leachate Vol [mL]	1118	1054	1079	1024	1042	1019	1262
pH [No unit]	7.07	6.64	6.11	5.57	6.85	5.62	6.78
Alkalinity [mg/L as CaCO3]	14	12	< 2	< 2	9	< 2	13
Conductivity [uS/cm]	23	23	75	186	71	37	37
Acidity [mg/L as CaCO3]	< 2	< 2	4	19	< 2	17	< 2
F [mg/L]	< 0.06	< 0.06	0.43	0.69	< 0.06	< 0.06	< 0.06
Tot.Reactive P [mg/L]	< 0.03	0.28	< 0.03	< 0.03	< 0.03	< 0.03	0.22
SO4 [mg/L]	< 2	3	33	90	26	12	9
Cl [mg/L]	< 1	< 1	< 1	< 1	< 1	3	< 1
NO2 [as N mg/L]	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.064	0.002	0.008	0.234	0.037	0.002	< 0.001
As [mg/L]	0.0059	1.32	0.0036	0.0029	0.0046	0.0130	1.20
Ba [mg/L]	0.00023	0.00056	0.00050	0.00246	0.00073	0.00037	0.00049
Be [mg/L]	< 0.000007	< 0.000007	0.000014	0.000275	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	< 0.002	< 0.002	0.002	0.003	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	4.58	3.18	10.4	26.1	12.2	4.66	5.31
Cd [mg/L]	0.000004	< 0.000003	0.000088	0.00178	< 0.000003	0.000006	< 0.000003
Co [mg/L]	0.000087	0.000996	0.00258	0.223	0.000214	0.0216	0.00240
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	< 0.001	< 0.001	< 0.001	0.004	< 0.001	< 0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007	< 0.007	4.22	< 0.007	0.050	< 0.007
K [mg/L]	0.039	0.035	0.184	0.335	0.155	0.024	0.019
Li [mg/L]	0.0022	0.0018	0.0102	0.0353	0.0019	0.0023	0.0004
Mg [mg/L]	0.087	0.715	1.26	1.88	0.254	0.659	2.05
Mn [mg/L]	0.0125	0.00236	0.0501	0.525	0.0203	0.0290	0.00791
Mo [mg/L]	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	0.11	0.02	0.17	0.39	0.10	0.04	0.02
Ni [mg/L]	< 0.0001	0.0115	0.0054	0.432	0.0004	0.251	0.0269
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.0012	0.257	0.0044	0.0015	< 0.0009	0.0010	0.547
Se [mg/L]	< 0.00004	< 0.00004	0.00017	0.00021	0.00008	0.00019	0.00006

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0004132874

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10126-MAY25**

Analysis	10: CV5-WR-HCT -33 Wk#108	11: CV5-WR-HCT -36 Wk#108	12: CV5-WR-HCT -39 Wk#108	13: CV5-WR-HCT -50 Wk#108	14: CV5-WR-HCT -56 Wk#108	15: CV5-WR-HCT -59 Wk#108	16: CV5-WR-HCT -62 Wk#108
Sn [mg/L]	< 0.00006	0.00007	< 0.00006	< 0.00006	< 0.00006	< 0.00006	0.00009
Sr [mg/L]	0.00307	0.00211	0.0184	0.0220	0.00745	0.0148	0.00246
Ti [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tl [mg/L]	< 0.000005	< 0.000005	0.000011	0.000058	< 0.000005	0.000014	< 0.000005
U [mg/L]	0.000127	0.000018	0.000062	0.000819	0.000406	0.000006	0.000054
V [mg/L]	0.00065	0.00015	0.00007	< 0.00001	0.00019	< 0.00001	0.00009
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	0.00102	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	0.010	1.46	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	< 0.00001	< 0.00001	0.00013	0.00529	< 0.00001	0.00003	< 0.00001
Cs (tot) [mg/L]	0.0028	0.0112	0.0032	0.0981	0.0289	0.0120	0.0031
Dy (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00017	< 0.00001	< 0.00001	< 0.00001
Er (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00007	< 0.00001	< 0.00001	< 0.00001
Eu (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00004	< 0.00001	< 0.00001	< 0.00001
Ga (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001	< 0.0001
Gd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00032	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00003	< 0.00001	< 0.00001	< 0.00001
In (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La (tot) [mg/L]	< 0.00001	0.00002	0.00013	0.00421	< 0.00001	0.00003	0.00003
Lu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Nd (tot) [mg/L]	< 0.00001	< 0.00001	0.00003	0.00171	< 0.00001	< 0.00001	< 0.00001
Os (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	< 0.00001	< 0.00001	0.00001	0.00049	< 0.00001	< 0.00001	< 0.00001
Pt (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	0.0006	0.0019	0.0030	0.0215	0.0010	0.0025	0.0013
Re (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00027	< 0.00001	< 0.00001	< 0.00001
Ta (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00004	< 0.00001	< 0.00001	< 0.00001
Te (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Yb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00005	< 0.00001	< 0.00001	< 0.00001

OnLine LIMS

0004132874

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10126-MAY25**

Analysis	17: CV5-WR-HCT-64 Wk#108	18: CV5-WR-HCT-69 Wk#108	19: CV5-ORE-HCT-74 Wk#108	20: CV5-ORE-HCT-76 Wk#108
Sample Date & Time	22-May-25	22-May-25	22-May-25	22-May-25
HumCell Leachate Vol [mL]	1097	1163	1054	1081
pH [No unit]	6.69	6.87	7.14	6.69
Alkalinity [mg/L as CaCO3]	3	7	3	12
Conductivity [uS/cm]	4	15	<2	18
Acidity [mg/L as CaCO3]	3	< 2	<2	< 2
F [mg/L]	< 0.06	< 0.06	< 0.06	< 0.06
Tot.Reactive P [mg/L]	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	< 2	< 2	< 2	< 2
Cl [mg/L]	< 1	< 1	< 1	< 1
NO2 [as N mg/L]	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.014	0.055	0.021	0.026
As [mg/L]	0.0075	0.0030	0.0103	0.0026
Ba [mg/L]	< 0.00008	0.00011	< 0.00008	0.00014
Be [mg/L]	0.000021	0.000093	0.000008	0.000046
B [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	0.00018	< 0.00001	0.00006
Ca [mg/L]	1.01	2.71	0.51	3.42
Cd [mg/L]	0.000028	< 0.000003	0.000005	< 0.000003
Co [mg/L]	0.000463	0.000017	0.000026	0.000014
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	0.052	< 0.007	< 0.007	< 0.007
K [mg/L]	0.109	0.054	0.097	0.161
Li [mg/L]	0.0010	0.0009	0.0090	0.0065
Mg [mg/L]	0.040	0.019	0.011	0.057
Mn [mg/L]	0.0156	0.00376	0.0808	0.00144
Mo [mg/L]	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	0.04	0.12	0.10	0.09
Ni [mg/L]	0.0014	< 0.0001	0.0003	< 0.0001
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.0013	0.0020	0.0118	< 0.0009
Se [mg/L]	< 0.00004	< 0.00004	< 0.00004	< 0.00004
Sn [mg/L]	< 0.00006	0.00007	0.00008	< 0.00006
Sr [mg/L]	0.00120	0.00336	0.00108	0.00486
Ti [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tl [mg/L]	0.000034	0.000006	0.000048	0.000013
U [mg/L]	0.000096	0.00394	0.000123	0.00105
V [mg/L]	< 0.00001	0.00004	< 0.00001	0.00004
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	0.00017	< 0.00002	< 0.00002	< 0.00002

OnLine LIMS

0004132874

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10126-MAY25**

Analysis	17: CV5-WR-HCT-64 Wk#108	18: CV5-WR-HCT-69 Wk#108	19: CV5-ORE-HCT-74 Wk#108	20: CV5-ORE-HCT-76 Wk#108
Zn [mg/L]	0.006	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Cs (tot) [mg/L]	0.0064	0.0021	0.0191	0.0045
Dy (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga (tot) [mg/L]	< 0.0001	0.0001	0.0001	0.0001
Gd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Lu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Nd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Os (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	0.0131	0.0038	0.0173	0.0064
Re (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ta (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Yb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0004132874

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

29-January-2025

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 23 January 2025
LR Report: **CA10137-JAN25**
Reference: Wk#91

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#91	6: CV5-WR-HCT-5 Wk#91	7: CV5-WR-HCT-5 (DUP) Wk#91	8: CV5-WR-HCT-1 4 Wk#91	9: CV5-WR-HCT-2 2 Wk#91
Sample Date & Time			23-Jan-25	23-Jan-25	23-Jan-25	23-Jan-25	23-Jan-25
HumCell Leachate Vol [mL]	23-Jan-25	15:57	1005	1016	982	1013	1039
pH [No unit]	27-Jan-25	13:06	6.27	6.86	6.64	6.80	6.69
Conductivity [uS/cm]	24-Jan-25	10:58	41	24	16	28	9

Analysis	10: CV5-WR-HCT-3 3 Wk#91	11: CV5-WR-HCT-3 6 Wk#91	12: CV5-WR-HCT-3 9 Wk#91	13: CV5-WR-HCT-5 0 Wk#91	14: CV5-WR-HCT-5 6 Wk#91	15: CV5-WR-HCT-5 9 Wk#91	16: CV5-WR-HCT-6 2 Wk#91
Sample Date & Time	23-Jan-25	23-Jan-25	23-Jan-25	23-Jan-25	23-Jan-25	23-Jan-25	23-Jan-25
HumCell Leachate Vol [mL]	1032	1049	1029	1013	1034	1030	1032
pH [No unit]	7.16	7.18	6.45	6.55	7.07	6.54	6.98
Conductivity [uS/cm]	20	33	27	59	35	16	22

Analysis	17: CV5-WR-HCT-6 4 Wk#91	18: CV5-WR-HCT-6 9 Wk#91	19: CV5-ORE-HCT-7 4 Wk#91	20: CV5-ORE-HCT-7 6 Wk#91
Sample Date & Time	23-Jan-25	23-Jan-25	23-Jan-25	23-Jan-25
HumCell Leachate Vol [mL]	1026	1025	1049	1032
pH [No unit]	6.94	6.74	6.54	6.81
Conductivity [uS/cm]	9	11	3	20

Chris Sullivan

Chris Sullivan, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0004001414

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

28-August-2025

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 21 August 2025
LR Report: **CA10141-AUG25**
Reference: Wk#121

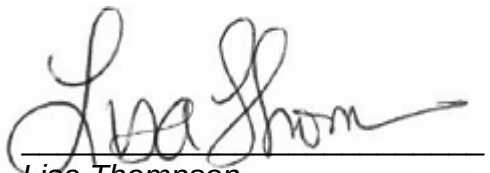
Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#121	6: CV5-WR-HCT-5 Wk#121	7: CV5-WR-HCT-5 (DUP) Wk#121	8: CV5-WR-HCT-14 Wk#121	9: CV5-WR-HCT-22 Wk#121	10: CV5-WR-HCT-33 Wk#121
Sample Date & Time			21-Aug-25	21-Aug-25	21-Aug-25	21-Aug-25	21-Aug-25	21-Aug-25
HumCell Leachate Vol [mL]	25-Aug-25	11:12	952	981	978	988	1005	974
pH [No unit]	26-Aug-25	13:57	7.02	6.13	7.49	6.98	7.11	7.01
Conductivity [uS/cm]	25-Aug-25	13:20	34	22	17	21	10	11

Analysis	11: CV5-WR-HCT-36 Wk#121	12: CV5-WR-HCT-39 Wk#121	13: CV5-WR-HCT-50 Wk#121	14: CV5-WR-HCT-56 Wk#121	15: CV5-WR-HCT-59 Wk#121	16: CV5-WR-HCT-62 Wk#121	17: CV5-WR-HCT-64 Wk#121	18: CV5-WR-HCT-69 Wk#121
Sample Date & Time	21-Aug-25	21-Aug-25	21-Aug-25	21-Aug-25	21-Aug-25	21-Aug-25	21-Aug-25	21-Aug-25
HumCell Leachate Vol [mL]	1021	965	1020	1010	1021	953	1011	998
pH [No unit]	7.13	5.77	4.78	6.66	6.10	6.32	6.97	6.57
Conductivity [uS/cm]	19	22	107	34	14	19	4	10

Analysis	19: CV5-ORE-HCT-74 Wk#121	20: CV5-ORE-HCT-76 Wk#121
Sample Date & Time	21-Aug-25	21-Aug-25
HumCell Leachate Vol [mL]	1017	1025
pH [No unit]	6.93	6.30
Conductivity [uS/cm]	3	17



Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0004237623

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

08-May-2025

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 23 April 2025
LR Report: **CA10152-APR25**
Reference: Columns - Wk#8

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: CV5-CL-1 Wk#8	6: CV5-CL-2 Wk#8	7: CV5-CL-3 Wk#8	8: CV5-CL-4 Wk#8	9: CV5-CL-5 Wk#8	10: CV5-CL-6 Wk#8
Sample Date & Time			23-Apr-25	23-Apr-25	23-Apr-25	23-Apr-25	23-Apr-25	23-Apr-25
HumCell Leachate Vol [mL]	25-Apr-25	15:34	2022	2023	2007	2003	2011	2012
pH [No unit]	29-Apr-25	10:16	7.99	7.97	7.66	8.14	7.91	8.05
Conductivity [uS/cm]	29-Apr-25	10:16	45	52	48	111	76	77
Alkalinity [mg/L as CaCO3]	29-Apr-25	10:16	25	24	15	48	32	32
Acidity [mg/L as CaCO3]	25-Apr-25	13:00	< 2	< 2	< 2	< 2	< 2	< 2
SO4 [mg/L]	08-May-25	08:36	0.4	2.7	5.9	7.1	5.2	6.3
F [mg/L]	25-Apr-25	13:08	< 0.06	0.16	0.14	0.62	0.30	0.31
NO2 [as N mg/L]	25-Apr-25	14:43	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	25-Apr-25	14:43	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
NO2+NO3 [as N mg/L]	25-Apr-25	14:43	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Cl [mg/L]	08-May-25	08:36	0.5	< 0.2	0.5	< 0.2	1.3	2.0
Hg [mg/L]	25-Apr-25	17:09	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	28-Apr-25	14:59	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	28-Apr-25	14:59	0.192	0.176	0.040	0.100	0.100	0.099
As [mg/L]	28-Apr-25	14:59	0.219	0.802	3.54	2.95	2.79	2.83
Ba [mg/L]	28-Apr-25	14:59	0.00024	0.00035	0.00084	0.00161	0.00068	0.00072
B [mg/L]	28-Apr-25	14:59	0.007	0.014	0.017	0.091	0.034	0.039
Be [mg/L]	28-Apr-25	14:59	0.000033	0.000031	0.000013	0.000050	0.000040	0.000040
Bi [mg/L]	28-Apr-25	14:59	0.00050	0.00022	0.00002	0.00021	0.00023	0.00025
Ca [mg/L]	28-Apr-25	14:59	5.01	5.50	5.82	6.56	6.32	6.18
Cd [mg/L]	28-Apr-25	14:59	0.000007	< 0.000003	0.000007	0.000004	0.000003	0.000007
Co [mg/L]	28-Apr-25	14:59	0.000018	0.000066	0.000529	0.000162	0.000182	0.000197
Cr [mg/L]	28-Apr-25	14:59	< 0.00008	0.00009	0.00014	0.00010	0.00012	0.00010
Cu [mg/L]	28-Apr-25	14:59	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	28-Apr-25	14:59	< 0.007	< 0.007	< 0.007	0.007	< 0.007	< 0.007
K [mg/L]	28-Apr-25	14:59	1.87	1.93	0.957	9.89	3.10	3.21
Li [mg/L]	28-Apr-25	14:59	0.0612	0.112	0.0802	0.593	0.271	0.316
Mg [mg/L]	28-Apr-25	14:59	0.454	0.837	0.739	1.46	0.949	0.939
Mn [mg/L]	28-Apr-25	14:59	0.00741	0.00680	0.00871	0.00939	0.0123	0.0110
Mo [mg/L]	28-Apr-25	14:59	0.0006	0.0010	0.0006	0.0014	0.0016	0.0016
Na [mg/L]	28-Apr-25	14:59	3.04	2.40	2.57	7.55	6.21	7.52
Ni [mg/L]	28-Apr-25	14:59	< 0.0001	0.0008	0.0135	0.0040	0.0029	0.0033
Pb [mg/L]	28-Apr-25	15:00	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	28-Apr-25	15:00	0.128	0.223	0.766	0.548	0.549	0.600
Se [mg/L]	28-Apr-25	15:00	0.00014	0.00013	0.00037	0.00015	0.00013	0.00014

OnLine LIMS

0004105064

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10152-APR25**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: CV5-CL-1 Wk#8	6: CV5-CL-2 Wk#8	7: CV5-CL-3 Wk#8	8: CV5-CL-4 Wk#8	9: CV5-CL-5 Wk#8	10: CV5-CL-6 Wk#8
Sn [mg/L]	28-Apr-25	15:00	0.00452	0.00441	0.00312	0.00727	0.00501	0.00424
Sr [mg/L]	28-Apr-25	15:00	0.0140	0.0174	0.0284	0.0294	0.0240	0.0233
Ti [mg/L]	28-Apr-25	15:00	< 0.0001	0.00014	0.00016	0.00044	0.00013	< 0.0001
Tl [mg/L]	28-Apr-25	15:00	0.000102	0.000083	0.000095	0.000316	0.000174	0.000173
U [mg/L]	28-Apr-25	15:00	0.374	0.285	0.0593	0.675	0.415	0.411
V [mg/L]	28-Apr-25	15:00	0.00028	0.00140	0.00497	0.00477	0.00213	0.00213
W [mg/L]	28-Apr-25	15:00	0.00233	0.00113	0.00239	0.0235	0.0129	0.0318
Y [mg/L]	28-Apr-25	15:00	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	28-Apr-25	15:00	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au [mg/L]	28-Apr-25	15:00	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce [mg/L]	29-Apr-25	11:51	0.00001	0.00001	< 0.00001	0.00002	0.00002	0.00001
Cs [mg/L]	28-Apr-25	15:00	0.0166	0.0673	0.193	0.269	0.123	0.123
Dy [mg/L]	29-Apr-25	11:51	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er [mg/L]	29-Apr-25	11:51	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu [mg/L]	29-Apr-25	11:51	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga [mg/L]	29-Apr-25	11:51	0.0012	0.0011	< 0.0001	0.0020	0.0008	0.0007
Gd (tot) [mg/L]	29-Apr-25	11:51	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge [mg/L]	28-Apr-25	15:00	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001
Hf [mg/L]	28-Apr-25	15:00	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho [mg/L]	29-Apr-25	11:51	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In [mg/L]	29-Apr-25	11:51	0.00003	0.00003	0.00001	0.00003	0.00002	0.00002
Ir [mg/L]	28-Apr-25	15:00	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La [mg/L]	29-Apr-25	11:51	0.00001	0.00002	0.00004	0.00003	0.00003	0.00003
Lu [mg/L]	29-Apr-25	11:51	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb [mg/L]	28-Apr-25	15:00	< 0.0001	< 0.0001	< 0.0001	0.0002	0.0001	0.0001
Nd [mg/L]	29-Apr-25	11:51	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Os [mg/L]	28-Apr-25	15:00	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd [mg/L]	28-Apr-25	15:00	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr [mg/L]	29-Apr-25	11:51	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt [mg/L]	28-Apr-25	15:00	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh [mg/L]	28-Apr-25	15:00	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Rb [mg/L]	28-Apr-25	15:00	0.0879	0.0818	0.0397	0.372	0.133	0.135
Re [mg/L]	28-Apr-25	15:00	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ru [mg/L]	28-Apr-25	15:00	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sm [mg/L]	29-Apr-25	11:51	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc [mg/L]	29-Apr-25	11:51	< 0.0001	< 0.0001	< 0.0001	0.0003	< 0.0001	< 0.0001
Ta [mg/L]	28-Apr-25	15:00	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001
Tb [mg/L]	29-Apr-25	11:51	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te [mg/L]	28-Apr-25	15:01	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th [mg/L]	28-Apr-25	15:01	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm [mg/L]	29-Apr-25	11:51	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

NA - Not applicable

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0004105064

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

07-May-2025

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 24 April 2025
LR Report: **CA10153-APR25**
Reference: Wk#104

Copy: #2

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT -2 Wk#104	6: CV5-WR-HCT -5 Wk#104	7: CV5-WR-HCT-5 (DUP) Wk#104	8: CV5-WR-HCT -14 Wk#104	9: CV5-WR-HCT -22 Wk#104
Sample Date & Time			24-Apr-25	24-Apr-25	24-Apr-25	24-Apr-25	24-Apr-25
HumCell Leachate Vol [mL]	25-Apr-25	15:39	1157	1117	1087	1059	1077
pH [No unit]	28-Apr-25	09:14	6.48	6.69	6.68	7.18	6.83
Alkalinity [mg/L as CaCO3]	29-Apr-25	10:17	3	6	4	13	4
Conductivity [uS/cm]	29-Apr-25	10:18	68	45	27	33	12
Acidity [mg/L as CaCO3]	28-Apr-25	09:15	3	< 2	< 2	< 2	< 2
F [mg/L]	28-Apr-25	11:29	< 0.06	0.11	< 0.06	< 0.06	0.07
Tot.Reactive P [mg/L]	28-Apr-25	09:36	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	05-May-25	12:07	31	17	9	3	< 2
Cl [mg/L]	05-May-25	12:07	< 1	< 1	< 1	< 1	< 1
NO2 [as N mg/L]	25-Apr-25	14:43	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	25-Apr-25	14:43	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	25-Apr-25	14:43	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	25-Apr-25	17:09	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	28-Apr-25	15:01	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	28-Apr-25	15:01	0.008	0.017	0.012	0.068	0.012
As [mg/L]	28-Apr-25	15:01	0.0014	0.0913	0.0546	0.0174	0.0541
Ba [mg/L]	28-Apr-25	15:01	0.00050	0.00031	0.00019	0.00009	0.00009
Be [mg/L]	28-Apr-25	15:01	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	28-Apr-25	15:01	0.003	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	28-Apr-25	15:01	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	28-Apr-25	15:01	11.9	7.83	4.61	6.49	2.02
Cd [mg/L]	28-Apr-25	15:01	0.000003	0.000005	< 0.000003	0.000003	< 0.000003
Co [mg/L]	28-Apr-25	15:02	0.000891	0.000632	0.000449	0.000066	0.000111
Cr [mg/L]	28-Apr-25	15:02	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	28-Apr-25	15:02	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	28-Apr-25	15:02	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	28-Apr-25	15:02	0.148	0.082	0.063	0.044	0.039
Li [mg/L]	28-Apr-25	15:02	0.0043	0.0066	0.0049	0.0034	0.0040
Mg [mg/L]	28-Apr-25	15:02	0.358	0.214	0.152	0.165	0.171

OnLine LIMS

0004103362

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10153-APR25**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT -2 Wk#104	6: CV5-WR-HCT -5 Wk#104	7: CV5-WR-HCT-5 (DUP) Wk#104	8: CV5-WR-HCT -14 Wk#104	9: CV5-WR-HCT -22 Wk#104
Mn [mg/L]	28-Apr-25	15:02	0.00678	0.00505	0.00347	0.00805	0.00044
Mo [mg/L]	28-Apr-25	15:02	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	28-Apr-25	15:02	0.13	0.07	0.06	0.14	0.06
Ni [mg/L]	28-Apr-25	15:02	0.0027	0.0029	0.0017	0.0001	0.0003
Pb [mg/L]	28-Apr-25	15:02	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	28-Apr-25	15:02	0.0013	0.0340	0.0159	0.0027	0.0033
Se [mg/L]	28-Apr-25	15:02	0.00018	< 0.00004	< 0.00004	0.00004	< 0.00004
Sn [mg/L]	28-Apr-25	15:02	0.00007	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	28-Apr-25	15:02	0.0121	0.00548	0.00382	0.00357	0.00430
Ti [mg/L]	28-Apr-25	15:03	< 0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001
Tl [mg/L]	28-Apr-25	15:03	0.000010	0.000007	0.000005	< 0.000005	< 0.000005
U [mg/L]	28-Apr-25	15:03	0.000080	0.000032	0.000027	0.000115	0.000292
V [mg/L]	28-Apr-25	15:03	0.00008	0.00028	0.00022	0.00168	0.00077
W [mg/L]	28-Apr-25	15:03	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	28-Apr-25	15:03	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	29-Apr-25	11:53	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	28-Apr-25	15:03	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	29-Apr-25	11:52	0.00003	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Cs (tot) [mg/L]	28-Apr-25	15:03	0.0073	0.0082	0.0078	0.0014	0.0037
Dy (tot) [mg/L]	29-Apr-25	11:52	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er (tot) [mg/L]	29-Apr-25	11:52	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu (tot) [mg/L]	29-Apr-25	11:52	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga (tot) [mg/L]	29-Apr-25	11:52	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001
Gd (tot) [mg/L]	29-Apr-25	11:52	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	28-Apr-25	15:03	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	28-Apr-25	15:03	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	29-Apr-25	11:52	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In (tot) [mg/L]	29-Apr-25	11:52	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir (tot) [mg/L]	28-Apr-25	15:03	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La (tot) [mg/L]	29-Apr-25	11:52	0.00003	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Lu (tot) [mg/L]	29-Apr-25	11:52	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	28-Apr-25	15:03	0.00002	0.00001	< 0.00001	< 0.00001	< 0.00001
Nd (tot) [mg/L]	29-Apr-25	11:52	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Os (tot) [mg/L]	28-Apr-25	15:03	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	28-Apr-25	15:03	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	29-Apr-25	11:52	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt (tot) [mg/L]	28-Apr-25	15:04	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	28-Apr-25	15:04	0.0031	0.0025	0.0022	0.0004	0.0011
Re (tot) [mg/L]	28-Apr-25	15:04	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	28-Apr-25	15:04	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	29-Apr-25	11:52	< 0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001
Sm (tot) [mg/L]	29-Apr-25	11:52	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ta (tot) [mg/L]	28-Apr-25	15:04	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	29-Apr-25	11:53	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te (tot) [mg/L]	28-Apr-25	15:04	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001

OnLine LIMS

0004103362

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10153-APR25**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT -2 Wk#104	6: CV5-WR-HCT -5 Wk#104	7: CV5-WR-HCT-5 (DUP) Wk#104	8: CV5-WR-HCT -14 Wk#104	9: CV5-WR-HCT -22 Wk#104
Th (tot) [mg/L]	28-Apr-25	15:04	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	29-Apr-25	11:52	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Yb (tot) [mg/L]	29-Apr-25	11:52	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Analysis	10: CV5-WR-HCT -33 Wk#104	11: CV5-WR-HCT -36 Wk#104	12: CV5-WR-HCT -39 Wk#104	13: CV5-WR-HCT -50 Wk#104	14: CV5-WR-HCT -56 Wk#104	15: CV5-WR-HCT -59 Wk#104	16: CV5-WR-HCT -62 Wk#104
Sample Date & Time	24-Apr-25	24-Apr-25	24-Apr-25	24-Apr-25	24-Apr-25	24-Apr-25	24-Apr-25
HumCell Leachate Vol [mL]	1088	1097	1169	1057	1096	1039	1261
pH [No unit]	7.18	7.02	6.21	5.43	6.86	5.82	6.89
Alkalinity [mg/L as CaCO3]	11	9	< 2	< 2	9	< 2	7
Conductivity [uS/cm]	24	24	44	161	64	32	26
Acidity [mg/L as CaCO3]	< 2	< 2	4	9	< 2	11	< 2
F [mg/L]	< 0.06	< 0.06	0.30	0.65	< 0.06	< 0.06	< 0.06
Tot.Reactive P [mg/L]	< 0.03	0.38	< 0.03	< 0.03	< 0.03	< 0.03	0.11
SO4 [mg/L]	< 2	< 2	21	69	24	11	4
Cl [mg/L]	< 1	< 1	< 1	< 1	< 1	3	< 1
NO2 [as N mg/L]	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.090	0.002	0.014	0.156	0.034	0.005	< 0.001
As [mg/L]	0.0066	1.24	0.0053	0.0015	0.0062	0.0171	0.482
Ba [mg/L]	0.00019	0.00055	0.00043	0.00193	0.00065	0.00033	0.00033
Be [mg/L]	< 0.000007	< 0.000007	0.000027	0.000168	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	< 0.002	< 0.002	< 0.002	0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	4.86	3.75	6.31	26.3	11.6	4.21	3.22
Cd [mg/L]	0.000003	< 0.000003	0.000072	0.002100	0.000006	< 0.000003	0.000004
Co [mg/L]	0.000077	0.00112	0.00330	0.267	0.000170	0.0176	0.00129
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	< 0.001	< 0.001	< 0.001	0.005	< 0.001	0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007	< 0.007	1.28	< 0.007	0.054	< 0.007
K [mg/L]	0.065	0.060	0.162	0.336	0.169	0.044	0.028
Li [mg/L]	0.0022	0.0020	0.0082	0.0264	0.0018	0.0022	0.0003
Mg [mg/L]	0.090	0.803	0.711	1.33	0.230	0.582	1.05
Mn [mg/L]	0.0124	0.00295	0.0325	0.517	0.0170	0.0231	0.00521
Mo [mg/L]	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	0.12	0.02	0.12	0.34	0.10	0.05	0.01
Ni [mg/L]	< 0.0001	0.0142	0.0061	0.353	0.0003	0.205	0.0137
Pb [mg/L]	< 0.00009	< 0.00009	0.00010	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.0016	0.316	0.0038	0.0024	< 0.0009	0.0014	0.302
Se [mg/L]	0.00005	< 0.00004	0.00013	0.00016	0.00005	0.00018	< 0.00004

OnLine LIMS

0004103362

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10153-APR25**

Analysis	10: CV5-WR-HCT -33 Wk#104	11: CV5-WR-HCT -36 Wk#104	12: CV5-WR-HCT -39 Wk#104	13: CV5-WR-HCT -50 Wk#104	14: CV5-WR-HCT -56 Wk#104	15: CV5-WR-HCT -59 Wk#104	16: CV5-WR-HCT -62 Wk#104
Sn [mg/L]	< 0.00006	0.00008	< 0.00006	< 0.00006	< 0.00006	0.00008	0.00012
Sr [mg/L]	0.00298	0.00219	0.0105	0.0187	0.00647	0.0121	0.00132
Ti [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tl [mg/L]	< 0.000005	0.000006	0.000010	0.000070	0.000006	0.000018	0.000005
U [mg/L]	0.000177	0.000175	0.000251	0.000833	0.000660	0.000017	0.000037
V [mg/L]	0.00065	0.00019	0.00007	< 0.00001	0.00018	0.00003	0.00007
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	0.00002	0.00096	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	0.012	1.25	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	0.00001	< 0.00001	0.00011	0.00411	< 0.00001	0.00004	< 0.00001
Cs (tot) [mg/L]	0.0029	0.0121	0.0025	0.0876	0.0247	0.0108	0.0018
Dy (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00014	< 0.00001	< 0.00001	< 0.00001
Er (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00006	< 0.00001	< 0.00001	< 0.00001
Eu (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00003	< 0.00001	< 0.00001	< 0.00001
Ga (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Gd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00026	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00002	< 0.00001	< 0.00001	< 0.00001
In (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La (tot) [mg/L]	< 0.00001	0.00002	0.00008	0.00302	< 0.00001	0.00003	0.00001
Lu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00003	< 0.00001	0.00004
Nd (tot) [mg/L]	< 0.00001	< 0.00001	0.00002	0.00139	< 0.00001	0.00002	< 0.00001
Os (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	< 0.00001	< 0.00001	0.00001	0.00040	< 0.00001	< 0.00001	< 0.00001
Pt (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	0.0006	0.0018	0.0020	0.0166	0.0009	0.0022	0.0009
Re (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	0.0005	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00021	< 0.00001	< 0.00001	< 0.00001
Ta (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00003	< 0.00001	< 0.00001	< 0.00001
Te (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001
Th (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Yb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00004	< 0.00001	< 0.00001	< 0.00001

OnLine LIMS

0004103362

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10153-APR25**

Analysis	17: CV5-WR-HCT-64 Wk#104	18: CV5-WR-HCT-69 Wk#104	19: CV5-ORE-HCT-74 Wk#104	20: CV5-ORE-HCT-76 Wk#104
Sample Date & Time	24-Apr-25	24-Apr-25	24-Apr-25	24-Apr-25
HumCell Leachate Vol [mL]	1047	1072	1102	1122
pH [No unit]	6.65	6.88	6.54	6.89
Alkalinity [mg/L as CaCO3]	2	6	2	9
Conductivity [uS/cm]	4	14	3	17
Acidity [mg/L as CaCO3]	< 2	< 2	3	< 2
F [mg/L]	0.17	< 0.06	< 0.06	< 0.06
Tot.Reactive P [mg/L]	< 0.03	< 0.03	0.03	< 0.03
SO4 [mg/L]	< 2	< 2	< 2	< 2
Cl [mg/L]	< 1	< 1	< 1	< 1
NO2 [as N mg/L]	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.009	0.049	0.093	0.029
As [mg/L]	0.0049	0.0027	0.0085	0.0017
Ba [mg/L]	< 0.00008	0.00011	0.00019	< 0.00008
Be [mg/L]	0.000013	0.000068	0.000012	0.000042
B [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	0.00021	0.00001	0.00007
Ca [mg/L]	0.93	2.61	0.52	3.30
Cd [mg/L]	0.000004	< 0.000003	0.000005	0.000003
Co [mg/L]	0.000010	0.000017	0.000070	0.000101
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	0.137	0.074	0.165	0.158
Li [mg/L]	0.0010	0.0008	0.0086	0.0057
Mg [mg/L]	0.029	0.016	0.013	0.056
Mn [mg/L]	0.00885	0.00311	0.0783	0.00246
Mo [mg/L]	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	0.04	0.11	0.16	0.10
Ni [mg/L]	< 0.0001	< 0.0001	< 0.0001	0.0001
Pb [mg/L]	< 0.00009	< 0.00009	0.00023	< 0.00009
Sb [mg/L]	0.0018	0.0022	0.0134	0.0009
Se [mg/L]	< 0.00004	< 0.00004	< 0.00004	< 0.00004
Sn [mg/L]	< 0.00006	0.00006	0.00016	0.00016
Sr [mg/L]	0.00097	0.00305	0.00103	0.00432
Ti [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tl [mg/L]	0.000034	0.000006	0.000096	0.000020
U [mg/L]	0.000129	0.00408	0.000210	0.00101
V [mg/L]	0.00001	0.00004	< 0.00001	0.00003
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002

OnLine LIMS

0004103362

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10153-APR25**

Analysis	17: CV5-WR-HCT-64 Wk#104	18: CV5-WR-HCT-69 Wk#104	19: CV5-ORE-HCT-74 Wk#104	20: CV5-ORE-HCT-76 Wk#104
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Cs (tot) [mg/L]	0.0063	0.0018	0.0221	0.0044
Dy (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga (tot) [mg/L]	< 0.0001	0.0001	0.0001	0.0001
Gd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Lu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	0.00002	0.00001	< 0.00001	< 0.00001
Nd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Os (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	0.0124	0.0032	0.0205	0.0061
Re (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	< 0.0001	0.0001	0.0004	0.0001
Sm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ta (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Yb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0004103362

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

08-April-2025

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 26 March 2025
LR Report: **CA10153-MAR25**
Reference: Columns - Wk#4

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: CV5-CL-1 Wk#4	6: CV5-CL-2 Wk#4	7: CV5-CL-3 Wk#4	8: CV5-CL-4 Wk#4	9: CV5-CL-5 Wk#4	10: CV5-CL-6 Wk#4
Sample Date & Time			26-Mar-25	26-Mar-25	26-Mar-25	26-Mar-25	26-Mar-25	26-Mar-25
HumCell Leachate Vol [mL]	27-Mar-25	11:06	1902	1992	1988	1992	2000	1997
pH [No unit]	02-Apr-25	11:54	8.64	8.87	7.95	8.35	8.08	8.22
Conductivity [uS/cm]	02-Apr-25	11:54	66	70	74	194	119	127
Alkalinity [mg/L as CaCO3]	28-Mar-25	11:49	37	34	26	81	41	41
Acidity [mg/L as CaCO3]	02-Apr-25	11:54	< 2	< 2	< 2	< 2	< 2	< 2
SO4 [mg/L]	01-Apr-25	10:06	1.0	5.1	11	16	14	15
F [mg/L]	28-Mar-25	13:21	0.16	0.31	0.19	1.68	0.52	0.51
NO2 [as N mg/L]	02-Apr-25	11:30	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	02-Apr-25	11:30	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
NO2+NO3 [as N mg/L]	02-Apr-25	11:30	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Cl [mg/L]	02-Apr-25	10:37	3.2	1.2	4.9	1.0	10	12
Hg [mg/L]	02-Apr-25	16:31	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	02-Apr-25	12:29	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	02-Apr-25	12:29	0.220	0.196	0.049	0.167	0.100	0.104
As [mg/L]	02-Apr-25	12:29	0.529	1.39	5.08	8.59	4.21	4.17
Ba [mg/L]	02-Apr-25	12:29	0.00027	0.00043	0.00098	0.00246	0.00090	0.00096
B [mg/L]	02-Apr-25	12:29	0.018	0.030	0.030	0.246	0.067	0.073
Be [mg/L]	02-Apr-25	12:29	0.000037	0.000053	0.000009	0.000095	0.000022	0.000062
Bi [mg/L]	02-Apr-25	12:29	0.00049	0.00024	0.00002	0.00035	0.00025	0.00024
Ca [mg/L]	02-Apr-25	12:29	4.02	4.66	5.63	4.99	6.06	6.11
Cd [mg/L]	02-Apr-25	12:29	0.000006	0.000004	0.000004	0.000004	0.000007	0.000004
Co [mg/L]	02-Apr-25	12:29	0.000032	0.000079	0.000353	0.000311	0.000238	0.000245
Cr [mg/L]	02-Apr-25	12:29	0.00010	0.00013	0.00024	0.00032	0.00013	0.00015
Cu [mg/L]	02-Apr-25	12:29	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	02-Apr-25	12:29	< 0.007	< 0.007	0.010	0.020	< 0.007	< 0.007
K [mg/L]	02-Apr-25	12:29	2.97	2.78	1.33	11.8	4.51	4.42
Li [mg/L]	02-Apr-25	12:29	0.170	0.255	0.185	1.42	0.611	0.675
Mg [mg/L]	02-Apr-25	12:29	0.419	0.856	0.757	1.26	1.06	1.08
Mn [mg/L]	02-Apr-25	12:29	0.00444	0.00508	0.00775	0.00909	0.00986	0.00950
Mo [mg/L]	02-Apr-25	12:29	0.0016	0.0034	0.0014	0.0040	0.0048	0.0045
Na [mg/L]	02-Apr-25	12:29	8.53	5.90	7.73	26.0	14.8	15.5
Ni [mg/L]	02-Apr-25	12:29	0.0003	0.0015	0.0144	0.0127	0.0059	0.0065
Pb [mg/L]	02-Apr-25	12:29	0.00010	0.00014	< 0.00009	0.00015	< 0.00009	< 0.00009
Sb [mg/L]	02-Apr-25	12:29	0.196	0.280	0.742	1.90	0.779	0.778
Se [mg/L]	02-Apr-25	12:29	0.00025	0.00022	0.00053	0.00028	0.00018	0.00020

OnLine LIMS

0004070671

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10153-MAR25**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: CV5-CL-1 Wk#4	6: CV5-CL-2 Wk#4	7: CV5-CL-3 Wk#4	8: CV5-CL-4 Wk#4	9: CV5-CL-5 Wk#4	10: CV5-CL-6 Wk#4
Sn [mg/L]	02-Apr-25	12:29	0.0113	0.0145	0.00812	0.0109	0.00809	0.00716
Sr [mg/L]	02-Apr-25	12:29	0.0131	0.0163	0.0304	0.0264	0.0272	0.0278
Ti [mg/L]	02-Apr-25	12:29	0.00015	0.00029	0.00041	0.00071	0.00016	0.00023
Tl [mg/L]	02-Apr-25	12:29	0.000152	0.000124	0.000108	0.000454	0.000228	0.000228
U [mg/L]	02-Apr-25	12:29	0.842	0.383	0.0861	0.577	0.465	0.447
V [mg/L]	02-Apr-25	12:29	0.00056	0.00234	0.00745	0.0102	0.00284	0.00273
W [mg/L]	02-Apr-25	12:29	0.00437	0.00456	0.00524	0.111	0.0476	0.0769
Y [mg/L]	02-Apr-25	12:29	0.00002	< 0.00002	< 0.00002	0.00004	< 0.00002	< 0.00002
Zn [mg/L]	02-Apr-25	12:29	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au [mg/L]	02-Apr-25	12:29	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce [mg/L]	02-Apr-25	12:29	0.00002	0.00003	0.00002	0.00004	0.00002	0.00002
Cs [mg/L]	02-Apr-25	12:29	0.0202	0.0754	0.202	0.342	0.141	0.141
Dy [mg/L]	02-Apr-25	12:29	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er [mg/L]	02-Apr-25	12:29	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu [mg/L]	02-Apr-25	12:29	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga [mg/L]	02-Apr-25	12:29	0.0015	0.0013	< 0.0001	0.0015	0.0007	0.0006
Gd (tot) [mg/L]	02-Apr-25	12:29	< 0.00001	< 0.00001	< 0.00001	0.00002	< 0.00001	< 0.00001
Ge [mg/L]	02-Apr-25	12:29	< 0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001
Hf [mg/L]	02-Apr-25	12:29	< 0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001
Ho [mg/L]	02-Apr-25	12:29	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In [mg/L]	02-Apr-25	12:29	0.00004	0.00005	0.00003	0.00003	0.00003	0.00002
Ir [mg/L]	02-Apr-25	12:29	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La [mg/L]	02-Apr-25	12:29	0.00002	0.00003	0.00006	0.00011	0.00005	0.00006
Lu [mg/L]	02-Apr-25	12:29	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb [mg/L]	02-Apr-25	12:29	0.0001	< 0.0001	< 0.0001	0.0007	0.0002	0.0002
Nd [mg/L]	02-Apr-25	12:29	0.00001	0.00001	0.00001	0.00002	0.00001	0.00001
Os [mg/L]	02-Apr-25	12:29	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd [mg/L]	02-Apr-25	12:29	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr [mg/L]	02-Apr-25	12:29	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt [mg/L]	02-Apr-25	12:29	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh [mg/L]	02-Apr-25	12:29	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Rb [mg/L]	02-Apr-25	12:29	0.133	0.116	0.0478	0.440	0.194	0.198
Re [mg/L]	02-Apr-25	12:29	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ru [mg/L]	02-Apr-25	12:29	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sm [mg/L]	02-Apr-25	12:29	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc [mg/L]	02-Apr-25	12:29	< 0.0001	< 0.0001	< 0.0001	0.0003	0.0001	< 0.0001
Ta [mg/L]	02-Apr-25	12:29	< 0.0001	< 0.0001	< 0.0001	0.0003	< 0.0001	< 0.0001
Tb [mg/L]	02-Apr-25	12:29	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te [mg/L]	02-Apr-25	12:29	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th [mg/L]	02-Apr-25	12:29	< 0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001
Tm [mg/L]	02-Apr-25	12:29	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

NA - Not applicable

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0004070671

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

15-April-2025

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 27 March 2025
LR Report: **CA10154-MAR25**
Reference: Wk#100

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT -2 Wk#100	6: CV5-WR-HCT -5 Wk#100	7: CV5-WR-HCT-5 (DUP) Wk#100	8: CV5-WR-HCT -14 Wk#100	9: CV5-WR-HCT -22 Wk#100
Sample Date & Time			27-Mar-25	27-Mar-25	27-Mar-25	27-Mar-25	27-Mar-25
HumCell Leachate Vol [mL]	27-Mar-25	13:49	921	926	939	977	952
pH [No unit]	04-Apr-25	11:06	6.42	6.64	6.80	7.11	6.77
Alkalinity [mg/L as CaCO3]	02-Apr-25	11:56	< 2	3	3	8	3
Conductivity [uS/cm]	01-Apr-25	09:42	34	23	15	21	7
Acidity [mg/L as CaCO3]	02-Apr-25	11:57	2	< 2	< 2	< 2	< 2
F [mg/L]	28-Mar-25	13:21	< 0.06	0.07	0.11	< 0.06	< 0.06
Tot.Reactive P [mg/L]	28-Mar-25	08:21	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	01-Apr-25	14:52	14	5	3	< 2	< 2
Cl [mg/L]	01-Apr-25	14:52	< 1	< 1	< 1	< 1	< 1
NO2 [as N mg/L]	01-Apr-25	14:11	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	01-Apr-25	14:11	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	01-Apr-25	14:11	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	02-Apr-25	16:31	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	02-Apr-25	12:29	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	02-Apr-25	12:29	0.010	0.021	0.016	0.066	0.017
As [mg/L]	04-Apr-25	11:52	0.0008	0.0858	0.0615	0.0135	0.0424
Ba [mg/L]	02-Apr-25	12:29	0.00016	0.00012	0.00009	< 0.00008	< 0.00008
Be [mg/L]	02-Apr-25	12:29	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	02-Apr-25	12:29	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	02-Apr-25	12:29	< 0.00001	< 0.00001	0.00003	< 0.00001	< 0.00001
Ca [mg/L]	02-Apr-25	12:29	5.28	3.55	2.37	4.10	1.23
Cd [mg/L]	02-Apr-25	12:29	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	02-Apr-25	12:29	0.000316	0.000200	0.000200	0.000049	0.000082
Cr [mg/L]	02-Apr-25	12:29	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	02-Apr-25	12:29	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	02-Apr-25	12:29	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	02-Apr-25	12:29	0.096	0.047	0.045	0.021	0.020
Li [mg/L]	03-Apr-25	12:50	0.0028	0.0036	0.0037	0.0019	0.0022
Mg [mg/L]	02-Apr-25	12:29	0.185	0.103	0.096	0.096	0.125

OnLine LIMS

0004079474

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10154-MAR25**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT -2 Wk#100	6: CV5-WR-HCT -5 Wk#100	7: CV5-WR-HCT-5 (DUP) Wk#100	8: CV5-WR-HCT -14 Wk#100	9: CV5-WR-HCT -22 Wk#100
Mn [mg/L]	02-Apr-25	12:29	0.00247	0.00134	0.00155	0.00432	0.00024
Mo [mg/L]	02-Apr-25	12:29	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	02-Apr-25	12:29	0.08	0.04	0.04	0.07	0.04
Ni [mg/L]	02-Apr-25	12:29	0.0010	0.0011	0.0008	0.0001	0.0003
Pb [mg/L]	08-Apr-25	09:09	< 0.00009	< 0.00009	0.00014	< 0.00009	< 0.00009
Sb [mg/L]	08-Apr-25	09:09	< 0.0009	0.0167	0.0095	0.0013	0.0019
Se [mg/L]	02-Apr-25	12:29	0.00009	< 0.00004	< 0.00004	0.00005	< 0.00004
Sn [mg/L]	02-Apr-25	12:29	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	02-Apr-25	12:29	0.00547	0.00283	0.00233	0.00213	0.00251
Ti [mg/L]	02-Apr-25	12:29	< 0.0001	< 0.0001	< 0.0001	0.00017	0.00015
Tl [mg/L]	02-Apr-25	12:29	< 0.000005	0.000006	< 0.000005	< 0.000005	< 0.000005
U [mg/L]	02-Apr-25	12:29	0.000019	0.000036	0.000021	0.000077	0.000053
V [mg/L]	02-Apr-25	12:29	0.00007	0.00026	0.00020	0.00121	0.00056
W [mg/L]	02-Apr-25	12:29	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	02-Apr-25	12:29	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	02-Apr-25	12:29	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	02-Apr-25	12:29	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	02-Apr-25	12:29	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00002
Cs (tot) [mg/L]	02-Apr-25	12:29	0.0060	0.0059	0.0072	0.0011	0.0028
Dy (tot) [mg/L]	02-Apr-25	12:29	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er (tot) [mg/L]	02-Apr-25	12:29	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu (tot) [mg/L]	02-Apr-25	12:29	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga (tot) [mg/L]	02-Apr-25	12:29	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Gd (tot) [mg/L]	02-Apr-25	12:29	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	02-Apr-25	12:29	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	02-Apr-25	12:29	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	02-Apr-25	12:29	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In (tot) [mg/L]	02-Apr-25	12:29	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir (tot) [mg/L]	02-Apr-25	12:29	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La (tot) [mg/L]	02-Apr-25	12:29	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Lu (tot) [mg/L]	02-Apr-25	12:29	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	02-Apr-25	12:29	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Nd (tot) [mg/L]	02-Apr-25	12:29	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Os (tot) [mg/L]	02-Apr-25	12:29	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	02-Apr-25	12:29	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	02-Apr-25	12:29	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt (tot) [mg/L]	02-Apr-25	12:29	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	02-Apr-25	12:29	0.0039	0.0019	0.0019	0.0003	0.0007
Re (tot) [mg/L]	02-Apr-25	12:29	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	02-Apr-25	12:29	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	02-Apr-25	12:29	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	02-Apr-25	12:29	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ta (tot) [mg/L]	02-Apr-25	12:29	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	02-Apr-25	12:29	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te (tot) [mg/L]	02-Apr-25	12:29	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001

OnLine LIMS

00040794 74

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10154-MAR25**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT -2 Wk#100	6: CV5-WR-HCT -5 Wk#100	7: CV5-WR-HCT-5 (DUP) Wk#100	8: CV5-WR-HCT -14 Wk#100	9: CV5-WR-HCT -22 Wk#100
Th (tot) [mg/L]	02-Apr-25	12:29	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	02-Apr-25	12:29	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Yb (tot) [mg/L]	02-Apr-25	12:29	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Analysis	10: CV5-WR-HCT -33 Wk#100	11: CV5-WR-HCT -36 Wk#100	12: CV5-WR-HCT -39 Wk#100	13: CV5-WR-HCT -50 Wk#100	14: CV5-WR-HCT -56 Wk#100	15: CV5-WR-HCT -59 Wk#100	16: CV5-WR-HCT -62 Wk#100
Sample Date & Time	27-Mar-25	27-Mar-25	27-Mar-25	27-Mar-25	27-Mar-25	27-Mar-25	27-Mar-25
HumCell Leachate Vol [mL]	1018	976	937	1023	968	970	917
pH [No unit]	7.16	6.95	5.94	6.20	6.98	5.83	7.15
Alkalinity [mg/L as CaCO3]	6	4	< 2	< 2	5	< 2	6
Conductivity [uS/cm]	16	13	22	51	29	15	16
Acidity [mg/L as CaCO3]	< 2	< 2	3	5	< 2	9	< 2
F [mg/L]	< 0.06	< 0.06	0.29	0.83	< 0.06	< 0.06	< 0.06
Tot.Reactive P [mg/L]	< 0.03	0.10	< 0.03	< 0.03	< 0.03	< 0.03	0.06
SO4 [mg/L]	< 2	< 2	8	21	9	4	< 2
Cl [mg/L]	< 1	< 1	< 1	< 1	< 1	< 1	< 1
NO2 [as N mg/L]	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.060	0.001	0.005	0.062	0.027	0.002	< 0.001
As [mg/L]	0.0031	0.565	0.0039	0.0006	0.0032	0.0181	0.360
Ba [mg/L]	0.00016	0.00027	0.00019	0.00058	0.00028	0.00015	0.00018
Be [mg/L]	< 0.000007	< 0.000007	0.000009	0.000112	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	2.96	1.99	2.92	7.03	4.92	1.84	2.17
Cd [mg/L]	0.000003	< 0.000003	0.000017	0.000579	< 0.000003	0.000003	< 0.000003
Co [mg/L]	0.000054	0.000539	0.000665	0.0503	0.000060	0.00934	0.000370
Cr [mg/L]	< 0.00008	0.00013	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	< 0.001	< 0.001	< 0.001	0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007	< 0.007	0.716	< 0.007	0.026	< 0.007
K [mg/L]	0.031	0.027	0.105	0.135	0.078	0.016	0.022
Li [mg/L]	0.0012	0.0010	0.0056	0.0116	0.0009	0.0009	0.0002
Mg [mg/L]	0.051	0.456	0.307	0.286	0.094	0.234	0.694
Mn [mg/L]	0.00990	0.00142	0.00826	0.0713	0.00655	0.0100	0.00141
Mo [mg/L]	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	0.06	0.01	0.08	0.12	0.05	0.02	0.01
Ni [mg/L]	< 0.0001	0.0057	0.0015	0.0867	0.0001	0.113	0.0042
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	< 0.0009	0.145	0.0029	0.0041	< 0.0009	< 0.0009	0.219
Se [mg/L]	< 0.00004	< 0.00004	0.00006	0.00023	< 0.00004	0.00008	< 0.00004

OnLine LIMS

0004079474

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10154-MAR25**

Analysis	10: CV5-WR-HCT -33 Wk#100	11: CV5-WR-HCT -36 Wk#100	12: CV5-WR-HCT -39 Wk#100	13: CV5-WR-HCT -50 Wk#100	14: CV5-WR-HCT -56 Wk#100	15: CV5-WR-HCT -59 Wk#100	16: CV5-WR-HCT -62 Wk#100
Sn [mg/L]	0.00009	< 0.00006	< 0.00006	0.00007	< 0.00006	< 0.00006	0.00007
Sr [mg/L]	0.00196	0.00115	0.00484	0.00419	0.00256	0.00541	0.00083
Ti [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tl [mg/L]	< 0.000005	< 0.000005	0.000008	0.000045	< 0.000005	0.000011	< 0.000005
U [mg/L]	0.000041	0.000032	0.000040	0.000260	0.000129	< 0.000002	0.000018
V [mg/L]	0.00043	0.00011	0.00010	< 0.00001	0.00012	0.00003	0.00008
W [mg/L]	< 0.0002	0.00023	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	0.00010	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	0.003	0.332	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	< 0.00001	< 0.00001	0.00002	0.00038	< 0.00001	< 0.00001	< 0.00001
Cs (tot) [mg/L]	0.0020	0.0078	0.0018	0.0489	0.0135	0.0070	0.0022
Dy (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00001	< 0.00001	< 0.00001	< 0.00001
Er (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Gd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00003	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La (tot) [mg/L]	< 0.00001	< 0.00001	0.00002	0.00031	< 0.00001	< 0.00001	0.00002
Lu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	< 0.00001	0.00003	< 0.00001	0.00007	< 0.00001	< 0.00001	< 0.00001
Nd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00011	< 0.00001	< 0.00001	< 0.00001
Os (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00004	< 0.00001	< 0.00001	< 0.00001
Pt (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	0.0003	0.0010	0.0013	0.0080	0.0005	0.0011	0.0009
Re (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00002	< 0.00001	< 0.00001	< 0.00001
Ta (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Yb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

OnLine LIMS

0004079474

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10154-MAR25**

Analysis	17: CV5-WR-HCT-64 Wk#100	18: CV5-WR-HCT-69 Wk#100	19: CV5-ORE-HCT-74 Wk#100	20: CV5-ORE-HCT-76 Wk#100
Sample Date & Time	27-Mar-25	27-Mar-25	27-Mar-25	27-Mar-25
HumCell Leachate Vol [mL]	1013	972	953	990
pH [No unit]	6.69	7.02	6.23	7.14
Alkalinity [mg/L as CaCO3]	3	3	< 2	6
Conductivity [uS/cm]	3	8	< 2	13
Acidity [mg/L as CaCO3]	2	< 2	2	< 2
F [mg/L]	< 0.06	< 0.06	< 0.06	< 0.06
Tot.Reactive P [mg/L]	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	< 2	< 2	< 2	< 2
Cl [mg/L]	< 1	< 1	< 1	< 1
NO2 [as N mg/L]	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.010	0.061	0.026	0.043
As [mg/L]	0.0025	0.0016	0.0034	0.0011
Ba [mg/L]	< 0.00008	0.00010	0.00021	< 0.00008
Be [mg/L]	0.000010	0.000101	< 0.000007	0.000033
B [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	0.00020	< 0.00001	0.00010
Ca [mg/L]	0.67	1.72	0.20	2.58
Cd [mg/L]	< 0.000003	0.000003	< 0.000003	< 0.000003
Co [mg/L]	< 0.000004	0.000009	0.000005	0.000009
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	0.114	0.049	0.053	0.124
Li [mg/L]	0.0008	0.0006	0.0039	0.0041
Mg [mg/L]	0.020	0.011	0.005	0.048
Mn [mg/L]	0.00547	0.00183	0.0298	0.00082
Mo [mg/L]	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	0.03	0.08	0.06	0.06
Ni [mg/L]	< 0.0001	0.0001	< 0.0001	< 0.0001
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	< 0.0009	< 0.0009	0.0030	< 0.0009
Se [mg/L]	< 0.00004	< 0.00004	< 0.00004	< 0.00004
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.00074	0.00205	0.00152	0.00352
Ti [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tl [mg/L]	0.000034	0.000006	0.000034	0.000014
U [mg/L]	0.000047	0.00136	0.000220	0.000575
V [mg/L]	0.00002	0.00003	0.00002	0.00004
W [mg/L]	< 0.0002	< 0.0002	0.00082	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002

OnLine LIMS

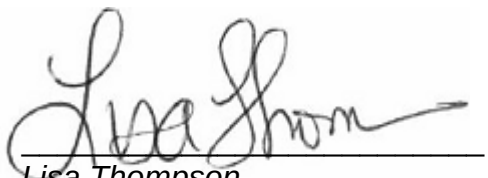
00040794 74

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10154-MAR25**

Analysis	17: CV5-WR-HCT-64 Wk#100	18: CV5-WR-HCT-69 Wk#100	19: CV5-ORE-HCT-74 Wk#100	20: CV5-ORE-HCT-76 Wk#100
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Cs (tot) [mg/L]	0.0055	0.0015	0.0089	0.0043
Dy (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	0.0001
Gd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Lu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	< 0.00001	0.00003	0.00003	< 0.00001
Nd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Os (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	0.0110	0.0026	0.0072	0.0055
Re (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ta (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Yb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001



Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0004079474

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

09-July-2025

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 26 June 2025
LR Report: **CA10163-JUN25**
Reference: Wk#113

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#113	6: CV5-WR-HCT-5 Wk#113	7: CV5-WR-HCT-5 (DUP) Wk#113	8: CV5-WR-HCT-14 Wk#113	9: CV5-WR-HCT-22 Wk#113	10: CV5-WR-HCT-33 Wk#113
Sample Date & Time			26-Jun-25	26-Jun-25	26-Jun-25	26-Jun-25	26-Jun-25	26-Jun-25
HumCell Leachate Vol [mL]	30-Jun-25	11:08	952	966	943	962	991	954
pH [No unit]	30-Jun-25	07:26	6.34	7.20	6.59	7.43	6.89	7.23
Alkalinity [mg/L as CaCO3]	***	***	***	***	***	***	***	***
Conductivity [uS/cm]	27-Jun-25	13:23	34	19	12	21	8	10

Analysis	11: CV5-WR-HCT-36 Wk#113	12: CV5-WR-HCT-39 Wk#113	13: CV5-WR-HCT-50 Wk#113	14: CV5-WR-HCT-56 Wk#113	15: CV5-WR-HCT-59 Wk#113	16: CV5-WR-HCT-62 Wk#113	17: CV5-WR-HCT-64 Wk#113	18: CV5-WR-HCT-69 Wk#113
Sample Date & Time	26-Jun-25	26-Jun-25	26-Jun-25	26-Jun-25	26-Jun-25	26-Jun-25	26-Jun-25	26-Jun-25
HumCell Leachate Vol [mL]	1005	952	1024	998	984	934	1004	1010
pH [No unit]	7.20	6.50	4.89	7.21	6.01	7.01	6.89	7.13
Alkalinity [mg/L as CaCO3]	***	***	***	***	***	***	***	***
Conductivity [uS/cm]	14	23	75	37	17	17	2	11

Analysis	19: CV5-ORE-HCT-74 Wk#113	20: CV5-ORE-HCT-76 Wk#113
Sample Date & Time	26-Jun-25	26-Jun-25
HumCell Leachate Vol [mL]	1034	1014
pH [No unit]	6.77	7.30
Alkalinity [mg/L as CaCO3]	***	***
Conductivity [uS/cm]	2	14

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0004176870

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

14-March-2025

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 27 February 2025
LR Report: **CA10165-FEB25**
Reference: Wk#96

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT -2 Wk#96	6: CV5-WR-HCT -5 Wk#96	7: CV5-WR-HCT- 5 (DUP) Wk#96	8: CV5-WR-HCT -14 Wk#96	9: CV5-WR-HCT -22 Wk#96
Sample Date & Time			27-Feb-25	27-Feb-25	27-Feb-25	27-Feb-25	27-Feb-25
HumCell Leachate Vol [mL]	27-Feb-25	14:02	970	977	1011	1012	1014
pH [No unit]	03-Mar-25	12:59	6.39	6.78	6.63	7.33	6.88
Alkalinity [mg/L as CaCO3]	03-Mar-25	12:19	< 2	3	< 2	11	3
Conductivity [uS/cm]	03-Mar-25	10:56	36	20	16	25	6
Acidity [mg/L as CaCO3]	03-Mar-25	10:56	3	< 2	2	< 2	< 2
F [mg/L]	28-Feb-25	14:25	< 0.06	0.12	< 0.06	< 0.06	< 0.06
Tot.Reactive P [mg/L]	05-Mar-25	07:57	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	28-Feb-25	19:13	14	5	4	< 2	< 2
Cl [mg/L]	28-Feb-25	19:13	< 1	< 1	< 1	< 1	< 1
NO2 [as N mg/L]	28-Feb-25	10:09	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	28-Feb-25	10:09	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	28-Feb-25	10:09	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	03-Mar-25	09:23	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	03-Mar-25	09:19	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	03-Mar-25	09:19	0.009	0.019	0.012	0.079	0.019
As [mg/L]	03-Mar-25	09:19	0.0009	0.0903	0.0555	0.0161	0.0502
Ba [mg/L]	03-Mar-25	09:19	0.00021	0.00096	0.00009	< 0.00008	< 0.00008
Be [mg/L]	03-Mar-25	09:19	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	03-Mar-25	09:19	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	03-Mar-25	09:19	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	03-Mar-25	09:19	5.33	3.31	2.47	4.62	1.16
Cd [mg/L]	03-Mar-25	09:19	0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	03-Mar-25	09:19	0.000560	0.000271	0.000363	0.000047	0.000108
Cr [mg/L]	03-Mar-25	09:19	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	03-Mar-25	09:19	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	03-Mar-25	09:19	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	03-Mar-25	09:19	0.097	0.042	0.044	0.024	0.022
Li [mg/L]	03-Mar-25	09:19	0.0035	0.0038	0.0039	0.0026	0.0029
Mg [mg/L]	03-Mar-25	09:19	0.184	0.095	0.095	0.110	0.125

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0004046306

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10165-FEB25**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT -2 Wk#96	6: CV5-WR-HCT -5 Wk#96	7: CV5-WR-HCT-5 (DUP) Wk#96	8: CV5-WR-HCT -14 Wk#96	9: CV5-WR-HCT -22 Wk#96
Mn [mg/L]	03-Mar-25	09:19	0.00402	0.00167	0.00235	0.00512	0.00034
Mo [mg/L]	03-Mar-25	09:19	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	03-Mar-25	09:19	0.08	0.04	0.04	0.09	0.05
Ni [mg/L]	03-Mar-25	09:19	0.0016	0.0013	0.0013	< 0.0001	0.0003
Pb [mg/L]	03-Mar-25	09:19	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	03-Mar-25	09:19	< 0.0009	0.0180	0.0090	0.0015	0.0020
Se [mg/L]	03-Mar-25	09:19	0.00010	< 0.00004	< 0.00004	< 0.00004	< 0.00004
Sn [mg/L]	03-Mar-25	09:19	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	03-Mar-25	09:19	0.00615	0.00457	0.00270	0.00266	0.00271
Ti [mg/L]	03-Mar-25	09:19	< 0.0001	< 0.0001	< 0.0001	0.00012	0.00017
Tl [mg/L]	03-Mar-25	09:19	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005
U [mg/L]	03-Mar-25	09:19	0.000032	0.000012	0.000005	0.000024	0.000065
V [mg/L]	03-Mar-25	09:19	0.00007	0.00025	0.00018	0.00140	0.00061
W [mg/L]	03-Mar-25	09:19	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	03-Mar-25	09:19	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	03-Mar-25	09:19	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	03-Mar-25	09:19	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	05-Mar-25	10:43	0.00002	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Cs (tot) [mg/L]	03-Mar-25	09:19	0.0052	0.0053	0.0062	0.0013	0.0027
Dy (tot) [mg/L]	05-Mar-25	10:43	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er (tot) [mg/L]	05-Mar-25	10:43	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu (tot) [mg/L]	05-Mar-25	10:43	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga (tot) [mg/L]	05-Mar-25	10:43	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001
Gd (tot) [mg/L]	05-Mar-25	10:43	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	03-Mar-25	09:19	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	03-Mar-25	09:19	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	05-Mar-25	10:43	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In (tot) [mg/L]	05-Mar-25	10:43	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir (tot) [mg/L]	03-Mar-25	09:19	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La (tot) [mg/L]	05-Mar-25	10:43	0.00002	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Lu (tot) [mg/L]	05-Mar-25	10:43	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	05-Mar-25	10:43	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Nd (tot) [mg/L]	05-Mar-25	10:43	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Os (tot) [mg/L]	05-Mar-25	10:43	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	05-Mar-25	10:43	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	05-Mar-25	10:43	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt (tot) [mg/L]	05-Mar-25	10:43	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	05-Mar-25	10:43	0.0024	0.0017	0.0018	0.0004	0.0008
Re (tot) [mg/L]	05-Mar-25	10:43	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	05-Mar-25	10:43	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	05-Mar-25	10:43	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	05-Mar-25	10:43	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ta (tot) [mg/L]	05-Mar-25	10:43	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	05-Mar-25	10:43	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te (tot) [mg/L]	05-Mar-25	10:43	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001

OnLine LIMS

0004046306

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10165-FEB25**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT -2 Wk#96	6: CV5-WR-HCT -5 Wk#96	7: CV5-WR-HCT-5 (DUP) Wk#96	8: CV5-WR-HCT -14 Wk#96	9: CV5-WR-HCT -22 Wk#96
Th (tot) [mg/L]	05-Mar-25	10:43	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	05-Mar-25	10:43	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Yb (tot) [mg/L]	05-Mar-25	10:43	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Analysis	10: CV5-WR-HCT -33 Wk#96	11: CV5-WR-HCT -36 Wk#96	12: CV5-WR-HCT -39 Wk#96	13: CV5-WR-HCT -50 Wk#96	14: CV5-WR-HCT -56 Wk#96	15: CV5-WR-HCT -59 Wk#96	16: CV5-WR-HCT -62 Wk#96
Sample Date & Time	27-Feb-25	27-Feb-25	27-Feb-25	27-Feb-25	27-Feb-25	27-Feb-25	27-Feb-25
HumCell Leachate Vol [mL]	972	1012	1006	1021	1003	1012	997
pH [No unit]	7.24	7.17	6.04	6.19	6.88	6.11	7.04
Alkalinity [mg/L as CaCO3]	5	8	< 2	3	6	< 2	5
Conductivity [uS/cm]	11	20	17	53	30	16	18
Acidity [mg/L as CaCO3]	< 2	< 2	4	7	< 2	8	< 2
F [mg/L]	< 0.06	0.08	0.18	0.66	< 0.06	< 0.06	< 0.06
Tot.Reactive P [mg/L]	< 0.03	0.26	< 0.03	< 0.03	< 0.03	< 0.03	0.06
SO4 [mg/L]	< 2	< 2	5	19	7	4	2
Cl [mg/L]	< 1	< 1	< 1	< 1	< 1	< 1	< 1
NO2 [as N mg/L]	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.058	0.002	0.006	0.055	0.029	0.002	< 0.001
As [mg/L]	0.0030	1.07	0.0048	0.0008	0.0039	0.0200	0.416
Ba [mg/L]	0.00017	0.00046	0.00017	0.00060	0.00032	0.00016	0.00023
Be [mg/L]	< 0.000007	< 0.000007	0.000007	0.000119	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	2.07	3.16	2.24	7.16	4.91	1.89	2.31
Cd [mg/L]	< 0.000003	< 0.000003	0.000018	0.000589	< 0.000003	0.000004	< 0.000003
Co [mg/L]	0.000051	0.000700	0.000498	0.0509	0.000064	0.00888	0.000499
Cr [mg/L]	< 0.00008	0.00011	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	< 0.001	< 0.001	< 0.001	0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007	< 0.007	0.724	< 0.007	0.020	< 0.007
K [mg/L]	0.027	0.041	0.081	0.323	0.075	0.018	0.019
Li [mg/L]	0.0013	0.0015	0.0047	0.0126	0.0011	0.0011	0.0002
Mg [mg/L]	0.043	0.669	0.193	0.277	0.094	0.252	0.723
Mn [mg/L]	0.00612	0.00205	0.00593	0.0642	0.00579	0.0106	0.00200
Mo [mg/L]	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	0.05	0.02	0.06	0.12	0.05	0.02	0.01
Ni [mg/L]	< 0.0001	0.0083	0.0010	0.0836	0.0002	0.115	0.0057
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	0.00012	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	< 0.0009	0.253	0.0029	0.0044	< 0.0009	< 0.0009	0.241
Se [mg/L]	< 0.00004	< 0.00004	< 0.00004	0.00031	< 0.00004	0.00006	< 0.00004

OnLine LIMS

0004046306

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10165-FEB25**

Analysis	10: CV5-WR-HCT -33 Wk#96	11: CV5-WR-HCT -36 Wk#96	12: CV5-WR-HCT -39 Wk#96	13: CV5-WR-HCT -50 Wk#96	14: CV5-WR-HCT -56 Wk#96	15: CV5-WR-HCT -59 Wk#96	16: CV5-WR-HCT -62 Wk#96
Sn [mg/L]	< 0.00006	0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	0.00009
Sr [mg/L]	0.00150	0.00193	0.00385	0.00434	0.00275	0.00611	0.00096
Ti [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tl [mg/L]	< 0.000005	0.000007	0.000005	0.000043	< 0.000005	0.000008	< 0.000005
U [mg/L]	0.000007	0.000031	0.000041	0.000357	0.000160	0.000003	0.000026
V [mg/L]	0.00035	0.00018	0.00009	< 0.00001	0.00013	0.00002	0.00008
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	0.00011	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	0.003	0.333	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	< 0.00001	< 0.00001	0.00001	0.00039	< 0.00001	< 0.00001	< 0.00001
Cs (tot) [mg/L]	0.0016	0.0117	0.0014	0.0465	0.0133	0.0065	0.0017
Dy (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00001	< 0.00001	< 0.00001	< 0.00001
Er (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Gd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00002	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La (tot) [mg/L]	< 0.00001	0.00001	0.00001	0.00031	< 0.00001	< 0.00001	0.00001
Lu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Nd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00011	< 0.00001	< 0.00001	< 0.00001
Os (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00003	< 0.00001	< 0.00001	< 0.00001
Pt (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	0.0003	0.0019	0.0012	0.0082	0.0005	0.0013	0.0008
Re (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00002	< 0.00001	< 0.00001	< 0.00001
Ta (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Yb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

OnLine LIMS

0004046306

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10165-FEB25**

Analysis	17: CV5-WR-HCT-64 Wk#96	18: CV5-WR-HCT-69 Wk#96	19: CV5-ORE-HCT-74 Wk#96	20: CV5-ORE-HCT-76 Wk#96
Sample Date & Time	27-Feb-25	27-Feb-25	27-Feb-25	27-Feb-25
HumCell Leachate Vol [mL]	1002	1003	1000	994
pH [No unit]	6.77	7.08	6.32	7.09
Alkalinity [mg/L as CaCO3]	3	5	< 2	7
Conductivity [uS/cm]	3	10	< 2	14
Acidity [mg/L as CaCO3]	2	< 2	4	< 2
F [mg/L]	< 0.06	< 0.06	< 0.06	< 0.06
Tot.Reactive P [mg/L]	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	< 2	< 2	< 2	< 2
Cl [mg/L]	< 1	< 1	< 1	< 1
NO2 [as N mg/L]	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.012	0.057	0.026	0.039
As [mg/L]	0.0027	0.0018	0.0034	0.0011
Ba [mg/L]	< 0.00008	0.00018	< 0.00008	< 0.00008
Be [mg/L]	0.000011	0.000076	0.000008	0.000044
B [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	0.00019	< 0.00001	0.00009
Ca [mg/L]	0.62	2.00	0.25	2.67
Cd [mg/L]	< 0.000003	< 0.000003	0.000004	0.000004
Co [mg/L]	0.000019	0.000016	0.000007	0.000017
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	0.098	0.051	0.056	0.130
Li [mg/L]	0.0007	0.0007	0.0041	0.0049
Mg [mg/L]	0.017	0.014	0.006	0.052
Mn [mg/L]	0.00598	0.00247	0.0386	0.00110
Mo [mg/L]	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	0.03	0.09	0.06	0.06
Ni [mg/L]	0.0003	0.0002	< 0.0001	0.0006
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	< 0.0009	0.0009	0.0035	< 0.0009
Se [mg/L]	< 0.00004	< 0.00004	< 0.00004	< 0.00004
Sn [mg/L]	< 0.00006	0.00007	< 0.00006	< 0.00006
Sr [mg/L]	0.00072	0.00267	0.00073	0.00403
Ti [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tl [mg/L]	0.000030	< 0.000005	0.000032	0.000014
U [mg/L]	0.000080	0.00176	0.000140	0.000664
V [mg/L]	0.00001	0.00003	< 0.00001	0.00002
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002

OnLine LIMS

0004046306

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10165-FEB25**

Analysis	17: CV5-WR-HCT-64 Wk#96	18: CV5-WR-HCT-69 Wk#96	19: CV5-ORE-HCT-74 Wk#96	20: CV5-ORE-HCT-76 Wk#96
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Cs (tot) [mg/L]	0.0047	0.0015	0.0089	0.0038
Dy (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	0.0001
Gd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Lu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	< 0.00001	0.00002	< 0.00001	< 0.00001
Nd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Os (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	0.0103	0.0030	0.0084	0.0058
Re (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ta (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Yb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0004046306

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

13-August-2025

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 24 July 2025
LR Report: **CA10169-JUL25**
Reference: Wk#117

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#117	6: CV5-WR-HCT-5 Wk#117	7: CV5-WR-HCT-5 (DUP) Wk#117	8: CV5-WR-HCT-14 Wk#117	9: CV5-WR-HCT-22 Wk#117	10: CV5-WR-HCT-33 Wk#117
Sample Date & Time			24-Jul-25	24-Jul-25	24-Jul-25	24-Jul-25	24-Jul-25	24-Jul-25
HumCell Leachate Vol [mL]	24-Jul-25	13:32	949	970	968	1012	1012	932
pH [No unit]	28-Jul-25	15:07	6.45	6.40	6.62	6.51	6.20	6.75
Alkalinity [mg/L as CaCO3]	***	***	***	***	***	***	***	***
Conductivity [uS/cm]	25-Jul-25	13:16	37	21	12	26	9	10

Analysis	11: CV5-WR-HCT-36 Wk#117	12: CV5-WR-HCT-39 Wk#117	13: CV5-WR-HCT-50 Wk#117	14: CV5-WR-HCT-56 Wk#117	15: CV5-WR-HCT-59 Wk#117	16: CV5-WR-HCT-62 Wk#117	17: CV5-WR-HCT-64 Wk#117	18: CV5-WR-HCT-69 Wk#117
Sample Date & Time	24-Jul-25	24-Jul-25	24-Jul-25	24-Jul-25	24-Jul-25	24-Jul-25	24-Jul-25	24-Jul-25
HumCell Leachate Vol [mL]	976	920	971	1013	965	956	1024	1034
pH [No unit]	6.58	6.28	4.67	6.92	5.78	6.52	6.83	6.93
Alkalinity [mg/L as CaCO3]	***	***	***	***	***	***	***	***
Conductivity [uS/cm]	16	26	128	33	20	22	3	9

Analysis	19: CV5-ORE-HCT-74 Wk#117	20: CV5-ORE-HCT-76 Wk#117
Sample Date & Time	24-Jul-25	24-Jul-25
HumCell Leachate Vol [mL]	968	949
pH [No unit]	6.92	6.59
Alkalinity [mg/L as CaCO3]	***	***
Conductivity [uS/cm]	2	12

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0004216930

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

09-June-2025

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 29 May 2025
LR Report: **CA10173-MAY25**
Reference: Wk#109

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#109	6: CV5-WR-HCT-5 Wk#109	7: CV5-WR-HCT-5 (DUP) Wk#109	8: CV5-WR-HCT-14 Wk#109	9: CV5-WR-HCT-22 Wk#109	10: CV5-WR-HCT-33 Wk#109
Sample Date & Time			29-May-25	29-May-25	29-May-25	29-May-25	29-May-25	29-May-25
HumCell Leachate Vol [mL]	30-May-25	10:50	947	971	976	981	985	985
pH [No unit]	31-May-25	13:39	6.55	6.79	6.80	6.77	6.60	6.71
Alkalinity [mg/L as CaCO3]	***	***	***	***	***	***	***	***
Conductivity [uS/cm]	30-May-25	11:37	66	29	20	25	11	19

Analysis	11: CV5-WR-HCT-36 Wk#109	12: CV5-WR-HCT-39 Wk#109	13: CV5-WR-HCT-50 Wk#109	14: CV5-WR-HCT-56 Wk#109	15: CV5-WR-HCT-59 Wk#109	16: CV5-WR-HCT-62 Wk#109	17: CV5-WR-HCT-64 Wk#109	18: CV5-WR-HCT-69 Wk#109
Sample Date & Time	29-May-25	29-May-25	29-May-25	29-May-25	29-May-25	29-May-25	29-May-25	29-May-25
HumCell Leachate Vol [mL]	1001	950	1035	1020	998	919	1022	1038
pH [No unit]	6.91	6.40	5.74	6.80	5.86	6.88	6.91	6.86
Alkalinity [mg/L as CaCO3]	***	***	***	***	***	***	***	***
Conductivity [uS/cm]	20	38	82	50	24	22	5	17

Analysis	19: CV5-ORE-HCT-74 Wk#109	20: CV5-ORE-HCT-76 Wk#109
Sample Date & Time	29-May-25	29-May-25
HumCell Leachate Vol [mL]	990	1003
pH [No unit]	6.49	6.61
Alkalinity [mg/L as CaCO3]	***	***
Conductivity [uS/cm]	3	16

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

00041407788

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

14-March-2025

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 26 February 2025
LR Report: **CA10181-FEB25**
Reference: Columns - Wk#0

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: CV5-CL-1 Wk#0	6: CV5-CL-2 Wk#0	7: CV5-CL-3 Wk#0	8: CV5-CL-4 Wk#0	9: CV5-CL-5 Wk#0	10: CV5-CL-6 Wk#0
Sample Date & Time			26-Feb-25	26-Feb-25	26-Feb-25	26-Feb-25	26-Feb-25	26-Feb-25
HumCell Leachate Vol [mL]	27-Feb-25	14:10	1498	1742	1808	250	1340	1314
pH [No unit]	03-Mar-25	11:25	9.34	9.20	7.27	8.49	8.48	8.63
Conductivity [uS/cm]	03-Mar-25	11:25	508	173	223	3490	401	417
Alkalinity [mg/L as CaCO3]	03-Mar-25	11:25	75	59	21	448	53	58
Acidity [mg/L as CaCO3]	03-Mar-25	11:25	< 2	< 2	< 2	< 2	< 2	< 2
SO4 [mg/L]	12-Mar-25	16:15	13	7.2	9.4	180	12	14
F [mg/L]	05-Mar-25	09:47	0.86	1.13	0.20	13.9	1.48	1.57
NO2 [as N mg/L]	04-Mar-25	15:52	0.03	0.06	0.04	0.89	0.12	0.13
NO3 [as N mg/L]	03-Mar-25	15:21	0.23	0.27	0.37	9.22	0.46	0.50
NO2+NO3 [as N mg/L]	04-Mar-25	15:52	0.26	0.33	0.41	10.1	0.58	0.63
Cl [mg/L]	12-Mar-25	16:15	130	30	71	920	110	110
Hg [mg/L]	04-Mar-25	09:50	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	06-Mar-25	10:10	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	06-Mar-25	10:10	0.237	0.300	0.075	0.024	0.206	0.169
As [mg/L]	06-Mar-25	10:10	0.496	0.404	0.561	4.47	0.548	0.693
Ba [mg/L]	06-Mar-25	10:10	0.00078	0.00040	0.00298	0.0448	0.00106	0.00111
B [mg/L]	06-Mar-25	10:10	0.032	0.038	0.021	0.785	0.067	0.079
Be [mg/L]	06-Mar-25	10:10	0.000033	0.000036	0.000012	0.000071	0.000033	0.000064
Bi [mg/L]	06-Mar-25	10:10	0.00029	0.00014	0.00002	0.00013	0.00015	0.00012
Ca [mg/L]	06-Mar-25	10:10	8.88	4.66	14.5	119	7.91	8.30
Cd [mg/L]	06-Mar-25	10:10	0.000007	0.000004	0.000007	0.000283	0.000010	0.000008
Co [mg/L]	06-Mar-25	10:10	0.000205	0.000251	0.000136	0.00547	0.000246	0.000242
Cr [mg/L]	06-Mar-25	10:10	0.00015	0.00028	0.00020	0.00181	0.00022	0.00033
Cu [mg/L]	06-Mar-25	10:10	0.004	0.001	0.001	0.028	0.003	0.002
Fe [mg/L]	06-Mar-25	10:10	< 0.007	< 0.007	0.008	0.010	< 0.007	< 0.007
K [mg/L]	06-Mar-25	10:10	13.5	8.10	3.14	73.7	13.5	13.6
Li [mg/L]	06-Mar-25	10:10	0.820	0.897	0.521	35.1	1.84	1.94
Mg [mg/L]	06-Mar-25	10:10	1.10	0.990	1.76	35.3	1.36	1.48
Mn [mg/L]	06-Mar-25	10:10	0.00312	0.00133	0.00826	0.110	0.00345	0.00468

OnLine LIMS

0004046400

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10181-FEB25**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: CV5-CL-1 Wk#0	6: CV5-CL-2 Wk#0	7: CV5-CL-3 Wk#0	8: CV5-CL-4 Wk#0	9: CV5-CL-5 Wk#0	10: CV5-CL-6 Wk#0
Mo [mg/L]	06-Mar-25	10:10	0.0043	0.0046	0.0018	0.184	0.0075	0.0085
Na [mg/L]	06-Mar-25	10:10	76.9	24.3	26.1	467	56.8	60.0
Ni [mg/L]	06-Mar-25	10:10	0.0021	0.0035	0.0059	0.156	0.0060	0.0072
Pb [mg/L]	06-Mar-25	10:10	0.00010	< 0.00009	< 0.00009	0.00016	< 0.00009	< 0.00009
Sb [mg/L]	06-Mar-25	10:10	0.0507	0.0745	0.0845	1.68	0.120	0.179
Se [mg/L]	06-Mar-25	10:10	0.00043	0.00026	0.00031	0.00474	0.00035	0.00036
Sn [mg/L]	06-Mar-25	10:10	0.0393	0.0434	0.0229	0.130	0.0432	0.0357
Sr [mg/L]	06-Mar-25	10:10	0.0363	0.0138	0.0896	0.965	0.0367	0.0380
Ti [mg/L]	06-Mar-25	10:10	0.0001	0.0003	0.0002	0.0008	0.0002	0.0002
Tl [mg/L]	06-Mar-25	10:09	0.000846	0.000331	0.000252	0.00391	0.000683	0.000695
U [mg/L]	06-Mar-25	10:09	0.0560	0.00115	0.0165	0.0996	0.00644	0.00661
V [mg/L]	06-Mar-25	10:09	0.00160	0.00351	0.00315	0.00867	0.00297	0.00338
W [mg/L]	06-Mar-25	10:09	0.00695	0.00608	0.00394	0.944	0.0270	0.0367
Y [mg/L]	06-Mar-25	10:09	< 0.00002	< 0.00002	< 0.00002	0.00004	< 0.00002	< 0.00002
Zn [mg/L]	06-Mar-25	10:09	< 0.002	< 0.002	< 0.002	0.018	< 0.002	< 0.002
Au [mg/L]	06-Mar-25	10:09	< 0.00001	0.00001	0.00001	0.00004	0.00001	< 0.00001
Ce [mg/L]	05-Mar-25	10:44	< 0.00001	0.00001	< 0.00001	0.00001	< 0.00001	< 0.00001
Cs [mg/L]	05-Mar-25	10:44	0.0563	0.107	0.310	1.44	0.236	0.232
Dy [mg/L]	05-Mar-25	10:44	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er [mg/L]	05-Mar-25	10:44	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu [mg/L]	05-Mar-25	10:44	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga [mg/L]	05-Mar-25	10:44	0.0027	0.0028	0.0002	0.0007	0.0020	0.0018
Gd (tot) [mg/L]	05-Mar-25	10:44	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge [mg/L]	06-Mar-25	10:09	0.0002	0.0001	< 0.0001	0.0013	0.0001	0.0001
Hf [mg/L]	06-Mar-25	10:09	< 0.0001	< 0.0001	< 0.0001	0.0009	< 0.0001	< 0.0001
Ho [mg/L]	05-Mar-25	10:44	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In [mg/L]	05-Mar-25	10:44	0.00014	0.00015	0.00008	0.00042	0.00015	0.00013
Ir [mg/L]	06-Mar-25	10:09	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La [mg/L]	05-Mar-25	10:44	< 0.00001	< 0.00001	< 0.00001	0.00008	< 0.00001	0.00001
Lu [mg/L]	05-Mar-25	10:44	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb [mg/L]	06-Mar-25	10:09	0.0003	0.0003	< 0.0001	0.0042	0.0005	0.0006
Nd [mg/L]	05-Mar-25	10:44	< 0.00001	< 0.00001	< 0.00001	0.00001	< 0.00001	< 0.00001
Os [mg/L]	06-Mar-25	10:09	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd [mg/L]	06-Mar-25	10:09	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001
Pr [mg/L]	05-Mar-25	10:44	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt [mg/L]	06-Mar-25	10:09	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh [mg/L]	06-Mar-25	10:09	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Rb [mg/L]	05-Mar-25	10:44	0.619	0.387	0.111	3.05	0.606	0.592
Re [mg/L]	06-Mar-25	10:09	< 0.0001	< 0.0001	< 0.0001	0.0005	< 0.0001	< 0.0001
Ru [mg/L]	06-Mar-25	10:09	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sm [mg/L]	05-Mar-25	10:43	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc [mg/L]	05-Mar-25	10:43	< 0.0001	< 0.0001	< 0.0001	0.0003	< 0.0001	< 0.0001
Ta [mg/L]	06-Mar-25	10:09	< 0.0001	< 0.0001	< 0.0001	0.0002	0.0004	< 0.0001
Tb [mg/L]	05-Mar-25	10:43	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te [mg/L]	06-Mar-25	10:09	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001

OnLine LIMS

0004046400

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10181-FEB25**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: CV5-CL-1 Wk#0	6: CV5-CL-2 Wk#0	7: CV5-CL-3 Wk#0	8: CV5-CL-4 Wk#0	9: CV5-CL-5 Wk#0	10: CV5-CL-6 Wk#0
Th [mg/L]	05-Mar-25	10:43	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm [mg/L]	05-Mar-25	10:43	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

NA - Not applicable

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0004046400

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

18-February-2025

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 30 January 2025
LR Report: **CA10181-JAN25**
Reference: Wk#92

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#92	6: CV5-WR-HCT-5 Wk#92	7: CV5-WR-HCT-5 (DUP) Wk#92	8: CV5-WR-HCT-14 Wk#92	9: CV5-WR-HCT-22 Wk#92
Sample Date & Time			30-Jan-25	30-Jan-25	30-Jan-25	30-Jan-25	30-Jan-25
HumCell Leachate Vol [mL]	30-Jan-25	13:56	976	988	1004	1018	1019
pH [No unit]	03-Feb-25	11:05	6.49	6.81	6.69	7.17	6.84
Alkalinity [mg/L as CaCO3]	31-Jan-25	12:47	3	5	3	13	4
Conductivity [uS/cm]	03-Feb-25	11:05	39	22	14	25	9
Acidity [mg/L as CaCO3]	31-Jan-25	12:48	< 2	< 2	< 2	< 2	< 2
F [mg/L]	31-Jan-25	13:08	< 0.06	0.07	< 0.06	< 0.06	< 0.06
Tot.Reactive P [mg/L]	31-Jan-25	09:43	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
SO4 [mg/L]	31-Jan-25	15:26	16	6	3	< 2	< 2
Cl [mg/L]	31-Jan-25	15:26	< 1	< 1	< 1	< 1	< 1
NO2 [as N mg/L]	31-Jan-25	10:18	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	31-Jan-25	10:18	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	31-Jan-25	10:18	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	03-Feb-25	09:46	< 0.00001	< 0.00001	< 0.00001	< 0.00001	---
Hg [mg/L]	06-Feb-25	08:42	---	---	---	---	< 0.00001
Ag [mg/L]	03-Feb-25	09:46	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	03-Feb-25	09:46	0.013	0.020	0.014	0.075	0.015
As [mg/L]	03-Feb-25	09:46	0.0010	0.0815	0.0659	0.0193	0.0623
Ba [mg/L]	03-Feb-25	09:46	0.00034	0.00018	0.00009	0.00018	< 0.00008
Be [mg/L]	03-Feb-25	09:46	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	03-Feb-25	09:46	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	03-Feb-25	09:46	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	03-Feb-25	09:46	6.18	3.72	2.35	4.87	1.58
Cd [mg/L]	03-Feb-25	09:46	< 0.000003	< 0.000003	0.000004	< 0.000003	0.000003
Co [mg/L]	03-Feb-25	09:46	0.000352	0.000242	0.000258	0.000052	0.000078
Cr [mg/L]	03-Feb-25	09:46	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	03-Feb-25	09:46	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	03-Feb-25	09:46	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	03-Feb-25	09:46	0.100	0.044	0.040	0.022	0.020
Li [mg/L]	03-Feb-25	09:46	0.0031	0.0041	0.0034	0.0024	0.0029
Mg [mg/L]	03-Feb-25	09:46	0.204	0.115	0.090	0.118	0.146

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0004020485

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10181-JAN25**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#92	6: CV5-WR-HCT-5 Wk#92	7: CV5-WR-HCT-5 (DUP) Wk#92	8: CV5-WR-HCT-14 Wk#92	9: CV5-WR-HCT-22 Wk#92
Mn [mg/L]	03-Feb-25	09:46	0.00331	0.00158	0.00135	0.00561	0.00033
Mo [mg/L]	03-Feb-25	09:46	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	03-Feb-25	09:46	0.08	0.04	0.03	0.09	0.05
Ni [mg/L]	03-Feb-25	09:46	0.0012	0.0012	0.0009	0.0002	0.0002
Pb [mg/L]	03-Feb-25	09:46	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	03-Feb-25	09:46	< 0.0009	0.0213	0.0098	0.0017	0.0025
Se [mg/L]	03-Feb-25	09:47	0.00011	< 0.00004	< 0.00004	0.00006	< 0.00004
Sn [mg/L]	03-Feb-25	09:47	0.00008	0.00007	< 0.00006	0.00006	0.00006
Sr [mg/L]	03-Feb-25	09:47	0.00759	0.00320	0.00258	0.00294	0.00380
Ti [mg/L]	03-Feb-25	09:47	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001
Tl [mg/L]	03-Feb-25	09:47	0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005
U [mg/L]	03-Feb-25	09:47	0.000029	0.000018	0.000005	0.000010	0.000100
V [mg/L]	03-Feb-25	09:47	0.00011	0.00026	0.00021	0.00154	0.00075
W [mg/L]	03-Feb-25	09:47	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	03-Feb-25	09:47	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	03-Feb-25	09:47	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	03-Feb-25	09:47	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	03-Feb-25	12:03	0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Cs (tot) [mg/L]	03-Feb-25	09:47	0.0057	0.0059	0.0062	0.0013	0.0033
Dy (tot) [mg/L]	03-Feb-25	12:03	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er (tot) [mg/L]	03-Feb-25	12:03	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu (tot) [mg/L]	03-Feb-25	12:03	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga (tot) [mg/L]	03-Feb-25	12:03	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001
Gd (tot) [mg/L]	03-Feb-25	12:03	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	03-Feb-25	09:47	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	03-Feb-25	09:47	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	03-Feb-25	12:03	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In (tot) [mg/L]	03-Feb-25	12:03	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir (tot) [mg/L]	03-Feb-25	09:47	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La (tot) [mg/L]	03-Feb-25	12:03	0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Lu (tot) [mg/L]	03-Feb-25	12:03	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	03-Feb-25	09:47	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Nd (tot) [mg/L]	06-Feb-25	17:14	---	---	---	---	---
Os (tot) [mg/L]	03-Feb-25	09:47	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	03-Feb-25	09:47	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	03-Feb-25	12:03	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt (tot) [mg/L]	03-Feb-25	09:47	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	03-Feb-25	09:47	0.0026	0.0019	0.0018	0.0003	0.0009
Re (tot) [mg/L]	03-Feb-25	09:47	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	03-Feb-25	09:47	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	03-Feb-25	12:03	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	03-Feb-25	12:03	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ta (tot) [mg/L]	03-Feb-25	09:47	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	03-Feb-25	12:03	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te (tot) [mg/L]	03-Feb-25	09:47	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	03-Feb-25	09:47	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001

OnLine LIMS

0004020485

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10181-JAN25**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#92	6: CV5-WR-HCT-5 Wk#92	7: CV5-WR-HCT-5 (DUP) Wk#92	8: CV5-WR-HCT-14 Wk#92	9: CV5-WR-HCT-22 Wk#92
Tm (tot) [mg/L]	03-Feb-25	12:03	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Yb (tot) [mg/L]	03-Feb-25	12:03	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Analysis	10: CV5-WR-HCT-33 Wk#92	11: CV5-WR-HCT-36 Wk#92	12: CV5-WR-HCT-39 Wk#92	13: CV5-WR-HCT-50 Wk#92	14: CV5-WR-HCT-56 Wk#92	15: CV5-WR-HCT-59 Wk#92	16: CV5-WR-HCT-62 Wk#92
Sample Date & Time	30-Jan-25	30-Jan-25	30-Jan-25	30-Jan-25	30-Jan-25	30-Jan-25	30-Jan-25
HumCell Leachate Vol [mL]	996	1019	959	1008	1023	1025	968
pH [No unit]	7.05	7.13	6.29	6.05	6.86	5.83	7.14
Alkalinity [mg/L as CaCO3]	6	9	2	2	8	< 2	7
Conductivity [uS/cm]	11	18	18	53	33	14	19
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	7	< 2	7	< 2
F [mg/L]	< 0.06	< 0.06	0.27	0.86	< 0.06	< 0.06	< 0.06
Tot.Reactive P [mg/L]	< 0.03	0.25	< 0.03	< 0.03	< 0.03	< 0.03	0.09
SO4 [mg/L]	< 2	< 2	6	19	8	3	< 2
Cl [mg/L]	< 1	< 1	< 1	1	< 1	< 1	< 1
NO2 [as N mg/L]	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Hg [mg/L]	---	---	---	---	---	---	---
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.073	0.002	0.007	0.042	0.031	0.001	0.001
As [mg/L]	0.0034	1.14	0.0059	0.0020	0.0046	0.0309	0.566
Ba [mg/L]	0.00022	0.00041	0.00018	0.00065	0.00031	0.00014	0.00016
Be [mg/L]	< 0.000007	< 0.000007	0.000009	0.000120	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	2.20	2.94	2.69	7.84	5.87	1.86	2.46
Cd [mg/L]	< 0.000003	< 0.000003	0.000014	0.000638	< 0.000003	0.000003	< 0.000003
Co [mg/L]	0.000045	0.000652	0.000326	0.050456	0.000088	0.005250	0.000503
Cr [mg/L]	< 0.00008	0.00011	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	< 0.001	< 0.001	< 0.001	0.002	< 0.001	< 0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007	< 0.007	0.552	< 0.007	0.009	< 0.007
K [mg/L]	0.028	0.034	0.090	0.151	0.099	0.015	0.012
Li [mg/L]	0.0010	0.0014	0.0042	0.0126	0.0012	0.0011	0.0002
Mg [mg/L]	0.044	0.587	0.219	0.266	0.114	0.257	0.684
Mn [mg/L]	0.00626	0.00200	0.00488	0.05733	0.00647	0.00827	0.00214
Mo [mg/L]	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	0.05	< 0.01	0.06	0.13	0.05	0.02	< 0.01
Ni [mg/L]	< 0.0001	0.0083	0.0007	0.0834	0.0004	0.0829	0.0057
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	< 0.0009	0.243	0.0036	0.0054	< 0.0009	0.0014	0.225
Se [mg/L]	0.00005	< 0.00004	0.00006	0.00058	0.00004	0.00006	0.00004
Sn [mg/L]	0.00012	0.00009	0.00008	0.00022	0.00007	0.00006	0.00008
Sr [mg/L]	0.00155	0.00189	0.00448	0.00460	0.00369	0.00588	0.00098

OnLine LIMS

0004020485

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10181-JAN25**

Analysis	10: CV5-WR-HCT-33 Wk#92	11: CV5-WR-HCT-36 Wk#92	12: CV5-WR-HCT-39 Wk#92	13: CV5-WR-HCT-50 Wk#92	14: CV5-WR-HCT-56 Wk#92	15: CV5-WR-HCT-59 Wk#92	16: CV5-WR-HCT-62 Wk#92
Ti [mg/L]	0.0002	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tl [mg/L]	< 0.000005	0.000005	0.000007	0.000058	< 0.000005	0.000010	< 0.000005
U [mg/L]	0.000009	0.000014	0.000057	0.000309	0.000269	< 0.000002	0.000024
V [mg/L]	0.00046	0.00018	0.00012	< 0.00001	0.00019	0.00005	0.00010
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	0.00008	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	0.002	0.353	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	< 0.00001	< 0.00001	0.00001	0.00034	< 0.00001	< 0.00001	< 0.00001
Cs (tot) [mg/L]	0.0017	0.0103	0.0016	0.0513	0.0173	0.0071	0.0020
Dy (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Gd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00002	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La (tot) [mg/L]	< 0.00001	0.00002	0.00001	0.00028	< 0.00001	< 0.00001	0.00002
Lu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Nd (tot) [mg/L]	---	---	---	0.00011	---	---	---
Os (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00003	< 0.00001	< 0.00001	< 0.00001
Pt (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	0.0003	0.0017	0.0014	0.0093	0.0007	0.0014	0.0008
Re (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00001	< 0.00001	< 0.00001	< 0.00001
Ta (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Yb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Analysis	17: CV5-WR-HCT-64 Wk#92	18: CV5-WR-HCT-69 Wk#92	19: CV5-ORE-HCT-74 Wk#92	20: CV5-ORE-HCT-76 Wk#92
Sample Date & Time	30-Jan-25	30-Jan-25	30-Jan-25	30-Jan-25
HumCell Leachate Vol [mL]	1019	1020	1029	1020
pH [No unit]	6.62	7.32	6.31	6.90

OnLine LIMS

0004020485

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10181-JAN25**

Analysis	17: CV5-WR-HCT-64 Wk#92	18: CV5-WR-HCT-69 Wk#92	19: CV5-ORE-HCT-74 Wk#92	20: CV5-ORE-HCT-76 Wk#92
Alkalinity [mg/L as CaCO3]	2	5	< 2	6
Conductivity [uS/cm]	6	11	3	14
Acidity [mg/L as CaCO3]	< 2	< 2	2	< 2
F [mg/L]	< 0.06	< 0.06	< 0.06	< 0.06
Tot.Reactive P [mg/L]	< 0.03	< 0.03	0.03	0.03
SO4 [mg/L]	< 2	< 2	< 2	< 2
Cl [mg/L]	< 1	< 1	< 1	< 1
NO2 [as N mg/L]	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	< 0.3	< 0.3	< 0.3	< 0.3
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Hg [mg/L]	---	---	---	---
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.017	0.057	0.019	0.047
As [mg/L]	0.0034	0.0024	0.0037	0.0014
Ba [mg/L]	0.00026	< 0.00008	< 0.00008	< 0.00008
Be [mg/L]	0.000014	0.000059	0.000014	0.000057
B [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002
Bi [mg/L]	< 0.00001	0.00014	< 0.00001	0.00007
Ca [mg/L]	0.74	1.96	0.24	2.60
Cd [mg/L]	< 0.000003	0.000003	0.000004	< 0.000003
Co [mg/L]	0.000006	0.000006	0.000012	0.000011
Cr [mg/L]	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	0.120	0.047	0.058	0.146
Li [mg/L]	0.0008	0.0006	0.0039	0.0045
Mg [mg/L]	0.023	0.013	0.007	0.051
Mn [mg/L]	0.00684	0.00226	0.04401	0.00109
Mo [mg/L]	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	0.03	0.08	0.05	0.06
Ni [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	< 0.0009	0.0010	0.0037	< 0.0009
Se [mg/L]	< 0.00004	< 0.00004	< 0.00004	< 0.00004
Sn [mg/L]	< 0.00006	0.00007	< 0.00006	0.00011
Sr [mg/L]	0.00213	0.00253	0.00051	0.00393
Ti [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tl [mg/L]	0.000039	0.000006	0.000030	0.000017
U [mg/L]	0.000082	0.001522	0.000110	0.000568
V [mg/L]	0.00002	0.00004	0.00002	0.00003
W [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002
Au (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001

OnLine LIMS

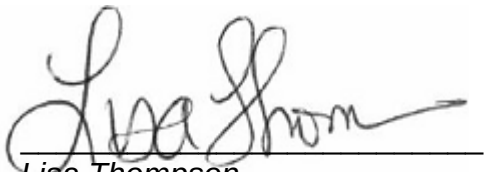
0004020485

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10181-JAN25**

Analysis	17: CV5-WR-HCT-64 Wk#92	18: CV5-WR-HCT-69 Wk#92	19: CV5-ORE-HCT-74 Wk#92	20: CV5-ORE-HCT-76 Wk#92
Cs (tot) [mg/L]	0.0055	0.0016	0.0098	0.0041
Dy (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga (tot) [mg/L]	< 0.0001	0.0001	< 0.0001	0.0001
Gd (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Lu (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb (tot) [mg/L]	< 0.00001	0.00002	0.00002	0.00001
Nd (tot) [mg/L]	---	---	---	---
Os (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rb (tot) [mg/L]	0.0127	0.0030	0.0091	0.0068
Re (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ta (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Yb (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001



Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0004020485

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

09-September-2025

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 27 August 2025
LR Report: **CA10182-AUG25**
Reference: Columns - Wk#26

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: CV5-CL-1 Wk#26	6: CV5-CL-2 Wk#26	7: CV5-CL-3 Wk#26	8: CV5-CL-4 Wk#26	9: CV5-CL-5 Wk#26	10: CV5-CL-6 Wk#26
Sample Date & Time			27-Aug-25	27-Aug-25	27-Aug-25	27-Aug-25	27-Aug-25	27-Aug-25
HumCell Leachate Vol [mL]	28-Aug-25	08:44	1993	2001	1997	1999	2026	2004
pH [No unit]	29-Aug-25	13:57	7.47	7.58	7.37	7.75	7.61	7.72
Conductivity [uS/cm]	29-Aug-25	13:57	22	28	31	75	40	40
Alkalinity [mg/L as CaCO3]	29-Aug-25	13:57	16	14	13	33	22	22
Acidity [mg/L as CaCO3]	29-Aug-25	13:57	< 2	< 2	< 2	< 2	< 2	< 2
SO4 [mg/L]	02-Sep-25	16:47	0.2	1.4	4.6	7.4	2.2	2.4
F [mg/L]	29-Aug-25	08:46	< 0.06	< 0.06	< 0.06	0.26	< 0.06	< 0.06
NO2 [as N mg/L]	02-Sep-25	14:52	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	02-Sep-25	14:52	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
NO2+NO3 [as N mg/L]	02-Sep-25	14:52	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Cl [mg/L]	02-Sep-25	16:48	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Hg [mg/L]	29-Aug-25	16:43	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	29-Aug-25	15:56	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	29-Aug-25	15:56	0.176	0.167	0.034	0.138	0.116	0.108
As [mg/L]	29-Aug-25	15:56	0.0571	0.376	2.02	1.47	0.866	0.922
Ba [mg/L]	29-Aug-25	15:56	0.00012	0.00016	0.00050	0.00126	0.00043	0.00044
B [mg/L]	29-Aug-25	15:56	< 0.002	0.004	0.005	0.015	0.007	0.008
Be [mg/L]	29-Aug-25	15:56	0.000024	0.000026	0.000009	0.000072	0.000062	0.000035
Bi [mg/L]	29-Aug-25	15:56	0.00013	0.00006	0.00001	0.00023	0.00014	0.00010
Ca [mg/L]	29-Aug-25	15:56	3.59	4.09	4.70	8.97	5.54	5.28
Cd [mg/L]	29-Aug-25	15:56	0.000005	< 0.000003	< 0.000003	0.000003	0.000003	0.000005
Co [mg/L]	29-Aug-25	15:56	0.000012	0.000071	0.000944	0.000278	0.000163	0.000146
Cr [mg/L]	29-Aug-25	15:56	< 0.00008	0.00008	0.00011	0.00017	0.00009	< 0.00008
Cu [mg/L]	29-Aug-25	15:56	0.001	< 0.001	0.001	< 0.001	0.002	0.001
Fe [mg/L]	29-Aug-25	15:56	< 0.007	< 0.007	0.007	0.012	< 0.007	< 0.007
K [mg/L]	29-Aug-25	15:57	0.529	0.575	0.283	3.40	1.08	1.15
Li [mg/L]	29-Aug-25	15:57	0.0094	0.0250	0.0218	0.200	0.0595	0.0662
Mg [mg/L]	29-Aug-25	15:57	0.198	0.467	0.538	1.48	0.675	0.677
Mn [mg/L]	29-Aug-25	15:57	0.0165	0.00864	0.00992	0.0156	0.0147	0.0127
Mo [mg/L]	29-Aug-25	15:57	< 0.0004	< 0.0004	< 0.0004	0.0005	< 0.0004	< 0.0004
Na [mg/L]	29-Aug-25	15:57	0.50	0.41	0.24	1.84	1.02	1.18
Ni [mg/L]	29-Aug-25	15:57	< 0.0001	0.0006	0.0155	0.0030	0.0014	0.0014
Pb [mg/L]	29-Aug-25	15:57	< 0.00009	< 0.00009	< 0.00009	0.00010	< 0.00009	< 0.00009
Sb [mg/L]	29-Aug-25	15:57	0.0379	0.0799	0.469	0.179	0.150	0.173
Se [mg/L]	29-Aug-25	15:57	< 0.00004	0.00005	0.00021	0.00011	0.00009	0.00011

OnLine LIMS

0004249869

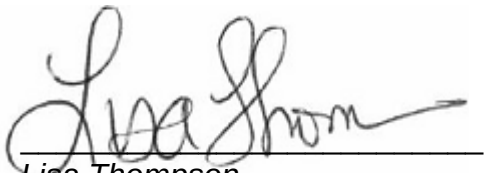
Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10182-AUG25**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: CV5-CL-1 Wk#26	6: CV5-CL-2 Wk#26	7: CV5-CL-3 Wk#26	8: CV5-CL-4 Wk#26	9: CV5-CL-5 Wk#26	10: CV5-CL-6 Wk#26
Sn [mg/L]	29-Aug-25	15:57	0.00048	0.00091	0.00098	0.00158	0.00129	0.00111
Sr [mg/L]	29-Aug-25	15:57	0.00890	0.0123	0.0209	0.0328	0.0199	0.0190
Ti [mg/L]	29-Aug-25	15:57	< 0.0001	0.0002	< 0.0001	0.0004	0.0001	0.0001
Tl [mg/L]	29-Aug-25	15:57	0.000042	0.000043	0.000059	0.000155	0.000079	0.000079
U [mg/L]	29-Aug-25	11:04	0.102	0.111	0.0253	0.409	0.245	0.244
V [mg/L]	29-Aug-25	15:57	0.00008	0.00050	0.00190	0.00248	0.00081	0.00086
W [mg/L]	29-Aug-25	15:57	0.00020	0.00027	0.00033	0.0107	0.00086	0.00114
Y [mg/L]	29-Aug-25	15:57	< 0.00002	< 0.00002	< 0.00002	0.00002	< 0.00002	< 0.00002
Zn [mg/L]	29-Aug-25	15:57	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au [mg/L]	29-Aug-25	15:57	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce [mg/L]	29-Aug-25	11:04	< 0.00001	< 0.00001	< 0.00001	0.00001	< 0.00001	< 0.00001
Cs [mg/L]	29-Aug-25	15:57	0.0077	0.0359	0.150	0.199	0.0794	0.0782
Dy [mg/L]	29-Aug-25	11:04	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er [mg/L]	29-Aug-25	11:04	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu [mg/L]	29-Aug-25	11:04	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga [mg/L]	29-Aug-25	11:04	0.0004	0.0005	< 0.0001	0.0031	0.0006	0.0005
Gd (tot) [mg/L]	29-Aug-25	11:04	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge [mg/L]	29-Aug-25	15:57	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001
Hf [mg/L]	29-Aug-25	15:57	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho [mg/L]	29-Aug-25	11:04	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In [mg/L]	29-Aug-25	11:04	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir [mg/L]	29-Aug-25	15:57	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La [mg/L]	29-Aug-25	11:04	< 0.00001	< 0.00001	0.00002	0.00002	0.00001	0.00001
Lu [mg/L]	29-Aug-25	11:04	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb [mg/L]	29-Aug-25	15:57	< 0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001
Nd [mg/L]	29-Aug-25	11:04	< 0.00001	< 0.00001	< 0.00001	0.00001	< 0.00001	< 0.00001
Os [mg/L]	29-Aug-25	15:58	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd [mg/L]	29-Aug-25	15:58	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr [mg/L]	29-Aug-25	11:04	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt [mg/L]	29-Aug-25	15:58	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh [mg/L]	29-Aug-25	15:58	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Rb [mg/L]	29-Aug-25	15:58	0.0301	0.0310	0.0218	0.168	0.0614	0.0636
Re [mg/L]	29-Aug-25	15:58	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ru [mg/L]	29-Aug-25	15:58	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sm [mg/L]	29-Aug-25	11:04	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00001
Sc [mg/L]	29-Aug-25	11:04	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ta [mg/L]	29-Aug-25	15:58	< 0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001
Tb [mg/L]	29-Aug-25	11:04	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te [mg/L]	29-Aug-25	15:58	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th [mg/L]	29-Aug-25	11:04	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm [mg/L]	29-Aug-25	11:04	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

NA - Not applicable



Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0004249869

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Patriot WR - Short

Project : 2023 Waste Rock Humidity Cells

01-October-2025

Date Rec. : 25 September 2025
LR Report: **CA10183-SEP25**
Reference: Wk#126 - 2023 Waste Rock Humidity Cells

Copy: #1

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#126	6: CV5-WR-HCT-5 Wk#126	7: CV5-WR-HCT-5 (DUP) Wk#126	8: CV5-WR-HCT-14 Wk#126	9: CV5-WR-HCT-22 Wk#126	10: CV5-WR-HCT-33 Wk#126
Sample Date & Time			25-Sep-25	25-Sep-25	25-Sep-25	25-Sep-25	25-Sep-25	25-Sep-25
HumCell Leachate Vol [mL]	29-Sep-25	16:20	986	998	988	1011	1020	978
pH [No unit]	29-Sep-25	17:57	6.04	6.03	6.48	6.72	6.41	6.36
Conductivity [uS/cm]	26-Sep-25	15:59	39	22	15	22	11	11

Analysis	11: CV5-WR-HCT-36 Wk#126	12: CV5-WR-HCT-39 Wk#126	13: CV5-WR-HCT-50 Wk#126	14: CV5-WR-HCT-56 Wk#126	15: CV5-WR-HCT-59 Wk#126	16: CV5-WR-HCT-62 Wk#126	17: CV5-WR-HCT-64 Wk#126	18: CV5-WR-HCT-69 Wk#126
Sample Date & Time	25-Sep-25	25-Sep-25	25-Sep-25	25-Sep-25	25-Sep-25	25-Sep-25	25-Sep-25	25-Sep-25
HumCell Leachate Vol [mL]	971	956	991	1022	1008	959	1016	1023
pH [No unit]	6.49	5.43	4.26	6.74	5.53	6.46	6.78	6.19
Conductivity [uS/cm]	19	20	105	34	16	16	6	11

Analysis	19: CV5-ORE-HCT-74 Wk#126	20: CV5-ORE-HCT-76 Wk#126
Sample Date & Time	25-Sep-25	25-Sep-25
HumCell Leachate Vol [mL]	1010	991
pH [No unit]	6.86	7.28
Conductivity [uS/cm]	3	12

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0004276417

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

09-September-2025

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 28 August 2025
LR Report: **CA10189-AUG25**
Reference: Wk#122

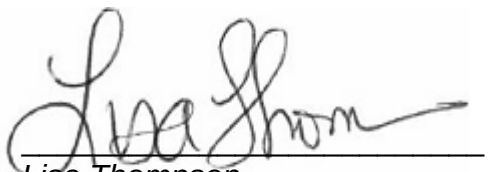
Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#122	6: CV5-WR-HCT-5 Wk#122	7: CV5-WR-HCT-5 (DUP) Wk#122	8: CV5-WR-HCT-14 Wk#122	9: CV5-WR-HCT-22 Wk#122	10: CV5-WR-HCT-33 Wk#122
Sample Date & Time			28-Aug-25	28-Aug-25	28-Aug-25	28-Aug-25	28-Aug-25	28-Aug-25
HumCell Leachate Vol [mL]	28-Aug-25	12:38	998	1009	1005	1000	1014	940
pH [No unit]	02-Sep-25	14:05	6.31	6.68	6.98	6.92	6.90	6.90
Conductivity [uS/cm]	29-Aug-25	13:46	31	21	13	22	11	10

Analysis	11: CV5-WR-HCT-36 Wk#122	12: CV5-WR-HCT-39 Wk#122	13: CV5-WR-HCT-50 Wk#122	14: CV5-WR-HCT-56 Wk#122	15: CV5-WR-HCT-59 Wk#122	16: CV5-WR-HCT-62 Wk#122	17: CV5-WR-HCT-64 Wk#122	18: CV5-WR-HCT-69 Wk#122
Sample Date & Time	28-Aug-25	28-Aug-25	28-Aug-25	28-Aug-25	28-Aug-25	28-Aug-25	28-Aug-25	28-Aug-25
HumCell Leachate Vol [mL]	988	934	995	1009	925	992	1016	1005
pH [No unit]	6.20	5.64	4.57	6.80	6.90	6.41	6.97	6.90
Conductivity [uS/cm]	14	20	97	34	16	15	3	9

Analysis	19: CV5-ORE-HCT-74 Wk#122	20: CV5-ORE-HCT-76 Wk#122
Sample Date & Time	28-Aug-25	28-Aug-25
HumCell Leachate Vol [mL]	1012	976
pH [No unit]	7.13	6.90
Conductivity [uS/cm]	3	12



Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0004249872

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

13-August-2025

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 30 July 2025
LR Report: **CA10211-JUL25**
Reference: Columns - Wk#22

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: CV5-CL-1 Wk#22	6: CV5-CL-2 Wk#22	7: CV5-CL-3 Wk#22	8: CV5-CL-4 Wk#22	9: CV5-CL-5 Wk#22	10: CV5-CL-6 Wk#22
Sample Date & Time			30-Jul-25	30-Jul-25	30-Jul-25	30-Jul-25	30-Jul-25	30-Jul-25
HumCell Leachate Vol [mL]	31-Jul-25	15:29	2005	1998	1998	1992	1997	1998
pH [No unit]	07-Aug-25	10:48	7.33	7.44	7.22	7.19	7.57	7.47
Conductivity [uS/cm]	01-Aug-25	10:23	23	28	32	84	41	41
Alkalinity [mg/L as CaCO3]	01-Aug-25	10:23	12	14	11	36	23	22
Acidity [mg/L as CaCO3]	01-Aug-25	10:23	< 2	< 2	< 2	< 2	< 2	< 2
SO4 [mg/L]	05-Aug-25	16:39	0.2	1.7	5.2	7.7	2.9	2.9
F [mg/L]	31-Jul-25	15:07	< 0.06	0.12	< 0.06	0.31	0.11	0.12
NO2 [as N mg/L]	05-Aug-25	08:48	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	05-Aug-25	08:48	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
NO2+NO3 [as N mg/L]	05-Aug-25	08:48	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Cl [mg/L]	05-Aug-25	16:39	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Hg [mg/L]	05-Aug-25	15:12	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	05-Aug-25	15:12	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	05-Aug-25	15:12	0.195	0.176	0.039	0.150	0.119	0.112
As [mg/L]	05-Aug-25	15:12	0.0745	0.466	2.62	1.65	1.24	1.27
Ba [mg/L]	05-Aug-25	15:12	0.00015	0.00020	0.00057	0.00127	0.00056	0.00045
B [mg/L]	05-Aug-25	15:12	< 0.002	0.005	0.006	0.022	0.009	0.010
Be [mg/L]	05-Aug-25	15:12	0.000029	0.000029	0.000008	0.000110	0.000040	0.000024
Bi [mg/L]	05-Aug-25	15:12	0.00046	0.00018	0.00002	0.00042	0.00029	0.00027
Ca [mg/L]	05-Aug-25	15:12	4.22	4.81	5.53	9.90	6.39	6.01
Cd [mg/L]	05-Aug-25	15:12	0.000004	0.000003	< 0.000003	0.000005	0.000006	0.000007
Co [mg/L]	05-Aug-25	15:12	0.000025	0.000068	0.000963	0.000284	0.000177	0.000164
Cr [mg/L]	05-Aug-25	15:12	< 0.00008	< 0.00008	0.00016	0.00020	0.00009	< 0.00008
Cu [mg/L]	05-Aug-25	15:12	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	05-Aug-25	15:12	< 0.007	< 0.007	0.008	0.014	< 0.007	< 0.007
K [mg/L]	05-Aug-25	15:12	0.703	0.756	0.373	4.70	1.38	1.54
Li [mg/L]	05-Aug-25	15:12	0.0124	0.0305	0.0263	0.239	0.0699	0.0810
Mg [mg/L]	05-Aug-25	15:12	0.241	0.539	0.623	1.84	0.764	0.751
Mn [mg/L]	05-Aug-25	15:12	0.0143	0.00916	0.0108	0.0160	0.0150	0.0130
Mo [mg/L]	05-Aug-25	15:12	< 0.0004	< 0.0004	< 0.0004	0.0007	0.0004	0.0005
Na [mg/L]	05-Aug-25	15:12	0.70	0.57	0.36	2.32	1.41	1.68
Ni [mg/L]	05-Aug-25	15:12	0.0003	0.0006	0.0169	0.0038	0.0017	0.0017
Pb [mg/L]	07-Aug-25	11:00	< 0.00009	< 0.00009	< 0.00009	0.00010	< 0.00009	< 0.00009
Sb [mg/L]	05-Aug-25	15:12	0.0530	0.110	0.598	0.218	0.213	0.236
Se [mg/L]	05-Aug-25	15:12	0.00006	0.00006	0.00019	0.00012	0.00008	0.00008

OnLine LIMS

0004217486

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA10211-JUL25**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: CV5-CL-1 Wk#22	6: CV5-CL-2 Wk#22	7: CV5-CL-3 Wk#22	8: CV5-CL-4 Wk#22	9: CV5-CL-5 Wk#22	10: CV5-CL-6 Wk#22
Sn [mg/L]	05-Aug-25	15:12	0.00073	0.00111	0.00155	0.00227	0.00165	0.00179
Sr [mg/L]	05-Aug-25	15:12	0.0102	0.0135	0.0240	0.0334	0.0223	0.0203
Ti [mg/L]	05-Aug-25	15:12	< 0.0001	0.0001	0.0001	0.0004	0.0002	0.0001
Tl [mg/L]	05-Aug-25	15:12	0.000048	0.000046	0.000063	0.000192	0.000087	0.000089
U [mg/L]	05-Aug-25	15:12	0.103	0.118	0.0272	0.402	0.244	0.228
V [mg/L]	05-Aug-25	15:12	0.00011	0.00065	0.00262	0.00252	0.00101	0.00105
W [mg/L]	05-Aug-25	15:12	0.00031	0.00044	0.00051	0.0133	0.00142	0.00228
Y [mg/L]	05-Aug-25	15:11	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	05-Aug-25	15:11	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au [mg/L]	05-Aug-25	15:11	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce [mg/L]	06-Aug-25	13:25	< 0.00001	< 0.00001	< 0.00001	0.00002	0.00001	0.00001
Cs [mg/L]	05-Aug-25	15:11	0.0093	0.0461	0.172	0.222	0.0987	0.0931
Dy [mg/L]	06-Aug-25	13:25	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er [mg/L]	06-Aug-25	13:25	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu [mg/L]	06-Aug-25	13:25	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga [mg/L]	06-Aug-25	13:25	0.0004	0.0005	< 0.0001	0.0028	0.0005	0.0004
Gd (tot) [mg/L]	06-Aug-25	13:25	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge [mg/L]	07-Aug-25	11:01	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001
Hf [mg/L]	05-Aug-25	15:11	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho [mg/L]	06-Aug-25	13:25	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In [mg/L]	06-Aug-25	13:25	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir [mg/L]	05-Aug-25	15:11	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La [mg/L]	06-Aug-25	13:25	< 0.00001	< 0.00001	0.00002	0.00002	0.00001	0.00001
Lu [mg/L]	06-Aug-25	13:25	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb [mg/L]	07-Aug-25	11:04	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nd [mg/L]	06-Aug-25	13:25	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Os [mg/L]	05-Aug-25	15:11	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd [mg/L]	05-Aug-25	15:11	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr [mg/L]	06-Aug-25	13:25	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt [mg/L]	05-Aug-25	15:11	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh [mg/L]	05-Aug-25	15:11	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Rb [mg/L]	07-Aug-25	11:02	0.0390	0.0398	0.0260	0.217	0.0767	0.0782
Re [mg/L]	05-Aug-25	15:11	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ru [mg/L]	05-Aug-25	15:11	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sm [mg/L]	06-Aug-25	13:26	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc [mg/L]	06-Aug-25	13:26	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001
Ta [mg/L]	07-Aug-25	11:02	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb [mg/L]	06-Aug-25	13:26	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te [mg/L]	05-Aug-25	15:10	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th [mg/L]	05-Aug-25	15:10	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm [mg/L]	06-Aug-25	13:26	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

NA - Not applicable

Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0004217486

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

13-August-2025

Innova Lithium Inc.
Attn : Alix Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 31 July 2025
LR Report: **CA10217-JUL25**
Reference: Wk#118

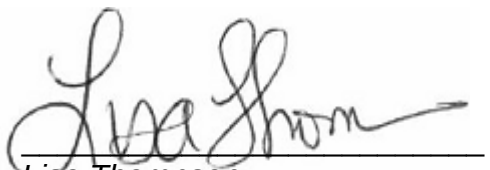
Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-WR-HCT-2 Wk#118	6: CV5-WR-HCT-5 Wk#118	7: CV5-WR-HCT-5 (DUP) Wk#118	8: CV5-WR-HCT-14 Wk#118	9: CV5-WR-HCT-22 Wk#118	10: CV5-WR-HCT-33 Wk#118
Sample Date & Time			31-Jul-25	31-Jul-25	31-Jul-25	31-Jul-25	31-Jul-25	31-Jul-25
HumCell Leachate Vol [mL]	31-Jul-25	15:30	926	956	964	968	997	928
pH [No unit]	05-Aug-25	10:39	6.03	6.68	6.65	7.21	6.72	6.72
Conductivity [uS/cm]	05-Aug-25	11:26	37	22	15	22	9	10

Analysis	11: CV5-WR-HCT-36 Wk#118	12: CV5-WR-HCT-39 Wk#118	13: CV5-WR-HCT-50 Wk#118	14: CV5-WR-HCT-56 Wk#118	15: CV5-WR-HCT-59 Wk#118	16: CV5-WR-HCT-62 Wk#118	17: CV5-WR-HCT-64 Wk#118	18: CV5-WR-HCT-69 Wk#118
Sample Date & Time	31-Jul-25	31-Jul-25	31-Jul-25	31-Jul-25	31-Jul-25	31-Jul-25	31-Jul-25	31-Jul-25
HumCell Leachate Vol [mL]	1003	936	978	993	964	924	998	994
pH [No unit]	6.70	6.16	4.66	6.53	6.50	6.33	6.81	6.49
Conductivity [uS/cm]	12	22	121	31	19	19	3	9

Analysis	19: CV5-ORE-HCT-74 Wk#118	20: CV5-ORE-HCT-76 Wk#118
Sample Date & Time	31-Jul-25	31-Jul-25
HumCell Leachate Vol [mL]	1007	990
pH [No unit]	7.28	6.61
Conductivity [uS/cm]	4	15



Lisa Thompson
Project Specialist Assistant,
Environment, Health & Safety

OnLine LIMS

0004217498

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

24-March-2025

Innova Lithium Inc.
Attn : John Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 05 February 2025
LR Report: **CA11009-FEB25**
Reference: Shaakichiuwaanaan Project

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Sample ID	Sample Date & Time	Paste pH no unit	Fizz Rate rating	Sample weight g	HCl_add mL	HCl Normality	NaOH Normality	Vol NaOH to pH=8.3 mL	Final pH no unit	NP t CaCO3/1000 t	AP t CaCO3/1000 t
1: Analysis Start Date		21-Mar-25	20-Mar-25	19-Mar-25	21-Mar-25	20-Mar-25	20-Mar-25	21-Mar-25	21-Mar-25	21-Mar-25	21-Mar-25
2: Analysis Start Time		08:02	07:40	13:53	06:31	08:35	08:35	13:55	08:35	13:55	13:55
3: Analysis Completed Date		21-Mar-25	21-Mar-25	21-Mar-25	21-Mar-25	21-Mar-25	21-Mar-25	21-Mar-25	21-Mar-25	21-Mar-25	21-Mar-25
4: Analysis Completed Time		16:33	16:33	16:33	16:33	16:33	16:33	16:33	16:33	16:33	16:34
5: VIS-CV5-AMP-085	NA	9.76	3	2.02	20.00	0.10	0.10	12.11	1.71	19.5	1.50
6: VIS-CV5-AMP-086	NA	9.73	3	1.99	20.00	0.10	0.10	14.16	1.42	14.7	2.62
7: VIS-CV5-AMP-087	NA	9.70	3	2.01	27.90	0.10	0.10	11.90	1.68	39.8	1.91
8: VIS-CV5-AMP-088	NA	9.45	3	1.99	20.00	0.10	0.10	12.86	1.47	17.9	18.8
9: VIS-CV5-AMP-089	NA	9.48	3	2.01	20.00	0.10	0.10	13.61	1.63	15.9	5.59
10: VIS-CV5-AMP-090	NA	9.44	3	2.00	20.00	0.10	0.10	13.37	1.36	16.6	7.53
11: VIS-CV5-AMP-091	NA	9.72	3	2.04	20.00	0.10	0.10	10.72	1.65	22.8	1.97
12: VIS-CV5-AMP-092	NA	9.38	2	1.98	20.00	0.10	0.10	15.51	1.42	11.3	0.88
13: VIS-CV5-AMP-093	NA	9.45	2	2.00	20.00	0.10	0.10	14.74	1.46	13.1	6.38
14: VIS-CV5-AMP-094	NA	9.84	2	2.02	20.00	0.10	0.10	16.49	1.41	8.7	2.97
15: VIS-CV5-AMP-095	NA	9.80	3	1.99	20.00	0.10	0.10	12.76	1.41	18.2	8.34
16: VIS-CV5-AMP-096	NA	9.73	3	2.00	27.90	0.10	0.10	11.43	1.63	41.2	4.25
17: VIS-CV5-AMP-097	NA	9.64	3	2.01	20.00	0.10	0.10	11.11	1.63	22.1	5.06
18: VIS-CV5-AMP-098	NA	9.48	3	1.98	20.00	0.10	0.10	14.20	1.44	14.6	5.88

OnLine LIMS

0004055042

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

ABA - Modified Sobek

LR Report : **CA11009-FEB25**

Sample ID	Sample Date & Time	Paste pH no unit	Fizz Rate rating	Sample weight g	HCl_add mL	HCl Normality	NaOH Normality	Vol NaOH to pH=8.3 mL	Final pH no unit	NP t CaCO3/1000 t	AP t CaCO3/1000 t
19: VIS-CV5-AMP-099	NA	9.84	3	2.01	20.00	0.10	0.10	14.69	1.57	13.2	5.97
20: VIS-CV5-AMP-100	NA	9.31	2	1.99	20.00	0.10	0.10	14.13	1.51	14.7	16.1
21: VIS-CV5-AMP-101	NA	9.04	2	2.02	20.00	0.10	0.10	12.31	1.75	19.0	30.2
22: VIS-CV5-AMP-102	NA	9.62	2	2.00	20.00	0.10	0.10	14.63	1.50	13.4	18.6
23: VIS-CV5-AMP-103	NA	9.33	2	2.00	20.00	0.10	0.10	14.09	1.32	14.8	5.81
24: VIS-CV5-AMP-104	NA	10.02	3	2.00	20.00	0.10	0.10	14.75	1.41	13.1	0.50
25: VIS-CV5-AMP-105	NA	7.17	2	1.99	20.00	0.10	0.10	16.29	1.43	9.3	106
26: VIS-CV5-AMP-106	NA	9.96	3	2.00	20.00	0.10	0.10	9.08	1.78	49.1	3.12
27: VIS-CV5-AMP-107	NA	9.87	4	2.01	50.70	0.10	0.10	18.81	1.50	79.3	7.75
28: VIS-CV5-AMP-108	NA	9.66	3	1.98	69.30	0.10	0.10	25.44	1.50	111	19.5
29: VIS-CV5-AMP-109	NA	9.45	3	2.01	20.00	0.10	0.10	9.46	1.78	26.2	20.6
30: VIS-CV5-AMP-110	NA	9.82	3	2.00	20.00	0.10	0.10	15.48	1.24	11.3	3.62
31: VIS-CV5-AMP-111	NA	9.61	3	1.98	20.00	0.10	0.10	13.80	1.53	15.7	4.06
32: VIS-CV5-AMP-112	NA	9.97	3	1.99	20.00	0.10	0.10	12.65	1.42	18.5	3.38
33: VIS-CV5-AMP-113	NA	9.67	3	2.01	23.70	0.10	0.10	12.48	1.56	27.9	1.09
34: VIS-CV5-AMP-114	NA	9.60	3	2.01	20.00	0.10	0.10	9.75	1.72	25.5	2.88
35: VIS-CV5-AMP-115	NA	9.07	3	1.99	27.00	0.10	0.10	13.84	1.60	33.1	31.1
36: VIS-CV5-AMP-116	NA	9.99	3	2.03	20.00	0.10	0.10	9.72	1.82	25.3	1.88
37: VIS-CV5-AMP-117	NA	9.95	3	1.99	20.00	0.10	0.10	12.05	1.35	20.0	1.19
38: VIS-CV5-AMP-118	NA	10.08	3	1.99	20.00	0.10	0.10	13.83	1.42	15.5	2.38
39: VIS-CV5-AMP-119	NA	9.75	3	2.00	20.00	0.10	0.10	15.03	1.21	12.4	3.47
40: VIS-CV5-AMP-120	NA	9.81	4	2.02	63.80	0.10	0.10	17.52	1.64	115	2.44
41: VIS-CV5-AMP-121	NA	9.96	4	2.00	40.00	0.10	0.10	21.35	1.50	46.6	4.00
42: VIS-CV5-AMP-122	NA	9.46	2	2.02	20.00	0.10	0.10	15.85	1.29	10.3	12.0
43: VIS-CV5-AMP-123	NA	9.54	3	2.02	20.00	0.10	0.10	10.48	1.68	23.6	0.72
44: VIS-CV5-AMP-124	NA	9.89	3	2.01	20.00	0.10	0.10	10.66	1.69	23.2	1.31
45: VIS-CV5-AMP-125	NA	9.76	2	1.98	20.00	0.10	0.10	16.29	1.30	9.4	3.47
46: VIS-CV5-AMP-126	NA	10.09	3	1.99	20.00	0.10	0.10	13.62	1.47	16.0	2.25
47: VIS-CV5-AMP-127	NA	9.96	4	2.01	50.10	0.10	0.10	20.69	1.51	73.2	2.50
48: VIS-CV5-AMP-128	NA	9.81	4	1.98	70.80	0.10	0.10	17.70	1.71	134	3.53
49: VIS-CV5-AMP-129	NA	9.71	4	1.98	40.00	0.10	0.10	19.40	1.50	52.0	4.66
50: VIS-CV5-AMP-130	NA	9.83	4	1.98	40.00	0.10	0.10	18.48	1.50	54.3	3.03
51: VIS-CV5-AMP-131	NA	9.75	3	1.98	20.00	0.10	0.10	9.06	1.70	27.6	6.12

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0004055042

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

ABA - Modified Sobek

LR Report : **CA11009-FEB25**

Sample ID	Sample Date & Time	Paste pH no unit	Fizz Rate rating	Sample weight g	HCl_add mL	HCl Normality	NaOH Normality	Vol NaOH to pH=8.3 mL	Final pH no unit	NP t CaCO3/1000 t	AP t CaCO3/1000 t
52: VIS-CV5-AMP-132	NA	9.90	3	2.03	29.10	0.10	0.10	10.97	1.63	44.7	2.72

Sample ID	Net NP t CaCO3/1000 t	NP/AP ratio	S %	Acid Leachable SO4-S %	Sulphide %	C %	CO3 (HCl) as %CO3 %
1: Analysis Start Date	21-Mar-25	21-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25	17-Mar-25	17-Mar-25
2: Analysis Start Time	13:55	13:55	11:24	09:53	09:30	11:24	14:23
3: Analysis Completed Date	21-Mar-25	21-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25	17-Mar-25	17-Mar-25
4: Analysis Completed Time	16:34	16:34	09:54	09:54	09:54	14:59	14:59
5: VIS-CV5-AMP-085	18.0	13.0	0.058	< 0.04	0.05	0.139	0.65
6: VIS-CV5-AMP-086	12.1	5.60	0.092	< 0.04	0.08	0.104	0.47
7: VIS-CV5-AMP-087	37.9	20.9	0.087	< 0.04	0.06	0.444	2.20
8: VIS-CV5-AMP-088	-0.85	0.95	0.757	0.16	0.60	0.150	0.71
9: VIS-CV5-AMP-089	10.3	2.84	0.264	0.08	0.18	0.075	0.31
10: VIS-CV5-AMP-090	9.07	2.20	0.257	< 0.04	0.24	0.112	0.48
11: VIS-CV5-AMP-091	20.8	11.6	0.077	< 0.04	0.06	0.210	0.95
12: VIS-CV5-AMP-092	10.4	12.9	0.038	< 0.04	0.03	0.041	< 0.04
13: VIS-CV5-AMP-093	6.72	2.05	0.249	0.04	0.20	0.068	0.31
14: VIS-CV5-AMP-094	5.73	2.93	0.122	< 0.04	0.10	0.024	0.09
15: VIS-CV5-AMP-095	9.86	2.18	0.328	0.06	0.27	0.147	0.69
16: VIS-CV5-AMP-096	37.0	9.69	0.199	0.06	0.14	0.460	2.25
17: VIS-CV5-AMP-097	17.0	4.37	0.182	< 0.04	0.16	0.174	0.81
18: VIS-CV5-AMP-098	8.72	2.49	0.196	< 0.04	0.19	0.094	0.41
19: VIS-CV5-AMP-099	7.23	2.21	0.251	0.06	0.19	0.068	0.21
20: VIS-CV5-AMP-100	-1.36	0.92	0.640	0.13	0.51	0.059	0.22
21: VIS-CV5-AMP-101	-11.22	0.63	1.11	0.15	0.97	0.104	0.47
22: VIS-CV5-AMP-102	-5.19	0.72	0.703	0.11	0.60	0.044	0.18
23: VIS-CV5-AMP-103	8.99	2.55	0.222	< 0.04	0.19	0.077	0.16
24: VIS-CV5-AMP-104	12.6	26.2	0.020	< 0.04	0.02	0.074	0.30
25: VIS-CV5-AMP-105	-96.61	0.09	3.58	0.19	3.39	0.023	< 0.04
26: VIS-CV5-AMP-106	46.0	15.7	0.138	< 0.04	0.10	0.579	2.72
27: VIS-CV5-AMP-107	71.6	10.2	0.349	0.10	0.25	0.974	4.70

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0004055042

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Sample ID	Net NP t CaCO3/1000 t	NP/AP ratio	S %	Acid Leachable SO4-S %	Sulphide %	C %	CO3 (HCl) as %CO3 %
28: VIS-CV5-AMP-108	91.3	5.68	0.814	0.19	0.62	1.34	6.59
29: VIS-CV5-AMP-109	5.64	1.27	0.889	0.23	0.66	0.262	1.23
30: VIS-CV5-AMP-110	7.68	3.12	0.141	< 0.04	0.12	0.075	0.35
31: VIS-CV5-AMP-111	11.6	3.86	0.160	< 0.04	0.13	0.097	0.39
32: VIS-CV5-AMP-112	15.1	5.48	0.155	0.05	0.11	0.138	0.56
33: VIS-CV5-AMP-113	26.8	25.5	0.056	< 0.04	0.04	0.228	1.07
34: VIS-CV5-AMP-114	22.6	8.87	0.113	< 0.04	0.09	0.189	0.89
35: VIS-CV5-AMP-115	2.04	1.07	1.05	0.05	0.99	0.309	1.48
36: VIS-CV5-AMP-116	23.4	13.5	0.078	< 0.04	0.06	0.214	0.99
37: VIS-CV5-AMP-117	18.8	16.8	0.042	< 0.04	0.04	0.142	0.64
38: VIS-CV5-AMP-118	13.1	6.53	0.083	< 0.04	0.08	0.086	0.38
39: VIS-CV5-AMP-119	8.93	3.57	0.248	0.14	0.11	0.082	0.36
40: VIS-CV5-AMP-120	112	47.0	0.101	< 0.04	0.08	1.39	6.84
41: VIS-CV5-AMP-121	42.6	11.6	0.194	0.07	0.13	0.538	2.47
42: VIS-CV5-AMP-122	-1.73	0.86	0.489	0.10	0.38	0.057	0.22
43: VIS-CV5-AMP-123	22.9	32.8	0.021	< 0.04	0.02	0.178	0.83
44: VIS-CV5-AMP-124	21.9	17.7	0.051	< 0.04	0.04	0.198	0.84
45: VIS-CV5-AMP-125	5.93	2.71	0.157	0.05	0.11	0.068	0.31
46: VIS-CV5-AMP-126	13.8	7.11	0.098	< 0.04	0.07	0.101	0.47
47: VIS-CV5-AMP-127	70.7	29.3	0.109	< 0.04	0.08	0.839	4.14
48: VIS-CV5-AMP-128	131	38.0	0.140	< 0.04	0.11	1.60	7.52
49: VIS-CV5-AMP-129	47.3	11.2	0.152	< 0.04	0.15	0.563	2.75
50: VIS-CV5-AMP-130	51.3	17.9	0.173	0.08	0.10	0.580	2.85
51: VIS-CV5-AMP-131	21.5	4.51	0.275	0.08	0.20	0.268	1.27
52: VIS-CV5-AMP-132	42.0	16.4	0.127	0.04	0.09	0.484	2.33

*NP (Neutralization Potential)

$$= \frac{50 \times (N \text{ of HCL} \times \text{Total HCL added} - N\ NaOH \times NaOH \text{ added})}{\text{Weight of Sample}}$$

*AP (Acid Potential) = % Sulphide Sulphur x 31.25
*Net NP (Net Neutralization Potential) = NP-AP
NP/AP Ratio = NP/AP
*Results expressed as tonnes CaCO3 equivalent/1000 tonnes of material
Samples with a % Sulphide value of <0.04 will be calculated using a 0.04 value.

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0004055042

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

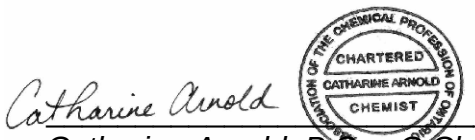
Method Descriptions

Parameter	Units	SGS Method Code	CALA	PALA
	g	NA	N	N
	mL		N	N
	mL	NA	N	N
	no unit	NA	N	N
	Normality	NA	N	N
	rating	NA	N	N
	ratio	ME-CA-[ENV]ARD-LAK-AN-001/003	N	N
	t CaCO3/1000 t	ME-CA-[ENV]ARD-LAK-AN-001/003	N	N
Acid Potential	t CaCO3/1000 t	ME-CA-[ENV]ARD-LAK-AN-001/003	Y	Y
Carbon/Sulphur	%	ME-CA-[ENV]ARD-LAK-AN-019	Y	N
Carbon/Sulphur	%	ME-CA-[ENV]ARD-LAK-AN-019	Y	Y
Carbon/Sulphur	%	ME-CA-[ENV]ARD-LAK-AN-020	Y	N
Neutralization Potential	t CaCO3/1000 t	ME-CA-[ENV]ARD-LAK-AN-001/003	N	Y
Paste pH	no unit	ME-CA-[ENV]ARD-LAK-AN-005	Y	N

Accreditation Descriptions

CALA:
SGS Canada Industries & Environment conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation found at https://directory.cala.ca/#. Analytes and SGS Method Codes marked with a “Y” in the “CALA” column in the table denote ISO/IEC17025 accreditation

PALA:
SGS Canada Industries & Environment conforms to the requirements of ISO/IEC 17025:2005 for specific tests as listed on their scope of accreditation found at https://www.ceaeq.gouv.qc.ca/documents/publications/listes.htm#labo_accr. Analytes and SGS Method Codes marked with a “Y” in the “PALA” column in the table denote ISO/IEC17025:2005 accreditation



Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quality Control Report

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material			
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)		
							%		Low	High		Low	High	
Carbon/Sulphur - QCBatchID: ECS0049-MAR25														
Carbon (total)	0.005	%	<0.005			9	20				100	70	130	
Sulphur (total)	0.005	%	<0.005			5	20				104	70	130	
Carbon/Sulphur - QCBatchID: ECS0051-MAR25														
Carbonate (HCl) as %CO3	0.04	%	<0.04			0	20	3	80	120				
Carbon/Sulphur - QCBatchID: ECS0054-MAR25														
Sulphide	0.01	%	< 0.01			4	20	116	80	120				

OnLine LIMS

0004055042

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quebec MA200-Met 1.2 Digest

24-March-2025

Innova Lithium Inc.
Attn : John Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 05 February 2025
LR Report: **CA11010-FEB25**
Reference: Shaakichiuwaanaan Project

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Sample ID	Sample Date & Time	Hg ug/g	Ag µg/g	Al µg/g	As µg/g	B µg/g	Ba µg/g	Be µg/g	Bi µg/g	Ca µg/g	Cd µg/g	Co µg/g
1: Analysis Start Date		18-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25
2: Analysis Start Time		13:46	21:19	21:19	21:19	21:19	21:19	21:19	21:19	21:19	21:19	21:19
3: Analysis Completed Date		21-Mar-25	19-Mar-25	19-Mar-25	19-Mar-25	19-Mar-25	19-Mar-25	19-Mar-25	19-Mar-25	19-Mar-25	19-Mar-25	19-Mar-25
4: Analysis Completed Time		12:59	10:10	10:10	10:10	10:10	10:10	10:10	10:10	10:10	10:10	10:10
5: VIS-CV5-AMP-085	NA	< 0.05	< 0.5	11000	1.5	3	7.6	0.04	0.16	12000	0.05	7.1
6: VIS-CV5-AMP-086	NA	< 0.05	< 0.5	8100	4.9	3	13	0.04	< 0.09	9100	0.03	9.8
7: VIS-CV5-AMP-087	NA	< 0.05	< 0.5	7600	1.9	2	7.1	0.03	< 0.09	17000	0.04	11
8: VIS-CV5-AMP-088	NA	< 0.05	< 0.5	5600	7.1	2	5.0	0.03	0.11	9300	0.04	19
9: VIS-CV5-AMP-089	NA	< 0.05	< 0.5	12000	8.5	2	84	0.06	< 0.09	7400	0.02	15
10: VIS-CV5-AMP-090	NA	< 0.05	< 0.5	11000	14	5	5.9	0.39	< 0.09	6900	< 0.02	25
11: VIS-CV5-AMP-091	NA	< 0.05	< 0.5	7100	3.0	1	27	0.03	< 0.09	10000	0.04	11
12: VIS-CV5-AMP-092	NA	< 0.05	< 0.5	11000	24	< 1	4.4	0.03	< 0.09	1100	< 0.02	13
13: VIS-CV5-AMP-093	NA	< 0.05	< 0.5	13000	17	3	80	0.43	< 0.09	7400	0.03	19
14: VIS-CV5-AMP-094	NA	< 0.05	< 0.5	11000	6.6	7	72	0.26	< 0.09	6400	0.04	16
15: VIS-CV5-AMP-095	NA	< 0.05	< 0.5	9900	16	3	11	0.12	0.38	11000	0.03	24
16: VIS-CV5-AMP-096	NA	< 0.05	< 0.5	9200	24	2	12	0.24	< 0.09	19000	0.06	14
17: VIS-CV5-AMP-097	NA	< 0.05	< 0.5	11000	29	3	30	0.36	< 0.09	9000	< 0.02	18
18: VIS-CV5-AMP-098	NA	< 0.05	< 0.5	11000	20	5	6.2	0.94	0.11	7500	< 0.02	14
19: VIS-CV5-AMP-099	NA	< 0.05	< 0.5	15000	3.4	4	49	0.18	< 0.09	9400	0.04	22
20: VIS-CV5-AMP-100	NA	< 0.05	< 0.5	12000	950	5	49	1.7	6.9	4800	0.11	24

OnLine LIMS

0004055051

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quebec MA200-Met 1.2 Digest

LR Report : **CA11010-FEB25**

Sample ID	Sample Date & Time	Hg ug/g	Ag µg/g	Al µg/g	As µg/g	B µg/g	Ba µg/g	Be µg/g	Bi µg/g	Ca µg/g	Cd µg/g	Co µg/g
21: VIS-CV5-AMP-101	NA	< 0.05	< 0.5	15000	31	3	110	0.59	0.13	7300	0.04	29
22: VIS-CV5-AMP-102	NA	< 0.05	< 0.5	15000	14	3	100	0.36	< 0.09	6200	< 0.02	21
23: VIS-CV5-AMP-103	NA	< 0.05	< 0.5	13000	47	4	64	0.76	0.31	9500	0.07	15
24: VIS-CV5-AMP-104	NA	< 0.05	< 0.5	11000	40	4	77	2.1	0.18	11000	0.05	13
25: VIS-CV5-AMP-105	NA	< 0.05	< 0.5	6500	9.5	2	24	0.57	0.72	4100	< 0.02	13
26: VIS-CV5-AMP-106	NA	< 0.05	< 0.5	6900	24	3	7.3	0.78	< 0.09	22000	0.06	14
27: VIS-CV5-AMP-107	NA	< 0.05	< 0.5	6400	6.2	26	9.9	0.16	< 0.09	31000	0.04	15
28: VIS-CV5-AMP-108	NA	< 0.05	< 0.5	5400	5.8	3	3.7	0.19	< 0.09	38000	0.14	19
29: VIS-CV5-AMP-109	NA	< 0.05	< 0.5	7000	31	3	7.0	0.06	< 0.09	13000	0.04	19
30: VIS-CV5-AMP-110	NA	< 0.05	< 0.5	9000	48	11	14	0.28	< 0.09	8200	0.03	16
31: VIS-CV5-AMP-111	NA	< 0.05	< 0.5	13000	39	5	21	0.50	0.31	10000	0.03	18
32: VIS-CV5-AMP-112	NA	< 0.05	< 0.5	11000	24	4	14	2.5	< 0.09	13000	0.05	14
33: VIS-CV5-AMP-113	NA	< 0.05	< 0.5	14000	180	6	9.7	2.3	< 0.09	10000	0.45	15
34: VIS-CV5-AMP-114	NA	< 0.05	< 0.5	13000	67	3	23	0.62	0.12	9300	0.02	19
35: VIS-CV5-AMP-115	NA	< 0.05	< 0.5	11000	130	2	27	0.12	0.32	15000	0.04	21
36: VIS-CV5-AMP-116	NA	< 0.05	< 0.5	14000	33	34	13	0.21	< 0.09	16000	0.02	14
37: VIS-CV5-AMP-117	NA	< 0.05	< 0.5	6100	110	2	6.3	0.38	< 0.09	7800	< 0.02	24
38: VIS-CV5-AMP-118	NA	< 0.05	< 0.5	7900	8.8	8	14	0.04	< 0.09	9700	0.03	11
39: VIS-CV5-AMP-119	NA	< 0.05	< 0.5	5400	2.9	1	49	0.04	< 0.09	4300	< 0.02	9.2
40: VIS-CV5-AMP-120	NA	< 0.05	< 0.5	8600	20	8	8.8	0.25	< 0.09	41000	0.05	15
41: VIS-CV5-AMP-121	NA	< 0.05	< 0.5	12000	1.7	2	6.0	0.09	< 0.09	22000	0.04	10
42: VIS-CV5-AMP-122	NA	< 0.05	< 0.5	11000	16	3	36	0.33	0.21	6400	0.19	14
43: VIS-CV5-AMP-123	NA	< 0.05	< 0.5	13000	18	3	4.9	2.1	0.69	7700	< 0.02	17
44: VIS-CV5-AMP-124	NA	< 0.05	< 0.5	8400	59	7	9.6	0.22	< 0.09	9900	0.09	10
45: VIS-CV5-AMP-125	NA	< 0.05	< 0.5	7800	25	3	16	0.42	< 0.09	6600	0.04	17
46: VIS-CV5-AMP-126	NA	< 0.05	< 0.5	18000	390	5	38	2.5	0.18	11000	0.11	11
47: VIS-CV5-AMP-127	NA	< 0.05	< 0.5	10000	97	9	8.0	0.15	< 0.09	29000	0.05	11
48: VIS-CV5-AMP-128	NA	< 0.05	< 0.5	7700	10	3	6.9	0.17	< 0.09	46000	0.05	12
49: VIS-CV5-AMP-129	NA	< 0.05	< 0.5	10000	46	3	5.3	0.31	< 0.09	21000	0.14	17
50: VIS-CV5-AMP-130	NA	< 0.05	< 0.5	7800	16	4	4.1	0.37	< 0.09	21000	0.04	13
51: VIS-CV5-AMP-131	NA	< 0.05	< 0.5	10000	12	3	12	0.14	< 0.09	15000	0.03	15
52: VIS-CV5-AMP-132	NA	< 0.05	< 0.5	8000	3.9	2	10	0.18	< 0.09	20000	0.02	10.0

OnLine LIMS

00040555051

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quebec MA200-Met 1.2 Digest

LR Report : **CA11010-FEB25**

Sample ID	Cr µg/g	Cu µg/g	Fe µg/g	K µg/g	Li µg/g	Mg µg/g	Mn µg/g	Mo µg/g	Na µg/g	Ni µg/g	P µg/g	Pb µg/g
1: Analysis Start Date	18-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25
2: Analysis Start Time	21:19	21:19	21:19	21:19	21:19	21:19	21:19	21:19	21:19	21:19	21:19	21:19
3: Analysis Completed Date	19-Mar-25	19-Mar-25	19-Mar-25	19-Mar-25	19-Mar-25	19-Mar-25	19-Mar-25	19-Mar-25	19-Mar-25	19-Mar-25	19-Mar-25	19-Mar-25
4: Analysis Completed Time	10:10	10:10	10:10	10:10	10:10	10:10	10:10	10:10	10:10	10:10	10:10	10:10
5: VIS-CV5-AMP-085	32	180	9500	340	14	4600	150	0.5	1000	19	200	0.21
6: VIS-CV5-AMP-086	25	61	11000	600	26	4300	120	0.7	570	21	290	0.62
7: VIS-CV5-AMP-087	31	91	10000	330	78	3700	190	0.4	570	34	180	0.29
8: VIS-CV5-AMP-088	37	81	15000	190	26	2500	160	0.7	730	49	190	0.40
9: VIS-CV5-AMP-089	55	59	21000	1900	37	8000	110	0.9	510	34	810	1.4
10: VIS-CV5-AMP-090	83	75	14000	420	120	11000	200	0.4	600	84	140	3.4
11: VIS-CV5-AMP-091	17	89	15000	930	43	4300	210	0.6	620	10	350	0.21
12: VIS-CV5-AMP-092	160	14	14000	700	52	15000	73	1.3	150	72	78	0.19
13: VIS-CV5-AMP-093	63	45	19000	3100	320	7900	370	0.9	560	49	560	1.8
14: VIS-CV5-AMP-094	65	80	12000	1800	210	6200	180	0.3	830	53	210	0.58
15: VIS-CV5-AMP-095	76	100	13000	360	99	4500	260	0.6	870	92	180	0.71
16: VIS-CV5-AMP-096	40	120	13000	510	110	4700	290	0.4	720	33	240	0.66
17: VIS-CV5-AMP-097	71	62	16000	1300	230	6900	270	0.4	470	59	470	0.78
18: VIS-CV5-AMP-098	47	67	16000	410	140	7200	260	0.3	530	37	180	1.0
19: VIS-CV5-AMP-099	110	85	13000	2300	200	6100	280	1.0	890	79	110	1.2
20: VIS-CV5-AMP-100	93	120	21000	5100	650	13000	310	0.5	440	89	560	2.1
21: VIS-CV5-AMP-101	55	52	33000	3200	420	10000	460	1.0	450	76	860	1.3
22: VIS-CV5-AMP-102	55	31	26000	6400	440	8300	310	0.9	670	60	830	1.5
23: VIS-CV5-AMP-103	58	62	16000	790	150	7000	220	0.8	740	30	270	3.6
24: VIS-CV5-AMP-104	39	66	12000	1800	200	6700	220	0.6	810	22	330	0.72
25: VIS-CV5-AMP-105	46	220	54000	540	82	5000	640	1.9	300	22	170	3.0
26: VIS-CV5-AMP-106	39	110	8500	340	64	2800	240	0.6	740	38	200	1.9
27: VIS-CV5-AMP-107	30	70	11000	410	65	2300	310	0.5	580	45	170	0.69
28: VIS-CV5-AMP-108	24	180	15000	240	88	2500	470	0.3	460	42	170	11
29: VIS-CV5-AMP-109	26	150	16000	330	82	2600	220	0.3	820	45	160	0.80
30: VIS-CV5-AMP-110	36	110	11000	580	93	5100	200	0.2	510	47	140	0.65
31: VIS-CV5-AMP-111	63	97	17000	720	160	9000	340	0.2	500	58	150	1.4
32: VIS-CV5-AMP-112	38	66	12000	660	94	4900	200	0.3	1100	31	250	0.54
33: VIS-CV5-AMP-113	54	40	16000	470	330	12000	500	0.3	350	30	560	12
34: VIS-CV5-AMP-114	110	41	20000	740	200	13000	450	0.3	360	46	570	2.0

OnLine LIMS

00040555051

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quebec MA200-Met 1.2 Digest

LR Report : **CA11010-FEB25**

Sample ID	Cr µg/g	Cu µg/g	Fe µg/g	K µg/g	Li µg/g	Mg µg/g	Mn µg/g	Mo µg/g	Na µg/g	Ni µg/g	P µg/g	Pb µg/g
35: VIS-CV5-AMP-115	71	100	28000	500	110	8100	560	0.3	430	76	500	1.0
36: VIS-CV5-AMP-116	62	62	10000	960	170	5600	240	0.2	950	26	140	0.75
37: VIS-CV5-AMP-117	92	89	9800	470	140	7200	180	0.1	360	72	170	0.40
38: VIS-CV5-AMP-118	63	93	7700	470	110	5000	130	0.1	610	49	180	0.34
39: VIS-CV5-AMP-119	19	16	16000	1600	110	2900	110	0.9	420	3.0	440	0.66
40: VIS-CV5-AMP-120	32	110	10000	410	91	4200	480	0.3	680	42	180	0.62
41: VIS-CV5-AMP-121	30	100	7700	200	67	2000	200	0.5	1100	33	160	0.23
42: VIS-CV5-AMP-122	46	79	17000	2200	200	6800	180	0.7	500	42	300	1.7
43: VIS-CV5-AMP-123	82	22	19000	310	250	13000	310	0.2	400	41	480	2.2
44: VIS-CV5-AMP-124	51	68	9200	580	76	5900	200	0.4	600	23	200	4.3
45: VIS-CV5-AMP-125	57	72	12000	640	100	5100	220	0.3	560	50	180	1.9
46: VIS-CV5-AMP-126	63	58	25000	6800	520	8700	310	0.7	470	38	330	4.7
47: VIS-CV5-AMP-127	33	73	10000	380	140	3000	360	0.4	760	28	270	0.48
48: VIS-CV5-AMP-128	30	80	10000	240	130	2900	500	0.3	600	30	230	0.79
49: VIS-CV5-AMP-129	51	87	15000	350	230	5700	330	0.2	360	33	270	0.95
50: VIS-CV5-AMP-130	40	81	11000	280	97	3600	310	0.4	370	24	250	0.38
51: VIS-CV5-AMP-131	35	100	12000	510	77	3000	240	0.3	940	32	250	0.50
52: VIS-CV5-AMP-132	31	71	11000	490	68	3500	220	0.4	800	27	200	0.25

Sample ID	Sb µg/g	Se µg/g	Sn µg/g	Sr µg/g	Ti µg/g	Tl µg/g	U µg/g	V µg/g	Zn µg/g	Au µg/g	Ce µg/g	Cs µg/g
1: Analysis Start Date	18-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25
2: Analysis Start Time	21:19	21:19	21:19	21:19	21:19	21:19	21:19	21:19	21:19	21:19	21:19	21:19
3: Analysis Completed Date	19-Mar-25	19-Mar-25	19-Mar-25	19-Mar-25	19-Mar-25	19-Mar-25	19-Mar-25	19-Mar-25	19-Mar-25	24-Mar-25	24-Mar-25	24-Mar-25
4: Analysis Completed Time	10:10	10:10	10:10	10:10	10:10	10:10	10:10	10:10	10:10	11:09	11:09	11:09
5: VIS-CV5-AMP-085	1.4	0.2	< 5	16	300	0.03	0.063	25	12	< 0.02	3.53	4
6: VIS-CV5-AMP-086	1.1	0.2	< 5	6.4	330	0.04	0.063	28	15	---	---	---
7: VIS-CV5-AMP-087	< 0.8	0.2	< 5	8.3	460	0.03	0.015	27	14	---	---	---
8: VIS-CV5-AMP-088	< 0.8	0.4	< 5	8.1	500	0.03	0.026	23	14	---	---	---
9: VIS-CV5-AMP-089	< 0.8	0.2	< 5	11	660	0.06	0.25	47	34	< 0.02	25.1	3
10: VIS-CV5-AMP-090	3.5	0.2	< 5	8.2	400	0.10	0.052	44	20	---	---	---
11: VIS-CV5-AMP-091	< 0.8	0.2	< 5	5.0	500	0.02	0.050	50	17	---	---	---
12: VIS-CV5-AMP-092	< 0.8	< 0.1	< 5	1.4	150	0.10	0.11	16	22	---	---	---
13: VIS-CV5-AMP-093	8.3	0.3	< 5	7.7	920	2.0	0.33	45	39	< 0.02	16.9	300

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

00040555051

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Sample ID	Sb µg/g	Se µg/g	Sn µg/g	Sr µg/g	Ti µg/g	Tl µg/g	U µg/g	V µg/g	Zn µg/g	Au µg/g	Ce µg/g	Cs µg/g
14: VIS-CV5-AMP-094	6.5	0.2	< 5	12	660	0.60	0.093	30	32	---	---	---
15: VIS-CV5-AMP-095	3.7	0.3	< 5	13	580	0.18	0.13	34	18	---	---	---
16: VIS-CV5-AMP-096	8.0	0.4	< 5	12	730	0.52	0.040	32	15	---	---	---
17: VIS-CV5-AMP-097	3.0	0.2	< 5	5.6	630	0.87	0.14	43	19	< 0.02	7.98	150
18: VIS-CV5-AMP-098	4.8	0.3	< 5	5.6	460	0.09	0.51	45	29	---	---	---
19: VIS-CV5-AMP-099	2.3	0.2	< 5	26	740	0.70	0.031	50	28	---	---	---
20: VIS-CV5-AMP-100	28	2.3	8	5.7	530	8.8	1.3	36	40	---	---	---
21: VIS-CV5-AMP-101	7.7	0.2	< 5	7.3	1000	2.0	0.19	58	52	< 0.02	16.7	320
22: VIS-CV5-AMP-102	2.2	0.1	< 5	9.7	1300	1.1	0.13	50	46	---	---	---
23: VIS-CV5-AMP-103	3.8	0.2	< 5	17	460	0.37	0.32	45	28	---	---	---
24: VIS-CV5-AMP-104	4.0	0.1	< 5	8.1	720	2.1	0.28	36	17	---	---	---
25: VIS-CV5-AMP-105	1.6	0.8	< 5	4.0	330	0.21	1.5	11	9.4	< 0.02	17.7	46
26: VIS-CV5-AMP-106	3.7	0.3	< 5	9.6	580	0.17	0.021	23	15	---	---	---
27: VIS-CV5-AMP-107	6.0	0.3	< 5	13	460	0.20	0.023	23	11	---	---	---
28: VIS-CV5-AMP-108	4.3	0.4	< 5	10	420	0.14	0.028	19	20	---	---	---
29: VIS-CV5-AMP-109	2.0	0.3	< 5	8.2	450	0.11	0.026	23	12	< 0.02	2.91	12
30: VIS-CV5-AMP-110	4.1	0.3	< 5	5.0	430	0.13	0.021	25	12	---	---	---
31: VIS-CV5-AMP-111	7.6	0.3	< 5	5.8	500	0.20	0.067	45	21	---	---	---
32: VIS-CV5-AMP-112	2.4	0.3	< 5	15	680	0.44	0.050	39	16	---	---	---
33: VIS-CV5-AMP-113	13	0.1	6	6.7	510	0.21	1.7	57	130	< 0.02	4.77	29
34: VIS-CV5-AMP-114	9.2	< 0.1	< 5	7.0	570	0.08	0.21	54	21	---	---	---
35: VIS-CV5-AMP-115	2.1	0.5	< 5	7.0	460	0.11	0.31	37	16	---	---	---
36: VIS-CV5-AMP-116	9.4	0.1	< 5	9.8	570	0.35	0.048	30	13	---	---	---
37: VIS-CV5-AMP-117	9.9	0.2	< 5	5.3	470	0.54	0.13	22	9.0	< 0.02	2.26	71
38: VIS-CV5-AMP-118	1.5	0.2	< 5	12	580	0.18	0.030	19	9.2	---	---	---
39: VIS-CV5-AMP-119	< 0.8	0.2	< 5	2.7	450	0.23	0.37	37	11	---	---	---
40: VIS-CV5-AMP-120	22	0.3	< 5	14	470	0.16	0.11	28	12	---	---	---
41: VIS-CV5-AMP-121	< 0.8	0.3	< 5	18	520	0.06	0.032	19	9.1	< 0.02	2.70	3
42: VIS-CV5-AMP-122	6.8	0.5	< 5	7.6	530	0.73	0.26	26	73	---	---	---
43: VIS-CV5-AMP-123	2.4	0.1	19	4.5	450	0.08	0.51	83	25	---	---	---
44: VIS-CV5-AMP-124	1.9	0.2	< 5	6.0	300	0.07	0.23	23	38	---	---	---
45: VIS-CV5-AMP-125	7.5	0.2	< 5	5.4	500	0.13	0.55	29	19	< 0.02	6.67	6
46: VIS-CV5-AMP-126	3.8	0.2	9	6.9	800	17	0.62	36	28	---	---	---
47: VIS-CV5-AMP-127	4.0	0.2	< 5	15	620	0.19	0.058	29	16	---	---	---

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

00040555051

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - K0L 2H0
Phone: 705-652-2000 FAX: 705-652-6365

Sample ID	Sb µg/g	Se µg/g	Sn µg/g	Sr µg/g	Ti µg/g	Tl µg/g	U µg/g	V µg/g	Zn µg/g	Au µg/g	Ce µg/g	Cs µg/g
48: VIS-CV5-AMP-128	1.5	0.3	< 5	18	580	0.07	0.039	27	14	---	---	---
49: VIS-CV5-AMP-129	9.0	0.3	< 5	9.9	520	0.10	0.096	41	42	< 0.02	3.56	8
50: VIS-CV5-AMP-130	13	0.2	< 5	13	600	0.15	0.051	29	16	---	---	---
51: VIS-CV5-AMP-131	2.6	0.3	< 5	12	670	0.11	0.072	31	16	---	---	---
52: VIS-CV5-AMP-132	1.3	0.2	< 5	10	530	0.42	0.028	27	13	---	---	---

Sample ID	Dy µg/g	Er µg/g	Eu µg/g	Ga µg/g	Gd µg/g	Ge µg/g	Hf µg/g	Ho µg/g	In µg/g	Ir µg/g	La µg/g	Lu µg/g
1: Analysis Start Date	18-Mar-25	18-Mar-25	18-Mar-25	20-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25	20-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25
2: Analysis Start Time	21:19	21:19	21:19	14:17	21:19	21:19	21:19	21:19	14:17	21:19	21:19	21:19
3: Analysis Completed Date	24-Mar-25	24-Mar-25	24-Mar-25	24-Mar-25	24-Mar-25	24-Mar-25	24-Mar-25	24-Mar-25	24-Mar-25	24-Mar-25	24-Mar-25	24-Mar-25
4: Analysis Completed Time	11:09	11:09	11:09	11:09	11:09	11:09	11:09	11:09	11:09	11:09	11:09	11:09
5: VIS-CV5-AMP-085	0.27	0.17	0.086	2	0.30	0.4	< 0.1	0.060	< 0.01	< 0.01	1.48	0.035
6: VIS-CV5-AMP-086	---	---	---	---	---	---	---	---	---	---	---	---
7: VIS-CV5-AMP-087	---	---	---	---	---	---	---	---	---	---	---	---
8: VIS-CV5-AMP-088	---	---	---	---	---	---	---	---	---	---	---	---
9: VIS-CV5-AMP-089	0.86	0.35	0.42	5	1.76	1.0	< 0.1	0.14	0.01	< 0.01	10.8	0.047
10: VIS-CV5-AMP-090	---	---	---	---	---	---	---	---	---	---	---	---
11: VIS-CV5-AMP-091	---	---	---	---	---	---	---	---	---	---	---	---
12: VIS-CV5-AMP-092	---	---	---	---	---	---	---	---	---	---	---	---
13: VIS-CV5-AMP-093	0.51	0.25	0.25	4	0.93	0.9	< 0.1	0.095	< 0.01	< 0.01	7.92	0.033
14: VIS-CV5-AMP-094	---	---	---	---	---	---	---	---	---	---	---	---
15: VIS-CV5-AMP-095	---	---	---	---	---	---	---	---	---	---	---	---
16: VIS-CV5-AMP-096	---	---	---	---	---	---	---	---	---	---	---	---
17: VIS-CV5-AMP-097	0.35	0.19	0.14	4	0.52	0.6	< 0.1	0.070	< 0.01	< 0.01	3.45	0.033
18: VIS-CV5-AMP-098	---	---	---	---	---	---	---	---	---	---	---	---
19: VIS-CV5-AMP-099	---	---	---	---	---	---	---	---	---	---	---	---
20: VIS-CV5-AMP-100	---	---	---	---	---	---	---	---	---	---	---	---
21: VIS-CV5-AMP-101	0.58	0.26	0.29	7	1.07	1.5	0.1	0.099	< 0.01	< 0.01	7.47	0.032
22: VIS-CV5-AMP-102	---	---	---	---	---	---	---	---	---	---	---	---
23: VIS-CV5-AMP-103	---	---	---	---	---	---	---	---	---	---	---	---
24: VIS-CV5-AMP-104	---	---	---	---	---	---	---	---	---	---	---	---
25: VIS-CV5-AMP-105	0.35	0.19	0.24	2	0.77	1.8	< 0.1	0.065	< 0.01	< 0.01	9.18	0.036
26: VIS-CV5-AMP-106	---	---	---	---	---	---	---	---	---	---	---	---

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

00040555051

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Sample ID	Dy µg/g	Er µg/g	Eu µg/g	Ga µg/g	Gd µg/g	Ge µg/g	Hf µg/g	Ho µg/g	In µg/g	Ir µg/g	La µg/g	Lu µg/g
27: VIS-CV5-AMP-107	---	---	---	---	---	---	---	---	---	---	---	---
28: VIS-CV5-AMP-108	---	---	---	---	---	---	---	---	---	---	---	---
29: VIS-CV5-AMP-109	0.30	0.19	0.077	2	0.30	0.5	< 0.1	0.064	< 0.01	< 0.01	1.36	0.042
30: VIS-CV5-AMP-110	---	---	---	---	---	---	---	---	---	---	---	---
31: VIS-CV5-AMP-111	---	---	---	---	---	---	---	---	---	---	---	---
32: VIS-CV5-AMP-112	---	---	---	---	---	---	---	---	---	---	---	---
33: VIS-CV5-AMP-113	0.69	0.38	0.11	14	0.77	0.6	< 0.1	0.13	0.03	< 0.01	1.96	0.061
34: VIS-CV5-AMP-114	---	---	---	---	---	---	---	---	---	---	---	---
35: VIS-CV5-AMP-115	---	---	---	---	---	---	---	---	---	---	---	---
36: VIS-CV5-AMP-116	---	---	---	---	---	---	---	---	---	---	---	---
37: VIS-CV5-AMP-117	0.25	0.15	0.065	3	0.25	0.4	< 0.1	0.052	< 0.01	< 0.01	1.11	0.029
38: VIS-CV5-AMP-118	---	---	---	---	---	---	---	---	---	---	---	---
39: VIS-CV5-AMP-119	---	---	---	---	---	---	---	---	---	---	---	---
40: VIS-CV5-AMP-120	---	---	---	---	---	---	---	---	---	---	---	---
41: VIS-CV5-AMP-121	0.33	0.23	0.080	2	0.30	0.3	< 0.1	0.074	< 0.01	< 0.01	1.21	0.051
42: VIS-CV5-AMP-122	---	---	---	---	---	---	---	---	---	---	---	---
43: VIS-CV5-AMP-123	---	---	---	---	---	---	---	---	---	---	---	---
44: VIS-CV5-AMP-124	---	---	---	---	---	---	---	---	---	---	---	---
45: VIS-CV5-AMP-125	0.26	0.16	0.097	2	0.38	0.4	< 0.1	0.058	< 0.01	< 0.01	3.44	0.031
46: VIS-CV5-AMP-126	---	---	---	---	---	---	---	---	---	---	---	---
47: VIS-CV5-AMP-127	---	---	---	---	---	---	---	---	---	---	---	---
48: VIS-CV5-AMP-128	---	---	---	---	---	---	---	---	---	---	---	---
49: VIS-CV5-AMP-129	0.35	0.24	0.095	4	0.38	0.6	< 0.1	0.081	< 0.01	< 0.01	1.69	0.053
50: VIS-CV5-AMP-130	---	---	---	---	---	---	---	---	---	---	---	---
51: VIS-CV5-AMP-131	---	---	---	---	---	---	---	---	---	---	---	---
52: VIS-CV5-AMP-132	---	---	---	---	---	---	---	---	---	---	---	---

Sample ID	Nb µg/g	Nd µg/g	Os µg/g	Pd µg/g	Pr µg/g	Pt µg/g	Rh µg/g	Rb µg/g	Re µg/g	Ru µg/g	Sm µg/g	Sc µg/g
1: Analysis Start Date	18-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25	20-Mar-25
2: Analysis Start Time	21:19	21:19	21:19	21:19	21:19	21:19	21:19	21:19	21:19	21:19	21:19	14:17
3: Analysis Completed Date	24-Mar-25	24-Mar-25	24-Mar-25	24-Mar-25	24-Mar-25	24-Mar-25	24-Mar-25	24-Mar-25	24-Mar-25	24-Mar-25	24-Mar-25	24-Mar-25
4: Analysis Completed Time	11:09	11:09	11:09	11:09	11:09	11:09	11:09	11:09	11:09	11:09	11:09	11:09
5: VIS-CV5-AMP-085	< 0.1	1.5	< 0.1	< 0.2	0.41	< 0.1	< 0.01	3.41	< 0.05	< 0.01	0.29	3

OnLine LIMS

00040555051

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Sample ID	Nb µg/g	Nd µg/g	Os µg/g	Pd µg/g	Pr µg/g	Pt µg/g	Rh µg/g	Rb µg/g	Re µg/g	Ru µg/g	Sm µg/g	Sc µg/g
6: VIS-CV5-AMP-086	---	---	---	---	---	---	---	---	---	---	---	---
7: VIS-CV5-AMP-087	---	---	---	---	---	---	---	---	---	---	---	---
8: VIS-CV5-AMP-088	---	---	---	---	---	---	---	---	---	---	---	---
9: VIS-CV5-AMP-089	< 0.1	11.9	< 0.1	< 0.2	3.02	< 0.1	< 0.01	6.32	< 0.05	< 0.01	2.11	3
10: VIS-CV5-AMP-090	---	---	---	---	---	---	---	---	---	---	---	---
11: VIS-CV5-AMP-091	---	---	---	---	---	---	---	---	---	---	---	---
12: VIS-CV5-AMP-092	---	---	---	---	---	---	---	---	---	---	---	---
13: VIS-CV5-AMP-093	< 0.1	6.6	< 0.1	< 0.2	1.82	< 0.1	< 0.01	216	< 0.05	< 0.01	1.08	4
14: VIS-CV5-AMP-094	---	---	---	---	---	---	---	---	---	---	---	---
15: VIS-CV5-AMP-095	---	---	---	---	---	---	---	---	---	---	---	---
16: VIS-CV5-AMP-096	---	---	---	---	---	---	---	---	---	---	---	---
17: VIS-CV5-AMP-097	< 0.1	3.1	< 0.1	< 0.2	0.86	< 0.1	< 0.01	100	< 0.05	< 0.01	0.54	4
18: VIS-CV5-AMP-098	---	---	---	---	---	---	---	---	---	---	---	---
19: VIS-CV5-AMP-099	---	---	---	---	---	---	---	---	---	---	---	---
20: VIS-CV5-AMP-100	---	---	---	---	---	---	---	---	---	---	---	---
21: VIS-CV5-AMP-101	0.1	7.4	< 0.1	< 0.2	1.93	< 0.1	< 0.01	200	< 0.05	< 0.01	1.26	4
22: VIS-CV5-AMP-102	---	---	---	---	---	---	---	---	---	---	---	---
23: VIS-CV5-AMP-103	---	---	---	---	---	---	---	---	---	---	---	---
24: VIS-CV5-AMP-104	---	---	---	---	---	---	---	---	---	---	---	---
25: VIS-CV5-AMP-105	< 0.1	6.1	< 0.1	< 0.2	1.78	< 0.1	< 0.01	15.4	< 0.05	< 0.01	0.90	1
26: VIS-CV5-AMP-106	---	---	---	---	---	---	---	---	---	---	---	---
27: VIS-CV5-AMP-107	---	---	---	---	---	---	---	---	---	---	---	---
28: VIS-CV5-AMP-108	---	---	---	---	---	---	---	---	---	---	---	---
29: VIS-CV5-AMP-109	< 0.1	1.2	< 0.1	< 0.2	0.32	< 0.1	< 0.01	13.9	< 0.05	< 0.01	0.26	3
30: VIS-CV5-AMP-110	---	---	---	---	---	---	---	---	---	---	---	---
31: VIS-CV5-AMP-111	---	---	---	---	---	---	---	---	---	---	---	---
32: VIS-CV5-AMP-112	---	---	---	---	---	---	---	---	---	---	---	---
33: VIS-CV5-AMP-113	< 0.1	2.4	< 0.1	< 0.2	0.56	< 0.1	< 0.01	22.8	< 0.05	< 0.01	0.67	6
34: VIS-CV5-AMP-114	---	---	---	---	---	---	---	---	---	---	---	---
35: VIS-CV5-AMP-115	---	---	---	---	---	---	---	---	---	---	---	---
36: VIS-CV5-AMP-116	---	---	---	---	---	---	---	---	---	---	---	---
37: VIS-CV5-AMP-117	< 0.1	0.92	< 0.1	< 0.2	0.24	< 0.1	< 0.01	52.8	< 0.05	< 0.01	0.21	2
38: VIS-CV5-AMP-118	---	---	---	---	---	---	---	---	---	---	---	---
39: VIS-CV5-AMP-119	---	---	---	---	---	---	---	---	---	---	---	---

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

00004055051

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Sample ID	Nb µg/g	Nd µg/g	Os µg/g	Pd µg/g	Pr µg/g	Pt µg/g	Rh µg/g	Rb µg/g	Re µg/g	Ru µg/g	Sm µg/g	Sc µg/g
40: VIS-CV5-AMP-120	---	---	---	---	---	---	---	---	---	---	---	---
41: VIS-CV5-AMP-121	< 0.1	1.2	< 0.1	< 0.2	0.31	< 0.1	< 0.01	4.98	< 0.05	< 0.01	0.28	3
42: VIS-CV5-AMP-122	---	---	---	---	---	---	---	---	---	---	---	---
43: VIS-CV5-AMP-123	---	---	---	---	---	---	---	---	---	---	---	---
44: VIS-CV5-AMP-124	---	---	---	---	---	---	---	---	---	---	---	---
45: VIS-CV5-AMP-125	< 0.1	2.3	< 0.1	< 0.2	0.70	< 0.1	< 0.01	13.9	< 0.05	< 0.01	0.36	3
46: VIS-CV5-AMP-126	---	---	---	---	---	---	---	---	---	---	---	---
47: VIS-CV5-AMP-127	---	---	---	---	---	---	---	---	---	---	---	---
48: VIS-CV5-AMP-128	---	---	---	---	---	---	---	---	---	---	---	---
49: VIS-CV5-AMP-129	< 0.1	1.5	< 0.1	< 0.2	0.38	< 0.1	< 0.01	11.1	< 0.05	< 0.01	0.35	4
50: VIS-CV5-AMP-130	---	---	---	---	---	---	---	---	---	---	---	---
51: VIS-CV5-AMP-131	---	---	---	---	---	---	---	---	---	---	---	---
52: VIS-CV5-AMP-132	---	---	---	---	---	---	---	---	---	---	---	---

Sample ID	Ta µg/g	Tb µg/g	Te µg/g	Th µg/g	Tm µg/g
1: Analysis Start Date	18-Mar-25	20-Mar-25	18-Mar-25	18-Mar-25	20-Mar-25
2: Analysis Start Time	21:19	14:17	21:19	21:19	14:17
3: Analysis Completed Date	24-Mar-25	24-Mar-25	24-Mar-25	24-Mar-25	24-Mar-25
4: Analysis Completed Time	11:09	11:09	11:09	11:09	11:09
5: VIS-CV5-AMP-085	< 0.01	0.049	< 0.1	0.32	0.027
6: VIS-CV5-AMP-086	---	---	---	---	---
7: VIS-CV5-AMP-087	---	---	---	---	---
8: VIS-CV5-AMP-088	---	---	---	---	---
9: VIS-CV5-AMP-089	< 0.01	0.21	< 0.1	1.7	0.043
10: VIS-CV5-AMP-090	---	---	---	---	---
11: VIS-CV5-AMP-091	---	---	---	---	---
12: VIS-CV5-AMP-092	---	---	---	---	---
13: VIS-CV5-AMP-093	< 0.01	0.11	< 0.1	1.8	0.035
14: VIS-CV5-AMP-094	---	---	---	---	---
15: VIS-CV5-AMP-095	---	---	---	---	---
16: VIS-CV5-AMP-096	---	---	---	---	---
17: VIS-CV5-AMP-097	< 0.01	0.077	< 0.1	0.65	0.029
18: VIS-CV5-AMP-098	---	---	---	---	---

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

00004055051

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Sample ID	Ta µg/g	Tb µg/g	Te µg/g	Th µg/g	Tm µg/g
19: VIS-CV5-AMP-099	---	---	---	---	---
20: VIS-CV5-AMP-100	---	---	---	---	---
21: VIS-CV5-AMP-101	0.02	0.13	0.2	1.4	0.034
22: VIS-CV5-AMP-102	---	---	---	---	---
23: VIS-CV5-AMP-103	---	---	---	---	---
24: VIS-CV5-AMP-104	---	---	---	---	---
25: VIS-CV5-AMP-105	< 0.01	0.088	0.2	4.8	0.024
26: VIS-CV5-AMP-106	---	---	---	---	---
27: VIS-CV5-AMP-107	---	---	---	---	---
28: VIS-CV5-AMP-108	---	---	---	---	---
29: VIS-CV5-AMP-109	< 0.01	0.050	< 0.1	0.21	0.030
30: VIS-CV5-AMP-110	---	---	---	---	---
31: VIS-CV5-AMP-111	---	---	---	---	---
32: VIS-CV5-AMP-112	---	---	---	---	---
33: VIS-CV5-AMP-113	0.02	0.14	< 0.1	1.8	0.059
34: VIS-CV5-AMP-114	---	---	---	---	---
35: VIS-CV5-AMP-115	---	---	---	---	---
36: VIS-CV5-AMP-116	---	---	---	---	---
37: VIS-CV5-AMP-117	< 0.01	0.044	< 0.1	0.16	0.021
38: VIS-CV5-AMP-118	---	---	---	---	---
39: VIS-CV5-AMP-119	---	---	---	---	---
40: VIS-CV5-AMP-120	---	---	---	---	---
41: VIS-CV5-AMP-121	< 0.01	0.055	< 0.1	0.16	0.035
42: VIS-CV5-AMP-122	---	---	---	---	---
43: VIS-CV5-AMP-123	---	---	---	---	---
44: VIS-CV5-AMP-124	---	---	---	---	---
45: VIS-CV5-AMP-125	< 0.01	0.050	< 0.1	0.94	0.025
46: VIS-CV5-AMP-126	---	---	---	---	---
47: VIS-CV5-AMP-127	---	---	---	---	---
48: VIS-CV5-AMP-128	---	---	---	---	---
49: VIS-CV5-AMP-129	< 0.01	0.064	< 0.1	0.22	0.039
50: VIS-CV5-AMP-130	---	---	---	---	---
51: VIS-CV5-AMP-131	---	---	---	---	---
52: VIS-CV5-AMP-132	---	---	---	---	---

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

00004055051

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Method Descriptions

Parameter	Units	SGS Method Code	CALA	PALA
Mercury by CVAAS	ug/g	ME-CA-[ENV]SPE-LAK-AN-004	Y	Y
Metals - Microwave/ICP-MS	µg/g	ME-CA-[ENV]SPE-LAK-AN-007	Y	N
Metals, ICP-MS	µg/g	ME-CA-[ENV]SPE-LAK-AN-005	Y	N
Metals, ICP-MS	µg/g	ME-CA-[ENV]SPE-LAK-AN-005	Y	Y

Accreditation Descriptions

CALA:

SGS Canada Industries & Environment conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation found at https://directory.cala.ca/#. Analytes and SGS Method Codes marked with a “Y” in the “CALA” column in the table denote ISO/IEC17025 accreditation

PALA:

SGS Canada Industries & Environment conforms to the requirements of ISO/IEC 17025:2005 for specific tests as listed on their scope of accreditation found at https://www.ceaeq.gouv.qc.ca/documents/publications/listes.htm#labo_accr. Analytes and SGS Method Codes marked with a “Y” in the “PALA” column in the table denote ISO/IEC17025:2005 accreditation

Catharine Arnold

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

00004055051

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quality Control Report

Inorganic Analysis													
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Mercury by CVAAS - QCBatchID: EHG0031-MAR25													
Mercury	0.05	ug/g	<0.05			ND	20	90	80	120	102	70	130
Metals - Microwave/ICP-MS - QCBatchID: EMS0141-MAR25													
Cesium	0.01	µg/g	<0.001			9	20	107	70	130	NV	70	130
Dysprosium	0.001	µg/g	<0.001			7	20	92	70	130	NV	70	130
Erbium	0.001	µg/g	<0.001			4	20	91	70	130	NV	70	130
Europium	0.001	µg/g	<0.001			1	20	93	70	130	NV	70	130
Gadolinium	0.001	µg/g	<0.001			9	20	94	70	130	NV	70	130
Germanium	0.3	µg/g	<0.001			0	20	97	70	130	NV	70	130
Gold	0.02	µg/g	<0.001			1	20	96	70	130	NV	70	130
Hafnium	0.1	µg/g	<0.001			20	20	98	70	130	NV	70	130
Holmium	0.001	µg/g	<0.001			7	20	93	70	130	NV	70	130
Iridium	0.01	µg/g	<0.001			ND	20	104	70	130	NV	70	130
Lanthanum	0.001	µg/g	<0.001			8	20	95	70	130	NV	70	130
Lutetium	0.001	µg/g	<0.001			20	20	92	70	130	NV	70	130
Neodymium	0.006	µg/g	<0.001			11	20	94	70	130	NV	70	130
Niobium	0.1	µg/g	<0.001			4	20	108	70	130	NV	70	130
Osmium	0.1	µg/g	<0.001			1	20	93	70	130	NV	70	130
Palladium	0.2	µg/g	<0.001			ND	20	95	70	130	NV	70	130
Platinum	0.1	µg/g	<0.001			ND	20	104	70	130	NV	70	130
Praseodymium	0.001	µg/g	<0.001			12	20	95	70	130	NV	70	130
Rhenium	0.05	µg/g	<0.001			ND	20	97	70	130	NV	70	130
Rhodium	0.01	µg/g	<0.001			ND	20	95	70	130	NV	70	130
Rubidium	0.004	µg/g	<0.001			9	20	103	70	130	NV	70	130
Ruthenium	0.01	µg/g	<0.001			1	20	97	70	130	NV	70	130
Samarium	0.001	µg/g	<0.001			5	20	94	70	130	NV	70	130
Tantalum	0.01	µg/g	<0.001			ND	20	106	70	130	NV	70	130
Tellurium	0.1	µg/g	<0.01			ND	20	98	70	130	NV	70	130
Metals - Microwave/ICP-MS - QCBatchID: EMS0183-MAR25													
Cerium	0.001	µg/g	< 0.001			10	20	95	70	130			
Gallium	0.03	µg/g	< 0.03			1	20	97	70	130			
Indium	0.01	µg/g	< 0.01			ND	20	100	70	130			
Scandium	0.03	µg/g	< 0.03			9	20	102	70	130			
Terbium	0.001	µg/g	< 0.001			6	20	91	70	130			
Thulium	0.001	µg/g	< 0.001			1	20	87	70	130			
Metals, ICP-MS - QCBatchID: EMS0141-MAR25													

OnLine LIMS

0004055051

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quebec MA200-Met 1.2 Digest

LR Report : **CA11010-FEB25**

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Aluminum	3	µg/g	<3			7	20	97	70	130	84	70	130
Antimony	0.8	µg/g	<0.8			8	20	104	70	130	NV	70	130
Arsenic	0.5	µg/g	<0.5			6	20	101	70	130	88	70	130
Barium	0.01	µg/g	<0.01			4	20	100	70	130	75	70	130
Beryllium	0.02	µg/g	<0.02			10	20	99	70	130	91	70	130
Bismuth	0.09	µg/g	<0.09			16	20	93	70	130	NV	70	130
Boron	1	µg/g	<1			5	20	103	70	130	NV	70	130
Cadmium	0.02	µg/g	<0.02			7	20	99	70	130	91	70	130
Calcium	3	µg/g	<3			8	20	102	70	130	84	70	130
Chromium	0.5	µg/g	<0.5			8	20	98	70	130	90	70	130
Cobalt	0.01	µg/g	<0.01			4	20	94	70	130	81	70	130
Copper	0.1	µg/g	<0.1			7	20	95	70	130	74	70	130
Iron	3	µg/g	<3			6	20	97	70	130	96	70	130
Lead	0.05	µg/g	<0.05			16	20	94	70	130	81	70	130
Lithium	2	µg/g	<2			5	20	97	70	130	87	70	130
Magnesium	3	µg/g	<1			10	20	102	70	130	92	70	130
Manganese	0.1	µg/g	<0.1			8	20	98	70	130	84	70	130
Molybdenum	0.1	µg/g	<0.1			11	20	94	70	130	94	70	130
Nickel	0.1	µg/g	<0.1			7	20	95	70	130	82	70	130
Phosphorus	3	µg/g	<3			4	20	105	70	130	NV	70	130
Potassium	3	µg/g	<3			8	20	101	70	130	79	70	130
Selenium	0.1	µg/g	<0.1			ND	20	100	70	130	NV	70	130
Silver	0.5	µg/g	<0.5			ND	20	96	70	130	90	70	130
Sodium	3	µg/g	<3			7	20	100	70	130	83	70	130
Strontium	0.02	µg/g	<0.02			8	20	97	70	130	80	70	130
Thallium	0.02	µg/g	<0.02			11	20	93	70	130	103	70	130
Thorium	0.01	µg/g	<0.5			ND	20	90	70	130	NV	70	130
Tin	5	µg/g	<5			ND	20	101	70	130	86	70	130
Titanium	0.1	µg/g	<0.1			12	20	100	70	130	NV	70	130
Uranium	0.002	µg/g	<0.002			7	20	95	70	130	73	70	130
Vanadium	1	µg/g	<1			ND	20	96	70	130	93	70	130
Zinc	0.7	µg/g	<0.7			9	20	94	70	130	82	70	130

OnLine LIMS

0004055051

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

16-April-2025

Innova Lithium Inc.
Attn : John Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 05 February 2025
LR Report: **CA11011-FEB25**
Reference: Shaakichiuwaanaan Project

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: VIS-CV5-AMP-085	6: VIS-CV5-AMP-086	7: VIS-CV5-AMP-087	8: VIS-CV5-AMP-088	9: VIS-CV5-AMP-089	10: VIS-CV5-AMP-090
Sample Date & Time					NA	NA	NA	NA	NA	NA
Sample weight [g]	19-Mar-25	13:55	24-Mar-25	11:13	21	20	21	20	20	20
Ext Fluid [#1 or #2]	19-Mar-25	15:39	24-Mar-25	11:13	1	1	1	1	1	1
Ext Volume [mL]	19-Mar-25	15:39	24-Mar-25	11:13	400	400	400	400	400	400
pH [No unit]	20-Mar-25	13:43	25-Mar-25	13:26	8.61	8.25	8.57	8.17	8.25	8.33
Conductivity [uS/cm]	20-Mar-25	13:43	25-Mar-25	13:27	63	62	61	59	63	69
Alkalinity [mg/L as CaCO3]	20-Mar-25	13:43	25-Mar-25	13:27	33	30	29	27	28	29
Acidity [mg/L as CaCO3]	20-Mar-25	13:43	25-Mar-25	13:27	< 2	< 2	< 2	< 2	< 2	< 2
F [mg/L]	20-Mar-25	14:55	25-Mar-25	13:55	< 0.06	< 0.06	< 0.06	0.08	< 0.06	< 0.06
Br [mg/L]	21-Mar-25	00:30	26-Mar-25	10:45	< 30	< 30	< 30	< 30	< 30	< 30
Cl [mg/L]	21-Mar-25	00:30	26-Mar-25	10:45	< 20	< 20	< 20	< 20	< 20	< 20
SO4 [mg/L]	21-Mar-25	00:30	26-Mar-25	10:45	< 20	< 20	< 20	< 20	< 20	< 20
NO2 [as N mg/L]	21-Mar-25	00:30	26-Mar-25	10:45	< 3	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	21-Mar-25	00:30	26-Mar-25	10:45	< 6	< 6	< 6	< 6	< 6	< 6
Tot.Reactive P [mg/L]	24-Mar-25	12:31	26-Mar-25	08:48	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Hg [mg/L]	28-Mar-25	16:22	01-Apr-25	16:58	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	25-Mar-25	18:27	26-Mar-25	12:32	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	25-Mar-25	18:27	26-Mar-25	12:32	0.652	0.645	0.592	0.471	0.576	0.378

OnLine LIMS

0004081364

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11011-FEB25**

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: VIS-CV5-AMP-085	6: VIS-CV5-AMP-086	7: VIS-CV5-AMP-087	8: VIS-CV5-AMP-088	9: VIS-CV5-AMP-089	10: VIS-CV5-AMP-090
As [mg/L]	25-Mar-25	18:27	26-Mar-25	12:32	0.0016	0.0028	0.0021	0.0020	0.0016	0.0263
Ba [mg/L]	25-Mar-25	18:27	26-Mar-25	12:32	0.00076	0.00111	0.00060	0.00078	0.00442	0.00075
Be [mg/L]	25-Mar-25	18:27	26-Mar-25	12:32	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	25-Mar-25	18:27	26-Mar-25	12:33	0.027	0.024	0.025	0.030	0.027	0.033
Bi [mg/L]	25-Mar-25	18:27	26-Mar-25	12:33	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	25-Mar-25	18:27	26-Mar-25	12:33	7.01	6.84	7.01	7.38	5.84	6.78
Cd [mg/L]	25-Mar-25	18:27	26-Mar-25	12:33	0.000004	< 0.000003	0.000007	0.000005	< 0.000003	< 0.000003
Co [mg/L]	25-Mar-25	18:27	26-Mar-25	12:33	0.000098	0.000076	0.000020	0.000096	0.000048	0.000057
Cr [mg/L]	25-Mar-25	18:27	26-Mar-25	12:33	0.00052	0.00030	0.00012	0.00056	0.00019	0.00034
Cu [mg/L]	25-Mar-25	18:27	26-Mar-25	12:35	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	25-Mar-25	18:27	26-Mar-25	12:35	0.132	0.123	0.028	0.154	0.140	0.047
K [mg/L]	25-Mar-25	18:27	26-Mar-25	12:35	0.309	0.809	0.191	0.197	2.46	0.453
Li [mg/L]	25-Mar-25	18:27	26-Mar-25	12:35	0.0031	0.0074	0.0146	0.0065	0.0069	0.0246
Mg [mg/L]	25-Mar-25	18:27	26-Mar-25	12:35	0.799	0.768	0.614	0.653	0.624	0.772
Mn [mg/L]	25-Mar-25	18:27	26-Mar-25	12:35	0.00291	0.00182	0.00064	0.00344	0.00133	0.00136
Mo [mg/L]	25-Mar-25	18:27	26-Mar-25	12:37	< 0.0004	< 0.0004	0.0006	0.0005	< 0.0004	< 0.0004
Na [mg/L]	25-Mar-25	18:27	26-Mar-25	12:37	5.34	5.01	4.76	5.20	5.25	5.87
Ni [mg/L]	25-Mar-25	18:27	26-Mar-25	12:37	0.0003	0.0002	0.0001	0.0004	0.0002	0.0003
P [mg/L]	25-Mar-25	18:27	26-Mar-25	12:37	< 0.003	0.006	< 0.003	0.006	0.011	0.003
Pb [mg/L]	25-Mar-25	18:27	26-Mar-25	12:37	< 0.00009	0.00012	< 0.00009	< 0.00009	< 0.00009	0.00012
Sb [mg/L]	25-Mar-25	18:27	26-Mar-25	12:37	0.0025	0.0016	0.0010	0.0010	< 0.0009	0.0109
Se [mg/L]	25-Mar-25	18:27	26-Mar-25	12:37	0.00007	0.00013	0.00009	0.00007	0.00005	0.00024
Si [mg/L]	25-Mar-25	18:27	26-Mar-25	12:37	2.70	2.52	2.23	2.20	1.92	2.12
Sn [mg/L]	25-Mar-25	18:27	26-Mar-25	12:37	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	25-Mar-25	18:27	26-Mar-25	12:37	0.00838	0.00750	0.00776	0.00782	0.0124	0.0212
Ti [mg/L]	25-Mar-25	18:27	26-Mar-25	12:37	0.0048	0.0057	0.0009	0.0058	0.0070	0.0020
Tl [mg/L]	25-Mar-25	18:27	26-Mar-25	12:37	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005
U [mg/L]	25-Mar-25	18:27	26-Mar-25	12:37	0.000068	0.000012	0.000008	0.000012	0.000010	0.000009
V [mg/L]	25-Mar-25	18:27	26-Mar-25	12:37	0.00615	0.00556	0.00413	0.00379	0.00324	0.00530
Zn [mg/L]	25-Mar-25	18:27	26-Mar-25	12:37	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au [mg/L]	25-Mar-25	18:27	26-Mar-25	12:38	< 0.00001	---	---	---	< 0.00001	---
Ce [mg/L]	29-Mar-25	12:06	31-Mar-25	17:47	0.00002	---	---	---	0.00010	---
Cs [mg/L]	25-Mar-25	18:27	26-Mar-25	12:38	0.0001	---	---	---	0.0003	---

OnLine LIMS

0004081364

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11011-FEB25**

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: VIS-CV5-AMP-085	6: VIS-CV5-AMP-086	7: VIS-CV5-AMP-087	8: VIS-CV5-AMP-088	9: VIS-CV5-AMP-089	10: VIS-CV5-AMP-090
Dy [mg/L]	29-Mar-25	12:06	31-Mar-25	17:47	< 0.00001	---	---	---	< 0.00001	---
Er [mg/L]	29-Mar-25	12:06	31-Mar-25	17:47	< 0.00001	---	---	---	< 0.00001	---
Eu [mg/L]	29-Mar-25	12:06	31-Mar-25	17:47	< 0.00001	---	---	---	< 0.00001	---
Ga [mg/L]	29-Mar-25	12:06	31-Mar-25	17:47	0.0004	---	---	---	0.0006	---
Gd (tot) [mg/L]	29-Mar-25	12:06	31-Mar-25	17:47	< 0.00001	---	---	---	0.00001	---
Ge [mg/L]	25-Mar-25	18:27	26-Mar-25	12:38	< 0.0001	---	---	---	< 0.0001	---
Hf [mg/L]	25-Mar-25	18:27	26-Mar-25	12:38	< 0.0001	---	---	---	< 0.0001	---
Ho [mg/L]	29-Mar-25	12:06	31-Mar-25	17:47	< 0.00001	---	---	---	< 0.00001	---
In [mg/L]	29-Mar-25	12:06	31-Mar-25	17:47	< 0.00001	---	---	---	< 0.00001	---
Ir [mg/L]	25-Mar-25	18:27	26-Mar-25	12:38	< 0.00001	---	---	---	< 0.00001	---
La [mg/L]	29-Mar-25	12:06	31-Mar-25	17:47	< 0.00001	---	---	---	0.00004	---
Lu [mg/L]	29-Mar-25	12:06	31-Mar-25	17:47	< 0.0001	---	---	---	< 0.0001	---
Nb [mg/L]	25-Mar-25	18:27	26-Mar-25	12:38	< 0.0001	---	---	---	< 0.0001	---
Nd [mg/L]	29-Mar-25	12:06	31-Mar-25	17:47	0.00001	---	---	---	0.00007	---
Os [mg/L]	25-Mar-25	18:27	26-Mar-25	12:38	< 0.0001	---	---	---	< 0.0001	---
Pd [mg/L]	25-Mar-25	18:27	26-Mar-25	12:38	< 0.0001	---	---	---	< 0.0001	---
Pr [mg/L]	29-Mar-25	12:06	31-Mar-25	17:47	< 0.00001	---	---	---	0.00001	---
Pt [mg/L]	25-Mar-25	18:27	26-Mar-25	12:38	< 0.0001	---	---	---	< 0.0001	---
Rh [mg/L]	25-Mar-25	18:27	26-Mar-25	12:38	< 0.00001	---	---	---	< 0.00001	---
Rb [mg/L]	25-Mar-25	18:27	26-Mar-25	12:38	0.0007	---	---	---	0.0031	---
Re [mg/L]	25-Mar-25	18:27	26-Mar-25	12:38	< 0.0001	---	---	---	< 0.0001	---
Ru [mg/L]	25-Mar-25	18:27	26-Mar-25	12:38	< 0.00001	---	---	---	< 0.00001	---
Sm [mg/L]	29-Mar-25	12:06	31-Mar-25	17:47	< 0.00001	---	---	---	0.00001	---
Sc [mg/L]	29-Mar-25	12:06	31-Mar-25	17:47	0.0001	---	---	---	< 0.0001	---
Ta [mg/L]	25-Mar-25	18:27	26-Mar-25	12:38	< 0.0001	---	---	---	< 0.0001	---
Tb [mg/L]	29-Mar-25	12:06	31-Mar-25	17:47	< 0.00001	---	---	---	< 0.00001	---
Te [mg/L]	25-Mar-25	18:27	26-Mar-25	12:38	< 0.0001	---	---	---	< 0.0001	---
Th [mg/L]	25-Mar-25	18:27	26-Mar-25	12:38	< 0.0001	---	---	---	< 0.0001	---
Tm [mg/L]	29-Mar-25	12:06	31-Mar-25	17:47	< 0.00001	---	---	---	< 0.00001	---

OnLine LIMS

0004081364

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11011-FEB25**

Analysis	11: VIS-CV5-AMP-091	12: VIS-CV5-AMP-092	13: VIS-CV5-AMP-093	14: VIS-CV5-AMP-094	15: VIS-CV5-AMP-095	16: VIS-CV5-AMP-096	17: VIS-CV5-AMP-097	18: VIS-CV5-AMP-098	19: VIS-CV5-AMP-099	20: VIS-CV5-AMP-100
Sample Date & Time	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sample weight [g]	20	20	20	20	20	20	20	20	20	21
Ext Fluid [#1 or #2]	1	1	1	1	1	1	1	1	1	1
Ext Volume [mL]	400	400	400	400	400	400	400	400	400	400
pH [No unit]	8.19	8.03	8.42	8.00	8.20	8.01	8.04	7.97	8.09	9.07
Conductivity [uS/cm]	61	42	71	58	58	57	63	67	60	90
Alkalinity [mg/L as CaCO3]	30	21	29	26	29	28	28	27	27	29
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
F [mg/L]	< 0.06	< 0.06	0.33	0.63	< 0.06	< 0.06	0.08	0.06	0.06	0.64
Br [mg/L]	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30
Cl [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
SO4 [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
NO2 [as N mg/L]	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Tot.Reactive P [mg/L]	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.455	0.166	0.461	0.359	0.572	0.529	0.350	0.401	0.542	0.253
As [mg/L]	0.0016	0.0343	0.0408	0.0071	0.0132	0.0130	0.0694	0.0305	0.0033	0.227
Ba [mg/L]	0.00113	0.00040	0.00163	0.00126	0.00056	0.00070	0.00089	0.00079	0.00145	0.00100
Be [mg/L]	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	0.000014
B [mg/L]	0.029	0.028	0.028	0.029	0.025	0.025	0.028	0.031	0.028	0.035
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00010
Ca [mg/L]	6.56	2.88	6.86	5.46	6.46	6.76	6.44	6.62	6.01	8.98
Cd [mg/L]	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	0.000023	0.000055	0.000088	0.000024	0.000076	0.000049	0.000040	0.000108	0.000080	0.000085
Cr [mg/L]	< 0.00008	0.00104	0.00028	0.00030	0.00062	0.00057	0.00015	0.00050	0.00093	0.00051
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	0.042	0.104	0.079	0.042	0.078	0.054	0.025	0.140	0.094	0.068
K [mg/L]	0.544	0.258	1.51	0.963	0.214	0.202	0.778	0.552	1.10	2.19
Li [mg/L]	0.0110	0.0046	0.0562	0.0632	0.0184	0.0182	0.0377	0.0224	0.0445	0.161
Mg [mg/L]	0.545	1.13	0.771	0.655	0.540	0.527	0.592	0.780	0.544	1.35
Mn [mg/L]	0.00113	0.00153	0.00275	0.00130	0.00257	0.00173	0.00089	0.00327	0.00335	0.00302

OnLine LIMS

0004081364

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11011-FEB25**

Analysis	11: VIS-CV5-AMP-091	12: VIS-CV5-AMP-092	13: VIS-CV5-AMP-093	14: VIS-CV5-AMP-094	15: VIS-CV5-AMP-095	16: VIS-CV5-AMP-096	17: VIS-CV5-AMP-097	18: VIS-CV5-AMP-098	19: VIS-CV5-AMP-099	20: VIS-CV5-AMP-100
Mo [mg/L]	< 0.0004	< 0.0004	0.0005	0.0008	< 0.0004	< 0.0004	0.0007	0.0005	< 0.0004	0.0014
Na [mg/L]	5.46	4.51	5.31	4.88	4.98	4.56	5.41	5.85	4.88	5.58
Ni [mg/L]	0.0001	0.0004	0.0002	0.0002	0.0004	0.0003	0.0001	0.0004	0.0003	0.0009
P [mg/L]	0.005	0.005	0.006	0.003	0.003	< 0.003	0.006	0.004	< 0.003	0.010
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	< 0.0009	0.0013	0.0248	0.0310	0.0053	0.0060	0.0100	0.0105	0.0046	0.0729
Se [mg/L]	0.00006	< 0.00004	0.00021	0.00012	0.00006	0.00006	0.00010	0.00041	0.00005	0.00155
Si [mg/L]	2.01	1.51	1.94	1.83	2.23	2.01	1.86	2.19	2.06	1.92
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006	0.00024	< 0.00006	< 0.00006	< 0.00006	< 0.00006	0.00029
Sr [mg/L]	0.00648	0.00543	0.0102	0.00789	0.00712	0.00718	0.0119	0.00992	0.00930	0.0106
Ti [mg/L]	0.0013	0.0020	0.0052	0.0019	0.0034	0.0020	0.0013	0.0050	0.0061	0.0021
Tl [mg/L]	< 0.000005	< 0.000005	0.000021	0.000013	< 0.000005	< 0.000005	0.000005	0.000005	0.000008	0.000085
U [mg/L]	0.000074	0.000012	0.000030	0.000007	0.000117	0.000035	0.000009	0.000075	0.000025	0.000146
V [mg/L]	0.00492	0.00110	0.00300	0.00319	0.00491	0.00416	0.00518	0.00520	0.00422	0.00304
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Ce [mg/L]	---	---	0.00007	---	---	---	0.00001	---	---	---
Cs [mg/L]	---	---	0.0140	---	---	---	0.0064	---	---	---
Dy [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Er [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Eu [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Ga [mg/L]	---	---	0.0004	---	---	---	0.0004	---	---	---
Gd (tot) [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Ge [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Hf [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Ho [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
In [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Ir [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
La [mg/L]	---	---	0.00004	---	---	---	< 0.00001	---	---	---
Lu [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Nb [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Nd [mg/L]	---	---	0.00004	---	---	---	< 0.00001	---	---	---
Os [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11011-FEB25**

Analysis	11: VIS-CV5-AMP-091	12: VIS-CV5-AMP-092	13: VIS-CV5-AMP-093	14: VIS-CV5-AMP-094	15: VIS-CV5-AMP-095	16: VIS-CV5-AMP-096	17: VIS-CV5-AMP-097	18: VIS-CV5-AMP-098	19: VIS-CV5-AMP-099	20: VIS-CV5-AMP-100
Pd [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Pr [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Pt [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Rh [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Rb [mg/L]	---	---	0.0333	---	---	---	0.0110	---	---	---
Re [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Ru [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Sm [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Sc [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Ta [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Tb [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Te [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Th [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Tm [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---

Analysis	21: VIS-CV5-AMP-101	22: VIS-CV5-AMP-102	23: VIS-CV5-AMP-103	24: VIS-CV5-AMP-104	25: VIS-CV5-AMP-105	26: VIS-CV5-AMP-106	27: VIS-CV5-AMP-107	28: VIS-CV5-AMP-108	29: VIS-CV5-AMP-109	30: VIS-CV5-AMP-110
Sample Date & Time	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sample weight [g]	21	20	20	20	20	20	21	21	21	19
Ext Fluid [#1 or #2]	1	1	1	1	1	1	1	1	1	1
Ext Volume [mL]	400	400	400	400	400	400	400	400	400	400
pH [No unit]	7.96	9.00	8.17	9.09	6.04	9.07	8.99	8.67	8.70	8.93
Conductivity [uS/cm]	86	61	70	58	141	59	62	60	65	58
Alkalinity [mg/L as CaCO3]	28	27	28	37	3	29	39	28	30	37
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	14	< 2	< 2	< 2	< 2	< 2
F [mg/L]	0.26	0.21	0.20	0.56	< 0.06	< 0.06	< 0.06	0.17	< 0.06	0.08
Br [mg/L]	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30
Cl [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
SO4 [mg/L]	< 20	< 20	< 20	< 20	59	< 20	< 20	< 20	< 20	< 20
NO2 [as N mg/L]	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6

OnLine LIMS

0004081364

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11011-FEB25**

Analysis	21: VIS-CV5-AMP-101	22: VIS-CV5-AMP-102	23: VIS-CV5-AMP-103	24: VIS-CV5-AMP-104	25: VIS-CV5-AMP-105	26: VIS-CV5-AMP-106	27: VIS-CV5-AMP-107	28: VIS-CV5-AMP-108	29: VIS-CV5-AMP-109	30: VIS-CV5-AMP-110
Tot.Reactive P [mg/L]	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.311	0.484	0.406	0.500	< 0.001	0.369	0.311	0.373	0.336	0.488
As [mg/L]	0.0376	0.0207	0.0139	0.0406	< 0.0002	0.0442	0.0138	0.0038	0.0082	0.0507
Ba [mg/L]	0.00145	0.00193	0.00173	0.00174	0.00856	0.00065	0.00061	0.00059	0.00068	0.00125
Be [mg/L]	< 0.000007	< 0.000007	0.000015	0.000022	0.000023	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	0.029	0.032	0.027	0.026	0.046	0.025	0.028	0.024	0.023	0.026
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	8.90	5.85	7.58	6.47	14.1	6.58	7.31	7.34	8.18	6.09
Cd [mg/L]	< 0.000003	0.000003	0.000004	< 0.000003	0.000025	< 0.000003	0.000006	< 0.000003	0.000003	< 0.000003
Co [mg/L]	0.000011	0.000061	0.000076	0.000099	0.0333	0.000025	< 0.000004	< 0.000004	0.000008	0.000125
Cr [mg/L]	< 0.00008	0.00026	0.00046	0.00038	< 0.00008	0.00013	0.00256	< 0.00008	0.00011	0.00071
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	0.016	0.112	0.097	0.136	2.30	0.009	< 0.007	< 0.007	0.017	0.189
K [mg/L]	1.42	2.78	0.902	0.789	0.452	0.163	0.248	0.131	0.155	0.534
Li [mg/L]	0.0662	0.102	0.0440	0.0476	0.0556	0.0194	0.0262	0.0271	0.0313	0.0174
Mg [mg/L]	0.934	0.549	0.758	0.619	3.45	0.557	0.463	0.526	0.501	0.761
Mn [mg/L]	0.00058	0.00237	0.00209	0.00301	0.313	0.00056	0.00024	0.00027	0.00067	0.00433
Mo [mg/L]	0.0009	0.0005	0.0036	0.0005	< 0.0004	0.0011	0.0011	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	5.31	5.21	4.70	4.58	4.32	4.97	4.79	4.30	4.78	5.05
Ni [mg/L]	0.0003	0.0004	0.0003	0.0004	0.0617	0.0003	0.0002	0.0001	0.0002	0.0006
P [mg/L]	0.005	0.014	0.005	0.006	< 0.003	0.005	< 0.003	< 0.003	0.003	0.004
Pb [mg/L]	< 0.00009	< 0.00009	0.00010	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.0187	0.0196	0.0122	0.0081	< 0.0009	0.0099	0.0191	0.0066	0.0047	0.0102
Se [mg/L]	0.00007	< 0.00004	0.00058	0.00006	0.00018	0.00016	0.00008	0.00006	0.00008	0.00013
Si [mg/L]	1.36	1.65	1.85	2.01	1.01	1.80	1.62	1.57	1.44	2.09
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	0.00020
Sr [mg/L]	0.0142	0.00992	0.0150	0.00587	0.0204	0.00725	0.0108	0.00620	0.00552	0.00805
Ti [mg/L]	0.0011	0.0099	0.0047	0.0062	< 0.0001	0.0003	0.0002	0.0001	0.0006	0.0060
Tl [mg/L]	0.000008	0.000011	0.000007	0.000021	0.000018	< 0.000005	< 0.000005	< 0.000005	< 0.000005	0.000006
U [mg/L]	0.000012	0.000016	0.000051	0.000028	0.000011	0.000031	0.000014	0.000009	0.000010	0.000033
V [mg/L]	0.00214	0.00273	0.0102	0.00388	< 0.00001	0.00345	0.00324	0.00242	0.00261	0.00399

OnLine LIMS

0004081364

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11011-FEB25**

Analysis	21: VIS-CV5-AMP-101	22: VIS-CV5-AMP-102	23: VIS-CV5-AMP-103	24: VIS-CV5-AMP-104	25: VIS-CV5-AMP-105	26: VIS-CV5-AMP-106	27: VIS-CV5-AMP-107	28: VIS-CV5-AMP-108	29: VIS-CV5-AMP-109	30: VIS-CV5-AMP-110
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Ce [mg/L]	0.00002	---	---	---	0.00015	---	---	---	< 0.00001	---
Cs [mg/L]	0.0274	---	---	---	0.0376	---	---	---	0.0017	---
Dy [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Er [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Eu [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Ga [mg/L]	0.0004	---	---	---	< 0.0001	---	---	---	0.0002	---
Gd (tot) [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Ge [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Hf [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Ho [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
In [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Ir [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
La [mg/L]	0.00001	---	---	---	0.00026	---	---	---	< 0.00001	---
Lu [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Nb [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Nd [mg/L]	0.00001	---	---	---	0.00002	---	---	---	< 0.00001	---
Os [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Pd [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Pr [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Pt [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Rh [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Rb [mg/L]	0.0335	---	---	---	0.0098	---	---	---	0.0028	---
Re [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Ru [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Sm [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Sc [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Ta [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Tb [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Te [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Th [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Tm [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---

OnLine LIMS

0004081364

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11011-FEB25**

Analysis	31: VIS-CV5-AMP-11 1	32: VIS-CV5-AMP-11 2	33: VIS-CV5-AMP-11 3	34: VIS-CV5-AMP-11 4	35: VIS-CV5-AMP-11 5	36: VIS-CV5-AMP-11 6	37: VIS-CV5-AMP-11 7	38: VIS-CV5-AMP-11 8	39: VIS-CV5-AMP-11 9	40: VIS-CV5-AMP-12 0
Sample Date & Time	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sample weight [g]	20	21	20	21	20	19	20	20	20	20
Ext Fluid [#1 or #2]	1	1	1	1	1	1	1	1	1	1
Ext Volume [mL]	400	400	400	400	400	400	400	400	400	400
pH [No unit]	9.36	9.32	8.90	9.25	8.88	9.32	9.21	9.45	8.72	9.26
Conductivity [uS/cm]	63	62	59	59	76	57	62	62	49	62
Alkalinity [mg/L as CaCO3]	31	31	31	31	27	30	33	32	28	32
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
F [mg/L]	< 0.06	0.38	0.21	< 0.06	< 0.06	0.13	0.12	0.06	< 0.06	0.08
Br [mg/L]	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30
Cl [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
SO4 [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
NO2 [as N mg/L]	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Tot.Reactive P [mg/L]	< 0.03	< 0.03	0.04	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.422	0.497	0.487	0.423	0.359	0.441	0.225	0.410	0.496	0.579
As [mg/L]	0.0354	0.0294	0.145	0.0654	0.0543	0.0248	0.180	0.0146	0.0071	0.0445
Ba [mg/L]	0.00070	0.00056	0.00061	0.00073	0.00135	0.00048	0.00060	0.00074	0.00181	0.00056
Be [mg/L]	< 0.000007	0.000012	0.000018	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	0.036	0.033	0.040	0.036	0.030	0.032	0.028	0.029	0.027	0.028
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	6.18	6.45	5.85	6.06	8.87	5.86	6.09	6.11	5.77	7.02
Cd [mg/L]	< 0.000003	< 0.000003	< 0.000003	< 0.000003	0.000004	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	0.000041	0.000066	0.000044	0.000012	0.000015	0.000035	0.000213	0.000136	0.000102	0.000005
Cr [mg/L]	0.00034	0.00037	0.00013	0.00017	0.00012	0.00040	0.00125	0.00171	< 0.00008	< 0.00008
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	0.058	0.073	0.031	0.016	0.010	0.046	0.112	0.155	0.270	< 0.007
K [mg/L]	0.608	0.566	0.630	0.578	0.413	0.607	0.438	0.283	0.750	0.507
Li [mg/L]	0.0256	0.0373	0.0508	0.0189	0.0203	0.0403	0.0282	0.0360	0.0432	0.0260
Mg [mg/L]	0.789	0.490	0.535	0.671	0.993	0.730	1.01	0.996	0.491	0.635
Mn [mg/L]	0.00151	0.00172	0.00107	0.00055	0.00056	0.00124	0.00244	0.00363	0.00353	0.00026

OnLine LIMS

0004081364

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11011-FEB25**

Analysis	31: VIS-CV5-AMP-11 1	32: VIS-CV5-AMP-11 2	33: VIS-CV5-AMP-11 3	34: VIS-CV5-AMP-11 4	35: VIS-CV5-AMP-11 5	36: VIS-CV5-AMP-11 6	37: VIS-CV5-AMP-11 7	38: VIS-CV5-AMP-11 8	39: VIS-CV5-AMP-11 9	40: VIS-CV5-AMP-12 0
Mo [mg/L]	0.0005	< 0.0004	0.0005	< 0.0004	< 0.0004	0.0005	0.0006	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	5.65	5.85	5.63	5.62	4.85	5.37	6.37	6.09	4.31	5.45
Ni [mg/L]	0.0002	0.0002	0.0002	< 0.0001	0.0001	< 0.0001	0.0008	0.0005	< 0.0001	< 0.0001
P [mg/L]	< 0.003	0.010	0.014	0.013	0.016	0.007	0.005	0.009	0.012	0.009
Pb [mg/L]	< 0.00009	0.00028	0.00011	0.00011	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.0141	0.0062	0.0208	0.0158	0.0028	0.0141	0.0229	0.0040	0.0021	0.0414
Se [mg/L]	0.00022	0.00006	0.00007	< 0.00004	0.00015	0.00008	0.00035	0.00011	0.00005	0.00037
Si [mg/L]	2.29	2.08	2.26	2.30	1.89	2.08	3.04	2.53	2.38	2.42
Sn [mg/L]	< 0.00006	0.00021	< 0.00006	< 0.00006	< 0.00006	< 0.00006	0.00010	0.00020	< 0.00006	< 0.00006
Sr [mg/L]	0.00983	0.0133	0.0109	0.0204	0.0269	0.00818	0.0118	0.0115	0.00606	0.00798
Ti [mg/L]	0.0018	0.0032	0.0031	0.0004	0.0003	0.0015	0.0029	0.0049	0.0079	< 0.0001
Tl [mg/L]	< 0.000005	0.000006	0.000007	< 0.000005	< 0.000005	< 0.000005	0.000006	0.000007	0.000005	0.000006
U [mg/L]	0.000015	0.000024	0.000078	0.000020	0.000086	0.000012	0.000014	0.000010	0.000030	0.000070
V [mg/L]	0.00494	0.00501	0.00647	0.00557	0.00307	0.00355	0.00643	0.00394	0.00341	0.00556
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Ce [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Cs [mg/L]	---	---	0.0135	---	---	---	0.0162	---	---	---
Dy [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Er [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Eu [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Ga [mg/L]	---	---	0.0011	---	---	---	0.0002	---	---	---
Gd (tot) [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Ge [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Hf [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Ho [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
In [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Ir [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
La [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Lu [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Nb [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Nd [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Os [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---

OnLine LIMS

0004081364

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11011-FEB25**

Analysis	31: VIS-CV5-AMP-111	32: VIS-CV5-AMP-112	33: VIS-CV5-AMP-113	34: VIS-CV5-AMP-114	35: VIS-CV5-AMP-115	36: VIS-CV5-AMP-116	37: VIS-CV5-AMP-117	38: VIS-CV5-AMP-118	39: VIS-CV5-AMP-119	40: VIS-CV5-AMP-120
Pd [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Pr [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Pt [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Rh [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Rb [mg/L]	---	---	0.0122	---	---	---	0.0107	---	---	---
Re [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Ru [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Sm [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Sc [mg/L]	---	---	< 0.0001	---	---	---	0.0001	---	---	---
Ta [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Tb [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Te [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Th [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Tm [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---

Analysis	41: VIS-CV5-AMP-121	42: VIS-CV5-AMP-122	43: VIS-CV5-AMP-123	44: VIS-CV5-AMP-124	45: VIS-CV5-AMP-125	46: VIS-CV5-AMP-126	47: VIS-CV5-AMP-127	48: VIS-CV5-AMP-128	49: VIS-CV5-AMP-129	50: VIS-CV5-AMP-130
Sample Date & Time	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sample weight [g]	20	20	20	21	21	20	20	21	20	21
Ext Fluid [#1 or #2]	1	1	1	1	1	1	1	1	1	1
Ext Volume [mL]	400	400	400	400	400	400	400	400	400	400
pH [No unit]	9.24	8.77	9.33	9.09	8.92	9.21	9.15	8.84	9.26	9.11
Conductivity [uS/cm]	58	56	60	56	61	61	54	53	59	55
Alkalinity [mg/L as CaCO3]	32	28	30	30	31	32	28	29	32	30
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
F [mg/L]	< 0.06	0.06	0.07	< 0.06	0.11	0.64	< 0.06	< 0.06	< 0.06	0.14
Br [mg/L]	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30
Cl [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
SO4 [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
NO2 [as N mg/L]	< 3	< 3	< 3	< 3	< 3	< 3	7.79	< 3	4.73	< 3
NO3 [as N mg/L]	< 6	< 6	< 6	< 6	< 6	< 6	8.22	< 6	< 6	< 6

OnLine LIMS

0004081364

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11011-FEB25**

Analysis	41: VIS-CV5-AMP-121	42: VIS-CV5-AMP-122	43: VIS-CV5-AMP-123	44: VIS-CV5-AMP-124	45: VIS-CV5-AMP-125	46: VIS-CV5-AMP-126	47: VIS-CV5-AMP-127	48: VIS-CV5-AMP-128	49: VIS-CV5-AMP-129	50: VIS-CV5-AMP-130
Tot.Reactive P [mg/L]	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.597	0.730	0.381	0.661	0.659	0.767	0.600	0.573	0.578	0.682
As [mg/L]	0.0019	0.0073	0.0123	0.0118	0.0222	0.0399	0.0188	0.0041	0.0793	0.0175
Ba [mg/L]	0.00033	0.00174	0.00053	0.00068	0.00126	0.00095	0.00044	0.00039	0.00049	0.00044
Be [mg/L]	< 0.000007	0.000026	< 0.000007	< 0.000007	0.000016	0.000028	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	0.022	0.027	0.030	0.026	0.030	0.034	0.028	0.023	0.024	0.026
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	6.53	5.84	5.83	6.31	6.50	5.81	6.27	6.66	6.65	6.78
Cd [mg/L]	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	0.000008	0.000138	0.000038	0.000081	0.000178	0.000092	0.000011	< 0.000004	0.000013	0.000008
Cr [mg/L]	0.00012	0.00070	0.00026	0.00073	0.00108	0.00063	< 0.00008	< 0.00008	0.00035	0.00013
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	0.010	0.213	0.044	0.131	0.204	0.215	0.014	0.012	0.012	0.009
K [mg/L]	0.125	1.56	0.391	0.471	0.557	2.56	0.391	0.169	0.342	0.183
Li [mg/L]	0.0269	0.0414	0.0342	0.0150	0.0243	0.115	0.0328	0.0305	0.0277	0.0280
Mg [mg/L]	0.542	0.774	0.625	0.863	0.745	0.620	0.634	0.504	0.658	0.635
Mn [mg/L]	0.00032	0.00385	0.00096	0.00344	0.00550	0.00356	0.00037	0.00045	0.00043	0.00030
Mo [mg/L]	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	0.0021	0.0005	< 0.0004
Na [mg/L]	4.84	4.76	5.82	5.08	5.86	5.16	5.04	4.34	4.86	4.48
Ni [mg/L]	< 0.0001	0.0005	0.0001	0.0002	0.0006	0.0003	< 0.0001	< 0.0001	0.0002	< 0.0001
P [mg/L]	0.010	0.010	0.006	0.013	0.006	0.005	0.007	0.006	0.005	0.003
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	0.00012	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	< 0.0009	0.0164	0.0054	0.0030	0.0146	0.0050	0.0025	0.0020	0.0141	0.0245
Se [mg/L]	0.00005	0.00019	0.00025	0.00009	0.00016	0.00009	0.00006	0.00012	0.00020	0.00006
Si [mg/L]	2.12	2.55	2.31	2.90	3.09	2.39	2.38	1.99	2.28	2.56
Sn [mg/L]	< 0.00006	0.00013	0.00017	< 0.00006	< 0.00006	0.00011	< 0.00006	0.00008	0.00012	< 0.00006
Sr [mg/L]	0.00699	0.00643	0.0130	0.00732	0.00688	0.00561	0.00691	0.00873	0.00961	0.0103
Ti [mg/L]	0.0003	0.0086	0.0018	0.0042	0.0069	0.0072	0.0006	< 0.0001	0.0003	0.0003
Tl [mg/L]	< 0.000005	0.000012	< 0.000005	< 0.000005	0.000008	0.000227	< 0.000005	< 0.000005	< 0.000005	< 0.000005
U [mg/L]	0.000071	0.000021	0.000025	0.000044	0.000448	0.000123	0.000015	0.000025	0.000031	0.000036
V [mg/L]	0.00441	0.00355	0.0127	0.00503	0.00522	0.00423	0.00560	0.00428	0.00592	0.00569

OnLine LIMS

0004081364

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11011-FEB25**

Analysis	41: VIS-CV5-AMP-12 1	42: VIS-CV5-AMP-12 2	43: VIS-CV5-AMP-12 3	44: VIS-CV5-AMP-12 4	45: VIS-CV5-AMP-12 5	46: VIS-CV5-AMP-12 6	47: VIS-CV5-AMP-12 7	48: VIS-CV5-AMP-12 8	49: VIS-CV5-AMP-12 9	50: VIS-CV5-AMP-13 0
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Ce [mg/L]	< 0.00001	---	---	---	0.00010	---	---	---	0.00002	---
Cs [mg/L]	0.0001	---	---	---	0.0014	---	---	---	0.0007	---
Dy [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	0.00002	---
Er [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	0.00002	---
Eu [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	0.00002	---
Ga [mg/L]	0.0003	---	---	---	0.0004	---	---	---	0.0005	---
Gd (tot) [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	0.00002	---
Ge [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Hf [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Ho [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	0.00002	---
In [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	0.00002	---
Ir [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
La [mg/L]	< 0.00001	---	---	---	0.00005	---	---	---	0.00002	---
Lu [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Nb [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Nd [mg/L]	< 0.00001	---	---	---	0.00005	---	---	---	0.00002	---
Os [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Pd [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Pr [mg/L]	< 0.00001	---	---	---	0.00001	---	---	---	0.00002	---
Pt [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Rh [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Rb [mg/L]	0.0007	---	---	---	0.0037	---	---	---	0.0025	---
Re [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Ru [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Sm [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	0.00002	---
Sc [mg/L]	< 0.0001	---	---	---	0.0002	---	---	---	< 0.0001	---
Ta [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Tb [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	0.00002	---
Te [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Th [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Tm [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	0.00002	---

OnLine LIMS

0004081364

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11011-FEB25**

Analysis	51: VIS-CV5-AMP-131	52: VIS-CV5-AMP-132	53: VIS-CV5-AMP-105	54: VIS-CV5-AMP-130	55:BLK: $SPLP1312 Blank #1	56: VIS-CV5-AMP-132
Sample Date & Time	NA	NA				
Sample weight [g]	21	20	20	---	---	20
Ext Fluid [#1 or #2]	1	1	1	---	1	1
Ext Volume [mL]	400	400	400	---	400	400
pH [No unit]	9.07	9.19	6.35	---	4.44	9.21
Conductivity [uS/cm]	55	61	150	---	22	60
Alkalinity [mg/L as CaCO3]	30	32	2	---	< 2	32
Acidity [mg/L as CaCO3]	< 2	< 2	9	---	5	< 2
F [mg/L]	<0.06	< 0.06	< 0.06	---	0.09	< 0.06
Br [mg/L]	< 30	< 30	< 30	---	< 30	< 30
Cl [mg/L]	< 20	< 20	< 20	---	< 20	< 20
SO4 [mg/L]	< 20	< 20	61	---	< 20	< 20
NO2 [as N mg/L]	< 3	< 3	< 3	---	< 3	< 3
NO3 [as N mg/L]	< 6	< 6	< 6	---	< 6	< 6
Tot.Reactive P [mg/L]	< 0.03	< 0.03	< 0.03	---	< 0.03	< 0.03
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	---	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	---	< 0.00005	< 0.00005
Al [mg/L]	0.591	0.534	0.006	---	< 0.001	0.559
As [mg/L]	0.0186	0.0039	< 0.0002	---	< 0.0002	0.0040
Ba [mg/L]	0.00058	0.00055	0.00758	---	0.00010	0.00065
Be [mg/L]	< 0.000007	< 0.000007	0.000015	---	< 0.000007	< 0.000007
B [mg/L]	0.023	0.035	0.042	---	< 0.002	0.035
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	---	< 0.00001	< 0.00001
Ca [mg/L]	7.14	6.38	13.4	---	0.02	6.50
Cd [mg/L]	< 0.000003	< 0.000003	0.000024	---	< 0.000003	0.000004
Co [mg/L]	0.000015	0.000009	0.0323	---	0.000004	0.000014
Cr [mg/L]	< 0.00008	< 0.00008	0.00294	---	< 0.00008	0.00017
Cu [mg/L]	< 0.001	< 0.001	< 0.001	---	< 0.001	< 0.001
Fe [mg/L]	0.020	0.012	2.43	---	< 0.007	0.014
K [mg/L]	0.345	0.289	0.412	---	0.020	0.344
Li [mg/L]	0.0175	0.0222	0.0482	---	< 0.0001	0.0225
Mg [mg/L]	0.556	0.522	3.18	---	0.002	0.524
Mn [mg/L]	0.00058	0.00035	0.293	---	0.00009	0.00042

OnLine LIMS

0004081364

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11011-FEB25**

Analysis	51: VIS-CV5-AMP-131	52: VIS-CV5-AMP-132	53: VIS-CV5-AMP-105	54: VIS-CV5-AMP-130	55:BLK: $SPLP1312 Blank #1	56: VIS-CV5-AMP-132
Mo [mg/L]	< 0.0004	< 0.0004	< 0.0004	---	0.0005	< 0.0004
Na [mg/L]	3.92	5.41	3.98	---	0.02	5.51
Ni [mg/L]	0.0001	< 0.0001	0.0603	---	< 0.0001	< 0.0001
P [mg/L]	< 0.003	0.006	0.006	---	< 0.003	0.006
Pb [mg/L]	< 0.00009	0.00013	< 0.00009	---	< 0.00009	0.00011
Sb [mg/L]	0.0053	0.0029	< 0.0009	---	< 0.0009	0.0028
Se [mg/L]	0.00011	0.00008	0.00017	---	< 0.00004	0.00007
Si [mg/L]	2.21	2.26	0.97	---	< 0.02	2.24
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	---	< 0.00006	< 0.00006
Sr [mg/L]	0.00845	0.00588	0.0193	---	< 0.00008	0.00592
Ti [mg/L]	0.0007	0.0004	< 0.0001	---	< 0.0001	0.0004
Tl [mg/L]	0.000009	< 0.000005	0.000017	---	< 0.000005	< 0.000005
U [mg/L]	0.000033	0.000016	0.000010	---	< 0.000002	0.000016
V [mg/L]	0.00448	0.00402	0.00002	---	< 0.00001	0.00405
Zn [mg/L]	< 0.002	< 0.002	< 0.002	---	< 0.002	< 0.002
Au [mg/L]	---	---	< 0.00001	---	< 0.00001	< 0.00001
Ce [mg/L]	---	---	< 0.00001	---	< 0.00001	< 0.00001
Cs [mg/L]	---	---	0.0352	---	< 0.0001	0.0068
Dy [mg/L]	---	---	< 0.00001	---	< 0.00001	< 0.00001
Er [mg/L]	---	---	< 0.00001	---	< 0.00001	< 0.00001
Eu [mg/L]	---	---	< 0.00001	---	< 0.00001	< 0.00001
Ga [mg/L]	---	---	< 0.0001	---	< 0.0001	0.0003
Gd (tot) [mg/L]	---	---	< 0.00001	---	< 0.00001	< 0.00001
Ge [mg/L]	---	---	< 0.0001	---	< 0.0001	< 0.0001
Hf [mg/L]	---	---	< 0.0001	---	< 0.0001	< 0.0001
Ho [mg/L]	---	---	< 0.00001	---	< 0.00001	< 0.00001
In [mg/L]	---	---	< 0.00001	---	< 0.00001	< 0.00001
Ir [mg/L]	---	---	< 0.00001	---	< 0.00001	< 0.00001
La [mg/L]	---	---	< 0.00001	---	< 0.00001	< 0.00001
Lu [mg/L]	---	---	< 0.0001	---	< 0.0001	< 0.0001
Nb [mg/L]	---	---	< 0.0001	---	< 0.0001	< 0.0001
Nd [mg/L]	---	---	< 0.00001	---	< 0.00001	< 0.00001
Os [mg/L]	---	---	< 0.0001	---	< 0.0001	< 0.0001

OnLine LIMS

0004081364

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	51: VIS-CV5-AMP-131	52: VIS-CV5-AMP-132	53: VIS-CV5-AMP-105	54: VIS-CV5-AMP-130	55:BLK: $SPLP1312 Blank #1	56: VIS-CV5-AMP-132
Pd [mg/L]	---	---	< 0.0001	---	< 0.0001	< 0.0001
Pr [mg/L]	---	---	< 0.00001	---	< 0.00001	< 0.00001
Pt [mg/L]	---	---	< 0.0001	---	< 0.0001	< 0.0001
Rh [mg/L]	---	---	< 0.00001	---	< 0.00001	< 0.00001
Rb [mg/L]	---	---	0.0090	---	< 0.0001	0.0118
Re [mg/L]	---	---	< 0.0001	---	< 0.0001	< 0.0001
Ru [mg/L]	---	---	< 0.00001	---	< 0.00001	< 0.00001
Sm [mg/L]	---	---	< 0.00001	---	< 0.00001	< 0.00001
Sc [mg/L]	---	---	< 0.0001	---	< 0.0001	< 0.0001
Ta [mg/L]	---	---	< 0.0001	---	< 0.0001	< 0.0001
Tb [mg/L]	---	---	< 0.00001	---	< 0.00001	< 0.00001
Te [mg/L]	---	---	< 0.0001	---	< 0.0001	< 0.0001
Th [mg/L]	---	---	< 0.0001	---	< 0.0001	< 0.0001
Tm [mg/L]	---	---	< 0.00001	---	< 0.00001	< 0.00001

Method Descriptions

Parameter	Units	SGS Method Code	CALA	PALA
	#1 or #2	NA	N	N
	g	NA	N	N
	mL	NA	N	N
Acidity	mg/L as CaCO3	ME-CA-[ENV]EWL-LAK-AN-006	Y	N
Alkalinity	mg/L as CaCO3	ME-CA-[ENV]EWL-LAK-AN-006	Y	N
Anions by IC	mg/L	ME-CA-[ENV]IC-LAK-AN-001	Y	N
Anions by IC	mg/L	ME-CA-[ENV]IC-LAK-AN-001	Y	Y
Conductivity	uS/cm	ME-CA-[ENV]EWL-LAK-AN-006	Y	Y
Fluoride by Specific Ion Electrode	mg/L	ME-CA-[ENV]EWL-LAK-AN-014	Y	Y
Inorganics-General	mg/L	ME-CA-[ENV]SPE-LAK-AN-004	Y	Y
Metals in aqueous samples - ICP-MS	mg/L	ME-CA-[ENV]SPE-LAK-AN-006	Y	N
Metals in aqueous samples - ICP-MS	mg/L	ME-CA-[ENV]SPE-LAK-AN-006	Y	Y
pH	No unit	ME-CA-[ENV]EWL-LAK-AN-006	Y	Y
Reactive Phosphorus by SFA	mg/L	ME-CA-[ENV]SFA-LAK-AN-004	Y	N

OnLine LIMS

0004081364

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

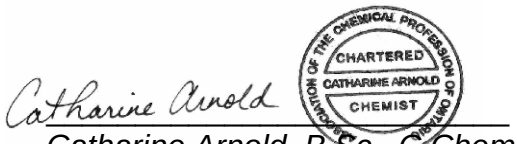
Accreditation Descriptions

CALA:

SGS Canada Industries & Environment conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation found at https://directory.cala.ca/#. Analytes and SGS Method Codes marked with a “Y” in the “CALA” column in the table denote ISO/IEC17025 accreditation

PALA:

SGS Canada Industries & Environment conforms to the requirements of ISO/IEC 17025:2005 for specific tests as listed on their scope of accreditation found at https://www.ceaeq.gouv.qc.ca/documents/publications/listes.htm#labo_accr. Analytes and SGS Method Codes marked with a “Y” in the “PALA” column in the table denote ISO/IEC17025:2005 accreditation



Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0004081364

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quality Control Report

Inorganic Analysis													
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Acidity - QCBatchID: EWL0386-MAR25													
Acidity	2	mg/L as Ca	< 2			ND	20	100	90	110	NA		
Alkalinity - QCBatchID: EWL0386-MAR25													
Alkalinity	2	mg/L as Ca	< 2			4	20	100	80	120	NA		
Alkalinity - QCBatchID: EWL0420-MAR25													
Alkalinity	2	mg/L as Ca	< 2			1	20	98	80	120	NA		
Alkalinity - QCBatchID: EWL0446-MAR25													
Alkalinity	2	mg/L as Ca	< 2			0	20	106	80	120	NA		
Anions by IC - QCBatchID: DIO0451-MAR25													
Bromide	0.3	mg/L	<0.3			ND	20	98	90	110	102	75	125
Chloride	0.2	mg/L	<0.2			7	20	99	90	110	108	75	125
Nitrate (as N)	0.06	mg/L	<0.06			ND	20	100	90	110	104	75	125
Nitrite (as N)	0.03	mg/L	<0.03			ND	20	99	90	110	106	75	125
Sulphate	0.2	mg/L	<0.2			2	20	100	90	110	100	75	125
Anions by IC - QCBatchID: DIO0452-MAR25													
Bromide	0.3	mg/L	<0.3			ND	20	100	90	110	100	75	125
Chloride	0.2	mg/L	<0.2			16	20	99	90	110	105	75	125
Nitrate (as N)	0.06	mg/L	<0.06			ND	20	100	90	110	103	75	125
Nitrite (as N)	0.03	mg/L	<0.03			ND	20	99	90	110	105	75	125
Sulphate	0.2	mg/L	<0.2			5	20	100	90	110	100	75	125
Anions by IC - QCBatchID: DIO0482-MAR25													
Chloride	0.2	mg/L	<0.2			ND	20	98	90	110	94	75	125
Sulphate	0.2	mg/L	<0.2			0	20	100	90	110	101	75	125
Anions by IC - QCBatchID: DIO0509-MAR25													
Bromide	0.3	mg/L	<0.3			ND	20	103	90	110	100	75	125
Chloride	0.2	mg/L	<0.2			2	20	101	90	110	98	75	125
Nitrate (as N)	0.06	mg/L	<0.06			ND	20	100	90	110	100	75	125
Nitrite (as N)	0.03	mg/L	<0.03			ND	20	101	90	110	103	75	125
Sulphate	0.2	mg/L	<0.2			5	20	99	90	110	95	75	125
Anions by IC - QCBatchID: DIO0510-MAR25													
Bromide	0.3	mg/L	<0.3			ND	20	100	90	110	91	75	125
Chloride	0.2	mg/L	<0.2			9	20	103	90	110	100	75	125
Nitrate (as N)	0.06	mg/L	<0.06			ND	20	100	90	110	101	75	125
Nitrite (as N)	0.03	mg/L	<0.03			ND	20	100	90	110	102	75	125
Sulphate	0.2	mg/L	<0.2			14	20	102	90	110	98	75	125
Conductivity - QCBatchID: EWL0386-MAR25													

OnLine LIMS

00004081364

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0)
20:1 L/S ratio, 18hr

LR Report : **CA11011-FEB25**

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Conductivity	2	uS/cm	2			0	20	103	90	110	NA		
Conductivity - QCBatchID: EWL0446-MAR25													
Conductivity	2	uS/cm	< 2			0	20	98	90	110	NA		
Fluoride by Specific Ion Electrode - QCBatchID: EWL0392-MAR25													
Fluoride	0.06	mg/L	<0.06			ND	10	99	90	110	104	75	125
Inorganics-General - QCBatchID: EHG0042-MAR25													
Mercury	0.00001	mg/L	< 0.00001			ND	20	122	80	120	122	70	130
Inorganics-General - QCBatchID: EHG0048-MAR25													
Mercury	0.00001	mg/L	< 0.00001			16	20	116	80	120	88	70	130
Metals in aqueous samples - ICP-MS - QCBatchID: EMS0185-MAR25													
Aluminum	0.001	mg/L	<0.001			0	20	98	90	110	121	70	130
Antimony	0.0009	mg/L	<0.0009			1	20	109	90	110	88	70	130
Arsenic	0.0002	mg/L	<0.0002			2	20	101	90	110	82	70	130
Barium	0.00008	mg/L	<0.00008			2	20	96	90	110	96	70	130
Beryllium	0.000007	mg/L	<0.000007			ND	20	95	90	110	94	70	130
Bismuth	0.00001	mg/L	<0.00001			ND	20	98	90	110	90	70	130
Boron	0.002	mg/L	<0.002			1	20	96	90	110	98	70	130
Cadmium	0.000003	mg/L	<0.000003			ND	20	100	90	110	98	70	130
Calcium	0.01	mg/L	<0.01			1	20	96	90	110	100	70	130
Cesium	0.0001	mg/L	<0.0001			0	20	95	90	110	NV	70	130
Chromium	0.00008	mg/L	<0.00008			ND	20	102	90	110	100	70	130
Cobalt	0.000004	mg/L	<0.000004			ND	20	98	90	110	95	70	130
Copper	0.001	mg/L	<0.001			ND	20	102	90	110	98	70	130
Germanium	0.0001	mg/L	<0.0001			ND	20	99	90	110	NV	70	130
Gold	0.00001	mg/L	<0.00001			ND	20	99	90	110	NV	70	130
Hafnium	0.0001	mg/L	<0.0001			ND	20	96	90	110	NV	70	130
Iridium	0.00001	mg/L	<0.00001			ND	20	103	90	110	NV	70	130
Iron	0.007	mg/L	<0.007			6	20	100	90	110	125	70	130
Lead	0.00009	mg/L	<0.00009			ND	20	99	90	110	94	70	130
Lithium	0.0001	mg/L	<0.0001			0	20	94	90	110	100	70	130
Magnesium	0.001	mg/L	<0.001			0	20	101	90	110	88	70	130
Manganese	0.00001	mg/L	<0.00001			5	20	100	90	110	92	70	130
Molybdenum	0.0004	mg/L	<0.0004			ND	20	103	90	110	96	70	130
Nickel	0.0001	mg/L	<0.0001			8	20	103	90	110	96	70	130
Niobium	0.0001	mg/L	<0.0001			ND	20	109	90	110	NV	70	130
Osmium	0.0001	mg/L	<0.0001			ND	20	104	90	110	NV	70	130
Palladium	0.0001	mg/L	<0.0001			ND	20	105	90	110	NV	70	130
Phosphorus	0.003	mg/L	<0.003			0	20	95	90	110	NV	70	130
Platinum	0.0001	mg/L	<0.0001			ND	20	100	90	110	NV	70	130

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

00004081364

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0)
20:1 L/S ratio, 18hr

LR Report : **CA11011-FEB25**

Inorganic Analysis													
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Potassium	0.009	mg/L	<0.009			3	20	102	90	110	94	70	130
Rhenium	0.0001	mg/L	<0.0001			ND	20	94	90	110	NV	70	130
Rhodium	0.00001	mg/L	<0.0001			ND	20	103	90	110	NV	70	130
Rubidium	0.0001	mg/L	< 0.0001			0	20	103	90	110	NV	70	130
Ruthenium	0.00001	mg/L	<0.0001			ND	20	104	90	110	NV	70	130
Selenium	0.00004	mg/L	<0.00004			14	20	97	90	110	94	70	130
Silicon	0.02	mg/L	<0.02			4	20	93	90	110	NV	70	130
Silver	0.00005	mg/L	<0.00005			ND	20	100	90	110	80	70	130
Sodium	0.01	mg/L	<0.01			0	20	98	90	110	100	70	130
Strontium	0.00008	mg/L	<0.00008			2	20	97	90	110	93	70	130
Tantalum	0.0001	mg/L	<0.0001			ND	20	96	90	110	NV	70	130
Tellurium	0.0001	mg/L	<0.0001			ND	20	95	90	110	NV	70	130
Thallium	0.000005	mg/L	<0.000005			ND	20	99	90	110	95	70	130
Thorium	0.0001	mg/L	<0.0001			ND	20	101	90	110	NV	70	130
Tin	0.00006	mg/L	<0.00006			ND	20	98	90	110	NV	70	130
Titanium	0.0001	mg/L	<0.0001			4	20	97	90	110	NV	70	130
Uranium	0.000002	mg/L	<0.000002			10	20	104	90	110	96	70	130
Vanadium	0.00001	mg/L	<0.00001			2	20	101	90	110	97	70	130
Zinc	0.002	mg/L	<0.002			ND	20	101	90	110	90	70	130
Metals in aqueous samples - ICP-MS - QCBatchID: EMS0214-MAR25													
Aluminum	0.001	mg/L	<0.001			ND	20	102	90	110	112	70	130
Antimony	0.0009	mg/L	<0.0009			ND	20	105	90	110	110	70	130
Arsenic	0.0002	mg/L	<0.0002			2	20	109	90	110	98	70	130
Barium	0.00008	mg/L	<0.00008			ND	20	103	90	110	93	70	130
Beryllium	0.000007	mg/L	<0.000007			ND	20	105	90	110	101	70	130
Bismuth	0.00001	mg/L	<0.00001			ND	20	104	90	110	89	70	130
Boron	0.002	mg/L	<0.002			ND	20	97	90	110	100	70	130
Cadmium	0.000003	mg/L	<0.000003			ND	20	104	90	110	106	70	130
Calcium	0.01	mg/L	<0.01			ND	20	98	90	110	97	70	130
Cesium	0.0001	mg/L	<0.0001			3	20	101	90	110	NV	70	130
Chromium	0.00008	mg/L	<0.00008			ND	20	106	90	110	100	70	130
Cobalt	0.000004	mg/L	<0.000004			0	20	108	90	110	96	70	130
Copper	0.001	mg/L	<0.001			ND	20	109	90	110	98	70	130
Germanium	0.0001	mg/L	<0.0001			ND	20	102	90	110	NV	70	130
Gold	0.00001	mg/L	<0.00001			ND	20	101	90	110	NV	70	130
Hafnium	0.0001	mg/L	<0.0001			ND	20	97	90	110	NV	70	130
Iridium	0.00001	mg/L	<0.00001			ND	20	102	90	110	NV	70	130
Iron	0.007	mg/L	<0.007			ND	20	104	90	110	100	70	130
Lead	0.00009	mg/L	<0.00009			ND	20	103	90	110	97	70	130

OnLine LIMS

00004081364

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0)
20:1 L/S ratio, 18hr

LR Report : **CA11011-FEB25**

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material			
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)		
							%		Low	High		Low	High	
Lithium	0.0001	mg/L	<0.0001			4	20	103	90	110	91	70	130	
Magnesium	0.001	mg/L	<0.001			ND	20	102	90	110	100	70	130	
Manganese	0.00001	mg/L	<0.00001			ND	20	105	90	110	107	70	130	
Molybdenum	0.0004	mg/L	<0.0004			ND	20	102	90	110	95	70	130	
Nickel	0.0001	mg/L	<0.0001			ND	20	108	90	110	100	70	130	
Niobium	0.0001	mg/L	<0.0001			ND	20	96	90	110	NV	70	130	
Osmium	0.0001	mg/L	<0.0001			ND	20	90	90	110	NV	70	130	
Palladium	0.0001	mg/L	<0.0001			ND	20	103	90	110	NV	70	130	
Phosphorus	0.003	mg/L	<0.003			6	20	98	90	110	NV	70	130	
Platinum	0.0001	mg/L	<0.0001			ND	20	100	90	110	NV	70	130	
Potassium	0.009	mg/L	<0.009			1	20	103	90	110	89	70	130	
Rhenium	0.0001	mg/L	<0.0001			ND	20	98	90	110	NV	70	130	
Rhodium	0.00001	mg/L	<0.0001			ND	20	103	90	110	NV	70	130	
Rubidium	0.0001	mg/L	Error!			6	20	97	90	110	NV	70	130	
Ruthenium	0.00001	mg/L	<0.0001			ND	20	105	90	110	NV	70	130	
Selenium	0.00004	mg/L	<0.00004			ND	20	103	90	110	83	70	130	
Silicon	0.02	mg/L	<0.02			ND	20	92	90	110	NV	70	130	
Silver	0.00005	mg/L	<0.00005			ND	20	106	90	110	78	70	130	
Sodium	0.01	mg/L	<0.01			1	20	99	90	110	100	70	130	
Strontium	0.00008	mg/L	<0.00008			ND	20	100	90	110	95	70	130	
Tantalum	0.0001	mg/L	<0.0001			ND	20	100	90	110	NV	70	130	
Tellurium	0.0001	mg/L	<0.0001			ND	20	100	90	110	NV	70	130	
Thallium	0.000005	mg/L	<0.000005			ND	20	106	90	110	98	70	130	
Thorium	0.0001	mg/L	<0.0001			ND	20	97	90	110	NV	70	130	
Tin	0.00006	mg/L	<0.00006			ND	20	100	90	110	NV	70	130	
Titanium	0.0001	mg/L	<0.0001			ND	20	103	90	110	NV	70	130	
Uranium	0.000002	mg/L	<0.000002			ND	20	102	90	110	99	70	130	
Vanadium	0.00001	mg/L	<0.00001			ND	20	106	90	110	99	70	130	
Zinc	0.002	mg/L	<0.002			ND	20	106	90	110	76	70	130	
Metals in aqueous samples - ICP-MS - QCBatchID: EMS0266-MAR25														
Cerium	0.00001	mg/L	<0.00001			ND	20	106	90	110	NV	70	130	
Dysprosium	0.00001	mg/L	<0.00001			ND	20	105	90	110	NV	70	130	
Erbium	0.00001	mg/L	<0.00001			ND	20	105	90	110	NV	70	130	
Europium	0.00001	mg/L	<0.00001			7	20	103	90	110	NV	70	130	
Gadolinium	0.00001	mg/L	<0.0001			ND	20	107	90	110	NV	70	130	
Gallium	0.0001	mg/L	<0.0001			ND	20	103	90	110	NV	70	130	
Holmium	0.00001	mg/L	<0.00001			ND	20	103	90	110	NV	70	130	
Indium	0.00001	mg/L	<0.00001			ND	20	105	90	110	NV	70	130	
Lanthanum	0.00001	mg/L	<0.00001			ND	20	104	90	110	NV	70	130	

OnLine LIMS

00004081364

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0)
20:1 L/S ratio, 18hr

LR Report : **CA11011-FEB25**

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material			
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Lutetium	0.0001	mg/L	<0.0001			ND	20	105	90	110	NV	70	130
Neodymium	0.00001	mg/L	<0.00001			ND	20	106	90	110	NV	70	130
Praseodymium	0.00001	mg/L	<0.00001			ND	20	105	90	110	NV	70	130
Samarium	0.00001	mg/L	<0.00001			ND	20	105	90	110	NV	70	130
Terbium	0.00001	mg/L	<0.00001			ND	20	107	90	110	NV	70	130
Thulium	0.00001	mg/L	<0.00001			ND	20	105	90	110	NV	70	130
pH - QCBatchID: EWL0386-MAR25													
pH	0.05	No unit	NA			0		101			NA		
Reactive Phosphorus by SFA - QCBatchID: SKA0200-MAR25													
Total Reactive Phosphorous (o-phosphate as P)	0.03	mg/L	<0.03			3	10	99	90	110	99	75	125
Reactive Phosphorus by SFA - QCBatchID: SKA0208-MAR25													
Total Reactive Phosphorous (o-phosphate as P)	0.03	mg/L	<0.03			6	10	94	90	110	105	75	125

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

00004081364

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

16-April-2025

Innova Lithium Inc.
Attn : John Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 05 February 2025
LR Report: **CA11012-FEB25**
Reference: Shaakichiuwaanaan Project

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: VIS-CV5-AMP-085	6: VIS-CV5-AMP-086	7: VIS-CV5-AMP-087	8: VIS-CV5-AMP-088	9: VIS-CV5-AMP-089	10: VIS-CV5-AMP-090	11: VIS-CV5-AMP-091
Sample Date & Time					NA	NA	NA	NA	NA	NA	NA
Sample weight [g]	18-Mar-25	06:30	27-Mar-25	14:06	99	100	99	100	100	100	100
Volume D.I. Water [mL]	18-Mar-25	06:53	27-Mar-25	14:06	400	400	400	400	400	400	400
pH [No unit]	21-Mar-25	12:51	28-Mar-25	11:16	9.34	9.40	9.40	8.70	8.99	8.65	9.33
Conductivity [uS/cm]	21-Mar-25	12:51	28-Mar-25	11:16	138	148	134	201	191	296	137
Alkalinity [mg/L as CaCO3]	21-Mar-25	12:51	28-Mar-25	11:16	57	59	49	44	61	54	50
Acidity [mg/L as CaCO3]	21-Mar-25	12:51	31-Mar-25	17:20	< 2	< 2	< 2	< 2	< 2	< 2	< 2
F [mg/L]	26-Mar-25	07:53	28-Mar-25	09:14	0.24	0.27	0.15	0.16	0.51	0.56	0.32
Br [mg/L]	25-Mar-25	22:15	28-Mar-25	09:05	< 30	< 30	< 30	< 30	< 30	< 30	< 30
Cl [mg/L]	25-Mar-25	22:15	28-Mar-25	09:05	< 20	< 20	< 20	< 20	< 20	< 20	< 20
SO4 [mg/L]	25-Mar-25	22:15	28-Mar-25	09:05	< 20	< 20	< 20	21	21	49	< 20
NO2 [as N mg/L]	25-Mar-25	22:15	28-Mar-25	09:05	< 3	< 3	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	25-Mar-25	22:15	28-Mar-25	09:05	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Tot.Reactive P [mg/L]	26-Mar-25	15:46	28-Mar-25	08:23	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Hg [mg/L]	27-Mar-25	15:06	02-Apr-25	10:53	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	29-Mar-25	11:40	02-Apr-25	12:35	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	0.00015	< 0.00005
Al [mg/L]	29-Mar-25	11:40	03-Apr-25	12:48	0.743	0.459	0.759	0.214	0.549	0.139	0.670
As [mg/L]	29-Mar-25	11:40	03-Apr-25	12:48	0.0067	0.0233	0.0085	0.0092	0.0048	0.0659	0.0050
Ba [mg/L]	29-Mar-25	11:40	02-Apr-25	12:35	0.00077	0.00151	0.00065	0.00132	0.00511	0.00246	0.00137
Be [mg/L]	29-Mar-25	11:40	02-Apr-25	12:35	< 0.000007	< 0.000007	< 0.000007	< 0.000007	0.000007	0.000014	< 0.000007
B [mg/L]	29-Mar-25	11:40	02-Apr-25	12:35	0.102	0.105	0.095	0.099	0.072	0.152	0.067
Bi [mg/L]	29-Mar-25	11:40	02-Apr-25	12:35	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

OnLine LIMS

0004081414

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11012-FEB25**

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: VIS-CV5-AMP-085	6: VIS-CV5-AMP-086	7: VIS-CV5-AMP-087	8: VIS-CV5-AMP-088	9: VIS-CV5-AMP-089	10: VIS-CV5-AMP-090	11: VIS-CV5-AMP-091
Ca [mg/L]	29-Mar-25	11:40	02-Apr-25	12:35	5.28	4.77	4.58	11.9	6.57	13.1	4.92
Cd [mg/L]	29-Mar-25	11:40	02-Apr-25	12:35	0.000005	0.000005	0.000004	0.000008	0.000008	0.000007	0.000003
Co [mg/L]	29-Mar-25	11:40	02-Apr-25	12:35	0.000052	0.000144	0.000044	0.000039	0.000240	0.000247	0.000039
Cr [mg/L]	29-Mar-25	11:40	02-Apr-25	12:35	0.00375	0.00242	0.00097	0.00093	0.00174	0.00222	0.00027
Cu [mg/L]	29-Mar-25	11:40	02-Apr-25	12:35	0.001	< 0.001	< 0.001	0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	29-Mar-25	11:40	02-Apr-25	12:35	0.080	0.253	0.031	0.025	0.421	0.135	0.064
K [mg/L]	29-Mar-25	11:40	02-Apr-25	12:35	4.49	9.02	3.07	1.67	11.8	5.57	5.61
Li [mg/L]	29-Mar-25	11:40	03-Apr-25	12:49	0.165	0.138	0.669	0.311	0.0548	0.463	0.358
Mg [mg/L]	29-Mar-25	11:40	02-Apr-25	12:36	3.28	1.86	1.68	4.51	3.45	6.17	2.12
Mn [mg/L]	29-Mar-25	11:40	02-Apr-25	12:36	0.00164	0.00326	0.00094	0.00103	0.00281	0.00242	0.00112
Mo [mg/L]	29-Mar-25	11:40	02-Apr-25	12:36	0.0010	0.0028	0.0019	0.0028	0.0023	0.0025	0.0011
Na [mg/L]	29-Mar-25	11:40	02-Apr-25	12:36	12.7	16.3	15.5	16.2	16.9	28.4	15.3
Ni [mg/L]	29-Mar-25	11:40	02-Apr-25	12:36	0.0006	0.0012	0.0002	0.0003	0.0007	0.0012	0.0001
P [mg/L]	29-Mar-25	11:40	02-Apr-25	12:36	0.006	0.033	0.022	0.015	0.032	< 0.003	0.017
Pb [mg/L]	29-Mar-25	11:40	02-Apr-25	12:36	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	29-Mar-25	11:40	03-Apr-25	12:49	0.0285	0.0225	0.0064	0.0099	0.0012	0.142	0.0032
Se [mg/L]	29-Mar-25	11:40	02-Apr-25	12:36	0.00028	0.00036	0.00027	0.00018	0.00015	0.00151	0.00056
Si [mg/L]	29-Mar-25	11:40	02-Apr-25	12:36	3.01	3.87	2.55	3.04	2.47	4.16	2.50
Sn [mg/L]	29-Mar-25	11:40	02-Apr-25	12:36	0.00007	0.00017	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	29-Mar-25	11:40	02-Apr-25	12:36	0.00766	0.00684	0.00613	0.0135	0.0182	0.0468	0.00600
Ti [mg/L]	29-Mar-25	11:40	02-Apr-25	12:36	0.0022	0.0072	0.0009	0.0011	0.0174	0.0033	0.0029
Tl [mg/L]	29-Mar-25	11:40	02-Apr-25	12:36	0.000006	0.000238	0.000005	< 0.000005	0.000008	0.000032	0.000005
U [mg/L]	29-Mar-25	11:40	02-Apr-25	12:36	0.000209	0.000117	0.000021	0.000082	0.000100	0.000083	0.000036
V [mg/L]	29-Mar-25	11:40	02-Apr-25	12:36	0.0508	0.0500	0.0319	0.0203	0.0127	0.0152	0.0371
Zn [mg/L]	29-Mar-25	11:40	02-Apr-25	12:36	0.003	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au [mg/L]	29-Mar-25	11:40	02-Apr-25	12:36	< 0.00001	---	---	---	< 0.00001	---	---
Ce [mg/L]	29-Mar-25	12:06	02-Apr-25	12:36	0.00002	---	---	---	0.00037	---	---
Cs [mg/L]	29-Mar-25	11:40	02-Apr-25	12:36	0.0014	---	---	---	0.0009	---	---
Dy [mg/L]	29-Mar-25	12:06	02-Apr-25	12:36	< 0.00001	---	---	---	0.00002	---	---
Er [mg/L]	29-Mar-25	12:06	02-Apr-25	12:36	< 0.00001	---	---	---	< 0.00001	---	---
Eu [mg/L]	29-Mar-25	12:06	02-Apr-25	12:36	< 0.00001	---	---	---	< 0.00001	---	---
Ga [mg/L]	29-Mar-25	12:06	02-Apr-25	12:36	0.0041	---	---	---	0.0045	---	---
Gd (tot) [mg/L]	29-Mar-25	12:06	02-Apr-25	12:36	< 0.00001	---	---	---	0.00004	---	---
Ge [mg/L]	29-Mar-25	11:40	02-Apr-25	12:36	< 0.0001	---	---	---	< 0.0001	---	---
Hf [mg/L]	29-Mar-25	11:40	02-Apr-25	12:36	< 0.0001	---	---	---	< 0.0001	---	---
Ho [mg/L]	29-Mar-25	12:06	02-Apr-25	12:36	< 0.00001	---	---	---	< 0.00001	---	---
In [mg/L]	29-Mar-25	12:06	02-Apr-25	12:36	< 0.00001	---	---	---	< 0.00001	---	---
Ir [mg/L]	29-Mar-25	11:40	02-Apr-25	12:36	< 0.00001	---	---	---	< 0.00001	---	---

OnLine LIMS

0004081414

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: VIS-CV5-AMP-085	6: VIS-CV5-AMP-086	7: VIS-CV5-AMP-087	8: VIS-CV5-AMP-088	9: VIS-CV5-AMP-089	10: VIS-CV5-AMP-090	11: VIS-CV5-AMP-091
La [mg/L]	29-Mar-25	12:06	02-Apr-25	12:36	0.00001	---	---	---	0.00017	---	---
Lu [mg/L]	29-Mar-25	12:06	02-Apr-25	12:36	< 0.0001	---	---	---	< 0.0001	---	---
Nb [mg/L]	29-Mar-25	11:40	02-Apr-25	12:36	< 0.0001	---	---	---	< 0.0001	---	---
Nd [mg/L]	29-Mar-25	12:06	02-Apr-25	12:36	< 0.00001	---	---	---	0.00019	---	---
Os [mg/L]	29-Mar-25	11:40	02-Apr-25	12:36	< 0.0001	---	---	---	< 0.0001	---	---
Pd [mg/L]	29-Mar-25	11:40	02-Apr-25	12:36	< 0.0001	---	---	---	< 0.0001	---	---
Pr [mg/L]	29-Mar-25	12:06	02-Apr-25	12:36	< 0.00001	---	---	---	0.00005	---	---
Pt [mg/L]	29-Mar-25	11:40	02-Apr-25	12:36	< 0.0001	---	---	---	< 0.0001	---	---
Rh [mg/L]	29-Mar-25	11:40	02-Apr-25	12:36	< 0.00001	---	---	---	< 0.00001	---	---
Rb [mg/L]	29-Mar-25	11:40	02-Apr-25	12:36	0.0194	---	---	---	0.0120	---	---
Re [mg/L]	29-Mar-25	11:40	02-Apr-25	12:36	< 0.0001	---	---	---	< 0.0001	---	---
Ru [mg/L]	29-Mar-25	11:40	02-Apr-25	12:36	< 0.00001	---	---	---	< 0.00001	---	---
Sm [mg/L]	29-Mar-25	12:06	02-Apr-25	12:36	< 0.00001	---	---	---	0.00004	---	---
Sc [mg/L]	29-Mar-25	12:06	02-Apr-25	12:36	0.0001	---	---	---	0.0001	---	---
Ta [mg/L]	29-Mar-25	11:40	02-Apr-25	12:36	< 0.0001	---	---	---	< 0.0001	---	---
Tb [mg/L]	29-Mar-25	12:06	02-Apr-25	12:36	< 0.00001	---	---	---	< 0.00001	---	---
Te [mg/L]	29-Mar-25	11:40	02-Apr-25	12:36	< 0.0001	---	---	---	< 0.0001	---	---
Th [mg/L]	29-Mar-25	11:40	02-Apr-25	12:36	< 0.0001	---	---	---	< 0.0001	---	---
Tm [mg/L]	29-Mar-25	12:06	02-Apr-25	12:36	< 0.00001	---	---	---	< 0.00001	---	---

Analysis	12: VIS-CV5-AMP-092	13: VIS-CV5-AMP-093	14: VIS-CV5-AMP-094	15: VIS-CV5-AMP-095	16: VIS-CV5-AMP-096	17: VIS-CV5-AMP-097	18: VIS-CV5-AMP-098	19: VIS-CV5-AMP-099	20: VIS-CV5-AMP-100	21: VIS-CV5-AMP-101	22: VIS-CV5-AMP-102
Sample Date & Time	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sample weight [g]	101	100	100	99	99	100	100	100	100	100	100
Volume D.I. Water [mL]	400	400	400	400	400	400	400	400	400	400	400
pH [No unit]	9.45	9.05	9.40	9.22	9.10	8.76	8.99	9.00	8.51	8.12	8.70
Conductivity [uS/cm]	112	249	141	149	150	214	206	168	542	405	235
Alkalinity [mg/L as CaCO3]	61	67	55	50	48	58	54	62	57	70	50
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
F [mg/L]	0.35	2.67	2.96	0.89	1.53	1.01	0.73	1.26	14.2	2.36	2.14
Br [mg/L]	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30
Cl [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
SO4 [mg/L]	< 20	38	< 20	< 20	< 20	21	27	< 20	120	73	35
NO2 [as N mg/L]	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Tot.Reactive P [mg/L]	0.04	0.04	0.09	0.07	0.08	0.10	< 0.03	< 0.03	0.10	< 0.03	0.09

OnLine LIMS

0004081414

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11012-FEB25**

Analysis	12: VIS-CV5-AMP-092	13: VIS-CV5-AMP-093	14: VIS-CV5-AMP-094	15: VIS-CV5-AMP-095	16: VIS-CV5-AMP-096	17: VIS-CV5-AMP-097	18: VIS-CV5-AMP-098	19: VIS-CV5-AMP-099	20: VIS-CV5-AMP-100	21: VIS-CV5-AMP-101	22: VIS-CV5-AMP-102
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	0.00007	< 0.00005	< 0.00005	0.00008	< 0.00005	< 0.00005
Al [mg/L]	0.290	0.425	1.51	0.400	0.490	0.224	0.215	0.872	0.117	0.125	1.77
As [mg/L]	0.161	0.118	0.0672	0.166	0.384	0.404	0.121	0.0280	0.409	0.0349	0.0408
Ba [mg/L]	0.00079	0.00393	0.00826	0.00089	0.00132	0.00231	0.00168	0.00316	0.00530	0.00578	0.00965
Be [mg/L]	0.000008	0.000023	0.000050	0.000007	0.000011	0.000016	0.000038	0.000024	0.000025	0.000012	0.000074
B [mg/L]	0.053	0.114	0.091	0.085	0.094	0.158	0.148	0.116	0.155	0.119	0.129
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00002	0.00014	< 0.00001	0.00002
Ca [mg/L]	3.64	7.85	2.78	5.76	5.84	8.32	9.64	3.72	21.4	18.1	5.05
Cd [mg/L]	0.000004	0.000004	0.000010	0.000010	0.000006	0.000006	0.000006	0.000010	0.000029	0.000006	0.000022
Co [mg/L]	0.000410	0.000500	0.001168	0.000143	0.000109	0.000388	0.000291	0.000594	0.000246	0.000116	0.00132
Cr [mg/L]	0.0124	0.00214	0.0121	0.00450	0.00265	0.00384	0.00161	0.0106	0.00282	0.00046	0.00428
Cu [mg/L]	< 0.001	< 0.001	0.004	< 0.001	< 0.001	< 0.001	< 0.001	0.002	0.002	< 0.001	0.002
Fe [mg/L]	0.399	0.374	1.15	0.092	0.070	0.230	0.238	0.467	0.145	0.076	1.79
K [mg/L]	2.49	14.1	10.0	2.83	4.54	6.89	4.58	12.9	33.8	16.6	25.1
Li [mg/L]	0.0597	1.43	1.97	0.858	1.57	0.878	0.361	1.63	6.19	1.76	2.43
Mg [mg/L]	5.60	3.49	1.69	1.98	2.04	3.12	3.60	1.51	16.1	8.77	2.34
Mn [mg/L]	0.00279	0.00924	0.0231	0.00265	0.00161	0.00475	0.00468	0.0128	0.00450	0.00377	0.0313
Mo [mg/L]	0.0020	0.0059	0.0013	0.0023	0.0040	0.0041	0.0032	0.0049	0.0183	0.0136	0.0040
Na [mg/L]	9.67	19.0	15.0	16.0	14.2	24.7	19.3	14.3	19.1	19.3	14.4
Ni [mg/L]	0.0019	0.0013	0.0037	0.0010	0.0004	0.0015	0.0010	0.0019	0.0020	0.0005	0.0037
P [mg/L]	0.019	0.014	0.046	0.004	0.005	0.010	0.012	0.013	0.022	0.007	0.045
Pb [mg/L]	< 0.00009	0.00010	0.00017	0.00061	< 0.00009	0.00009	< 0.00009	0.00023	< 0.00009	< 0.00009	0.00024
Sb [mg/L]	0.0140	0.351	0.220	0.103	0.297	0.146	0.153	0.0496	0.890	0.193	0.142
Se [mg/L]	0.00017	0.00094	0.00034	0.00018	0.00063	0.00082	0.00371	0.00017	0.00795	0.00035	0.00012
Si [mg/L]	5.58	3.16	5.34	3.28	2.96	4.08	4.07	3.54	4.59	2.52	4.65
Sn [mg/L]	0.00017	< 0.00006	< 0.00006	0.00008	< 0.00006	< 0.00006	< 0.00006	0.00011	0.00011	< 0.00006	0.00010
Sr [mg/L]	0.00736	0.0154	0.00533	0.00835	0.00910	0.0180	0.0187	0.00795	0.0338	0.0365	0.0125
Ti [mg/L]	0.0026	0.0178	0.0594	0.0030	0.0031	0.0088	0.0052	0.0268	0.0043	0.0044	0.136
Tl [mg/L]	0.000134	0.000079	0.000090	0.000005	0.000039	0.000047	0.000016	0.000183	0.000905	0.000045	0.000094
U [mg/L]	0.000035	0.000508	0.000164	0.00106	0.000084	0.000328	0.00164	0.000124	0.00280	0.000281	0.000090
V [mg/L]	0.0121	0.0166	0.0565	0.0477	0.0354	0.0305	0.0234	0.0602	0.0103	0.0051	0.0243
Zn [mg/L]	< 0.002	< 0.002	0.007	0.004	< 0.002	< 0.002	< 0.002	0.002	< 0.002	< 0.002	0.007
Au [mg/L]	---	< 0.00001	---	---	---	0.00001	---	---	---	< 0.00001	---
Ce [mg/L]	---	0.00048	---	---	---	0.00012	---	---	---	0.00005	---
Cs [mg/L]	---	0.0705	---	---	---	0.0286	---	---	---	0.147	---
Dy [mg/L]	---	0.00002	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Er [mg/L]	---	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---

OnLine LIMS

0004081414

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	12: VIS-CV5-AMP-092	13: VIS-CV5-AMP-093	14: VIS-CV5-AMP-094	15: VIS-CV5-AMP-095	16: VIS-CV5-AMP-096	17: VIS-CV5-AMP-097	18: VIS-CV5-AMP-098	19: VIS-CV5-AMP-099	20: VIS-CV5-AMP-100	21: VIS-CV5-AMP-101	22: VIS-CV5-AMP-102
Eu [mg/L]	---	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Ga [mg/L]	---	0.0025	---	---	---	0.0015	---	---	---	0.0013	---
Gd (tot) [mg/L]	---	0.00003	---	---	---	0.00001	---	---	---	< 0.00001	---
Ge [mg/L]	---	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Hf [mg/L]	---	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Ho [mg/L]	---	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
In [mg/L]	---	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Ir [mg/L]	---	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
La [mg/L]	---	0.00025	---	---	---	0.00006	---	---	---	0.00004	---
Lu [mg/L]	---	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Nb [mg/L]	---	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Nd [mg/L]	---	0.00019	---	---	---	0.00006	---	---	---	0.00003	---
Os [mg/L]	---	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Pd [mg/L]	---	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Pr [mg/L]	---	0.00005	---	---	---	0.00001	---	---	---	< 0.00001	---
Pt [mg/L]	---	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Rh [mg/L]	---	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Rb [mg/L]	---	0.311	---	---	---	0.0971	---	---	---	0.375	---
Re [mg/L]	---	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Ru [mg/L]	---	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Sm [mg/L]	---	0.00003	---	---	---	0.00001	---	---	---	< 0.00001	---
Sc [mg/L]	---	0.0002	---	---	---	0.0002	---	---	---	0.0001	---
Ta [mg/L]	---	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Tb [mg/L]	---	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Te [mg/L]	---	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Th [mg/L]	---	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Tm [mg/L]	---	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---

Analysis	23: VIS-CV5-AMP-103	24: VIS-CV5-AMP-104	25: VIS-CV5-AMP-105	26: VIS-CV5-AMP-106	27: VIS-CV5-AMP-107	28: VIS-CV5-AMP-108	29: VIS-CV5-AMP-109	30: VIS-CV5-AMP-110	31: VIS-CV5-AMP-111	32: VIS-CV5-AMP-112	33: VIS-CV5-AMP-113
Sample Date & Time	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sample weight [g]	99	99	99	99	100	99	100	101	101	99	100
Volume D.I. Water [mL]	400	400	400	400	400	400	400	400	400	400	400
pH [No unit]	8.66	8.95	8.86	5.67	8.09	9.04	8.12	8.80	8.43	9.07	8.87
Conductivity [uS/cm]	256	201	269	1270	474	230	236	204	257	171	218
Alkalinity [mg/L as CaCO3]	50	69	49	< 2	49	71	38	58	62	53	65

OnLine LIMS

0004081414

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11012-FEB25**

Analysis	23: VIS-CV5-AMP-103	24: VIS-CV5-AMP-104	25: VIS-CV5-AMP-105	26: VIS-CV5-AMP-106	27: VIS-CV5-AMP-107	28: VIS-CV5-AMP-108	29: VIS-CV5-AMP-109	30: VIS-CV5-AMP-110	31: VIS-CV5-AMP-111	32: VIS-CV5-AMP-112	33: VIS-CV5-AMP-113
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	293	< 2	< 2	< 2	< 2	< 2	< 2	< 2
F [mg/L]	1.34	4.44	0.32	0.41	0.49	1.39	0.37	1.07	1.20	2.93	2.29
Br [mg/L]	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30
Cl [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
SO4 [mg/L]	40	< 20	390	< 20	21	21	34	< 20	26	< 20	< 20
NO2 [as N mg/L]	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Tot.Reactive P [mg/L]	< 0.03	0.18	< 0.03	0.04	< 0.03	< 0.03	< 0.03	0.09	0.06	0.08	0.49
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.245	0.620	0.003	0.219	0.254	0.627	0.564	0.348	0.424	0.511	0.212
As [mg/L]	0.0411	0.548	0.0009	0.248	0.0201	0.0070	0.0432	0.285	0.236	0.201	1.53
Ba [mg/L]	0.00484	0.00455	0.0156	0.00095	0.00117	0.00270	0.00178	0.00537	0.00318	0.00265	0.00268
Be [mg/L]	0.000053	0.000077	0.000010	< 0.000007	0.000007	0.000017	0.000018	0.000019	0.000024	0.000072	0.000042
B [mg/L]	0.162	0.116	0.098	0.095	0.147	0.070	0.067	0.152	0.138	0.127	0.157
Bi [mg/L]	0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00001	< 0.00001	< 0.00001
Ca [mg/L]	12.5	5.21	93.4	6.60	6.52	11.8	15.1	5.86	8.71	4.84	8.36
Cd [mg/L]	0.000023	0.000005	0.000013	< 0.000003	0.000003	< 0.000003	< 0.000003	0.000007	0.000005	< 0.000003	0.000007
Co [mg/L]	0.000227	0.000510	0.00100	0.000025	0.000015	0.000015	0.000062	0.000159	0.000465	0.000262	0.000439
Cr [mg/L]	0.00151	0.00238	0.00030	0.00150	0.00099	0.00071	0.00137	0.00315	0.00487	0.00390	0.00210
Cu [mg/L]	< 0.001	0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	0.001	0.003	0.001	< 0.001
Fe [mg/L]	0.259	0.450	0.008	0.011	0.010	< 0.007	0.024	0.159	0.440	0.306	0.194
K [mg/L]	9.21	11.3	5.10	2.66	3.20	1.97	3.44	10.1	11.1	8.00	6.10
Li [mg/L]	1.06	1.74	1.18	0.631	0.949	1.25	1.62	0.847	1.05	1.34	1.47
Mg [mg/L]	4.97	2.08	59.0	1.70	1.41	2.42	4.31	2.42	5.89	1.85	4.12
Mn [mg/L]	0.00462	0.00958	0.225	0.00047	0.00031	0.00132	0.00190	0.00401	0.01026	0.00587	0.00672
Mo [mg/L]	0.0363	0.0013	0.0037	0.0019	0.0050	0.0008	0.0013	0.0015	0.0051	0.0015	0.0056
Na [mg/L]	16.9	23.8	9.65	15.1	16.0	17.6	16.3	21.4	22.0	17.6	22.3
Ni [mg/L]	0.0005	0.0012	0.0068	0.0004	0.0001	0.0003	0.0007	0.0008	0.0017	0.0007	0.0016
P [mg/L]	< 0.003	0.014	< 0.003	0.003	0.003	< 0.003	0.005	0.018	0.019	0.018	0.009
Pb [mg/L]	0.00013	0.00018	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	0.00011	0.00023
Sb [mg/L]	0.155	0.166	0.0012	0.189	0.226	0.109	0.0576	0.167	0.300	0.0840	0.675
Se [mg/L]	0.00228	0.00024	0.00207	0.00079	0.00018	0.00019	0.00033	0.00063	0.00109	0.00026	0.00055
Si [mg/L]	3.77	4.49	4.94	3.92	3.44	1.86	1.71	3.22	3.77	3.80	3.19
Sn [mg/L]	< 0.00006	0.00010	< 0.00006	< 0.00006	< 0.00006	0.00043	< 0.00006	< 0.00006	< 0.00006	0.00140	0.00012
Sr [mg/L]	0.0270	0.00699	0.0976	0.0103	0.0144	0.0163	0.0129	0.0118	0.0247	0.0133	0.0228
Ti [mg/L]	0.0083	0.0217	0.0001	0.0005	0.0003	< 0.0001	0.0010	0.0044	0.0107	0.0152	0.0057
Tl [mg/L]	0.000042	0.000248	0.000011	0.000013	0.000010	0.000017	0.000017	0.000030	0.000193	0.000034	0.000043

OnLine LIMS

0004081414

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11012-FEB25**

Analysis	23: VIS-CV5-AMP-103	24: VIS-CV5-AMP-104	25: VIS-CV5-AMP-105	26: VIS-CV5-AMP-106	27: VIS-CV5-AMP-107	28: VIS-CV5-AMP-108	29: VIS-CV5-AMP-109	30: VIS-CV5-AMP-110	31: VIS-CV5-AMP-111	32: VIS-CV5-AMP-112	33: VIS-CV5-AMP-113
U [mg/L]	0.00132	0.000713	0.000708	0.000013	0.000063	0.000125	0.000062	0.000064	0.000209	0.000170	0.00433
V [mg/L]	0.0267	0.0487	0.0001	0.0330	0.0295	0.00937	0.0123	0.0407	0.0265	0.0877	0.0270
Zn [mg/L]	0.003	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au [mg/L]	---	---	0.00001	---	---	---	0.00001	---	---	---	0.00001
Ce [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---	0.00002
Cs [mg/L]	---	---	0.194	---	---	---	0.0368	---	---	---	0.129
Dy [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001
Er [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001
Eu [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001
Ga [mg/L]	---	---	< 0.0001	---	---	---	0.0038	---	---	---	0.0027
Gd (tot) [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001
Ge [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001
Hf [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---	0.0001
Ho [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001
In [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001
Ir [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001
La [mg/L]	---	---	0.00001	---	---	---	< 0.00001	---	---	---	0.00005
Lu [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001
Nb [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001
Nd [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---	0.00002
Os [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001
Pd [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001
Pr [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001
Pt [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001
Rh [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001
Rb [mg/L]	---	---	0.0856	---	---	---	0.102	---	---	---	0.119
Re [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001
Ru [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001
Sm [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001
Sc [mg/L]	---	---	0.0002	---	---	---	< 0.0001	---	---	---	0.0002
Ta [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001
Tb [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001
Te [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001
Th [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001
Tm [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001

OnLine LIMS

0004081414

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11012-FEB25**

Analysis	34: VIS-CV5-AMP-114	35: VIS-CV5-AMP-115	36: VIS-CV5-AMP-116	37: VIS-CV5-AMP-117	38: VIS-CV5-AMP-118	39: VIS-CV5-AMP-119	40: VIS-CV5-AMP-120	41: VIS-CV5-AMP-121	42: VIS-CV5-AMP-122	43: VIS-CV5-AMP-123	44: VIS-CV5-AMP-124
Sample Date & Time	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sample weight [g]	100	101	100	100	100	100	100	100	101	101	101
Volume D.I. Water [mL]	400	400	400	400	400	400	400	400	400	400	400
pH [No unit]	8.77	8.32	8.83	8.65	9.05	9.27	8.14	8.21	8.40	9.07	9.33
Conductivity [uS/cm]	195	376	147	162	137	154	172	120	291	196	176
Alkalinity [mg/L as CaCO3]	56	50	56	51	48	61	47	37	63	70	65
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
F [mg/L]	0.79	0.44	1.71	1.72	0.56	0.38	0.55	0.18	1.28	1.12	1.05
Br [mg/L]	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30
Cl [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
SO4 [mg/L]	< 20	45	< 20	< 20	< 20	< 20	< 20	< 20	40	< 20	< 20
NO2 [as N mg/L]	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Tot.Reactive P [mg/L]	0.39	< 0.03	0.06	1.18	0.05	0.04	< 0.03	< 0.03	< 0.03	< 0.03	0.05
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.306	0.045	0.503	0.117	0.361	0.867	0.368	0.812	0.475	0.245	0.581
As [mg/L]	1.15	0.184	0.314	3.29	0.166	0.0351	0.109	0.0062	0.0320	0.0597	0.163
Ba [mg/L]	0.00252	0.00432	0.00206	0.00190	0.00192	0.00469	0.00135	0.00064	0.00598	0.00132	0.00132
Be [mg/L]	0.000072	0.000013	0.000014	0.000020	0.000009	0.000018	0.000012	< 0.000007	0.000028	0.000071	0.000014
B [mg/L]	0.126	0.115	0.176	0.082	0.101	0.054	0.084	0.058	0.113	0.134	0.165
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00002	0.00002	< 0.00001
Ca [mg/L]	7.43	25.1	3.85	9.20	5.58	4.49	7.97	5.43	10.5	6.09	3.74
Cd [mg/L]	< 0.000003	0.000004	0.000003	0.000003	0.000004	< 0.000003	< 0.000003	< 0.000003	0.000012	< 0.000003	< 0.000003
Co [mg/L]	0.000589	0.000168	0.000197	0.000540	0.000310	0.000547	0.000032	0.000008	0.000291	0.000298	0.000032
Cr [mg/L]	0.00509	0.00101	0.00472	0.0149	0.0166	0.00016	0.00104	0.00096	0.00163	0.00355	0.00913
Cu [mg/L]	< 0.001	0.001	< 0.001	0.001	0.002	< 0.001	< 0.001	< 0.001	0.001	< 0.001	< 0.001
Fe [mg/L]	0.329	0.029	0.193	0.168	0.343	0.804	< 0.007	0.011	0.354	0.259	0.038
K [mg/L]	6.19	6.24	10.4	3.74	3.78	8.61	5.25	1.27	23.1	2.62	10.8
Li [mg/L]	0.282	0.398	1.49	0.812	1.79	1.07	0.600	0.992	1.20	0.453	0.911
Mg [mg/L]	3.39	13.7	1.27	3.79	2.48	1.29	2.26	1.18	4.37	2.40	1.68
Mn [mg/L]	0.00869	0.00352	0.00547	0.00352	0.00709	0.00867	0.00078	0.00031	0.00600	0.00459	0.00113
Mo [mg/L]	0.0016	0.0017	0.0011	0.0043	0.0008	0.0029	0.0013	0.0008	0.0051	0.0028	0.0021
Na [mg/L]	21.9	16.3	13.1	14.5	12.2	16.8	15.6	12.3	16.9	28.1	20.1
Ni [mg/L]	0.0015	0.0011	0.0005	0.0023	0.0013	0.0002	0.0002	< 0.0001	0.0010	0.0009	0.0002
P [mg/L]	0.011	< 0.003	< 0.003	0.006	0.013	0.032	< 0.003	0.005	0.012	0.016	0.003
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	0.00016	< 0.00009	< 0.00009	0.00010	< 0.00009	< 0.00009
Sb [mg/L]	0.360	0.0596	0.282	0.522	0.0416	0.0497	0.666	0.0085	0.290	0.0925	0.0641

OnLine LIMS

0004081414

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11012-FEB25**

Analysis	34: VIS-CV5-AMP-114	35: VIS-CV5-AMP-115	36: VIS-CV5-AMP-116	37: VIS-CV5-AMP-117	38: VIS-CV5-AMP-118	39: VIS-CV5-AMP-119	40: VIS-CV5-AMP-120	41: VIS-CV5-AMP-121	42: VIS-CV5-AMP-122	43: VIS-CV5-AMP-123	44: VIS-CV5-AMP-124
Se [mg/L]	0.00035	0.00066	0.00019	0.00189	0.00024	0.00028	0.00102	0.00018	0.00123	0.00244	0.00029
Si [mg/L]	3.69	2.81	3.89	7.23	5.84	3.43	2.64	2.55	3.11	4.10	3.71
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	0.00106	< 0.00006	< 0.00006	< 0.00006	0.00023	0.00006
Sr [mg/L]	0.0556	0.0671	0.00667	0.0175	0.00895	0.00795	0.0151	0.00811	0.0153	0.0164	0.00461
Ti [mg/L]	0.0131	0.0007	0.0091	0.0047	0.0164	0.0317	0.0003	0.0004	0.0192	0.0067	0.0012
Tl [mg/L]	0.000035	0.000010	0.000031	0.000048	0.000017	0.000025	0.000051	0.000031	0.000044	0.000095	0.000022
U [mg/L]	0.000151	0.00163	0.000315	0.000565	0.000059	0.00175	0.000487	0.000177	0.000527	0.000907	0.00106
V [mg/L]	0.0396	0.00551	0.0581	0.0696	0.0723	0.0392	0.0242	0.0422	0.0120	0.0560	0.0710
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0.003	< 0.002	< 0.002
Au [mg/L]	---	---	---	0.00002	---	---	---	< 0.00001	---	---	---
Ce [mg/L]	---	---	---	0.00002	---	---	---	< 0.00001	---	---	---
Cs [mg/L]	---	---	---	0.0650	---	---	---	0.0015	---	---	---
Dy [mg/L]	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Er [mg/L]	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Eu [mg/L]	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Ga [mg/L]	---	---	---	0.0002	---	---	---	0.0041	---	---	---
Gd (tot) [mg/L]	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Ge [mg/L]	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Hf [mg/L]	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Ho [mg/L]	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
In [mg/L]	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Ir [mg/L]	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
La [mg/L]	---	---	---	0.00005	---	---	---	< 0.00001	---	---	---
Lu [mg/L]	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Nb [mg/L]	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Nd [mg/L]	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Os [mg/L]	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Pd [mg/L]	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Pr [mg/L]	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Pt [mg/L]	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Rh [mg/L]	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Rb [mg/L]	---	---	---	0.0966	---	---	---	0.0112	---	---	---
Re [mg/L]	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Ru [mg/L]	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Sm [mg/L]	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Sc [mg/L]	---	---	---	0.0003	---	---	---	< 0.0001	---	---	---
Ta [mg/L]	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Tb [mg/L]	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---

OnLine LIMS

0004081414

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	34: VIS-CV5-AMP-114	35: VIS-CV5-AMP-115	36: VIS-CV5-AMP-116	37: VIS-CV5-AMP-117	38: VIS-CV5-AMP-118	39: VIS-CV5-AMP-119	40: VIS-CV5-AMP-120	41: VIS-CV5-AMP-121	42: VIS-CV5-AMP-122	43: VIS-CV5-AMP-123	44: VIS-CV5-AMP-124
Te [mg/L]	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Th [mg/L]	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Tm [mg/L]	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---

Analysis	45: VIS-CV5-AMP-125	46: VIS-CV5-AMP-126	47: VIS-CV5-AMP-127	48: VIS-CV5-AMP-128	49: VIS-CV5-AMP-129	50: VIS-CV5-AMP-130	51: VIS-CV5-AMP-131	52: VIS-CV5-AMP-132	53: VIS-CV5-AMP-100	54: VIS-CV5-AMP-132	55:BLK: CTEU Blank
Sample Date & Time	NA	NA	NA	NA	NA	NA	NA	NA			
Sample weight [g]	100	100	101	100	100	99	100	100	100	100	---
Volume D.I. Water [mL]	400	400	400	400	400	400	400	400	400	400	400
pH [No unit]	8.92	9.29	8.13	9.02	9.06	7.94	8.18	8.09	8.71	8.02	6.71
Conductivity [uS/cm]	222	184	145	134	193	122	158	134	539	133	3
Alkalinity [mg/L as CaCO3]	51	64	46	45	51	39	45	45	62	46	< 2
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	2
F [mg/L]	1.26	6.64	0.40	0.19	0.61	1.27	0.49	0.46	14.5	0.44	< 0.06
Br [mg/L]	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30
Cl [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
SO4 [mg/L]	22	< 20	< 20	< 20	< 20	< 20	< 20	< 20	120	< 20	< 20
NO2 [as N mg/L]	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Tot.Reactive P [mg/L]	< 0.03	0.20	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	0.08	< 0.03	< 0.03
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	0.00008	< 0.00005	< 0.00005
Al [mg/L]	0.437	2.34	0.903	0.518	0.354	0.407	0.904	0.359	0.105	0.367	0.004
As [mg/L]	0.168	0.478	0.0853	0.0162	0.187	0.0666	0.0518	0.0142	0.406	0.0138	0.0002
Ba [mg/L]	0.00347	0.00439	0.00104	0.00083	0.00138	0.00095	0.00139	0.00473	0.00527	0.00532	< 0.00008
Be [mg/L]	0.000052	0.000178	0.000008	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	0.000028	< 0.000007	< 0.000007
B [mg/L]	0.128	0.155	0.112	0.066	0.077	0.079	0.082	0.078	0.159	0.077	< 0.002
Bi [mg/L]	< 0.00001	0.00005	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00013	< 0.00001	< 0.00001
Ca [mg/L]	8.16	3.32	5.12	7.36	8.64	6.31	6.74	5.30	20.1	5.32	0.03
Cd [mg/L]	0.000009	0.000020	< 0.000003	0.000005	< 0.000003	0.000003	< 0.000003	< 0.000003	0.000023	< 0.000003	< 0.000003
Co [mg/L]	0.000674	0.000906	0.000028	0.000013	0.000050	0.000027	0.000033	0.000013	0.000217	0.000018	0.000005
Cr [mg/L]	0.00459	0.00541	0.00112	0.00060	0.00092	0.00076	0.00308	0.00048	0.00270	0.00101	< 0.00008
Cu [mg/L]	0.002	0.003	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.002	< 0.001	< 0.001
Fe [mg/L]	0.467	1.59	0.021	< 0.007	0.017	0.026	0.032	0.016	0.126	0.027	< 0.007
K [mg/L]	7.05	28.7	4.51	1.52	5.63	2.40	7.86	3.95	31.1	3.52	0.184
Li [mg/L]	0.620	2.55	1.47	1.17	1.19	1.04	1.60	0.636	6.01	0.656	0.0005

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0004081414

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11012-FEB25**

Analysis	45: VIS-CV5-AMP-125	46: VIS-CV5-AMP-126	47: VIS-CV5-AMP-127	48: VIS-CV5-AMP-128	49: VIS-CV5-AMP-129	50: VIS-CV5-AMP-130	51: VIS-CV5-AMP-131	52: VIS-CV5-AMP-132	53: VIS-CV5-AMP-100	54: VIS-CV5-AMP-132	55:BLK: CTEU Blank
Mg [mg/L]	3.53	1.18	1.17	1.54	3.24	1.66	2.13	1.31	15.9	1.32	0.006
Mn [mg/L]	0.0120	0.0268	0.00071	0.00066	0.00082	0.00077	0.00083	0.00061	0.00416	0.00105	0.00018
Mo [mg/L]	0.0031	0.0028	0.0008	0.0100	0.0065	0.0008	0.0018	0.0014	0.0182	0.0013	< 0.0004
Na [mg/L]	25.1	9.32	12.5	13.2	17.9	9.99	13.5	15.0	18.7	15.1	0.32
Ni [mg/L]	0.0018	0.0024	0.0001	< 0.0001	0.0002	0.0002	0.0006	< 0.0001	0.0019	0.0003	< 0.0001
P [mg/L]	0.007	0.017	< 0.003	< 0.003	0.004	0.005	< 0.003	< 0.003	0.021	0.003	< 0.003
Pb [mg/L]	0.00013	0.00129	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.262	0.0960	0.0648	0.0436	0.255	0.482	0.0707	0.0340	0.920	0.0335	< 0.0009
Se [mg/L]	0.00072	0.00047	0.00020	0.00032	0.00073	0.00016	0.00020	0.00017	0.00852	0.00018	< 0.00004
Si [mg/L]	4.27	4.86	2.36	2.33	2.20	3.21	1.84	2.85	4.83	2.93	< 0.02
Sn [mg/L]	< 0.00006	0.00065	0.00047	< 0.00006	< 0.00006	< 0.00006	< 0.00006	0.00007	0.00010	0.00007	< 0.00006
Sr [mg/L]	0.0111	0.00406	0.00693	0.0122	0.0141	0.00993	0.00661	0.0466	0.0328	0.0471	0.00010
Ti [mg/L]	0.0211	0.0697	0.0009	0.0001	0.0008	0.0013	0.0016	0.0006	0.0039	0.0009	< 0.0001
Tl [mg/L]	0.000023	0.00192	0.000023	0.000008	0.000023	0.000017	0.000007	0.000017	0.000869	0.000018	< 0.000005
U [mg/L]	0.00712	0.00202	0.000080	0.000121	0.000253	0.000101	0.000190	0.000032	0.00288	0.000032	0.000003
V [mg/L]	0.0387	0.0394	0.0375	0.0216	0.0203	0.0398	0.0329	0.0310	0.00999	0.0310	< 0.00001
Zn [mg/L]	< 0.002	0.003	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au [mg/L]	< 0.00001	---	---	---	0.00002	---	---	---	0.00004	< 0.00001	< 0.00001
Ce [mg/L]	0.00026	---	---	---	< 0.00001	---	---	---	0.00006	< 0.00001	< 0.00001
Cs [mg/L]	0.0042	---	---	---	0.0093	---	---	---	1.13	0.0264	0.0002
Dy [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	< 0.00001	< 0.00001
Er [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	< 0.00001	< 0.00001
Eu [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	< 0.00001	< 0.00001
Ga [mg/L]	0.0016	---	---	---	0.0041	---	---	---	0.0005	0.0031	< 0.0001
Gd (tot) [mg/L]	0.00002	---	---	---	< 0.00001	---	---	---	< 0.00001	< 0.00001	< 0.00001
Ge [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	< 0.0001	< 0.0001
Hf [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	0.0002	< 0.0001	< 0.0001
Ho [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	< 0.00001	< 0.00001
In [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	< 0.00001	< 0.00001
Ir [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	< 0.00001	< 0.00001
La [mg/L]	0.00014	---	---	---	0.00002	---	---	---	0.00008	< 0.00001	< 0.00001
Lu [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	< 0.0001	< 0.0001
Nb [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	< 0.0001	< 0.0001
Nd [mg/L]	0.00010	---	---	---	< 0.00001	---	---	---	0.00002	< 0.00001	< 0.00001
Os [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	< 0.0001	< 0.0001
Pd [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	< 0.0001	< 0.0001
Pr [mg/L]	0.00003	---	---	---	< 0.00001	---	---	---	< 0.00001	< 0.00001	< 0.00001
Pt [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	< 0.0001	< 0.0001

OnLine LIMS

0004081414

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	45: VIS-CV5-AMP-125	46: VIS-CV5-AMP-126	47: VIS-CV5-AMP-127	48: VIS-CV5-AMP-128	49: VIS-CV5-AMP-129	50: VIS-CV5-AMP-130	51: VIS-CV5-AMP-131	52: VIS-CV5-AMP-132	53: VIS-CV5-AMP-100	54: VIS-CV5-AMP-132	55:BLK: CTEU Blank
Rh [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	< 0.00001	< 0.00001
Rb [mg/L]	0.0503	---	---	---	0.0556	---	---	---	3.93	0.0874	0.0005
Re [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	< 0.0001	< 0.0001
Ru [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	< 0.00001	< 0.00001
Sm [mg/L]	0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	< 0.00001	< 0.00001
Sc [mg/L]	0.0003	---	---	---	0.0002	---	---	---	0.0002	0.0001	< 0.0001
Ta [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	0.0002	< 0.0001	< 0.0001
Tb [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	< 0.00001	< 0.00001
Te [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	< 0.0001	< 0.0001
Th [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	< 0.0001	< 0.0001
Tm [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	< 0.00001	< 0.00001

Method Descriptions

Parameter	Units	SGS Method Code
	g	NA
	mL	NA
Acidity	mg/L as CaCO3	ME-CA-[ENV]EWL-LAK-AN-006
Alkalinity	mg/L as CaCO3	ME-CA-[ENV]EWL-LAK-AN-006
Anions by IC	mg/L	ME-CA-[ENV]IC-LAK-AN-001
Conductivity	uS/cm	ME-CA-[ENV]EWL-LAK-AN-006
Fluoride by Specific Ion Electrode	mg/L	ME-CA-[ENV]EWL-LAK-AN-014
Inorganics-General	mg/L	ME-CA-[ENV]SPE-LAK-AN-004
Metals in aqueous samples - ICP-MS	mg/L	ME-CA-[ENV]SPE-LAK-AN-006
pH	No unit	ME-CA-[ENV]EWL-LAK-AN-006
Reactive Phosphorus by SFA	mg/L	ME-CA-[ENV]SFA-LAK-AN-004

Catharine Arnold

CHARTERED CHEMICAL PROFESSION OF ONTARIO CATHARINE ARNOLD CHEMIST

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0004081414

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quality Control Report

Inorganic Analysis													
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Acidity - QCBatchID: EWL0413-MAR25													
Acidity	2	mg/L as Ca	2			ND	20	104	90	110	NA		
Acidity - QCBatchID: EWL0478-MAR25													
Acidity	2	mg/L as Ca	2			ND	20	102	90	110	NA		
Acidity - QCBatchID: EWL0523-MAR25													
Acidity	2	mg/L as Ca	2			ND	20	96	90	110	NA		
Acidity - QCBatchID: EWL0549-MAR25													
Acidity	2	mg/L as Ca	2			ND	20	104	90	110	NA		
Alkalinity - QCBatchID: EWL0413-MAR25													
Alkalinity	2	mg/L as Ca	< 2			6	20	102	80	120	NA		
Alkalinity - QCBatchID: EWL0478-MAR25													
Alkalinity	2	mg/L as Ca	< 2			0	20	98	80	120	NA		
Alkalinity - QCBatchID: EWL0523-MAR25													
Alkalinity	2	mg/L as Ca	< 2			0	20	100	80	120	NA		
Anions by IC - QCBatchID: DIO0548-MAR25													
Bromide	0.3	mg/L	<0.3			ND	20	101	90	110	98	75	125
Chloride	0.2	mg/L	<0.2			ND	20	103	90	110	103	75	125
Nitrate (as N)	0.06	mg/L	<0.06			ND	20	101	90	110	100	75	125
Nitrite (as N)	0.03	mg/L	<0.03			ND	20	100	90	110	100	75	125
Sulphate	0.2	mg/L	<0.2			9	20	102	90	110	96	75	125
Anions by IC - QCBatchID: DIO0549-MAR25													
Bromide	0.3	mg/L	<0.3			ND	20	103	90	110	100	75	125
Chloride	0.2	mg/L	<0.2			1	20	102	90	110	105	75	125
Nitrate (as N)	0.06	mg/L	<0.06			ND	20	101	90	110	103	75	125
Nitrite (as N)	0.03	mg/L	<0.03			ND	20	100	90	110	102	75	125
Sulphate	0.2	mg/L	<0.2			3	20	100	90	110	96	75	125
Anions by IC - QCBatchID: DIO0609-MAR25													
Bromide	0.3	mg/L	<0.3			NV	20	102	90	110	102	75	125
Chloride	0.2	mg/L	<0.2			NV	20	101	90	110	86	75	125
Nitrate (as N)	0.06	mg/L	<0.06			NV	20	101	90	110	103	75	125
Nitrite (as N)	0.03	mg/L	<0.03			NV	20	101	90	110	103	75	125
Sulphate	0.2	mg/L	<0.2			NV	20	100	90	110	96	75	125
Anions by IC - QCBatchID: DIO0610-MAR25													
Bromide	0.3	mg/L	<0.3			NV	20	100	90	110	99	75	125
Chloride	0.2	mg/L	<0.2			NV	20	102	90	110	90	75	125
Nitrate (as N)	0.06	mg/L	<0.06			NV	20	100	90	110	100	75	125

OnLine LIMS

0004081414

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Nitrite (as N)	0.03	mg/L	<0.03			NV	20	99	90	110	98	75	125
Sulphate	0.2	mg/L	<0.2			NV	20	101	90	110	93	75	125
Conductivity - QCBatchID: EWL0413-MAR25													
Conductivity	2	uS/cm	< 2			1	20	99	90	110	NA		
Conductivity - QCBatchID: EWL0478-MAR25													
Conductivity	2	uS/cm	< 2			0	20	106	90	110	NA		
Conductivity - QCBatchID: EWL0523-MAR25													
Conductivity	2	uS/cm	2			2	20	107	90	110	NA		
Fluoride by Specific Ion Electrode - QCBatchID: EWL0481-MAR25													
Fluoride	0.06	mg/L	<0.06			ND	10	98	90	110	98	75	125
Fluoride by Specific Ion Electrode - QCBatchID: EWL0492-MAR25													
Fluoride	0.06	mg/L	<0.06			ND	10	98	90	110	88	75	125
Fluoride by Specific Ion Electrode - QCBatchID: EWL0530-MAR25													
Fluoride	0.06	mg/L	<0.06			1	10	98	90	110	97	75	125
Inorganics-General - QCBatchID: EHG0053-MAR25													
Mercury	0.00001	mg/L	< 0.00001			ND	20	113	80	120	NV	70	130
Inorganics-General - QCBatchID: EHG0058-MAR25													
Mercury	0.00001	mg/L	< 0.00001			ND	20	115	80	120	120	70	130
Metals in aqueous samples - ICP-MS - QCBatchID: EMS0021-APR25													
Aluminum	0.001	mg/L	<0.001			1	20	104	90	110	90	70	130
Antimony	0.0009	mg/L	<0.0009			1	20	101	90	110	113	70	130
Arsenic	0.0002	mg/L	<0.0002			3	20	103	90	110	86	70	130
Lithium	0.0001	mg/L	<0.0001			0	20	103	90	110	107	70	130
Metals in aqueous samples - ICP-MS - QCBatchID: EMS0235-MAR25													
Aluminum	0.001	mg/L	<0.001			7	20	98	90	110	116	70	130
Antimony	0.0009	mg/L	<0.0009			ND	20	108	90	110	126	70	130
Arsenic	0.0002	mg/L	<0.0002			3	20	104	90	110	107	70	130
Barium	0.00008	mg/L	<0.00008			ND	20	97	90	110	97	70	130
Beryllium	0.000007	mg/L	<0.000007			ND	20	95	90	110	104	70	130
Bismuth	0.00001	mg/L	<0.00001			ND	20	94	90	110	98	70	130
Boron	0.002	mg/L	<0.002			ND	20	95	90	110	99	70	130
Cadmium	0.000003	mg/L	<0.000003			ND	20	99	90	110	95	70	130
Calcium	0.01	mg/L	<0.01			ND	20	94	90	110	96	70	130
Cesium	0.0001	mg/L	<0.0001			ND	20	102	90	110	NV	70	130
Chromium	0.00008	mg/L	<0.00008			ND	20	103	90	110	94	70	130
Cobalt	0.000004	mg/L	<0.000004			ND	20	98	90	110	101	70	130
Copper	0.001	mg/L	<0.001			ND	20	99	90	110	101	70	130
Germanium	0.0001	mg/L	<0.0001			ND	20	106	90	110	NV	70	130
Gold	0.00001	mg/L	<0.00001			ND	20	98	90	110	NV	70	130

OnLine LIMS

0004081414

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - K0L 2H0
Phone: 705-652-2000 FAX: 705-652-6365

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Hafnium	0.0001	mg/L	<0.0001			ND	20	93	90	110	NV	70	130
Iridium	0.00001	mg/L	<0.00001			ND	20	100	90	110	NV	70	130
Iron	0.007	mg/L	<0.007			ND	20	100	90	110	100	70	130
Lead	0.00009	mg/L	<0.00009			ND	20	105	90	110	99	70	130
Lithium	0.0001	mg/L	<0.0001			ND	20	98	90	110	106	70	130
Magnesium	0.001	mg/L	<0.001			0	20	97	90	110	98	70	130
Manganese	0.00001	mg/L	<0.00001			1	20	98	90	110	99	70	130
Molybdenum	0.0004	mg/L	<0.0004			ND	20	106	90	110	92	70	130
Nickel	0.0001	mg/L	<0.0001			ND	20	105	90	110	108	70	130
Niobium	0.0001	mg/L	<0.0001			ND	20	98	90	110	NV	70	130
Osmium	0.0001	mg/L	<0.0001			ND	20	96	90	110	NV	70	130
Palladium	0.0001	mg/L	<0.0001			ND	20	97	90	110	NV	70	130
Phosphorus	0.003	mg/L	<0.003			ND	20	91	90	110	NV	70	130
Platinum	0.0001	mg/L	<0.0001			ND	20	100	90	110	NV	70	130
Potassium	0.009	mg/L	<0.009			1	20	95	90	110	75	70	130
Rhenium	0.0001	mg/L	<0.0001			ND	20	95	90	110	NV	70	130
Rhodium	0.00001	mg/L	<0.0001			ND	20	94	90	110	NV	70	130
Rubidium	0.0001	mg/L	< 0.0001			ND	20	105	90	110	NV	70	130
Ruthenium	0.00001	mg/L	<0.0001			ND	20	101	90	110	NV	70	130
Selenium	0.00004	mg/L	<0.00004			ND	20	97	90	110	102	70	130
Silicon	0.02	mg/L	<0.02			ND	20	103	90	110	NV	70	130
Silver	0.00005	mg/L	<0.00005			ND	20	104	90	110	NV	70	130
Sodium	0.01	mg/L	<0.01			0	20	97	90	110	101	70	130
Strontium	0.00008	mg/L	<0.00008			8	20	97	90	110	99	70	130
Tantalum	0.0001	mg/L	<0.0001			ND	20	98	90	110	NV	70	130
Tellurium	0.0001	mg/L	<0.0001			ND	20	98	90	110	NV	70	130
Thallium	0.000005	mg/L	<0.000005			ND	20	97	90	110	100	70	130
Thorium	0.0001	mg/L	<0.0001			ND	20	93	90	110	NV	70	130
Tin	0.00006	mg/L	<0.00006			ND	20	103	90	110	NV	70	130
Titanium	0.0001	mg/L	<0.0001			ND	20	100	90	110	NV	70	130
Uranium	0.000002	mg/L	<0.000002			ND	20	101	90	110	95	70	130
Vanadium	0.00001	mg/L	<0.00001			ND	20	96	90	110	100	70	130
Zinc	0.002	mg/L	<0.002			ND	20	104	90	110	105	70	130
Metals in aqueous samples - ICP-MS - QCBatchID: EMS0261-MAR25													
Aluminum	0.001	mg/L	<0.001			1	20	98	90	110	89	70	130
Antimony	0.0009	mg/L	<0.0009			ND	20	105	90	110	120	70	130
Arsenic	0.0002	mg/L	<0.0002			ND	20	103	90	110	106	70	130
Barium	0.00008	mg/L	<0.00008			3	20	101	90	110	99	70	130
Beryllium	0.000007	mg/L	<0.000007			ND	20	93	90	110	98	70	130

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0004081414

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Bismuth	0.00001	mg/L	<0.00001			ND	20	94	90	110	93	70	130
Boron	0.002	mg/L	<0.002			ND	20	91	90	110	97	70	130
Cadmium	0.000003	mg/L	<0.000003			ND	20	98	90	110	106	70	130
Calcium	0.01	mg/L	<0.01			1	20	109	90	110	93	70	130
Cesium	0.0001	mg/L	<0.0001			ND	20	108	90	110	NV	70	130
Chromium	0.00008	mg/L	<0.00008			ND	20	101	90	110	98	70	130
Cobalt	0.000004	mg/L	<0.000004			ND	20	101	90	110	101	70	130
Copper	0.001	mg/L	<0.001			ND	20	99	90	110	102	70	130
Germanium	0.0001	mg/L	<0.0001			ND	20	102	90	110	NV	70	130
Gold	0.00001	mg/L	<0.00001			ND	20	93	90	110	NV	70	130
Hafnium	0.0001	mg/L	<0.0001			ND	20	95	90	110	NV	70	130
Iridium	0.00001	mg/L	<0.00001			ND	20	97	90	110	NV	70	130
Iron	0.007	mg/L	<0.007			ND	20	108	90	110	114	70	130
Lead	0.00009	mg/L	<0.00009			ND	20	96	90	110	94	70	130
Lithium	0.0001	mg/L	<0.0001			ND	20	99	90	110	93	70	130
Magnesium	0.001	mg/L	<0.001			0	20	108	90	110	99	70	130
Manganese	0.00001	mg/L	<0.00001			1	20	101	90	110	74	70	130
Molybdenum	0.0004	mg/L	<0.0004			ND	20	103	90	110	99	70	130
Nickel	0.0001	mg/L	<0.0001			ND	20	103	90	110	104	70	130
Niobium	0.0001	mg/L	<0.0001			ND	20	105	90	110	NV	70	130
Osmium	0.0001	mg/L	<0.0001			ND	20	94	90	110	NV	70	130
Palladium	0.0001	mg/L	<0.0001			ND	20	97	90	110	NV	70	130
Phosphorus	0.003	mg/L	<0.003			ND	20	105	90	110	NV	70	130
Platinum	0.0001	mg/L	<0.0001			ND	20	93	90	110	NV	70	130
Potassium	0.009	mg/L	<0.009			1	20	107	90	110	93	70	130
Rhenium	0.0001	mg/L	<0.0001			ND	20	91	90	110	NV	70	130
Rhodium	0.00001	mg/L	<0.0001			ND	20	100	90	110	NV	70	130
Rubidium	0.0001	mg/L	<0.0001			1	20	104	90	110	NV	70	130
Ruthenium	0.00001	mg/L	<0.0001			ND	20	104	90	110	NV	70	130
Selenium	0.00004	mg/L	<0.00004			ND	20	100	90	110	110	70	130
Silicon	0.02	mg/L	<0.02			1	20	102	90	110	NV	70	130
Silver	0.00005	mg/L	<0.00005			ND	20	93	90	110	NV	70	130
Sodium	0.01	mg/L	<0.01			2	20	108	90	110	106	70	130
Strontium	0.00008	mg/L	<0.00008			0	20	98	90	110	97	70	130
Tantalum	0.0001	mg/L	<0.0001			ND	20	100	90	110	NV	70	130
Tellurium	0.0001	mg/L	<0.0001			ND	20	100	90	110	NV	70	130
Thallium	0.000005	mg/L	<0.000005			ND	20	95	90	110	96	70	130
Tin	0.00006	mg/L	<0.00006			ND	20	101	90	110	NV	70	130
Titanium	0.0001	mg/L	<0.0001			ND	20	98	90	110	NV	70	130

OnLine LIMS

0004081414

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11012-FEB25**

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Uranium	0.000002	mg/L	<0.000002			2	20	93	90	110	96	70	130
Vanadium	0.00001	mg/L	<0.00001			0	20	100	90	110	103	70	130
Zinc	0.002	mg/L	<0.002			ND	20	103	90	110	106	70	130
Metals in aqueous samples - ICP-MS - QCBatchID: EMS0266-MAR25													
Cerium	0.00001	mg/L	<0.00001			ND	20	106	90	110	NV	70	130
Cesium	0.0001	mg/L	<0.0001			2	20	104	90	110	NV	70	130
Dysprosium	0.00001	mg/L	<0.00001			ND	20	105	90	110	NV	70	130
Erbium	0.00001	mg/L	<0.00001			ND	20	105	90	110	NV	70	130
Europium	0.00001	mg/L	<0.00001			7	20	103	90	110	NV	70	130
Gadolinium	0.00001	mg/L	<0.0001			ND	20	107	90	110	NV	70	130
Gallium	0.0001	mg/L	<0.0001			ND	20	103	90	110	NV	70	130
Holmium	0.00001	mg/L	<0.00001			ND	20	103	90	110	NV	70	130
Indium	0.00001	mg/L	<0.00001			ND	20	105	90	110	NV	70	130
Lanthanum	0.00001	mg/L	<0.00001			ND	20	104	90	110	NV	70	130
Lutetium	0.0001	mg/L	<0.0001			ND	20	105	90	110	NV	70	130
Neodymium	0.00001	mg/L	<0.00001			ND	20	106	90	110	NV	70	130
Praseodymium	0.00001	mg/L	<0.00001			ND	20	105	90	110	NV	70	130
Rubidium	0.0001	mg/L	<0.0001			3	20	101	90	110	NV	70	130
Samarium	0.00001	mg/L	<0.00001			ND	20	105	90	110	NV	70	130
Terbium	0.00001	mg/L	<0.00001			ND	20	107	90	110	NV	70	130
Thorium	0.0001	mg/L	<0.0001			ND	20	107	90	110	NV	70	130
Thulium	0.00001	mg/L	<0.00001			ND	20	105	90	110	NV	70	130
pH - QCBatchID: EWL0413-MAR25													
pH	0.05	No unit	NA			0		100			NA		
pH - QCBatchID: EWL0478-MAR25													
pH	0.05	No unit	NA			0		100			NA		
pH - QCBatchID: EWL0523-MAR25													
pH	0.05	No unit	NA			0		100			NA		
Reactive Phosphorus by SFA - QCBatchID: SKA0220-MAR25													
Total Reactive Phosphorous (o-phosphate as P)	0.03	mg/L	<0.03			ND	10	95	90	110	78	75	125
Reactive Phosphorus by SFA - QCBatchID: SKA0232-MAR25													
Total Reactive Phosphorous (o-phosphate as P)	0.03	mg/L	<0.03			5	10	100	90	110	100	75	125

OnLine LIMS

00040814

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

ABA - Modified Sobek

Innova Lithium Inc.
Attn : John Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

12-March-2025

Date Rec. : 05 February 2025
LR Report: **CA11013-FEB25**
Reference: Shaakichiuwaanaan Project

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: VIS-CV5-AM P-133	6: VIS-CV5-AM P-134	7: VIS-CV5-AM P-135	8: VIS-CV5-AM P-136	9: VIS-CV5-AM P-137	10: VIS-CV5-AM P-138
Sample Date & Time					NA	NA	NA	NA	NA	NA
Paste pH [no unit]	06-Mar-25	17:00	07-Mar-25	10:12	9.45	8.98	9.69	9.94	9.77	9.88
Fizz Rate [rating]	05-Mar-25	15:00	07-Mar-25	10:12	3	3	3	3	3	3
Sample weight [g]	05-Mar-25	13:33	07-Mar-25	10:12	2.02	2.01	2.03	2.02	2.01	2.03
HCl_add [mL]	06-Mar-25	14:00	07-Mar-25	10:12	20.00	20.00	20.00	27.90	20.00	20.00
HCl [Normality]	05-Mar-25	15:38	07-Mar-25	10:12	0.10	0.10	0.10	0.10	0.10	0.10
NaOH [Normality]	05-Mar-25	15:48	07-Mar-25	10:12	0.10	0.10	0.10	0.10	0.10	0.10
Vol NaOH to pH=8.3 [mL]	06-Mar-25	16:10	07-Mar-25	10:12	10.99	14.69	13.30	12.09	13.18	13.56
Final pH [no unit]	06-Mar-25	16:00	07-Mar-25	10:12	1.74	1.59	1.45	1.63	1.58	1.60
NP [t CaCO3/1000 t]	06-Mar-25	16:35	07-Mar-25	10:12	22.3	13.2	16.5	39.1	17.0	15.9
AP [t CaCO3/1000 t]	07-Mar-25	11:49	07-Mar-25	11:49	10.4	26.6	0.50	1.22	5.75	0.31
Net NP [t CaCO3/1000 t]	07-Mar-25	11:49	07-Mar-25	11:49	11.9	-13.36	16.0	37.9	11.2	15.6
NP/AP [ratio]	07-Mar-25	11:49	07-Mar-25	11:49	2.15	0.50	33.0	32.1	2.96	51.3
S [%]	05-Mar-25	16:47	07-Mar-25	11:49	0.616	1.39	0.056	0.118	0.605	0.041
Acid Leachable SO4-S [%]	07-Mar-25	11:48	07-Mar-25	11:49	0.28	0.54	0.04	0.08	0.42	0.04
Sulphide [%]	07-Mar-25	11:23	07-Mar-25	11:49	0.33	0.85	0.02	0.04	0.18	< 0.01
C [%]	05-Mar-25	16:47	07-Mar-25	11:49	0.156	0.053	0.083	0.392	0.075	0.078

OnLine LIMS

0004042717

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11013-FEB25**

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: VIS-CV5-AM P-133	6: VIS-CV5-AM P-134	7: VIS-CV5-AM P-135	8: VIS-CV5-AM P-136	9: VIS-CV5-AM P-137	10: VIS-CV5-AM P-138
CO3 (HCl) as %CO3 [%]	10-Mar-25	14:44	10-Mar-25	16:18	0.78	0.26	0.42	1.96	0.36	0.37

Analysis	11: VIS-CV5-AM P-139	12: VIS-CV5-AM P-140	13: VIS-CV5-AM P-141	14: VIS-CV5-AM P-142	15: VIS-CV5-AM P-143	16: VIS-CV5-AM P-144	17: VIS-CV5-AM P-145	18: VIS-CV5-AM P-146	19: VIS-CV5-AM P-147	20: VIS-CV5-AM P-148
Sample Date & Time	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Paste pH [no unit]	9.92	9.13	9.26	9.74	9.65	9.74	9.78	9.75	10.17	10.12
Fizz Rate [rating]	3	3	3	2	3	3	2	2	3	3
Sample weight [g]	2.02	2.02	2.01	2.03	1.98	2.00	2.01	2.03	1.98	2.02
HCl_add [mL]	20.00	50.20	20.00	20.00	45.10	20.00	20.00	20.00	20.00	20.00
HCl [Normality]	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
NaOH [Normality]	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Vol NaOH to pH=8.3 [mL]	14.11	22.68	13.67	16.04	22.75	11.93	15.05	15.82	8.06	9.74
Final pH [no unit]	1.42	1.55	1.78	1.41	1.57	1.97	1.85	1.39	1.80	1.57
NP [t CaCO3/1000 t]	14.6	68.1	15.8	9.8	56.4	20.2	12.3	10.3	30.1	25.4
AP [t CaCO3/1000 t]	2.09	18.6	0.69	1.66	2.22	4.72	2.91	1.19	0.91	1.06
Net NP [t CaCO3/1000 t]	12.5	49.5	15.1	8.14	54.2	15.5	9.39	9.11	29.2	24.3
NP/AP [ratio]	6.97	3.67	23.0	5.92	25.4	4.28	4.23	8.67	33.2	23.9
S [%]	0.150	1.05	0.067	0.250	0.151	0.260	0.237	0.126	0.077	0.191
Acid Leachable SO4-S [%]	0.08	0.46	0.04	0.20	0.08	0.11	0.14	0.09	0.05	0.16
Sulphide [%]	0.07	0.59	0.02	0.05	0.07	0.15	0.09	0.04	0.03	0.03
C [%]	0.077	0.769	0.066	0.018	0.542	0.122	0.026	0.020	0.242	0.205
CO3 (HCl) as %CO3 [%]	0.40	3.84	0.35	0.09	2.70	0.63	0.11	0.12	1.21	0.97

Analysis	21: VIS-CV5-AM P-149	22: VIS-CV5-AM P-150	23: VIS-CV5-AM P-151	24: VIS-CV5-AM P-152	25: VIS-CV5-AM P-153	26: VIS-CV5-AM P-154	27: VIS-CV5-AM P-155	28: VIS-CV5-AM P-156	29: VIS-CV5-AM P-157	30: VIS-CV5-AM P-158
Sample Date & Time	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Paste pH [no unit]	9.92	9.67	9.92	10.00	9.25	9.87	9.81	10.05	10.03	9.96

OnLine LIMS

0004042717

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : CA11013-FEB25

Analysis	21: VIS-CV5-AM P-149	22: VIS-CV5-AM P-150	23: VIS-CV5-AM P-151	24: VIS-CV5-AM P-152	25: VIS-CV5-AM P-153	26: VIS-CV5-AM P-154	27: VIS-CV5-AM P-155	28: VIS-CV5-AM P-156	29: VIS-CV5-AM P-157	30: VIS-CV5-AM P-158
Fizz Rate [rating]	3	2	3	2	2	2	3	3	3	3
Sample weight [g]	2.01	2.01	2.01	2.01	1.98	2.00	2.01	2.00	1.99	1.99
HCl_add [mL]	20.00	20.00	30.90	20.00	20.00	20.00	20.00	75.90	20.00	20.00
HCl [Normality]	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
NaOH [Normality]	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Vol NaOH to pH=8.3 [mL]	14.97	13.04	13.72	15.91	13.33	15.86	12.63	24.50	9.24	15.11
Final pH [no unit]	1.28	1.95	1.60	1.37	1.60	1.27	1.25	1.57	1.63	1.25
NP [t CaCO3/1000 t]	12.5	17.3	42.7	10.2	16.8	10.4	18.3	128	27.0	12.3
AP [t CaCO3/1000 t]	1.22	3.19	1.44	0.31	0.69	1.84	0.38	2.03	2.56	0.75
Net NP [t CaCO3/1000 t]	11.3	14.1	41.3	9.89	16.1	8.56	17.9	126	24.4	11.6
NP/AP [ratio]	10.3	5.43	29.7	32.9	24.4	5.64	48.8	63.3	10.5	16.4
S [%]	0.113	0.224	0.130	0.015	0.070	0.105	0.020	0.109	0.129	0.054
Acid Leachable SO4-S [%]	0.07	0.12	0.08	0.04	0.05	0.05	< 0.04	0.04	0.05	< 0.04
Sulphide [%]	0.04	0.10	0.05	< 0.01	0.02	0.06	0.01	0.06	0.08	0.02
C [%]	0.033	0.094	0.455	0.024	0.033	0.044	0.123	1.53	0.230	0.077
CO3 (HCl) as %CO3 [%]	0.16	0.40	2.22	0.08	0.14	0.10	0.43	7.52	1.05	0.25

Analysis	31: VIS-CV5-AM P-159	32: VIS-CV5-AM P-160	33: VIS-CV5-AM P-161	34: VIS-CV5-AM P-162	35: VIS-CV5-AM P-163	36: VIS-CV5-AM P-164	37: VIS-CV5-AM P-165	38: VIS-CV5-AM P-166	39: VIS-CV5-AM P-167	40: VIS-CV5-AM P-168
Sample Date & Time	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Paste pH [no unit]	9.80	9.80	10.11	9.95	8.98	9.92	9.53	9.92	9.02	9.83
Fizz Rate [rating]	3	3	3	2	3	2	2	3	3	3
Sample weight [g]	2.02	2.03	2.00	2.00	1.99	2.01	2.00	2.00	2.01	2.03
HCl_add [mL]	20.00	25.50	20.00	33.60	20.00	20.00	20.00	25.00	20.00	25.60
HCl [Normality]	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
NaOH [Normality]	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Vol NaOH to pH=8.3 [mL]	14.34	12.16	12.35	24.29	14.43	8.37	14.03	11.27	12.75	13.67
Final pH [no unit]	1.31	1.65	1.57	1.66	1.63	1.84	1.67	1.83	1.86	1.65
NP [t CaCO3/1000 t]	14.0	32.9	19.1	23.3	14.0	28.9	14.9	34.3	18.0	29.4

OnLine LIMS

0004042717

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11013-FEB25**

Analysis	31: VIS-CV5-AMP-159	32: VIS-CV5-AMP-160	33: VIS-CV5-AMP-161	34: VIS-CV5-AMP-162	35: VIS-CV5-AMP-163	36: VIS-CV5-AMP-164	37: VIS-CV5-AMP-165	38: VIS-CV5-AMP-166	39: VIS-CV5-AMP-167	40: VIS-CV5-AMP-168
AP [t CaCO3/1000 t]	1.44	0.91	4.28	2.81	92.8	2.22	1.38	0.81	21.4	0.53
Net NP [t CaCO3/1000 t]	12.6	32.0	14.8	20.5	-78.81	26.7	13.5	33.5	-3.38	28.9
NP/AP [ratio]	9.74	36.3	4.46	8.28	0.15	13.0	10.8	42.2	0.84	55.3
S [%]	0.096	0.050	0.297	0.155	4.02	0.127	0.067	0.091	0.789	0.025
Acid Leachable SO4-S [%]	0.05	< 0.04	0.16	0.06	1.05	0.06	< 0.04	0.06	0.10	< 0.04
Sulphide [%]	0.05	0.03	0.14	0.09	2.97	0.07	0.04	0.03	0.68	0.02
C [%]	0.058	0.294	0.123	0.098	0.092	0.261	0.035	0.293	0.073	0.226
CO3 (HCl) as %CO3 [%]	0.16	1.38	0.48	0.37	0.25	1.14	0.09	1.31	0.20	1.06

Analysis	41: VIS-CV5-AMP-169	42: VIS-CV5-AMP-170	43: VIS-CV5-AMP-171	44: VIS-CV5-AMP-172	45: VIS-CV5-AMP-173	46: VIS-CV5-AMP-174	47: VIS-CV5-AMP-175	48: VIS-CV5-AMP-176	49: VIS-CV5-AMP-177	50: VIS-CV5-AMP-178
Sample Date & Time	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Paste pH [no unit]	9.79	9.68	9.67	10.03	9.32	9.28	9.39	9.87	9.72	9.76
Fizz Rate [rating]	2	3	3	3	3	3	3	3	3	3
Sample weight [g]	1.99	2.02	2.03	2.03	2.01	2.01	2.00	2.02	2.00	1.99
HCl_add [mL]	20.00	20.00	20.00	36.80	28.00	32.30	20.00	20.00	20.00	20.00
HCl [Normality]	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
NaOH [Normality]	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Vol NaOH to pH=8.3 [mL]	15.60	13.70	12.94	16.46	19.23	13.10	7.68	16.34	16.05	15.64
Final pH [no unit]	1.45	1.47	1.51	1.58	1.55	1.90	1.60	1.33	1.27	1.37
NP [t CaCO3/1000 t]	11.1	15.6	17.4	50.1	21.8	47.8	30.8	9.1	9.9	10.9
AP [t CaCO3/1000 t]	1.34	6.72	2.12	1.94	1.28	3.31	1.88	0.53	3.03	2.00
Net NP [t CaCO3/1000 t]	9.76	8.88	15.3	48.2	20.5	44.5	28.9	8.57	6.87	8.90
NP/AP [ratio]	8.26	2.32	8.19	25.9	17.0	14.4	16.4	17.1	3.27	5.45
S [%]	0.089	0.395	0.139	0.129	0.067	0.163	0.114	0.030	0.167	0.108
Acid Leachable SO4-S [%]	0.05	0.18	0.07	0.07	< 0.04	0.06	0.05	< 0.04	0.07	0.04
Sulphide [%]	0.04	0.22	0.07	0.06	0.04	0.11	0.06	0.02	0.10	0.06
C [%]	0.057	0.104	0.138	0.555	0.159	0.454	0.316	0.024	0.021	0.047
CO3 (HCl) as %CO3 [%]	0.12	0.36	0.51	2.65	0.65	2.13	1.44	< 0.04	< 0.04	0.04

OnLine LIMS

0004042717

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	51: VIS-CV5-AM P-179	52: VIS-CV5-AM P-180
Sample Date & Time	NA	NA
Paste pH [no unit]	9.62	9.26
Fizz Rate [rating]	3	3
Sample weight [g]	2.02	2.01
HCl_add [mL]	20.00	25.30
HCl [Normality]	0.10	0.10
NaOH [Normality]	0.10	0.10
Vol NaOH to pH=8.3 [mL]	13.51	18.62
Final pH [no unit]	1.57	1.57
NP [t CaCO3/1000 t]	16.1	16.6
AP [t CaCO3/1000 t]	3.44	4.94
Net NP [t CaCO3/1000 t]	12.7	11.7
NP/AP [ratio]	4.68	3.36
S [%]	0.207	0.264
Acid Leachable SO4-S [%]	0.10	0.11
Sulphide [%]	0.11	0.16
C [%]	0.084	0.021
CO3 (HCl) as %CO3 [%]	0.27	< 0.04

Method Descriptions

Parameter	Units	SGS Method Code	CALA	PALA
	g	NA	N	N
	mL		N	N
	mL	NA	N	N
	no unit	NA	N	N
	Normality	NA	N	N
	rating	NA	N	N
	ratio	ME-CA-[ENV]ARD-LAK-AN-001/003	N	N
	t CaCO3/1000 t	ME-CA-[ENV]ARD-LAK-AN-001/003	N	N
Acid Potential	t CaCO3/1000 t	ME-CA-[ENV]ARD-LAK-AN-001/003	Y	Y
Carbon/Sulphur	%	ME-CA-[ENV]ARD-LAK-AN-019	Y	N
Carbon/Sulphur	%	ME-CA-[ENV]ARD-LAK-AN-019	Y	Y

OnLine LIMS

0004042717

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

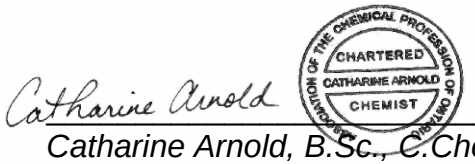
LR Report : **CA11013-FEB25**

Parameter	Units	SGS Method Code	CALA	PALA
Carbon/Sulphur	%	ME-CA-[ENV]ARD-LAK-AN-020	Y	N
Neutralization Potential	t CaCO3/1000 t	ME-CA-[ENV]ARD-LAK-AN-001/003	N	Y
Paste pH	no unit	ME-CA-[ENV]ARD-LAK-AN-005	Y	N

Accreditation Descriptions

CALA:
SGS Canada Industries & Environment conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation found at https://directory.cala.ca/#. Analytes and SGS Method Codes marked with a “Y” in the “CALA” column in the table denote ISO/IEC17025 accreditation

PALA:
SGS Canada Industries & Environment conforms to the requirements of ISO/IEC 17025:2005 for specific tests as listed on their scope of accreditation found at https://www.ceaeq.gouv.qc.ca/documents/publications/listes.htm#labo_accr. Analytes and SGS Method Codes marked with a “Y” in the “PALA” column in the table denote ISO/IEC17025:2005 accreditation



Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

000404271?

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quality Control Report

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material			
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)		
							%		Low	High		Low	High	
Carbon/Sulphur - QCBatchID: ECS0018-MAR25														
Carbon (total)	0.005	%	<0.005			2	20				100	70	130	
Sulphur (total)	0.005	%	<0.005			0	20				108	70	130	
Carbon/Sulphur - QCBatchID: ECS0022-MAR25														
Sulphide	0.01	%	< 0.01			3	20	114	80	120				
Carbon/Sulphur - QCBatchID: ECS0028-MAR25														
Carbonate (HCl) as %CO3	0.04	%	<0.04			1	20	100	80	120				

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

000404271

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

27-March-2025

Innova Lithium Inc.
Attn : John Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 05 February 2025
LR Report: **CA11014-FEB25**
Reference: Shaakichiuwaanaan Project

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: VIS-CV5-AMP-13 3	6: VIS-CV5-AMP-13 4	7: VIS-CV5-AMP-13 5	8: VIS-CV5-AMP-13 6	9: VIS-CV5-AMP-13 7	10: VIS-CV5-AMP-13 8
Sample Date & Time					NA	NA	NA	NA	NA	NA
Hg [ug/g]	05-Mar-25	17:12	05-Mar-25	17:13	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Ag [µg/g]	13-Mar-25	04:40	13-Mar-25	12:40	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Al [µg/g]	13-Mar-25	04:40	13-Mar-25	12:40	12000	11000	9100	8200	11000	11000
As [µg/g]	13-Mar-25	04:40	13-Mar-25	12:40	3.2	350	85	15	26	4.6
B [µg/g]	13-Mar-25	04:40	13-Mar-25	12:40	10	2	9	4	5	7
Ba [µg/g]	13-Mar-25	04:40	13-Mar-25	12:40	15	3.5	6.8	7.3	12	8.2
Be [µg/g]	13-Mar-25	04:40	13-Mar-25	12:40	0.07	0.16	0.16	0.20	0.04	0.13
Bi [µg/g]	13-Mar-25	04:40	13-Mar-25	12:40	< 0.09	< 0.09	< 0.09	< 0.09	0.12	< 0.09
Ca [µg/g]	13-Mar-25	04:40	13-Mar-25	12:40	14000	5500	7800	18000	8800	9000
Cd [µg/g]	13-Mar-25	04:40	24-Mar-25	17:07	0.03	0.06	0.08	0.04	< 0.02	0.02
Co [µg/g]	13-Mar-25	04:40	24-Mar-25	17:07	18	20	14	12	16	7.4
Cr [µg/g]	13-Mar-25	04:40	24-Mar-25	17:07	39	21	87	35	38	44
Cu [µg/g]	13-Mar-25	04:40	24-Mar-25	17:07	214	243	72	82	48	68
Fe [µg/g]	13-Mar-25	04:40	24-Mar-25	17:07	18000	34000	11000	10000	15000	6900
K [µg/g]	13-Mar-25	04:40	24-Mar-25	17:07	760	230	390	370	1600	520
Li [µg/g]	13-Mar-25	04:40	24-Mar-25	17:07	120	140	150	82	110	74
Mg [µg/g]	13-Mar-25	04:40	24-Mar-25	17:07	3900	5100	7100	3800	4800	4600

OnLine LIMS

0004059652

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quebec MA200-Met 1.2 Digest

LR Report : **CA11014-FEB25**

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: VIS-CV5-AMP-133	6: VIS-CV5-AMP-134	7: VIS-CV5-AMP-135	8: VIS-CV5-AMP-136	9: VIS-CV5-AMP-137	10: VIS-CV5-AMP-138
Mn [µg/g]	13-Mar-25	04:40	24-Mar-25	17:07	210	260	230	280	100	110
Mo [µg/g]	13-Mar-25	04:40	24-Mar-25	17:07	0.7	0.9	0.4	0.4	0.6	0.3
Na [µg/g]	13-Mar-25	04:40	24-Mar-25	17:07	540	600	400	800	550	890
Ni [µg/g]	13-Mar-25	04:40	24-Mar-25	17:07	34	3.8	51	32	30	18
P [µg/g]	13-Mar-25	04:40	24-Mar-25	17:07	320	460	170	320	430	150
Pb [µg/g]	13-Mar-25	04:40	24-Mar-25	17:07	0.65	1.8	3.2	0.81	0.45	0.50
Sb [µg/g]	13-Mar-25	04:40	24-Mar-25	17:07	1.4	8.3	3.5	2.3	< 0.8	< 0.8
Se [µg/g]	13-Mar-25	04:40	24-Mar-25	17:07	0.7	1.7	0.2	0.2	0.5	0.1
Sn [µg/g]	13-Mar-25	04:40	24-Mar-25	17:07	< 5	< 5	< 5	< 5	< 5	< 5
Sr [µg/g]	13-Mar-25	04:40	24-Mar-25	17:07	6.6	3.6	4.7	11	11	15
Ti [µg/g]	13-Mar-25	04:40	24-Mar-25	17:07	740	280	470	700	580	210
Tl [µg/g]	13-Mar-25	04:40	24-Mar-25	17:07	0.12	0.05	0.10	0.14	0.25	0.10
U [µg/g]	13-Mar-25	04:40	24-Mar-25	17:07	0.052	0.37	0.057	1.0	0.12	0.064
V [µg/g]	13-Mar-25	04:40	24-Mar-25	17:07	40	50	24	28	25	17
Zn [µg/g]	13-Mar-25	04:40	24-Mar-25	17:07	16	36	25	14	9.0	10
Au [µg/g]	13-Mar-25	04:40	24-Mar-25	17:07	< 0.02	---	---	---	< 0.02	---
Ce [µg/g]	13-Mar-25	04:40	24-Mar-25	17:07	5.90	---	---	---	10.8	---
Cs [µg/g]	13-Mar-25	04:40	24-Mar-25	17:07	18	---	---	---	160	---
Dy [µg/g]	13-Mar-25	04:40	24-Mar-25	17:07	0.56	---	---	---	0.54	---
Er [µg/g]	13-Mar-25	04:40	24-Mar-25	17:07	0.34	---	---	---	0.25	---
Eu [µg/g]	13-Mar-25	04:40	24-Mar-25	17:07	0.16	---	---	---	0.21	---
Ga [µg/g]	14-Mar-25	14:17	24-Mar-25	17:07	2	---	---	---	2	---
Gd [µg/g]	13-Mar-25	04:40	24-Mar-25	17:07	0.63	---	---	---	0.95	---
Ge [µg/g]	13-Mar-25	04:40	24-Mar-25	17:07	0.4	---	---	---	0.5	---
Hf [µg/g]	13-Mar-25	04:40	24-Mar-25	17:07	< 0.1	---	---	---	< 0.1	---
Ho [µg/g]	13-Mar-25	04:40	24-Mar-25	17:07	0.12	---	---	---	0.094	---
In [µg/g]	14-Mar-25	14:17	24-Mar-25	17:07	< 0.01	---	---	---	< 0.01	---
Ir [µg/g]	13-Mar-25	04:40	24-Mar-25	17:07	< 0.01	---	---	---	< 0.01	---
La [µg/g]	13-Mar-25	04:40	24-Mar-25	17:07	2.58	---	---	---	4.83	---
Lu [µg/g]	13-Mar-25	04:40	24-Mar-25	17:07	0.074	---	---	---	0.090	---
Nb [µg/g]	13-Mar-25	04:40	24-Mar-25	17:07	< 0.1	---	---	---	< 0.1	---
Nd [µg/g]	13-Mar-25	04:40	24-Mar-25	17:07	3.2	---	---	---	5.6	---
Os [µg/g]	13-Mar-25	04:40	24-Mar-25	17:07	< 0.1	---	---	---	< 0.1	---

OnLine LIMS

00040599652

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: VIS-CV5-AMP-133	6: VIS-CV5-AMP-134	7: VIS-CV5-AMP-135	8: VIS-CV5-AMP-136	9: VIS-CV5-AMP-137	10: VIS-CV5-AMP-138
Pd [µg/g]	13-Mar-25	04:40	24-Mar-25	17:07	< 0.2	---	---	---	< 0.2	---
Pr [µg/g]	13-Mar-25	04:40	24-Mar-25	17:07	0.75	---	---	---	1.36	---
Pt [µg/g]	13-Mar-25	04:40	24-Mar-25	17:07	< 0.1	---	---	---	< 0.1	---
Rh [µg/g]	13-Mar-25	04:40	24-Mar-25	17:07	< 0.01	---	---	---	< 0.01	---
Rb [µg/g]	13-Mar-25	04:40	24-Mar-25	17:07	22.0	---	---	---	25.9	---
Re [µg/g]	13-Mar-25	04:40	24-Mar-25	17:07	0.08	---	---	---	0.08	---
Ru [µg/g]	13-Mar-25	04:40	24-Mar-25	17:07	< 0.01	---	---	---	< 0.01	---
Sm [µg/g]	14-Mar-25	14:17	24-Mar-25	17:07	0.62	---	---	---	1.07	---
Sc [µg/g]	14-Mar-25	14:17	24-Mar-25	17:07	4	---	---	---	2	---
Ta [µg/g]	13-Mar-25	04:40	24-Mar-25	17:07	< 0.01	---	---	---	< 0.01	---
Tb [µg/g]	14-Mar-25	14:17	24-Mar-25	17:07	0.092	---	---	---	0.12	---
Te [µg/g]	13-Mar-25	04:40	24-Mar-25	17:07	< 0.1	---	---	---	< 0.1	---
Th [µg/g]	13-Mar-25	04:40	24-Mar-25	17:07	0.35	---	---	---	0.84	---
Tm [µg/g]	14-Mar-25	14:17	24-Mar-25	17:07	0.045	---	---	---	0.031	---

Analysis	11: VIS-CV5-AMP-139	12: VIS-CV5-AMP-140	13: VIS-CV5-AMP-141	14: VIS-CV5-AMP-142	15: VIS-CV5-AMP-143	16: VIS-CV5-AMP-144	17: VIS-CV5-AMP-145	18: VIS-CV5-AMP-146	19: VIS-CV5-AMP-147	20: VIS-CV5-AMP-148
Sample Date & Time	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hg [ug/g]	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Ag [µg/g]	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Al [µg/g]	11000	8100	18000	11000	15000	18000	19000	10000	9600	7700
As [µg/g]	27	8.2	25	1.2	420	8.9	2.0	14	2.4	5.7
B [µg/g]	34	2	2	2	6	5	3	2	3	3
Ba [µg/g]	15	3.4	4.6	14	8.5	11	5.8	6.8	19	11
Be [µg/g]	0.10	0.03	0.58	0.16	0.90	0.13	0.08	0.09	0.13	0.20
Bi [µg/g]	< 0.09	< 0.09	< 0.09	< 0.09	0.10	< 0.09	< 0.09	< 0.09	< 0.09	< 0.09
Ca [µg/g]	11000	26000	4600	9000	26000	17000	14000	6100	16000	14000
Cd [µg/g]	0.03	< 0.02	< 0.02	0.03	0.11	0.04	0.02	0.04	0.14	0.04
Co [µg/g]	11	13	21	12	28	17	9.8	16	7.4	12
Cr [µg/g]	29	35	6.2	25	68	42	22	35	49	27
Cu [µg/g]	88	166	17	105	81	103	112	111	108	102

OnLine LIMS

00040599652

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quebec MA200-Met 1.2 Digest

LR Report : **CA11014-FEB25**

Analysis	11: VIS-CV5-AMP-139	12: VIS-CV5-AMP-140	13: VIS-CV5-AMP-141	14: VIS-CV5-AMP-142	15: VIS-CV5-AMP-143	16: VIS-CV5-AMP-144	17: VIS-CV5-AMP-145	18: VIS-CV5-AMP-146	19: VIS-CV5-AMP-147	20: VIS-CV5-AMP-148
Fe [µg/g]	9200	28000	34000	11000	25000	13000	7300	12000	6200	8800
K [µg/g]	700	130	320	400	500	450	210	490	440	340
Li [µg/g]	88	79	180	78	230	110	54	120	70	64
Mg [µg/g]	3100	4400	13000	3500	8200	4700	2600	7000	3600	2600
Mn [µg/g]	170	850	490	160	850	220	99	200	180	200
Mo [µg/g]	0.3	0.4	0.4	0.3	0.6	0.3	2.0	0.2	0.2	0.3
Na [µg/g]	730	500	470	1100	620	1100	1500	640	630	940
Ni [µg/g]	31	22	12	32	52	55	34	69	28	32
P [µg/g]	280	220	360	260	330	210	150	140	180	280
Pb [µg/g]	1.4	0.20	0.66	0.17	4.0	1.1	0.49	0.79	0.55	0.38
Sb [µg/g]	4.8	< 0.8	0.8	1.1	8.7	1.2	< 0.8	8.1	< 0.8	< 0.8
Se [µg/g]	0.2	0.8	< 0.1	0.3	0.3	0.3	0.3	0.2	0.2	0.3
Sn [µg/g]	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Sr [µg/g]	14	17	4.7	11	11	18	30	4.4	20	10
Ti [µg/g]	760	410	280	690	910	740	510	360	690	910
Tl [µg/g]	0.14	< 0.02	0.08	0.30	0.17	0.14	0.04	0.08	0.21	0.28
U [µg/g]	0.026	0.045	0.39	0.041	0.11	0.28	0.030	0.037	0.036	0.035
V [µg/g]	27	26	84	29	71	38	16	24	18	27
Zn [µg/g]	14	13	25	11	44	17	8.2	16	18	11
Au [µg/g]	---	---	0.02	---	---	---	< 0.02	---	---	---
Ce [µg/g]	---	---	12.1	---	---	---	2.24	---	---	---
Cs [µg/g]	---	---	4	---	---	---	5	---	---	---
Dy [µg/g]	---	---	0.75	---	---	---	0.31	---	---	---
Er [µg/g]	---	---	0.38	---	---	---	0.20	---	---	---
Eu [µg/g]	---	---	0.24	---	---	---	0.085	---	---	---
Ga [µg/g]	---	---	11	---	---	---	2	---	---	---
Gd [µg/g]	---	---	1.01	---	---	---	0.28	---	---	---
Ge [µg/g]	---	---	0.9	---	---	---	< 0.3	---	---	---
Hf [µg/g]	---	---	0.1	---	---	---	< 0.1	---	---	---
Ho [µg/g]	---	---	0.14	---	---	---	0.068	---	---	---
In [µg/g]	---	---	0.01	---	---	---	< 0.01	---	---	---
Ir [µg/g]	---	---	< 0.01	---	---	---	< 0.01	---	---	---
La [µg/g]	---	---	6.01	---	---	---	1.12	---	---	---

OnLine LIMS

0004059652

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quebec MA200-Met 1.2 Digest

LR Report : **CA11014-FEB25**

Analysis	11: VIS-CV5-AMP-139	12: VIS-CV5-AMP-140	13: VIS-CV5-AMP-141	14: VIS-CV5-AMP-142	15: VIS-CV5-AMP-143	16: VIS-CV5-AMP-144	17: VIS-CV5-AMP-145	18: VIS-CV5-AMP-146	19: VIS-CV5-AMP-147	20: VIS-CV5-AMP-148
Lu [µg/g]	---	---	0.12	---	---	---	0.12	---	---	---
Nb [µg/g]	---	---	< 0.1	---	---	---	< 0.1	---	---	---
Nd [µg/g]	---	---	5.9	---	---	---	1.1	---	---	---
Os [µg/g]	---	---	< 0.1	---	---	---	< 0.1	---	---	---
Pd [µg/g]	---	---	< 0.2	---	---	---	< 0.2	---	---	---
Pr [µg/g]	---	---	1.48	---	---	---	0.27	---	---	---
Pt [µg/g]	---	---	< 0.1	---	---	---	< 0.1	---	---	---
Rh [µg/g]	---	---	< 0.01	---	---	---	< 0.01	---	---	---
Rb [µg/g]	---	---	9.55	---	---	---	4.41	---	---	---
Re [µg/g]	---	---	0.10	---	---	---	0.07	---	---	---
Ru [µg/g]	---	---	< 0.01	---	---	---	< 0.01	---	---	---
Sm [µg/g]	---	---	1.09	---	---	---	0.23	---	---	---
Sc [µg/g]	---	---	6	---	---	---	2	---	---	---
Ta [µg/g]	---	---	< 0.01	---	---	---	< 0.01	---	---	---
Tb [µg/g]	---	---	0.14	---	---	---	0.047	---	---	---
Te [µg/g]	---	---	< 0.1	---	---	---	< 0.1	---	---	---
Th [µg/g]	---	---	1.4	---	---	---	0.11	---	---	---
Tm [µg/g]	---	---	0.052	---	---	---	0.029	---	---	---

Analysis	21: VIS-CV5-AMP-149	22: VIS-CV5-AMP-150	23: VIS-CV5-AMP-151	24: VIS-CV5-AMP-152	25: VIS-CV5-AMP-153	26: VIS-CV5-AMP-154	27: VIS-CV5-AMP-155	28: VIS-CV5-AMP-156	29: VIS-CV5-AMP-157	30: VIS-CV5-AMP-158
Sample Date & Time	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hg [ug/g]	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Ag [µg/g]	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Al [µg/g]	6100	21000	8300	9100	27000	8900	10000	7000	10000	4200
As [µg/g]	58	27	7.5	6.6	53	5.0	68	21	4.3	< 0.5
B [µg/g]	2	5	2	4	4	31	3	1	2	3
Ba [µg/g]	8.0	13	4.5	26	3.7	8.4	29	37	7.8	5.0
Be [µg/g]	0.22	0.97	0.20	0.29	3.6	0.35	0.95	0.25	0.06	< 0.02
Bi [µg/g]	< 0.09	0.20	< 0.09	0.13	0.21	0.11	0.43	< 0.09	< 0.09	< 0.09
Ca [µg/g]	5800	16000	19000	7900	3700	6200	6600	43000	15000	5800

OnLine LIMS

0004059652

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quebec MA200-Met 1.2 Digest

LR Report : **CA11014-FEB25**

Analysis	21: VIS-CV5-AMP-149	22: VIS-CV5-AMP-150	23: VIS-CV5-AMP-151	24: VIS-CV5-AMP-152	25: VIS-CV5-AMP-153	26: VIS-CV5-AMP-154	27: VIS-CV5-AMP-155	28: VIS-CV5-AMP-156	29: VIS-CV5-AMP-157	30: VIS-CV5-AMP-158
Cd [µg/g]	0.03	0.04	0.09	0.04	0.05	0.05	0.06	0.07	0.04	0.03
Co [µg/g]	13	19	11	8.4	20	9.8	13	11	10	6.0
Cr [µg/g]	91	60	37	63	116	30	165	28	29	15
Cu [µg/g]	95	237	82	67	121	83	44	69	94	134
Fe [µg/g]	9000	13000	12000	8500	31000	9300	11000	8200	8500	7400
K [µg/g]	430	780	250	630	260	580	1600	900	240	270
Li [µg/g]	130	220	90	110	480	110	220	100	110	23
Mg [µg/g]	5700	7200	4200	4100	37000	5400	9300	2800	2900	3500
Mn [µg/g]	180	260	290	300	460	140	310	550	190	110
Mo [µg/g]	0.1	0.5	0.3	0.4	0.5	0.4	1.0	0.4	0.4	0.2
Na [µg/g]	560	780	730	930	250	670	500	540	950	540
Ni [µg/g]	62	59	27	20	44	32	81	31	31	11
P [µg/g]	170	150	280	230	420	340	330	270	290	170
Pb [µg/g]	1.0	2.5	1.7	0.53	1.4	1.9	3.1	0.72	0.48	0.16
Sb [µg/g]	18	2.6	1.0	3.1	1.2	0.8	3.9	11	1.9	< 0.8
Se [µg/g]	0.2	0.4	0.2	< 0.1	0.2	0.2	< 0.1	0.2	0.2	0.1
Sn [µg/g]	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Sr [µg/g]	5.8	22	8.0	15	4.6	9.0	7.9	21	16	4.0
Ti [µg/g]	570	410	820	1000	690	240	420	660	760	360
Tl [µg/g]	0.55	0.48	0.10	0.94	0.11	0.10	1.8	0.23	0.12	< 0.02
U [µg/g]	0.23	0.18	0.14	0.020	0.26	0.13	1.4	0.048	0.021	0.020
V [µg/g]	20	29	35	32	130	23	26	22	25	20
Zn [µg/g]	11	13	22	11	29	19	17	16	13	11
Au [µg/g]	< 0.02	---	---	---	< 0.02	---	---	---	< 0.02	---
Ce [µg/g]	1.61	---	---	---	2.96	---	---	---	4.11	---
Cs [µg/g]	86	---	---	---	75	---	---	---	44	---
Dy [µg/g]	0.29	---	---	---	0.66	---	---	---	0.48	---
Er [µg/g]	0.18	---	---	---	0.41	---	---	---	0.29	---
Eu [µg/g]	0.067	---	---	---	0.099	---	---	---	0.11	---
Ga [µg/g]	2	---	---	---	10	---	---	---	2	---
Gd [µg/g]	0.26	---	---	---	0.58	---	---	---	0.46	---
Ge [µg/g]	< 0.3	---	---	---	0.7	---	---	---	< 0.3	---
Hf [µg/g]	< 0.1	---	---	---	< 0.1	---	---	---	< 0.1	---

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

00004059652

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	21: VIS-CV5-AMP-149	22: VIS-CV5-AMP-150	23: VIS-CV5-AMP-151	24: VIS-CV5-AMP-152	25: VIS-CV5-AMP-153	26: VIS-CV5-AMP-154	27: VIS-CV5-AMP-155	28: VIS-CV5-AMP-156	29: VIS-CV5-AMP-157	30: VIS-CV5-AMP-158
Ho [µg/g]	0.063	---	---	---	0.14	---	---	---	0.099	---
In [µg/g]	< 0.01	---	---	---	0.04	---	---	---	< 0.01	---
Ir [µg/g]	< 0.01	---	---	---	< 0.01	---	---	---	< 0.01	---
La [µg/g]	0.82	---	---	---	1.12	---	---	---	2.00	---
Lu [µg/g]	0.059	---	---	---	0.20	---	---	---	0.15	---
Nb [µg/g]	< 0.1	---	---	---	< 0.1	---	---	---	< 0.1	---
Nd [µg/g]	0.79	---	---	---	1.8	---	---	---	1.9	---
Os [µg/g]	< 0.1	---	---	---	< 0.1	---	---	---	< 0.1	---
Pd [µg/g]	< 0.2	---	---	---	< 0.2	---	---	---	< 0.2	---
Pr [µg/g]	0.19	---	---	---	0.40	---	---	---	0.48	---
Pt [µg/g]	< 0.1	---	---	---	< 0.1	---	---	---	< 0.1	---
Rh [µg/g]	< 0.01	---	---	---	< 0.01	---	---	---	< 0.01	---
Rb [µg/g]	55.6	---	---	---	14.7	---	---	---	13.8	---
Re [µg/g]	0.08	---	---	---	0.13	---	---	---	0.13	---
Ru [µg/g]	< 0.01	---	---	---	< 0.01	---	---	---	< 0.01	---
Sm [µg/g]	0.22	---	---	---	0.47	---	---	---	0.40	---
Sc [µg/g]	2	---	---	---	12	---	---	---	3	---
Ta [µg/g]	< 0.01	---	---	---	< 0.01	---	---	---	< 0.01	---
Tb [µg/g]	0.048	---	---	---	0.10	---	---	---	0.078	---
Te [µg/g]	< 0.1	---	---	---	< 0.1	---	---	---	< 0.1	---
Th [µg/g]	0.37	---	---	---	0.34	---	---	---	0.22	---
Tm [µg/g]	0.028	---	---	---	0.061	---	---	---	0.044	---

Analysis	31: VIS-CV5-AMP-159	32: VIS-CV5-AMP-160	33: VIS-CV5-AMP-161	34: VIS-CV5-AMP-162	35: VIS-CV5-AMP-163	36: VIS-CV5-AMP-164	37: VIS-CV5-AMP-165	38: VIS-CV5-AMP-166	39: VIS-CV5-AMP-167	40: VIS-CV5-AMP-168
Sample Date & Time	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hg [ug/g]	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Ag [µg/g]	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Al [µg/g]	16000	26000	11000	25000	12000	9100	21000	11000	39000	11000
As [µg/g]	170	350	35	10	340	35	65	62	19	28
B [µg/g]	7	4	3	4	5	3	3	6	5	28

OnLine LIMS

00040959652

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quebec MA200-Met 1.2 Digest

LR Report : **CA11014-FEB25**

Analysis	31: VIS-CV5-AMP-159	32: VIS-CV5-AMP-160	33: VIS-CV5-AMP-161	34: VIS-CV5-AMP-162	35: VIS-CV5-AMP-163	36: VIS-CV5-AMP-164	37: VIS-CV5-AMP-165	38: VIS-CV5-AMP-166	39: VIS-CV5-AMP-167	40: VIS-CV5-AMP-168
Ba [µg/g]	82	268	66	40	16	4.9	4.4	7.3	1.7	11
Be [µg/g]	3.5	2.6	0.88	0.45	0.71	0.29	1.4	0.41	3.3	0.43
Bi [µg/g]	0.34	0.28	< 0.09	< 0.09	0.76	< 0.09	< 0.09	< 0.09	1.1	< 0.09
Ca [µg/g]	11000	13000	12000	19000	9100	15000	4700	17000	4000	12000
Cd [µg/g]	0.07	0.05	0.05	0.04	4.9	0.06	0.62	0.05	< 0.02	0.04
Co [µg/g]	17	23	15	11	70	11	20	16	35	13
Cr [µg/g]	63	201	62	35	104	40	74	33	24	45
Cu [µg/g]	89	67	94	113	261	92	83	81	137	106
Fe [µg/g]	17000	27000	14000	15000	48000	11000	26000	11000	55000	14000
K [µg/g]	4000	13000	2300	2100	1100	320	460	640	84	810
Li [µg/g]	350	1200	160	220	120	99	480	140	310	150
Mg [µg/g]	12000	21000	5800	5500	6100	4300	22000	4200	53000	9300
Mn [µg/g]	310	790	250	210	180	250	330	220	620	280
Mo [µg/g]	0.6	0.6	0.4	0.5	1.8	0.4	0.2	0.6	0.5	0.2
Na [µg/g]	990	210	800	960	300	770	410	570	100	490
Ni [µg/g]	52	54	33	26	200	21	43	28	37	19
P [µg/g]	360	810	490	290	280	310	280	240	340	220
Pb [µg/g]	1.5	8.4	1.1	0.92	11	1.0	22	0.55	3.2	1.2
Sb [µg/g]	10	4.5	4.5	4.1	14	3.3	4.3	1.0	< 0.8	1.0
Se [µg/g]	0.2	0.2	0.3	0.2	2.9	0.3	0.3	0.2	0.4	< 0.1
Sn [µg/g]	6	12	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Sr [µg/g]	9.9	18	33	33	7.1	11	5.4	12	6.4	8.1
Ti [µg/g]	670	1000	840	830	310	850	700	470	710	590
Tl [µg/g]	6.9	22	0.85	1.6	0.36	0.14	0.27	0.25	0.05	0.08
U [µg/g]	0.34	3.1	0.37	0.059	1.9	0.11	0.040	0.043	0.24	0.092
V [µg/g]	45	64	29	37	21	35	80	31	310	40
Zn [µg/g]	25	53	22	17	714	17	90	15	39	18
Au [µg/g]	---	---	< 0.02	---	---	---	< 0.02	---	---	---
Ce [µg/g]	---	---	16.4	---	---	---	4.78	---	---	---
Cs [µg/g]	---	---	111	---	---	---	76	---	---	---
Dy [µg/g]	---	---	0.57	---	---	---	0.54	---	---	---
Er [µg/g]	---	---	0.27	---	---	---	0.35	---	---	---
Eu [µg/g]	---	---	0.31	---	---	---	0.10	---	---	---

OnLine LIMS

0004059652

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quebec MA200-Met 1.2 Digest

LR Report : **CA11014-FEB25**

Analysis	31: VIS-CV5-AMP-159	32: VIS-CV5-AMP-160	33: VIS-CV5-AMP-161	34: VIS-CV5-AMP-162	35: VIS-CV5-AMP-163	36: VIS-CV5-AMP-164	37: VIS-CV5-AMP-165	38: VIS-CV5-AMP-166	39: VIS-CV5-AMP-167	40: VIS-CV5-AMP-168
Ga [µg/g]	---	---	3	---	---	---	6	---	---	---
Gd [µg/g]	---	---	1.15	---	---	---	0.50	---	---	---
Ge [µg/g]	---	---	0.7	---	---	---	0.5	---	---	---
Hf [µg/g]	---	---	< 0.1	---	---	---	< 0.1	---	---	---
Ho [µg/g]	---	---	0.10	---	---	---	0.12	---	---	---
In [µg/g]	---	---	0.01	---	---	---	0.02	---	---	---
Ir [µg/g]	---	---	< 0.01	---	---	---	< 0.01	---	---	---
La [µg/g]	---	---	6.76	---	---	---	2.23	---	---	---
Lu [µg/g]	---	---	0.12	---	---	---	0.11	---	---	---
Nb [µg/g]	---	---	< 0.1	---	---	---	< 0.1	---	---	---
Nd [µg/g]	---	---	8.8	---	---	---	2.2	---	---	---
Os [µg/g]	---	---	< 0.1	---	---	---	< 0.1	---	---	---
Pd [µg/g]	---	---	< 0.2	---	---	---	< 0.2	---	---	---
Pr [µg/g]	---	---	2.22	---	---	---	0.57	---	---	---
Pt [µg/g]	---	---	< 0.1	---	---	---	< 0.1	---	---	---
Rh [µg/g]	---	---	< 0.01	---	---	---	< 0.01	---	---	---
Rb [µg/g]	---	---	90.7	---	---	---	24.3	---	---	---
Re [µg/g]	---	---	0.12	---	---	---	0.10	---	---	---
Ru [µg/g]	---	---	< 0.01	---	---	---	< 0.01	---	---	---
Sm [µg/g]	---	---	1.44	---	---	---	0.45	---	---	---
Sc [µg/g]	---	---	3	---	---	---	6	---	---	---
Ta [µg/g]	---	---	0.02	---	---	---	< 0.01	---	---	---
Tb [µg/g]	---	---	0.14	---	---	---	0.081	---	---	---
Te [µg/g]	---	---	< 0.1	---	---	---	< 0.1	---	---	---
Th [µg/g]	---	---	0.69	---	---	---	0.31	---	---	---
Tm [µg/g]	---	---	0.036	---	---	---	0.050	---	---	---

Analysis	41: VIS-CV5-AMP-169	42: VIS-CV5-AMP-170	43: VIS-CV5-AMP-171	44: VIS-CV5-AMP-172	45: VIS-CV5-AMP-173	46: VIS-CV5-AMP-174	47: VIS-CV5-AMP-175	48: VIS-CV5-AMP-176	49: VIS-CV5-AMP-177	50: VIS-CV5-AMP-178
Sample Date & Time	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hg [ug/g]	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

OnLine LIMS

0004059652

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quebec MA200-Met 1.2 Digest

LR Report : **CA11014-FEB25**

Analysis	41: VIS-CV5-AMP-169	42: VIS-CV5-AMP-170	43: VIS-CV5-AMP-171	44: VIS-CV5-AMP-172	45: VIS-CV5-AMP-173	46: VIS-CV5-AMP-174	47: VIS-CV5-AMP-175	48: VIS-CV5-AMP-176	49: VIS-CV5-AMP-177	50: VIS-CV5-AMP-178
Ag [µg/g]	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Al [µg/g]	12000	8400	11000	10000	17000	16000	10000	11000	12000	14000
As [µg/g]	9.4	64	25	4.7	11	3.4	49	22	52	20
B [µg/g]	6	3	4	20	4	2	4	2	4	5
Ba [µg/g]	11	8.7	88	5.5	8.8	5.4	4.5	119	16	18
Be [µg/g]	0.32	1.2	0.68	0.24	0.60	0.07	0.78	0.16	1.5	0.61
Bi [µg/g]	< 0.09	0.10	< 0.09	< 0.09	< 0.09	< 0.09	0.16	< 0.09	< 0.09	< 0.09
Ca [µg/g]	10000	8200	12000	24000	16000	25000	15000	6100	10000	9100
Cd [µg/g]	0.03	0.03	0.04	0.08	0.04	0.04	0.03	< 0.02	0.07	0.02
Co [µg/g]	12	17	14	12	12	13	21	11	23	18
Cr [µg/g]	40	28	73	41	71	62	48	39	77	54
Cu [µg/g]	83	172	82	86	67	106	93	23	112	80
Fe [µg/g]	12000	19000	13000	10000	13000	8200	11000	12000	17000	14000
K [µg/g]	670	520	1600	320	860	160	240	950	1200	690
Li [µg/g]	120	100	170	110	140	66	120	150	190	130
Mg [µg/g]	5800	5900	5100	3100	5600	2200	5500	6600	6900	6500
Mn [µg/g]	220	200	210	320	240	200	250	160	290	280
Mo [µg/g]	0.2	0.3	1.1	0.1	0.3	1.5	0.3	0.6	0.4	< 0.1
Na [µg/g]	640	800	920	970	1000	1400	250	680	1100	910
Ni [µg/g]	39	20	37	30	30	48	54	31	69	53
P [µg/g]	170	370	340	290	330	220	220	230	200	190
Pb [µg/g]	0.91	0.76	0.71	0.71	0.69	0.39	1.5	0.49	0.31	0.65
Sb [µg/g]	2.3	2.2	1.1	2.0	1.4	< 0.8	6.4	2.1	11	1.6
Se [µg/g]	0.2	0.6	0.3	0.2	0.2	0.3	0.3	< 0.1	0.3	0.2
Sn [µg/g]	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Sr [µg/g]	7.5	4.0	13	13	20	28	6.5	6.0	4.9	12
Ti [µg/g]	530	480	910	750	630	480	230	440	880	590
Tl [µg/g]	0.21	0.12	0.69	0.10	0.74	0.03	0.13	0.14	2.0	0.30
U [µg/g]	0.38	0.25	0.17	0.12	0.30	0.37	0.18	0.10	0.032	0.15
V [µg/g]	28	41	36	32	36	20	32	25	54	37
Zn [µg/g]	16	18	23	19	18	9.8	19	16	23	15
Au [µg/g]	< 0.02	---	---	---	< 0.02	---	---	---	< 0.02	---
Ce [µg/g]	2.82	---	---	---	4.44	---	---	---	3.72	---

OnLine LIMS

0004059652

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	41: VIS-CV5-AMP-169	42: VIS-CV5-AMP-170	43: VIS-CV5-AMP-171	44: VIS-CV5-AMP-172	45: VIS-CV5-AMP-173	46: VIS-CV5-AMP-174	47: VIS-CV5-AMP-175	48: VIS-CV5-AMP-176	49: VIS-CV5-AMP-177	50: VIS-CV5-AMP-178
Cs [µg/g]	17	---	---	---	141	---	---	---	168	---
Dy [µg/g]	0.37	---	---	---	0.49	---	---	---	0.56	---
Er [µg/g]	0.22	---	---	---	0.28	---	---	---	0.35	---
Eu [µg/g]	0.091	---	---	---	0.11	---	---	---	0.14	---
Ga [µg/g]	2	---	---	---	4	---	---	---	4	---
Gd [µg/g]	0.34	---	---	---	0.55	---	---	---	0.51	---
Ge [µg/g]	< 0.3	---	---	---	0.4	---	---	---	0.5	---
Hf [µg/g]	< 0.1	---	---	---	< 0.1	---	---	---	< 0.1	---
Ho [µg/g]	0.077	---	---	---	0.098	---	---	---	0.12	---
In [µg/g]	< 0.01	---	---	---	0.01	---	---	---	0.02	---
Ir [µg/g]	< 0.01	---	---	---	< 0.01	---	---	---	< 0.01	---
La [µg/g]	1.35	---	---	---	1.89	---	---	---	1.66	---
Lu [µg/g]	0.17	---	---	---	0.15	---	---	---	0.14	---
Nb [µg/g]	< 0.1	---	---	---	< 0.1	---	---	---	< 0.1	---
Nd [µg/g]	1.3	---	---	---	2.1	---	---	---	2.0	---
Os [µg/g]	< 0.1	---	---	---	< 0.1	---	---	---	< 0.1	---
Pd [µg/g]	< 0.2	---	---	---	< 0.2	---	---	---	< 0.2	---
Pr [µg/g]	0.34	---	---	---	0.54	---	---	---	0.46	---
Pt [µg/g]	< 0.1	---	---	---	< 0.1	---	---	---	< 0.1	---
Rh [µg/g]	< 0.01	---	---	---	< 0.01	---	---	---	< 0.01	---
Rb [µg/g]	22.4	---	---	---	84.2	---	---	---	205	---
Re [µg/g]	0.10	---	---	---	0.11	---	---	---	0.06	---
Ru [µg/g]	< 0.01	---	---	---	< 0.01	---	---	---	< 0.01	---
Sm [µg/g]	0.28	---	---	---	0.47	---	---	---	0.43	---
Sc [µg/g]	3	---	---	---	4	---	---	---	7	---
Ta [µg/g]	< 0.01	---	---	---	0.07	---	---	---	0.02	---
Tb [µg/g]	0.051	---	---	---	0.091	---	---	---	0.087	---
Te [µg/g]	< 0.1	---	---	---	< 0.1	---	---	---	< 0.1	---
Th [µg/g]	0.35	---	---	---	0.34	---	---	---	0.19	---
Tm [µg/g]	0.032	---	---	---	0.042	---	---	---	0.049	---

OnLine LIMS

00004059652

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	51: VIS-CV5-AMP-179	52: VIS-CV5-AMP-180
Sample Date & Time	NA	NA
Hg [ug/g]	< 0.05	< 0.05
Ag [µg/g]	< 0.5	< 0.5
Al [µg/g]	13000	25000
As [µg/g]	280	26
B [µg/g]	6	4
Ba [µg/g]	20	12
Be [µg/g]	0.93	1.8
Bi [µg/g]	0.13	< 0.09
Ca [µg/g]	9800	3200
Cd [µg/g]	0.12	0.22
Co [µg/g]	21	27
Cr [µg/g]	43	90
Cu [µg/g]	111	113
Fe [µg/g]	18000	34000
K [µg/g]	760	420
Li [µg/g]	160	530
Mg [µg/g]	8100	31000
Mn [µg/g]	360	430
Mo [µg/g]	0.2	0.4
Na [µg/g]	520	310
Ni [µg/g]	49	59
P [µg/g]	830	250
Pb [µg/g]	1.7	80
Sb [µg/g]	4.6	4.0
Se [µg/g]	0.3	0.3
Sn [µg/g]	< 5	< 5
Sr [µg/g]	6.8	5.2
Ti [µg/g]	430	660
Tl [µg/g]	0.19	0.15
U [µg/g]	0.14	0.095
V [µg/g]	39	110
Zn [µg/g]	44	54

OnLine LIMS

00040596S2

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	51: VIS-CV5-AMP-179	52: VIS-CV5-AMP-180
Au [µg/g]	---	---
Ce [µg/g]	---	---
Cs [µg/g]	---	---
Dy [µg/g]	---	---
Er [µg/g]	---	---
Eu [µg/g]	---	---
Ga [µg/g]	---	---
Gd [µg/g]	---	---
Ge [µg/g]	---	---
Hf [µg/g]	---	---
Ho [µg/g]	---	---
In [µg/g]	---	---
Ir [µg/g]	---	---
La [µg/g]	---	---
Lu [µg/g]	---	---
Nb [µg/g]	---	---
Nd [µg/g]	---	---
Os [µg/g]	---	---
Pd [µg/g]	---	---
Pr [µg/g]	---	---
Pt [µg/g]	---	---
Rh [µg/g]	---	---
Rb [µg/g]	---	---
Re [µg/g]	---	---
Ru [µg/g]	---	---
Sm [µg/g]	---	---
Sc [µg/g]	---	---
Ta [µg/g]	---	---
Tb [µg/g]	---	---
Te [µg/g]	---	---
Th [µg/g]	---	---
Tm [µg/g]	---	---

OnLine LIMS

0004059652

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Method Descriptions

Parameter	Units	SGS Method Code	CALA	PALA
Mercury by CVAAS	ug/g	ME-CA-[ENV]SPE-LAK-AN-004	Y	Y
Metals - Microwave/ICP-MS	µg/g	ME-CA-[ENV]SPE-LAK-AN-007	Y	N
Metals, ICP-MS	µg/g	ME-CA-[ENV]SPE-LAK-AN-005	Y	N
Metals, ICP-MS	µg/g	ME-CA-[ENV]SPE-LAK-AN-005	Y	Y

Accreditation Descriptions

CALA:
SGS Canada Industries & Environment conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation found at https://directory.cala.ca/#. Analytes and SGS Method Codes marked with a “Y” in the “CALA” column in the table denote ISO/IEC17025 accreditation

PALA:
SGS Canada Industries & Environment conforms to the requirements of ISO/IEC 17025:2005 for specific tests as listed on their scope of accreditation found at https://www.ceaeq.gouv.qc.ca/documents/publications/listes.htm#labo_accr. Analytes and SGS Method Codes marked with a “Y” in the “PALA” column in the table denote ISO/IEC17025:2005 accreditation

Catharine Arnold

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0004059652

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quality Control Report

Inorganic Analysis													
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Mercury by CVAAS - QCBatchID: EHG0004-MAR25													
Mercury	0.05	ug/g	<0.05			ND	20	100	80	120	100	70	130
Metals - Microwave/ICP-MS - QCBatchID: EMS0076-MAR25													
Cerium	0.001	µg/g	<0.001			ND	20	102	70	130	NV	70	130
Cesium	0.01	µg/g	<0.01			ND	20	106	70	130	NV	70	130
Dysprosium	0.001	µg/g	<0.001			ND	20	100	70	130	NV	70	130
Erbium	0.001	µg/g	<0.001			ND	20	100	70	130	NV	70	130
Europium	0.001	µg/g	<0.001			ND	20	97	70	130	NV	70	130
Gadolinium	0.001	µg/g	<0.001			ND	20	100	70	130	NV	70	130
Germanium	0.3	µg/g	<0.3			ND	20	106	70	130	NV	70	130
Gold	0.02	µg/g	<0.02			ND	20	93	70	130	NV	70	130
Hafnium	0.1	µg/g	<0.1			ND	20	91	70	130	NV	70	130
Holmium	0.001	µg/g	<0.001			ND	20	101	70	130	NV	70	130
Iridium	0.01	µg/g	<0.01			ND	20	99	70	130	NV	70	130
Lanthanum	0.001	µg/g	<0.001			ND	20	102	70	130	NV	70	130
Lutetium	0.001	µg/g	<0.001			ND	20	96	70	130	NV	70	130
Neodymium	0.006	µg/g	<0.006			ND	20	101	70	130	NV	70	130
Niobium	0.1	µg/g	<0.1			ND	20	95	70	130	NV	70	130
Osmium	0.1	µg/g	<0.1			ND	20	108	70	130	NV	70	130
Palladium	0.2	µg/g	<0.2			ND	20	97	70	130	NV	70	130
Platinum	0.1	µg/g	<0.1			ND	20	97	70	130	NV	70	130
Praseodymium	0.001	µg/g	<0.001			ND	20	103	70	130	NV	70	130
Rhenium	0.05	µg/g	<0.05			ND	20	102	70	130	NV	70	130
Rhodium	0.01	µg/g	<0.01			ND	20	98	70	130	NV	70	130
Rubidium	0.004	µg/g	<0.004			ND	20	98	70	130	NV	70	130
Ruthenium	0.01	µg/g	<0.01			ND	20	98	70	130	NV	70	130
Tantalum	0.01	µg/g	<0.01			ND	20	97	70	130	NV	70	130
Tellurium	0.1	µg/g	<0.01			ND	20	100	70	130	NV	70	130
Metals - Microwave/ICP-MS - QCBatchID: EMS0121-MAR25													
Gallium	0.03	µg/g	< 0.03			1	20	100	70	130			
Indium	0.01	µg/g	< 0.01			ND	20	101	70	130			
Samarium	0.001	µg/g	< 0.001			6	20	100	70	130			
Scandium	0.03	µg/g	< 0.03			1	20	99	70	130			
Terbium	0.001	µg/g	< 0.001			2	20	101	70	130			
Thulium	0.001	µg/g	< 0.001			6	20	99	70	130			
Metals, ICP-MS - QCBatchID: EMS0076-MAR25													

OnLine LIMS

00040596S2

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quebec MA200-Met 1.2 Digest

LR Report : **CA11014-FEB25**

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Aluminum	3	µg/g	<3			3	20	109	70	130	77	70	130
Antimony	0.8	µg/g	<0.8			1	20	103	70	130	107	70	130
Arsenic	0.5	µg/g	<0.5			1	20	96	70	130	71	70	130
Barium	0.01	µg/g	<0.01			4	20	104	70	130	83	70	130
Beryllium	0.02	µg/g	<0.02			9	20	93	70	130	76	70	130
Bismuth	0.09	µg/g	<0.09			ND	20	97	70	130	NV	70	130
Boron	1	µg/g	<1			0	20	91	70	130	NV	70	130
Cadmium	0.02	µg/g	<0.02			5	20	101	70	130	75	70	130
Calcium	3	µg/g	<3			2	20	101	70	130	72	70	130
Chromium	0.5	µg/g	<0.5			2	20	104	70	130	79	70	130
Cobalt	0.01	µg/g	<0.01			4	20	103	70	130	71	70	130
Copper	0.1	µg/g	<0.1			0	20	105	70	130	85	70	130
Iron	3	µg/g	<3			4	20	100	70	130	83	70	130
Lead	0.05	µg/g	<0.05			2	20	104	70	130	87	70	130
Lithium	2	µg/g	<2			0	20	91	70	130	73	70	130
Magnesium	3	µg/g	<1			4	20	105	70	130	78	70	130
Manganese	0.1	µg/g	<0.1			2	20	104	70	130	75	70	130
Molybdenum	0.1	µg/g	<0.1			5	20	102	70	130	81	70	130
Nickel	0.1	µg/g	<0.1			2	20	104	70	130	73	70	130
Phosphorus	3	µg/g	<3			2	20	102	70	130	NV	70	130
Potassium	3	µg/g	<3			2	20	105	70	130	87	70	130
Selenium	0.1	µg/g	<0.1			2	20	104	70	130	NV	70	130
Silver	0.5	µg/g	<0.5			ND	20	104	70	130	74	70	130
Sodium	3	µg/g	<3			3	20	104	70	130	73	70	130
Strontium	0.02	µg/g	<0.02			3	20	99	70	130	87	70	130
Thallium	0.02	µg/g	<0.02			8	20	96	70	130	107	70	130
Thorium	0.01	µg/g	<0.5			ND	20	108	70	130	NV	70	130
Tin	5	µg/g	<5			ND	20	96	70	130	98	70	130
Titanium	0.1	µg/g	<0.1			4	20	108	70	130	NV	70	130
Uranium	0.002	µg/g	<0.002			7	20	103	70	130	76	70	130
Vanadium	1	µg/g	<1			2	20	108	70	130	82	70	130
Zinc	0.7	µg/g	<0.7			2	20	106	70	130	71	70	130

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

00004059652

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

27-March-2025

Innova Lithium Inc.
Attn : John Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 05 February 2025
LR Report: **CA11015-FEB25**
Reference: Shaakichiuwaanaan Project

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: VIS-CV5-AMP-133	6: VIS-CV5-AMP-134	7: VIS-CV5-AMP-135	8: VIS-CV5-AMP-136	9: VIS-CV5-AMP-137	10: VIS-CV5-AMP-138
Sample Date & Time					NA	NA	NA	NA	NA	NA
Sample weight [g]	04-Mar-25	14:31	07-Mar-25	10:05	20	20	20	20	19	21
Ext Fluid [#1 or #2]	05-Mar-25	15:13	07-Mar-25	10:05	1	1	1	1	1	1
Ext Volume [mL]	06-Mar-25	07:41	07-Mar-25	10:05	400	400	400	400	400	400
pH [No unit]	07-Mar-25	13:40	11-Mar-25	10:48	8.25	7.84	7.88	7.86	7.84	7.82
Conductivity [uS/cm]	07-Mar-25	13:40	10-Mar-25	14:27	66	69	67	48	57	60
Alkalinity [mg/L as CaCO3]	07-Mar-25	13:40	11-Mar-25	14:52	26	25	28	21	25	28
Acidity [mg/L as CaCO3]	07-Mar-25	13:40	11-Mar-25	14:52	< 2	< 2	< 2	< 2	< 2	< 2
F [mg/L]	07-Mar-25	07:55	10-Mar-25	09:35	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	06-Mar-25	20:58	10-Mar-25	11:08	< 30	< 30	< 30	< 30	< 30	< 30
Cl [mg/L]	06-Mar-25	20:58	10-Mar-25	11:08	< 20	< 20	< 20	< 20	< 20	< 20
SO4 [mg/L]	06-Mar-25	20:58	10-Mar-25	11:08	< 20	< 20	< 20	< 20	< 20	< 20
NO2 [as N mg/L]	06-Mar-25	20:58	10-Mar-25	11:08	< 3	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	06-Mar-25	20:58	10-Mar-25	11:08	< 6	< 6	< 6	< 6	< 6	< 6
Tot.Reactive P [mg/L]	07-Mar-25	11:49	10-Mar-25	09:34	< 0.03	< 0.03	0.03	< 0.03	< 0.03	< 0.03
Hg [mg/L]	10-Mar-25	12:20	12-Mar-25	12:23	< 0.00001	< 0.00001	0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	07-Mar-25	15:58	11-Mar-25	11:27	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	07-Mar-25	15:58	11-Mar-25	11:27	0.467	0.361	0.364	0.553	0.506	0.383

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

000040569656

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11015-FEB25**

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: VIS-CV5-AMP-13 3	6: VIS-CV5-AMP-13 4	7: VIS-CV5-AMP-13 5	8: VIS-CV5-AMP-13 6	9: VIS-CV5-AMP-13 7	10: VIS-CV5-AMP-13 8
As [mg/L]	07-Mar-25	15:58	11-Mar-25	11:27	0.0087	0.0527	0.215	0.0137	0.0299	0.0169
Ba [mg/L]	07-Mar-25	15:58	11-Mar-25	11:27	0.00092	0.00056	0.00119	0.00027	0.00077	0.00070
Be [mg/L]	07-Mar-25	15:58	11-Mar-25	11:27	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	07-Mar-25	15:58	11-Mar-25	11:27	0.037	0.048	0.047	< 0.002	0.027	0.019
Bi [mg/L]	07-Mar-25	15:58	11-Mar-25	11:27	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00001	< 0.00001
Ca [mg/L]	07-Mar-25	15:58	11-Mar-25	11:27	7.66	7.79	6.80	7.91	6.18	6.25
Cd [mg/L]	07-Mar-25	15:58	11-Mar-25	11:27	< 0.000003	0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	07-Mar-25	15:58	11-Mar-25	11:27	0.000037	0.000036	0.000324	0.000008	0.000188	0.000069
Cr [mg/L]	07-Mar-25	15:58	11-Mar-25	11:27	0.00015	< 0.00008	0.00200	< 0.00008	0.00102	0.00094
Cu [mg/L]	07-Mar-25	15:58	11-Mar-25	11:20	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	07-Mar-25	15:58	11-Mar-25	11:20	0.068	0.066	0.221	< 0.007	0.308	0.093
K [mg/L]	10-Mar-25	17:00	11-Mar-25	11:20	0.452	0.116	0.456	0.209	0.480	0.300
Li [mg/L]	07-Mar-25	15:58	11-Mar-25	11:20	0.0274	0.0155	0.0263	0.0199	0.0436	0.0275
Mg [mg/L]	07-Mar-25	15:58	11-Mar-25	11:20	0.423	0.581	0.951	0.510	0.796	1.03
Mn [mg/L]	07-Mar-25	15:58	11-Mar-25	11:20	0.00131	0.00119	0.00489	0.00089	0.00530	0.00191
Mo [mg/L]	07-Mar-25	15:58	11-Mar-25	11:19	0.0011	0.0013	0.0014	0.0004	< 0.0004	0.0005
Na [mg/L]	07-Mar-25	15:58	11-Mar-25	11:19	5.19	5.53	5.71	0.75	5.03	4.82
Ni [mg/L]	07-Mar-25	15:58	11-Mar-25	11:19	0.0001	< 0.0001	0.0012	< 0.0001	0.0006	0.0003
P [mg/L]	10-Mar-25	17:00	11-Mar-25	11:19	0.003	0.007	0.005	< 0.003	0.019	0.006
Pb [mg/L]	07-Mar-25	15:58	11-Mar-25	11:19	< 0.00009	< 0.00009	0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	07-Mar-25	15:58	11-Mar-25	11:19	0.0096	0.0069	0.0384	0.0069	0.0018	0.0026
Se [mg/L]	07-Mar-25	15:58	11-Mar-25	11:18	0.00015	0.00019	0.00024	0.00006	0.00007	0.00006
Si [mg/L]	07-Mar-25	15:58	11-Mar-25	11:18	1.98	1.86	3.22	1.68	2.92	2.25
Sn [mg/L]	07-Mar-25	15:58	11-Mar-25	11:18	0.00068	0.00011	0.00104	0.00010	0.00112	0.00024
Sr [mg/L]	07-Mar-25	15:58	11-Mar-25	11:18	0.0102	0.0102	0.0128	0.0123	0.0049	0.0106
Ti [mg/L]	10-Mar-25	17:00	11-Mar-25	11:16	0.0024	0.0022	0.0057	0.0002	0.0088	0.0027
Tl [mg/L]	07-Mar-25	15:58	11-Mar-25	11:16	< 0.000005	< 0.000005	0.000008	0.000010	< 0.000005	< 0.000005
U [mg/L]	07-Mar-25	15:58	11-Mar-25	11:16	0.000084	0.000141	0.000026	0.000104	0.000030	0.000015
V [mg/L]	07-Mar-25	15:58	11-Mar-25	11:16	0.00352	0.00230	0.00540	0.00353	0.00506	0.00271
Zn [mg/L]	07-Mar-25	15:58	11-Mar-25	11:16	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au [mg/L]	07-Mar-25	15:58	11-Mar-25	11:16	< 0.00001	---	---	---	< 0.00001	---
Ce [mg/L]	10-Mar-25	14:15	11-Mar-25	11:16	< 0.00001	---	---	---	0.00007	---
Cs [mg/L]	07-Mar-25	15:58	11-Mar-25	11:16	0.0017	---	---	---	0.0491	---

OnLine LIMS

00004659656

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11015-FEB25**

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: VIS-CV5-AMP-13 3	6: VIS-CV5-AMP-13 4	7: VIS-CV5-AMP-13 5	8: VIS-CV5-AMP-13 6	9: VIS-CV5-AMP-13 7	10: VIS-CV5-AMP-13 8
Dy [mg/L]	10-Mar-25	14:15	11-Mar-25	11:16	< 0.00001	---	---	---	0.00001	---
Er [mg/L]	10-Mar-25	14:15	11-Mar-25	11:16	< 0.00001	---	---	---	< 0.00001	---
Eu [mg/L]	10-Mar-25	14:15	11-Mar-25	11:16	< 0.00001	---	---	---	< 0.00001	---
Ga [mg/L]	10-Mar-25	14:15	11-Mar-25	11:16	0.0003	---	---	---	0.0003	---
Gd (tot) [mg/L]	10-Mar-25	14:15	11-Mar-25	11:16	< 0.00001	---	---	---	0.00001	---
Ge [mg/L]	07-Mar-25	15:58	11-Mar-25	11:16	< 0.0001	---	---	---	< 0.0001	---
Hf [mg/L]	07-Mar-25	15:58	11-Mar-25	11:16	< 0.0001	---	---	---	< 0.0001	---
Ho [mg/L]	10-Mar-25	14:15	11-Mar-25	11:16	< 0.00001	---	---	---	< 0.00001	---
In [mg/L]	10-Mar-25	14:15	11-Mar-25	11:16	< 0.00001	---	---	---	< 0.00001	---
Ir [mg/L]	07-Mar-25	15:58	11-Mar-25	11:16	< 0.00001	---	---	---	< 0.00001	---
La [mg/L]	10-Mar-25	14:15	11-Mar-25	11:16	< 0.00001	---	---	---	0.00003	---
Lu [mg/L]	10-Mar-25	14:15	11-Mar-25	11:16	< 0.0001	---	---	---	< 0.0001	---
Nb [mg/L]	07-Mar-25	15:58	11-Mar-25	11:16	< 0.0001	---	---	---	< 0.0001	---
Nd [mg/L]	10-Mar-25	14:15	11-Mar-25	11:16	< 0.00001	---	---	---	0.00005	---
Os [mg/L]	07-Mar-25	15:58	11-Mar-25	11:16	< 0.0001	---	---	---	< 0.0001	---
Pd [mg/L]	07-Mar-25	15:58	11-Mar-25	11:16	< 0.0001	---	---	---	< 0.0001	---
Pr [mg/L]	10-Mar-25	14:15	11-Mar-25	11:16	< 0.00001	---	---	---	< 0.00001	---
Pt [mg/L]	07-Mar-25	15:58	11-Mar-25	11:16	< 0.0001	---	---	---	< 0.0001	---
Rh [mg/L]	07-Mar-25	15:58	11-Mar-25	11:16	< 0.00001	---	---	---	< 0.00001	---
Rb [mg/L]	07-Mar-25	15:58	11-Mar-25	11:16	0.0049	---	---	---	0.0061	---
Re [mg/L]	07-Mar-25	15:58	11-Mar-25	11:16	< 0.0001	---	---	---	< 0.0001	---
Ru [mg/L]	07-Mar-25	15:58	11-Mar-25	11:16	< 0.00001	---	---	---	< 0.00001	---
Sm [mg/L]	10-Mar-25	14:15	11-Mar-25	11:16	< 0.00001	---	---	---	0.00001	---
Sc [mg/L]	10-Mar-25	14:15	11-Mar-25	11:16	< 0.0001	---	---	---	< 0.0001	---
Ta [mg/L]	07-Mar-25	15:58	11-Mar-25	11:16	< 0.0001	---	---	---	< 0.0001	---
Tb [mg/L]	10-Mar-25	14:15	11-Mar-25	11:16	< 0.00001	---	---	---	< 0.00001	---
Te [mg/L]	07-Mar-25	15:58	11-Mar-25	11:16	< 0.0001	---	---	---	< 0.0001	---
Th [mg/L]	07-Mar-25	15:58	11-Mar-25	11:16	< 0.0001	---	---	---	< 0.0001	---
Tm [mg/L]	10-Mar-25	14:15	11-Mar-25	11:16	< 0.00001	---	---	---	< 0.00001	---

OnLine LIMS

00004959956

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11015-FEB25**

Analysis	11: VIS-CV5-AMP-139	12: VIS-CV5-AMP-140	13: VIS-CV5-AMP-141	14: VIS-CV5-AMP-142	15: VIS-CV5-AMP-143	16: VIS-CV5-AMP-144	17: VIS-CV5-AMP-145	18: VIS-CV5-AMP-146	19: VIS-CV5-AMP-147	20: VIS-CV5-AMP-148
Sample Date & Time	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sample weight [g]	20	21	21	19	20	20	20	20	20	20
Ext Fluid [#1 or #2]	1	1	1	1	1	1	1	1	1	1
Ext Volume [mL]	400	400	400	400	400	400	400	400	400	400
pH [No unit]	7.94	8.53	8.30	8.12	8.37	8.17	8.13	7.90	8.34	7.94
Conductivity [uS/cm]	58	69	66	46	68	66	57	49	62	60
Alkalinity [mg/L as CaCO3]	26	26	29	18	28	28	26	< 2	27	25
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
F [mg/L]	< 0.06	< 0.06	< 0.06	< 0.06	1.43	0.17	< 0.06	< 0.06	< 0.06	< 0.06
Br [mg/L]	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30
Cl [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
SO4 [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
NO2 [as N mg/L]	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Tot.Reactive P [mg/L]	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Hg [mg/L]	< 0.00001	< 0.00001	0.00001	0.00010	< 0.00001	< 0.00001	< 0.00001	0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.851	0.350	0.515	0.588	0.444	0.676	0.726	0.543	0.367	0.381
As [mg/L]	0.0180	0.0049	0.0166	0.0032	0.130	0.0124	0.0040	0.0214	0.0047	0.0089
Ba [mg/L]	0.00187	0.00063	0.00094	0.00081	0.00062	0.00073	0.00065	0.00090	0.00090	0.00060
Be [mg/L]	< 0.000007	< 0.000007	< 0.000007	0.000009	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	0.022	0.018	0.021	0.021	0.026	0.022	0.024	0.022	0.023	0.023
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	6.72	7.70	6.22	4.28	8.19	7.18	6.26	5.10	6.29	7.27
Cd [mg/L]	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	0.000010
Co [mg/L]	0.000214	0.000006	0.000096	0.000244	0.000008	0.000066	0.000218	0.000185	0.000054	0.000030
Cr [mg/L]	0.00085	0.00010	< 0.00008	0.00098	0.00008	0.00035	0.00126	0.00099	0.00073	0.00021
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	0.305	0.012	0.209	0.438	< 0.007	0.124	0.353	0.251	0.088	0.038
K [mg/L]	0.574	0.062	0.407	0.138	0.251	0.199	0.119	0.322	0.359	0.659
Li [mg/L]	0.0218	0.0165	0.0114	0.0275	0.0286	0.0198	0.0208	0.0215	0.0205	0.0240
Mg [mg/L]	0.620	0.828	0.576	0.654	0.458	0.597	0.737	0.853	0.803	0.435
Mn [mg/L]	0.00694	0.00058	0.00328	0.00797	0.00026	0.00271	0.00733	0.00509	0.00231	0.00125

OnLine LIMS

00004059656

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11015-FEB25**

Analysis	11: VIS-CV5-AMP-139	12: VIS-CV5-AMP-140	13: VIS-CV5-AMP-141	14: VIS-CV5-AMP-142	15: VIS-CV5-AMP-143	16: VIS-CV5-AMP-144	17: VIS-CV5-AMP-145	18: VIS-CV5-AMP-146	19: VIS-CV5-AMP-147	20: VIS-CV5-AMP-148
Mo [mg/L]	0.0018	< 0.0004	0.0010	0.0006	0.0004	< 0.0004	0.0021	0.0005	< 0.0004	< 0.0004
Na [mg/L]	4.92	5.09	6.91	4.87	5.39	5.47	4.63	3.54	5.34	4.70
Ni [mg/L]	0.0005	< 0.0001	< 0.0001	0.0006	0.0002	0.0002	0.0007	0.0008	0.0002	0.0003
P [mg/L]	0.004	< 0.003	0.004	0.015	< 0.003	0.003	0.006	0.003	< 0.003	< 0.003
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	0.00020
Sb [mg/L]	0.0140	0.0028	0.0035	0.0062	0.0230	0.0037	0.0040	0.0778	0.0025	0.0032
Se [mg/L]	0.00010	0.00008	0.00006	0.00004	0.00010	0.00004	0.00008	0.00008	0.00009	0.00007
Si [mg/L]	2.99	1.98	2.40	2.28	1.64	2.45	2.74	2.53	3.01	1.82
Sn [mg/L]	0.00108	0.00011	< 0.00006	0.00074	0.00063	0.00012	< 0.00006	< 0.00006	< 0.00006	0.00032
Sr [mg/L]	0.00758	0.0158	0.0140	0.00372	0.0120	0.00941	0.00882	0.00623	0.00988	0.00627
Ti [mg/L]	0.0099	0.0003	0.0049	0.0153	0.0002	0.0043	0.0102	0.0079	0.0022	0.0016
Tl [mg/L]	0.000008	< 0.000005	< 0.000005	0.000009	< 0.000005	< 0.000005	< 0.000005	0.000006	< 0.000005	0.000007
U [mg/L]	0.000015	0.000019	0.000024	0.000015	0.000021	0.000396	0.000025	0.000037	0.000064	0.000087
V [mg/L]	0.00606	0.00263	0.00738	0.00429	0.00382	0.00506	0.00424	0.00374	0.00500	0.00364
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Ce [mg/L]	---	---	0.00006	---	---	---	0.00003	---	---	---
Cs [mg/L]	---	---	0.0009	---	---	---	0.0005	---	---	---
Dy [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Er [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Eu [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Ga [mg/L]	---	---	0.0008	---	---	---	0.0003	---	---	---
Gd (tot) [mg/L]	---	---	0.00001	---	---	---	< 0.00001	---	---	---
Ge [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Hf [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Ho [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
In [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Ir [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
La [mg/L]	---	---	0.00003	---	---	---	0.00001	---	---	---
Lu [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Nb [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Nd [mg/L]	---	---	0.00003	---	---	---	0.00002	---	---	---
Os [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---

OnLine LIMS

0000405966

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11015-FEB25**

Analysis	11: VIS-CV5-AMP-139	12: VIS-CV5-AMP-140	13: VIS-CV5-AMP-141	14: VIS-CV5-AMP-142	15: VIS-CV5-AMP-143	16: VIS-CV5-AMP-144	17: VIS-CV5-AMP-145	18: VIS-CV5-AMP-146	19: VIS-CV5-AMP-147	20: VIS-CV5-AMP-148
Pd [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Pr [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Pt [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Rh [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Rb [mg/L]	---	---	0.0026	---	---	---	0.0009	---	---	---
Re [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Ru [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Sm [mg/L]	---	---	0.00001	---	---	---	< 0.00001	---	---	---
Sc [mg/L]	---	---	< 0.0001	---	---	---	0.0001	---	---	---
Ta [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Tb [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Te [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Th [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Tm [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---

Analysis	21: VIS-CV5-AMP-149	22: VIS-CV5-AMP-150	23: VIS-CV5-AMP-151	24: VIS-CV5-AMP-152	25: VIS-CV5-AMP-153	26: VIS-CV5-AMP-154	27: VIS-CV5-AMP-155	28: VIS-CV5-AMP-156	29: VIS-CV5-AMP-157	30: VIS-CV5-AMP-158
Sample Date & Time	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sample weight [g]	20	20	20	19	20	20	21	20	20	20
Ext Fluid [#1 or #2]	1	1	1	1	1	1	1	1	1	1
Ext Volume [mL]	400	400	400	400	400	400	400	400	400	400
pH [No unit]	7.81	8.09	8.03	7.92	8.71	8.32	8.45	8.69	8.14	8.22
Conductivity [uS/cm]	61	64	65	49	63	50	64	57	61	63
Alkalinity [mg/L as CaCO3]	24	29	33	21	28	23	27	25	28	27
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
F [mg/L]	0.06	0.11	< 0.06	0.18	0.17	< 0.06	0.09	< 0.06	< 0.06	< 0.06
Br [mg/L]	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30
Cl [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
SO4 [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
NO2 [as N mg/L]	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6

OnLine LIMS

00004059656

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11015-FEB25**

Analysis	21: VIS-CV5-AMP-149	22: VIS-CV5-AMP-150	23: VIS-CV5-AMP-151	24: VIS-CV5-AMP-152	25: VIS-CV5-AMP-153	26: VIS-CV5-AMP-154	27: VIS-CV5-AMP-155	28: VIS-CV5-AMP-156	29: VIS-CV5-AMP-157	30: VIS-CV5-AMP-158
Tot.Reactive P [mg/L]	< 0.03	< 0.03	< 0.03	< 0.03	0.08	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Hg [mg/L]	< 0.00001	< 0.00001	0.00001	< 0.00001	< 0.00001	0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.308	0.702	0.452	0.574	0.188	0.846	0.510	0.351	0.555	0.349
As [mg/L]	0.0611	0.0187	0.0155	0.0057	0.393	0.0060	0.167	0.0173	0.0049	0.0017
Ba [mg/L]	0.00080	0.00091	0.00064	0.00100	0.00059	0.00199	0.00077	0.00099	0.00072	0.00064
Be [mg/L]	0.000027	0.000020	< 0.000007	0.000012	0.000012	0.000041	0.000030	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	0.022	0.022	0.036	0.027	0.027	0.029	0.024	0.020	0.020	0.027
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	6.63	7.03	6.24	4.00	6.28	5.13	6.11	7.00	6.93	6.42
Cd [mg/L]	< 0.000003	0.000003	< 0.000003	0.000005	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	0.000321	0.000157	0.000027	0.000246	0.000053	0.000170	0.000157	< 0.000004	0.000019	0.000068
Cr [mg/L]	0.00279	0.00103	0.00011	0.00183	0.00092	0.00085	0.00190	< 0.00008	0.00017	0.00026
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	0.248	0.188	0.038	0.301	0.061	0.299	0.157	< 0.007	0.033	0.126
K [mg/L]	0.159	0.597	0.218	0.122	0.420	0.762	1.27	0.293	0.116	0.151
Li [mg/L]	0.0394	0.0409	0.0185	0.0430	0.0182	0.0200	0.0865	0.0215	0.0258	0.0034
Mg [mg/L]	0.927	0.735	0.464	0.714	0.870	0.802	0.868	0.428	0.540	0.756
Mn [mg/L]	0.00673	0.00382	0.00109	0.0116	0.00142	0.00584	0.00379	0.00020	0.00084	0.00262
Mo [mg/L]	< 0.0004	0.0027	< 0.0004	0.0026	0.0014	0.0004	< 0.0004	< 0.0004	0.0012	0.0056
Na [mg/L]	5.15	5.44	6.94	5.35	5.84	4.67	5.57	4.08	4.44	5.13
Ni [mg/L]	0.0014	0.0004	< 0.0001	0.0006	0.0005	0.0004	0.0010	< 0.0001	0.0001	0.0002
P [mg/L]	0.003	0.003	< 0.003	0.006	0.003	0.005	0.005	< 0.003	< 0.003	0.005
Pb [mg/L]	0.00011	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	0.00011	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.0732	0.0065	0.0026	0.0086	0.0377	0.0045	0.0278	0.0181	0.0044	< 0.0009
Se [mg/L]	0.00029	0.00015	0.00019	< 0.00004	0.00008	0.00005	0.00007	0.00006	< 0.00004	< 0.00004
Si [mg/L]	2.38	2.72	2.46	2.63	2.65	3.00	2.63	1.58	2.02	2.22
Sn [mg/L]	< 0.00006	0.00074	0.00015	0.00007	0.00073	0.00015	0.00019	0.00009	0.00039	0.00012
Sr [mg/L]	0.0192	0.0106	0.00726	0.00479	0.0101	0.00615	0.00825	0.0118	0.00876	0.0129
Ti [mg/L]	0.0059	0.0048	0.0013	0.0130	0.0021	0.0095	0.0050	0.0001	0.0012	0.0032
Tl [mg/L]	0.000015	0.000007	< 0.000005	0.000016	< 0.000005	0.000010	0.000067	< 0.000005	< 0.000005	< 0.000005
U [mg/L]	0.000083	0.000057	0.000170	0.000032	0.000012	0.000025	0.000104	0.000013	0.000008	0.000011
V [mg/L]	0.00378	0.00440	0.00593	0.00493	0.00818	0.00477	0.00415	0.00330	0.00450	0.00419

OnLine LIMS

00004059656

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11015-FEB25**

Analysis	21: VIS-CV5-AMP-149	22: VIS-CV5-AMP-150	23: VIS-CV5-AMP-151	24: VIS-CV5-AMP-152	25: VIS-CV5-AMP-153	26: VIS-CV5-AMP-154	27: VIS-CV5-AMP-155	28: VIS-CV5-AMP-156	29: VIS-CV5-AMP-157	30: VIS-CV5-AMP-158
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Ce [mg/L]	0.00003	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Cs [mg/L]	0.0255	---	---	---	0.0098	---	---	---	0.0117	---
Dy [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Er [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Eu [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Ga [mg/L]	0.0002	---	---	---	0.0004	---	---	---	0.0003	---
Gd (tot) [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Ge [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Hf [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Ho [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
In [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Ir [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
La [mg/L]	0.00002	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Lu [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Nb [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Nd [mg/L]	0.00002	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Os [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Pd [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Pr [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Pt [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Rh [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Rb [mg/L]	0.0096	---	---	---	0.0078	---	---	---	0.0033	---
Re [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Ru [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Sm [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Sc [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Ta [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Tb [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Te [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Th [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Tm [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---

OnLine LIMS

0000459956

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11015-FEB25**

Analysis	31: VIS-CV5-AMP-159	32: VIS-CV5-AMP-160	33: VIS-CV5-AMP-161	34: VIS-CV5-AMP-162	35: VIS-CV5-AMP-163	36: VIS-CV5-AMP-164	37: VIS-CV5-AMP-165	38: VIS-CV5-AMP-166	39: VIS-CV5-AMP-167	40: VIS-CV5-AMP-168
Sample Date & Time	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sample weight [g]	20	21	20	20	20	19	20	20	20	21
Ext Fluid [#1 or #2]	1	1	1	1	1	1	1	1	1	1
Ext Volume [mL]	400	400	400	400	400	400	400	400	400	400
pH [No unit]	8.26	8.19	8.21	8.22	7.75	8.21	8.19	8.15	7.89	9.16
Conductivity [uS/cm]	58	72	69	54	74	63	66	61	64	66
Alkalinity [mg/L as CaCO3]	29	30	29	29	27	28	30	28	28	28
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
F [mg/L]	0.49	0.36	0.22	< 0.06	< 0.06	< 0.06	0.12	0.20	< 0.06	0.06
Br [mg/L]	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30
Cl [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
SO4 [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
NO2 [as N mg/L]	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Tot.Reactive P [mg/L]	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.440	0.425	0.345	0.705	0.318	0.429	0.445	0.737	0.227	0.322
As [mg/L]	0.0768	0.113	0.0235	0.0058	0.0437	0.0132	0.0442	0.0187	0.0038	0.0362
Ba [mg/L]	0.00168	0.00281	0.00160	0.00150	0.00156	0.00047	0.00057	0.00047	0.00081	0.00087
Be [mg/L]	0.000061	0.000030	0.000015	< 0.000007	< 0.000007	< 0.000007	0.000007	< 0.000007	0.000007	< 0.000007
B [mg/L]	0.047	0.032	0.027	0.028	0.032	0.026	0.033	0.023	0.033	0.032
Bi [mg/L]	0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	5.39	5.41	6.42	6.30	7.82	6.66	5.43	6.82	6.22	5.94
Cd [mg/L]	0.000004	0.000004	0.000192	0.000003	0.000009	< 0.000003	0.000007	< 0.000003	< 0.000003	0.000003
Co [mg/L]	0.000168	0.000076	0.000072	0.000136	0.000082	0.000051	0.000048	0.000011	0.000018	0.000020
Cr [mg/L]	0.00042	0.00096	0.00078	0.00056	0.00088	0.00021	0.00032	0.00017	0.00009	0.00013
Cu [mg/L]	< 0.001	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	0.135	0.103	0.108	0.256	0.074	0.058	0.072	0.017	0.016	0.024
K [mg/L]	2.00	3.96	0.637	0.384	0.970	0.289	0.559	0.653	0.274	0.724
Li [mg/L]	0.0610	0.156	0.0264	0.0346	0.0155	0.0173	0.0873	0.0256	0.0066	0.0253
Mg [mg/L]	0.758	0.720	0.878	0.663	0.942	0.601	0.724	0.609	0.611	0.804
Mn [mg/L]	0.00360	0.00358	0.00406	0.00408	0.00120	0.00170	0.00127	0.00042	0.00062	0.00089

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

00004059656

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11015-FEB25**

Analysis	31: VIS-CV5-AMP-159	32: VIS-CV5-AMP-160	33: VIS-CV5-AMP-161	34: VIS-CV5-AMP-162	35: VIS-CV5-AMP-163	36: VIS-CV5-AMP-164	37: VIS-CV5-AMP-165	38: VIS-CV5-AMP-166	39: VIS-CV5-AMP-167	40: VIS-CV5-AMP-168
Mo [mg/L]	0.0007	0.0097	0.0030	0.0016	0.0004	0.0053	0.0028	< 0.0004	0.0007	0.0047
Na [mg/L]	4.98	5.51	5.18	5.10	5.34	5.06	6.54	4.11	5.40	5.67
Ni [mg/L]	0.0007	0.0003	0.0003	0.0003	0.0010	0.0001	0.0002	< 0.0001	< 0.0001	< 0.0001
P [mg/L]	0.005	0.008	0.003	0.005	< 0.003	< 0.003	0.004	< 0.003	< 0.003	0.008
Pb [mg/L]	< 0.00009	0.00011	0.00039	< 0.00009	0.00015	< 0.00009	0.00011	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.0429	0.0203	0.0136	0.0083	0.0564	0.0051	0.0188	0.0024	0.0013	0.0091
Se [mg/L]	0.00023	0.00062	0.00011	0.00005	0.00020	0.00015	0.00010	0.00005	< 0.00004	< 0.00004
Si [mg/L]	2.47	2.04	2.79	2.34	1.90	2.18	2.13	2.36	1.71	2.21
Sn [mg/L]	0.00010	0.00022	0.00017	0.00012	0.00089	0.00009	0.00052	0.00026	0.00018	0.00018
Sr [mg/L]	0.00974	0.00943	0.0107	0.00998	0.00964	0.0106	0.0188	0.00728	0.0331	0.0166
Ti [mg/L]	0.0042	0.0042	0.0034	0.0091	0.0013	0.0022	0.0035	0.0006	0.0014	0.0006
Tl [mg/L]	0.000060	0.000204	0.000018	0.000008	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005
U [mg/L]	0.000043	0.000109	0.000055	0.000020	0.000147	0.000120	0.000026	0.000008	0.000007	0.000011
V [mg/L]	0.00676	0.00802	0.00540	0.00515	0.00134	0.00503	0.00645	0.00545	0.00569	0.00481
Zn [mg/L]	< 0.002	< 0.002	0.132	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Ce [mg/L]	---	---	0.00002	---	---	---	0.00002	---	---	---
Cs [mg/L]	---	---	0.0161	---	---	---	0.0325	---	---	---
Dy [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Er [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Eu [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Ga [mg/L]	---	---	0.0003	---	---	---	0.0006	---	---	---
Gd (tot) [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Ge [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Hf [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Ho [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
In [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Ir [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
La [mg/L]	---	---	0.00001	---	---	---	< 0.00001	---	---	---
Lu [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Nb [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Nd [mg/L]	---	---	0.00001	---	---	---	0.00001	---	---	---
Os [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---

OnLine LIMS

0000459696

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11015-FEB25**

Analysis	31: VIS-CV5-AMP-159	32: VIS-CV5-AMP-160	33: VIS-CV5-AMP-161	34: VIS-CV5-AMP-162	35: VIS-CV5-AMP-163	36: VIS-CV5-AMP-164	37: VIS-CV5-AMP-165	38: VIS-CV5-AMP-166	39: VIS-CV5-AMP-167	40: VIS-CV5-AMP-168
Pd [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Pr [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Pt [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Rh [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Rb [mg/L]	---	---	0.0141	---	---	---	0.0092	---	---	---
Re [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Ru [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Sm [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Sc [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Ta [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Tb [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Te [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Th [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Tm [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---

Analysis	41: VIS-CV5-AMP-169	42: VIS-CV5-AMP-170	43: VIS-CV5-AMP-171	44: VIS-CV5-AMP-172	45: VIS-CV5-AMP-173	46: VIS-CV5-AMP-174	47: VIS-CV5-AMP-175	48: VIS-CV5-AMP-176	49: VIS-CV5-AMP-177	50: VIS-CV5-AMP-178
Sample Date & Time	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sample weight [g]	19	20	20	20	20	20	20	20	20	20
Ext Fluid [#1 or #2]	1	1	1	1	1	1	1	1	1	1
Ext Volume [mL]	400	400	400	400	400	400	400	400	400	400
pH [No unit]	8.73	7.96	8.21	7.92	7.89	7.95	8.01	7.83	7.86	7.92
Conductivity [uS/cm]	63	60	64	48	62	51	63	40	51	59
Alkalinity [mg/L as CaCO3]	28	26	27	21	27	21	28	15	21	26
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
F [mg/L]	< 0.06	0.11	< 0.06	< 0.06	0.07	< 0.06	0.08	< 0.06	0.69	0.08
Br [mg/L]	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30
Cl [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
SO4 [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
NO2 [as N mg/L]	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6

OnLine LIMS

00004059656

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11015-FEB25**

Analysis	41: VIS-CV5-AMP-169	42: VIS-CV5-AMP-170	43: VIS-CV5-AMP-171	44: VIS-CV5-AMP-172	45: VIS-CV5-AMP-173	46: VIS-CV5-AMP-174	47: VIS-CV5-AMP-175	48: VIS-CV5-AMP-176	49: VIS-CV5-AMP-177	50: VIS-CV5-AMP-178
Tot.Reactive P [mg/L]	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.701	0.455	0.498	0.738	0.442	0.666	0.492	0.564	0.402	0.491
As [mg/L]	0.0112	0.0245	0.0178	0.0037	0.0118	0.0029	0.0538	0.0222	0.0382	0.0301
Ba [mg/L]	0.00088	0.00059	0.00160	0.00035	0.00049	0.00022	0.00057	0.00428	0.00050	0.00083
Be [mg/L]	< 0.000007	0.000011	< 0.000007	< 0.000007	0.000014	< 0.000007	< 0.000007	0.000011	0.000009	0.000009
B [mg/L]	0.023	0.021	0.022	0.004	0.024	0.002	0.025	0.023	0.025	0.024
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	6.28	6.43	6.46	7.13	6.48	7.79	6.28	2.77	4.49	6.17
Cd [mg/L]	0.000003	0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	0.000003	< 0.000003	0.000060
Co [mg/L]	0.000106	0.000058	0.000086	0.000006	0.000101	0.000010	0.000020	0.000245	0.000076	0.000089
Cr [mg/L]	0.00050	0.00014	0.00045	< 0.00008	0.00033	< 0.00008	0.00013	0.00070	0.00047	0.00039
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	0.149	0.094	0.106	< 0.007	0.104	< 0.007	0.020	0.294	0.074	0.094
K [mg/L]	0.518	0.289	0.613	0.227	0.473	0.106	0.629	0.511	0.434	0.494
Li [mg/L]	0.0138	0.0171	0.0464	0.0278	0.0287	0.0211	0.0252	0.0331	0.0297	0.0182
Mg [mg/L]	0.809	0.728	0.665	0.522	0.658	0.486	0.566	0.804	0.529	0.620
Mn [mg/L]	0.00318	0.00155	0.00255	0.00092	0.00238	0.00094	0.00059	0.00469	0.00178	0.00282
Mo [mg/L]	0.0044	0.0013	0.0067	< 0.0004	< 0.0004	< 0.0004	< 0.0004	0.0005	0.0005	0.0004
Na [mg/L]	5.22	4.49	5.12	1.09	5.10	0.80	4.87	4.27	4.45	4.62
Ni [mg/L]	0.0004	0.0001	0.0003	< 0.0001	0.0002	0.0002	0.0001	0.0010	0.0005	0.0004
P [mg/L]	< 0.003	0.004	0.003	< 0.003	< 0.003	< 0.003	< 0.003	0.006	0.007	< 0.003
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	0.00029
Sb [mg/L]	0.0035	0.0056	0.0047	0.0038	0.0056	< 0.0009	0.0219	0.0137	0.0744	0.0093
Se [mg/L]	< 0.00004	0.00012	0.00011	0.00007	0.00009	0.00007	0.00016	< 0.00004	0.00011	0.00014
Si [mg/L]	2.54	1.85	1.98	2.01	1.74	1.75	2.18	2.12	1.54	1.86
Sn [mg/L]	0.00086	0.00126	0.00015	0.00027	0.00018	0.00021	0.00187	0.00147	0.00008	0.00016
Sr [mg/L]	0.00765	0.00706	0.0134	0.00828	0.00989	0.00773	0.0105	0.00478	0.00597	0.00625
Ti [mg/L]	0.0055	0.0030	0.0052	0.0002	0.0047	0.0002	0.0006	0.0103	0.0029	0.0032
Tl [mg/L]	< 0.000005	< 0.000005	0.000011	< 0.000005	0.000014	< 0.000005	< 0.000005	0.000006	0.000032	0.000011
U [mg/L]	0.000129	0.000016	0.000029	0.000131	0.000138	0.000315	0.000055	0.000006	0.000007	0.000041
V [mg/L]	0.00461	0.00562	0.00424	0.00463	0.00362	0.00288	0.00504	0.00345	0.00352	0.00525

OnLine LIMS

00004059656

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11015-FEB25**

Analysis	41: VIS-CV5-AMP-169	42: VIS-CV5-AMP-170	43: VIS-CV5-AMP-171	44: VIS-CV5-AMP-172	45: VIS-CV5-AMP-173	46: VIS-CV5-AMP-174	47: VIS-CV5-AMP-175	48: VIS-CV5-AMP-176	49: VIS-CV5-AMP-177	50: VIS-CV5-AMP-178
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0.047
Au [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Ce [mg/L]	0.00001	---	---	---	0.00002	---	---	---	0.00002	---
Cs [mg/L]	0.0007	---	---	---	0.0095	---	---	---	0.0134	---
Dy [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Er [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Eu [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Ga [mg/L]	0.0003	---	---	---	0.0004	---	---	---	0.0003	---
Gd (tot) [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Ge [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Hf [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Ho [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
In [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Ir [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
La [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	0.00001	---
Lu [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Nb [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Nd [mg/L]	< 0.00001	---	---	---	0.00001	---	---	---	< 0.00001	---
Os [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Pd [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Pr [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Pt [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Rh [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Rb [mg/L]	0.0032	---	---	---	0.0197	---	---	---	0.0222	---
Re [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Ru [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Sm [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Sc [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Ta [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Tb [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Te [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Th [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Tm [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---

OnLine LIMS

0000459956

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11015-FEB25**

Analysis	51: VIS-CV5-AMP-179	52: VIS-CV5-AMP-180	53: VIS-CV5-AMP-148	54: VIS-CV5-AMP-168	55: VIS-CV5-AMP-180	56:BLK: $SPLP1312 Blank #1
Sample Date & Time	NA	NA				
Sample weight [g]	20	20	20	20	20	---
Ext Fluid [#1 or #2]	1	1	1	1	1	1
Ext Volume [mL]	400	400	400	400	400	400
pH [No unit]	7.92	9.04	8.11	9.06	8.97	4.37
Conductivity [uS/cm]	52	59	59	65	59	20
Alkalinity [mg/L as CaCO3]	23	26	25	29	25	< 2
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	3
F [mg/L]	0.10	0.10	< 0.06	0.07	0.10	< 0.06
Br [mg/L]	< 30	< 30	< 30	< 30	< 30	< 30
Cl [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20
SO4 [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20
NO2 [as N mg/L]	< 3	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	< 6	< 6	< 6	< 6	< 6	< 6
Tot.Reactive P [mg/L]	0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.727	0.431	0.379	0.324	0.403	0.001
As [mg/L]	0.118	0.0209	0.0092	0.0351	0.0228	0.0054
Ba [mg/L]	0.00079	0.00089	0.00056	0.00096	0.00075	0.00042
Be [mg/L]	0.000013	0.000008	< 0.000007	< 0.000007	0.000008	< 0.000007
B [mg/L]	0.047	0.036	0.023	0.032	0.037	< 0.002
Bi [mg/L]	< 0.00001	0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	7.69	4.63	7.28	5.87	4.77	0.04
Cd [mg/L]	0.000003	0.000004	0.000014	0.000006	0.000003	0.000173
Co [mg/L]	0.000009	0.000064	0.000034	0.000023	0.000061	0.000024
Cr [mg/L]	< 0.00008	0.00046	0.00021	0.00014	0.00033	< 0.00008
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001
Fe [mg/L]	< 0.007	0.096	0.038	0.031	0.087	< 0.007
K [mg/L]	0.557	0.417	0.177	0.729	0.449	0.103
Li [mg/L]	0.0186	0.0595	0.0239	0.0241	0.0672	0.0001
Mg [mg/L]	0.652	0.691	0.440	0.820	0.724	0.019
Mn [mg/L]	0.00181	0.00187	0.00135	0.00113	0.00166	0.00066

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

00004059656

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	51: VIS-CV5-AMP-179	52: VIS-CV5-AMP-180	53: VIS-CV5-AMP-148	54: VIS-CV5-AMP-168	55: VIS-CV5-AMP-180	56:BLK: $SPLP1312 Blank #1
Mo [mg/L]	0.0006	0.0020	< 0.0004	0.0140	0.0038	0.0007
Na [mg/L]	0.61	6.14	4.80	5.76	5.88	< 0.01
Ni [mg/L]	< 0.0001	0.0002	0.0003	< 0.0001	0.0002	0.0010
P [mg/L]	0.024	< 0.003	< 0.003	0.004	< 0.003	< 0.003
Pb [mg/L]	< 0.00009	0.00029	0.00015	< 0.00009	0.00029	0.00413
Sb [mg/L]	0.0116	0.0247	0.0032	0.0089	0.0286	< 0.0009
Se [mg/L]	0.00013	0.00007	0.00006	< 0.00004	0.00006	< 0.00004
Si [mg/L]	1.48	2.02	1.77	2.18	1.89	< 0.02
Sn [mg/L]	0.00006	0.00012	0.00030	0.00017	0.00016	< 0.00006
Sr [mg/L]	0.00710	0.0137	0.00639	0.0165	0.0148	0.00039
Ti [mg/L]	0.0002	0.0057	0.0014	0.0008	0.0051	< 0.0001
Tl [mg/L]	0.000012	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005
U [mg/L]	0.000031	0.000221	0.000085	0.000010	0.000075	0.000015
V [mg/L]	0.00453	0.00507	0.00365	0.00470	0.00522	0.00001
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0.012
Au [mg/L]	---	---	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce [mg/L]	---	---	< 0.00001	< 0.00001	0.00003	0.00001
Cs [mg/L]	---	---	0.0099	0.0019	0.0077	0.0002
Dy [mg/L]	---	---	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er [mg/L]	---	---	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu [mg/L]	---	---	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga [mg/L]	---	---	0.0002	0.0003	0.0006	< 0.0001
Gd (tot) [mg/L]	---	---	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge [mg/L]	---	---	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf [mg/L]	---	---	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho [mg/L]	---	---	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In [mg/L]	---	---	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir [mg/L]	---	---	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La [mg/L]	---	---	< 0.00001	< 0.00001	0.00001	< 0.00001
Lu [mg/L]	---	---	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb [mg/L]	---	---	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nd [mg/L]	---	---	< 0.00001	< 0.00001	0.00002	< 0.00001
Os [mg/L]	---	---	< 0.0001	< 0.0001	< 0.0001	< 0.0001

OnLine LIMS

0004059656

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	51: VIS-CV5-AMP-179	52: VIS-CV5-AMP-180	53: VIS-CV5-AMP-148	54: VIS-CV5-AMP-168	55: VIS-CV5-AMP-180	56:BLK: $SPLP1312 Blank #1
Pd [mg/L]	---	---	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr [mg/L]	---	---	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt [mg/L]	---	---	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh [mg/L]	---	---	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Rb [mg/L]	---	---	0.0092	0.0048	0.0045	0.0002
Re [mg/L]	---	---	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ru [mg/L]	---	---	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sm [mg/L]	---	---	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc [mg/L]	---	---	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ta [mg/L]	---	---	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb [mg/L]	---	---	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te [mg/L]	---	---	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th [mg/L]	---	---	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm [mg/L]	---	---	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Method Descriptions

Parameter	Units	SGS Method Code	CALA	PALA
	#1 or #2	NA	N	N
	g	NA	N	N
	mL	NA	N	N
Acidity	mg/L as CaCO3	ME-CA-[ENV]EWL-LAK-AN-006	Y	N
Alkalinity	mg/L as CaCO3	ME-CA-[ENV]EWL-LAK-AN-006	Y	N
Anions by IC	mg/L	ME-CA-[ENV]IC-LAK-AN-001	Y	N
Anions by IC	mg/L	ME-CA-[ENV]IC-LAK-AN-001	Y	Y
Conductivity	uS/cm	ME-CA-[ENV]EWL-LAK-AN-006	Y	Y
Fluoride by Specific Ion Electrode	mg/L	ME-CA-[ENV]EWL-LAK-AN-014	Y	Y
Inorganics-General	mg/L	ME-CA-[ENV]SPE-LAK-AN-004	Y	Y
Metals in aqueous samples - ICP-MS	mg/L	ME-CA-[ENV]SPE-LAK-AN-006	Y	N
Metals in aqueous samples - ICP-MS	mg/L	ME-CA-[ENV]SPE-LAK-AN-006	Y	Y
pH	No unit	ME-CA-[ENV]EWL-LAK-AN-006	Y	Y
Reactive Phosphorus by SFA	mg/L	ME-CA-[ENV]SFA-LAK-AN-004	Y	N

OnLine LIMS

00004059956

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

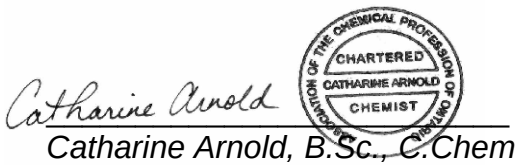
Accreditation Descriptions

CALA:

SGS Canada Industries & Environment conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation found at https://directory.cala.ca/#. Analytes and SGS Method Codes marked with a “Y” in the “CALA” column in the table denote ISO/IEC17025 accreditation

PALA:

SGS Canada Industries & Environment conforms to the requirements of ISO/IEC 17025:2005 for specific tests as listed on their scope of accreditation found at https://www.ceaeq.gouv.qc.ca/documents/publications/listes.htm#labo_accr. Analytes and SGS Method Codes marked with a “Y” in the “PALA” column in the table denote ISO/IEC17025:2005 accreditation



Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

00004059956

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quality Control Report

Inorganic Analysis													
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Acidity - QCBatchID: EWL0128-MAR25													
Acidity	2	mg/L as Ca	2			ND	20	98	90	110	NA		
Acidity - QCBatchID: EWL0129-MAR25													
Acidity	2	mg/L as Ca	2			ND	20	100	90	110	NA		
Acidity - QCBatchID: EWL0130-MAR25													
Acidity	2	mg/L as Ca	< 2			ND	20	96	90	110	NA		
Acidity - QCBatchID: EWL0162-MAR25													
Acidity	2	mg/L as Ca	< 2			ND	20	104	90	110	NA		
Alkalinity - QCBatchID: EWL0128-MAR25													
Alkalinity	2	mg/L as Ca	< 2			0	20	104	80	120	NA		
Alkalinity - QCBatchID: EWL0129-MAR25													
Alkalinity	2	mg/L as Ca	< 2			0	20	98	80	120	NA		
Alkalinity - QCBatchID: EWL0130-MAR25													
Alkalinity	2	mg/L as Ca	< 2			0	20	98	80	120	NA		
Alkalinity - QCBatchID: EWL0162-MAR25													
Alkalinity	2	mg/L as Ca	< 2			0	20	109	80	120	NA		
Anions by IC - QCBatchID: DIO0123-MAR25													
Bromide	0.3	mg/L	<0.3			ND	20	104	90	110	100	75	125
Chloride	0.2	mg/L	<0.2			5	20	104	90	110	105	75	125
Nitrate (as N)	0.06	mg/L	<0.06			9	20	102	90	110	102	75	125
Nitrite (as N)	0.03	mg/L	<0.03			ND	20	101	90	110	102	75	125
Sulphate	0.2	mg/L	<0.2			10	20	101	90	110	98	75	125
Anions by IC - QCBatchID: DIO0124-MAR25													
Bromide	0.3	mg/L	<0.3			ND	20	108	90	110	103	75	125
Chloride	0.2	mg/L	<0.2			5	20	104	90	110	104	75	125
Nitrate (as N)	0.06	mg/L	<0.06			14	20	101	90	110	102	75	125
Nitrite (as N)	0.03	mg/L	<0.03			ND	20	100	90	110	102	75	125
Sulphate	0.2	mg/L	<0.2			ND	20	101	90	110	99	75	125
Anions by IC - QCBatchID: DIO0137-MAR25													
Bromide	0.3	mg/L	<0.3			ND	20	107	90	110	107	75	125
Chloride	0.2	mg/L	<0.2			4	20	103	90	110	106	75	125
Nitrate (as N)	0.06	mg/L	<0.06			ND	20	102	90	110	105	75	125
Nitrite (as N)	0.03	mg/L	<0.03			ND	20	102	90	110	105	75	125
Sulphate	0.2	mg/L	<0.2			4	20	102	90	110	102	75	125
Anions by IC - QCBatchID: DIO0141-MAR25													
Bromide	0.3	mg/L	<0.3			ND	20	108	90	110	106	75	125

OnLine LIMS

00004059656

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0)
20:1 L/S ratio, 18hr

LR Report : **CA11015-FEB25**

Inorganic Analysis													
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Chloride	0.2	mg/L	<0.2			ND	20	103	90	110	109	75	125
Nitrate (as N)	0.06	mg/L	<0.06			ND	20	103	90	110	103	75	125
Nitrite (as N)	0.03	mg/L	<0.03			ND	20	102	90	110	106	75	125
Sulphate	0.2	mg/L	<0.2			6	20	102	90	110	101	75	125
Conductivity - QCBatchID: EWL0128-MAR25													
Conductivity	2	uS/cm	< 2			3	20	101	90	110	NA		
Conductivity - QCBatchID: EWL0129-MAR25													
Conductivity	2	uS/cm	< 2			2	20	100	90	110	NA		
Conductivity - QCBatchID: EWL0130-MAR25													
Conductivity	2	uS/cm	2			3	20	107	90	110	NA		
Fluoride by Specific Ion Electrode - QCBatchID: EWL0114-MAR25													
Fluoride	0.06	mg/L	<0.06			ND	10	101	90	110	110	75	125
Fluoride by Specific Ion Electrode - QCBatchID: EWL0123-MAR25													
Fluoride	0.06	mg/L	<0.06			ND	10	103	90	110	107	75	125
Fluoride by Specific Ion Electrode - QCBatchID: EWL0132-MAR25													
Fluoride	0.06	mg/L	<0.06			ND	10	99	90	110	100	75	125
Inorganics-General - QCBatchID: EHG0010-MAR25													
Mercury	0.00001	mg/L	< 0.00001			ND	20	83	80	120	70	70	130
Inorganics-General - QCBatchID: EHG0012-MAR25													
Mercury	0.00001	mg/L	< 0.00001			ND	20	113	80	120	124	70	130
Metals in aqueous samples - ICP-MS - QCBatchID: EMS0049-MAR25													
Aluminum	0.001	mg/L	<0.001			2	20	102	90	110	114	70	130
Antimony	0.0009	mg/L	<0.0009			ND	20	109	90	110	118	70	130
Arsenic	0.0002	mg/L	<0.0002			0	20	96	90	110	93	70	130
Barium	0.00008	mg/L	<0.00008			4	20	99	90	110	118	70	130
Beryllium	0.000007	mg/L	<0.000007			ND	20	108	90	110	101	70	130
Bismuth	0.00001	mg/L	<0.00001			ND	20	96	90	110	125	70	130
Boron	0.002	mg/L	<0.002			ND	20	106	90	110	96	70	130
Cadmium	0.000003	mg/L	<0.000003			1	20	101	90	110	121	70	130
Calcium	0.01	mg/L	<0.01			7	20	103	90	110	110	70	130
Cesium	0.0001	mg/L	<0.0001			4	20	105	90	110	NV	70	130
Chromium	0.00008	mg/L	<0.00008			ND	20	99	90	110	117	70	130
Cobalt	0.000004	mg/L	<0.000004			0	20	97	90	110	105	70	130
Copper	0.001	mg/L	<0.001			3	20	98	90	110	104	70	130
Germanium	0.0001	mg/L	<0.0001			ND	20	96	90	110	NV	70	130
Gold	0.00001	mg/L	<0.00001			ND	20	95	90	110	NV	70	130
Hafnium	0.0001	mg/L	<0.0001			ND	20	95	90	110	NV	70	130
Iridium	0.00001	mg/L	<0.00001			ND	20	103	90	110	NV	70	130
Iron	0.007	mg/L	<0.007			ND	20	100	90	110	100	70	130

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

00004059656

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0)
20:1 L/S ratio, 18hr

LR Report : **CA11015-FEB25**

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material			
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)		
							%		Low	High		Low	High	
Lead	0.00009	mg/L	<0.00009			0	20	96	90	110	95	70	130	
Lithium	0.0001	mg/L	<0.0001			6	20	105	90	110	111	70	130	
Magnesium	0.001	mg/L	<0.001			0	20	100	90	110	94	70	130	
Manganese	0.00001	mg/L	<0.00001			9	20	100	90	110	111	70	130	
Molybdenum	0.0004	mg/L	<0.0004			5	20	101	90	110	97	70	130	
Nickel	0.0001	mg/L	<0.0001			4	20	99	90	110	103	70	130	
Niobium	0.0001	mg/L	<0.0001			ND	20	100	90	110	NV	70	130	
Osmium	0.0001	mg/L	<0.0001			ND	20	101	90	110	NV	70	130	
Palladium	0.0001	mg/L	<0.0001			ND	20	95	90	110	NV	70	130	
Phosphorus	0.003	mg/L	<0.003			ND	20	98	90	110	NV	70	130	
Platinum	0.0001	mg/L	<0.0001			ND	20	100	90	110	NV	70	130	
Potassium	0.009	mg/L	<0.009			4	20	103	90	110	95	70	130	
Rhenium	0.0001	mg/L	<0.0001			ND	20	97	90	110	NV	70	130	
Rhodium	0.00001	mg/L	<0.0001			ND	20	95	90	110	NV	70	130	
Rubidium	0.0001	mg/L	< 0.0001			5	20	103	90	110	NV	70	130	
Ruthenium	0.00001	mg/L	<0.0001			ND	20	97	90	110	NV	70	130	
Selenium	0.00004	mg/L	<0.00004			ND	20	100	90	110	107	70	130	
Silicon	0.02	mg/L	<0.02			ND	20	99	90	110	NV	70	130	
Silver	0.00005	mg/L	<0.00005			ND	20	98	90	110	91	70	130	
Sodium	0.01	mg/L	<0.01			ND	20	105	90	110	103	70	130	
Strontium	0.00008	mg/L	<0.00008			11	20	98	90	110	100	70	130	
Tantalum	0.0001	mg/L	<0.0001			ND	20	105	90	110	NV	70	130	
Tellurium	0.0001	mg/L	<0.0001			ND	20	99	90	110	NV	70	130	
Thallium	0.000005	mg/L	<0.000005			ND	20	97	90	110	122	70	130	
Thorium	0.0001	mg/L	<0.0001			ND	20	99	90	110	NV	70	130	
Tin	0.00006	mg/L	<0.00006			ND	20	97	90	110	NV	70	130	
Titanium	0.0001	mg/L	<0.0001			ND	20	97	90	110	NV	70	130	
Uranium	0.000002	mg/L	<0.000002			6	20	100	90	110	114	70	130	
Vanadium	0.00001	mg/L	<0.00001			17	20	98	90	110	110	70	130	
Zinc	0.002	mg/L	<0.002			1	20	97	90	110	89	70	130	
Metals in aqueous samples - ICP-MS - QCBatchID: EMS0061-MAR25														
Aluminum	0.001	mg/L	<0.001			5	20	94	90	110	110	70	130	
Antimony	0.0009	mg/L	<0.0009			ND	20	106	90	110	112	70	130	
Arsenic	0.0002	mg/L	<0.0002			5	20	100	90	110	102	70	130	
Barium	0.00008	mg/L	<0.00008			0	20	98	90	110	73	70	130	
Beryllium	0.000007	mg/L	<0.000007			ND	20	94	90	110	97	70	130	
Bismuth	0.00001	mg/L	<0.00001			ND	20	95	90	110	86	70	130	
Boron	0.002	mg/L	<0.002			1	20	94	90	110	103	70	130	
Cadmium	0.000003	mg/L	<0.000003			ND	20	101	90	110	101	70	130	

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

00004059656

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0)
20:1 L/S ratio, 18hr

LR Report : **CA11015-FEB25**

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Calcium	0.01	mg/L	<0.01			2	20	99	90	110	105	70	130
Cesium	0.0001	mg/L	<0.0001			ND	20	99	90	110	NV	70	130
Chromium	0.00008	mg/L	<0.00008			ND	20	102	90	110	86	70	130
Cobalt	0.000004	mg/L	<0.000004			ND	20	99	90	110	95	70	130
Copper	0.001	mg/L	<0.001			3	20	100	90	110	73	70	130
Germanium	0.0001	mg/L	<0.0001			ND	20	99	90	110	NV	70	130
Gold	0.00001	mg/L	<0.00001			ND	20	96	90	110	NV	70	130
Hafnium	0.0001	mg/L	<0.0001			ND	20	94	90	110	NV	70	130
Iridium	0.00001	mg/L	<0.00001			ND	20	104	90	110	NV	70	130
Iron	0.007	mg/L	<0.007			ND	20	101	90	110	100	70	130
Lead	0.00009	mg/L	<0.00009			ND	20	97	90	110	92	70	130
Lithium	0.0001	mg/L	<0.0001			0	20	96	90	110	91	70	130
Magnesium	0.001	mg/L	<0.001			3	20	101	90	110	105	70	130
Manganese	0.00001	mg/L	<0.00001			2	20	101	90	110	105	70	130
Molybdenum	0.0004	mg/L	<0.0004			1	20	101	90	110	97	70	130
Nickel	0.0001	mg/L	<0.0001			3	20	103	90	110	93	70	130
Niobium	0.0001	mg/L	<0.0001			ND	20	100	90	110	NV	70	130
Osmium	0.0001	mg/L	<0.0001			ND	20	93	90	110	NV	70	130
Palladium	0.0001	mg/L	<0.0001			ND	20	99	90	110	NV	70	130
Phosphorus	0.003	mg/L	<0.003			ND	20	96	90	110	NV	70	130
Platinum	0.0001	mg/L	<0.0001			ND	20	102	90	110	NV	70	130
Potassium	0.009	mg/L	<0.009			1	20	103	90	110	104	70	130
Rhenium	0.0001	mg/L	<0.0001			ND	20	93	90	110	NV	70	130
Rhodium	0.00001	mg/L	<0.0001			ND	20	102	90	110	NV	70	130
Rubidium	0.0001	mg/L	<0.0001			0	20	92	90	110	NV	70	130
Ruthenium	0.00001	mg/L	<0.0001			ND	20	103	90	110	NV	70	130
Selenium	0.00004	mg/L	<0.00004			3	20	94	90	110	94	70	130
Silicon	0.02	mg/L	<0.02			0	20	97	90	110	NV	70	130
Silver	0.00005	mg/L	<0.00005			ND	20	101	90	110	72	70	130
Sodium	0.01	mg/L	<0.01			1	20	100	90	110	104	70	130
Strontium	0.00008	mg/L	<0.00008			1	20	100	90	110	104	70	130
Tantalum	0.0001	mg/L	<0.0001			ND	20	96	90	110	NV	70	130
Tellurium	0.0001	mg/L	<0.0001			ND	20	96	90	110	NV	70	130
Thallium	0.000005	mg/L	<0.000005			ND	20	96	90	110	94	70	130
Thorium	0.0001	mg/L	<0.0001			ND	20	96	90	110	NV	70	130
Tin	0.00006	mg/L	<0.00006			5	20	96	90	110	NV	70	130
Titanium	0.0001	mg/L	<0.0001			ND	20	99	90	110	NV	70	130
Uranium	0.000002	mg/L	<0.000002			1	20	98	90	110	98	70	130
Vanadium	0.00001	mg/L	<0.00001			10	20	102	90	110	108	70	130

OnLine LIMS

00004059656

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0)
20:1 L/S ratio, 18hr

LR Report : **CA11015-FEB25**

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank				Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)			Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High			Low	High
Zinc	0.002	mg/L	<0.002			ND	20	100	90	110		103	70	130
Metals in aqueous samples - ICP-MS - QCBatchID: EMS0067-MAR25														
Cerium	0.00001	mg/L	<0.00001			ND	20	97	90	110		NV	70	130
Dysprosium	0.00001	mg/L	<0.00001			ND	20	97	90	110		NV	70	130
Erbium	0.00001	mg/L	<0.00001			ND	20	98	90	110		NV	70	130
Europium	0.00001	mg/L	<0.00001			ND	20	96	90	110		NV	70	130
Gadolinium	0.00001	mg/L	<0.0001			ND	20	98	90	110		NV	70	130
Gallium	0.0001	mg/L	<0.0001			2	20	100	90	110		NV	70	130
Holmium	0.00001	mg/L	<0.00001			ND	20	99	90	110		NV	70	130
Indium	0.00001	mg/L	<0.00001			5	20	98	90	110		NV	70	130
Lanthanum	0.00001	mg/L	<0.00001			ND	20	96	90	110		NV	70	130
Lutetium	0.0001	mg/L	<0.0001			ND	20	96	90	110		NV	70	130
Neodymium	0.00001	mg/L	<0.00001			ND	20	99	90	110		NV	70	130
Praseodymium	0.00001	mg/L	<0.00001			ND	20	98	90	110		NV	70	130
Samarium	0.00001	mg/L	<0.00001			ND	20	98	90	110		NV	70	130
Scandium	0.0001	mg/L	<0.0001			ND	20	97	90	110		NV	70	130
Terbium	0.00001	mg/L	<0.00001			ND	20	100	90	110		NV	70	130
Thulium	0.00001	mg/L	<0.00001			ND	20	98	90	110		NV	70	130
pH - QCBatchID: EWL0129-MAR25														
pH	0.05	No unit	NA			2		99				NA		
Reactive Phosphorus by SFA - QCBatchID: SKA0059-MAR25														
Total Reactive Phosphorous (o-phosphate as P)	0.03	mg/L	<0.03			2	10	96	90	110		81	75	125

OnLine LIMS

00004059656

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

24-March-2025

Innova Lithium Inc.
Attn : John Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 05 February 2025
LR Report: **CA11016-FEB25**
Reference: Shaakichiuwaanaan Project

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Sample ID	Sample Date & Time	Sample weight g	Volume D.I. Water mL	pH No unit	Conductivity uS/cm	Alkalinity mg/L as CaCO3	Acidity mg/L as CaCO3	F mg/L	Br mg/L	Cl mg/L	SO4 mg/L
1: Analysis Start Date		03-Mar-25	04-Mar-25	11-Mar-25	11-Mar-25	11-Mar-25	11-Mar-25	11-Mar-25	11-Mar-25	11-Mar-25	11-Mar-25
2: Analysis Start Time		17:25	06:42	12:48	12:48	12:48	12:48	13:02	12:55	12:55	12:55
3: Analysis Completed Date		13-Mar-25	13-Mar-25	14-Mar-25	14-Mar-25	14-Mar-25	17-Mar-25	14-Mar-25	14-Mar-25	14-Mar-25	14-Mar-25
4: Analysis Completed Time		08:56	08:56	15:27	15:27	15:27	13:36	15:27	15:16	15:16	15:16
5: VIS-CV5-AMP-133	NA	100	400	9.11	237	57	< 2	0.48	< 30	< 20	21
6: VIS-CV5-AMP-134	NA	99	400	8.90	303	60	< 2	0.30	< 30	< 20	36
7: VIS-CV5-AMP-135	NA	101	400	9.36	191	64	< 2	1.52	< 30	< 20	< 20
8: VIS-CV5-AMP-136	NA	100	400	9.41	140	55	< 2	0.89	< 30	< 20	< 20
9: VIS-CV5-AMP-137	NA	100	400	9.01	166	56	< 2	0.41	< 30	< 20	< 20
10: VIS-CV5-AMP-138	NA	100	400	9.17	141	57	< 2	0.44	< 30	< 20	< 20
11: VIS-CV5-AMP-139	NA	100	400	9.02	162	55	< 2	0.61	< 30	< 20	< 20
12: VIS-CV5-AMP-140	NA	100	400	8.99	228	53	< 2	0.21	< 30	< 20	22
13: VIS-CV5-AMP-141	NA	100	400	8.81	203	74	< 2	0.97	< 30	< 20	< 20
14: VIS-CV5-AMP-142	NA	100	400	9.20	148	42	< 2	0.50	< 30	< 20	< 20
15: VIS-CV5-AMP-143	NA	100	400	8.72	192	55	< 2	6.08	< 30	< 20	< 20
16: VIS-CV5-AMP-144	NA	101	400	8.85	157	49	< 2	1.88	< 30	< 20	< 20
17: VIS-CV5-AMP-145	NA	100	400	9.16	143	49	< 2	0.36	< 30	< 20	< 20
18: VIS-CV5-AMP-146	NA	100	400	9.44	165	54	< 2	0.79	< 30	< 20	< 20
19: VIS-CV5-AMP-147	NA	100	400	9.13	134	42	< 2	0.43	< 30	< 20	< 20

OnLine LIMS

00040555057

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11016-FEB25**

Sample ID	Sample Date & Time	Sample weight g	Volume D.I. Water mL	pH No unit	Conductivity uS/cm	Alkalinity mg/L as CaCO3	Acidity mg/L as CaCO3	F mg/L	Br mg/L	Cl mg/L	SO4 mg/L
20: VIS-CV5-AMP-148	NA	99	400	9.02	120	46	< 2	0.41	< 30	< 20	< 20
21: VIS-CV5-AMP-149	NA	100	400	8.97	163	53	< 2	1.64	< 30	< 20	< 20
22: VIS-CV5-AMP-150	NA	100	400	8.48	215	51	< 2	1.23	< 30	< 20	< 20
23: VIS-CV5-AMP-151	NA	100	400	8.45	152	45	< 2	0.70	< 30	< 20	< 20
24: VIS-CV5-AMP-152	NA	100	400	9.61	132	61	< 2	2.04	< 30	< 20	< 20
25: VIS-CV5-AMP-153	NA	99	400	9.14	200	70	< 2	2.33	< 30	< 20	< 20
26: VIS-CV5-AMP-154	NA	100	400	8.89	192	63	< 2	0.72	< 30	< 20	< 20
27: VIS-CV5-AMP-155	NA	100	400	9.24	218	73	< 2	3.14	< 30	< 20	< 20
28: VIS-CV5-AMP-156	NA	100	400	8.79	108	43	< 2	0.87	< 30	< 20	< 20
29: VIS-CV5-AMP-157	NA	100	400	9.15	134	49	< 2	0.44	< 30	< 20	< 20
30: VIS-CV5-AMP-158	NA	100	400	9.13	132	51	< 2	0.17	< 30	< 20	< 20
31: VIS-CV5-AMP-159	NA	99	400	8.91	204	61	< 2	6.34	< 30	< 20	< 20
32: VIS-CV5-AMP-160	NA	100	400	8.86	244	76	< 2	8.44	< 30	< 20	< 20
33: VIS-CV5-AMP-161	NA	100	400	8.79	162	49	< 2	1.56	< 30	< 20	< 20
34: VIS-CV5-AMP-162	NA	100	400	9.06	175	64	< 2	1.83	< 30	< 20	< 20
35: VIS-CV5-AMP-163	NA	99	400	8.28	501	62	< 2	0.82	< 30	< 20	74
36: VIS-CV5-AMP-164	NA	100	400	8.75	152	52	< 2	0.88	< 30	< 20	< 20
37: VIS-CV5-AMP-165	NA	100	400	8.91	200	76	< 2	1.98	< 30	< 20	< 20
38: VIS-CV5-AMP-166	NA	100	400	8.98	134	55	< 2	1.26	< 30	< 20	< 20
39: VIS-CV5-AMP-167	NA	99	400	8.67	206	64	< 2	0.85	< 30	< 20	< 20
40: VIS-CV5-AMP-168	NA	100	400	8.80	153	59	< 2	1.29	< 30	< 20	< 20
41: VIS-CV5-AMP-169	NA	100	400	8.93	164	57	< 2	0.90	< 30	< 20	< 20
42: VIS-CV5-AMP-170	NA	100	400	8.77	210	60	< 2	2.10	< 30	< 20	< 20
43: VIS-CV5-AMP-171	NA	100	400	9.02	162	55	< 2	0.64	< 30	< 20	< 20
44: VIS-CV5-AMP-172	NA	99	400	9.39	132	48	< 2	0.36	< 30	< 20	< 20
45: VIS-CV5-AMP-173	NA	101	400	9.03	138	50	< 2	1.00	< 30	< 20	< 20
46: VIS-CV5-AMP-174	NA	100	400	8.98	135	41	< 2	0.12	< 30	< 20	< 20
47: VIS-CV5-AMP-175	NA	100	400	8.82	222	54	< 2	0.83	< 30	< 20	< 20
48: VIS-CV5-AMP-176	NA	100	400	9.20	150	65	< 2	0.71	< 30	< 20	< 20
49: VIS-CV5-AMP-177	NA	100	400	8.79	184	56	< 2	6.34	< 30	< 20	< 20
50: VIS-CV5-AMP-178	NA	100	400	8.93	169	56	< 2	1.81	< 30	< 20	< 20
51: VIS-CV5-AMP-179	NA	100	400	8.88	182	59	< 2	1.85	< 30	< 20	< 20
52: VIS-CV5-AMP-180	NA	100	400	9.23	193	77	< 2	1.70	< 30	< 20	< 20

OnLine LIMS

00040555057

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11016-FEB25**

Sample ID	Sample Date & Time	Sample weight g	Volume D.I. Water mL	pH No unit	Conductivity uS/cm	Alkalinity mg/L as CaCO3	Acidity mg/L as CaCO3	F mg/L	Br mg/L	Cl mg/L	SO4 mg/L
53-DUP: VIS-CV5-AMP-152		100	400	9.68	130	58	< 2	1.99	< 30	< 20	< 20
54-DUP: VIS-CV5-AMP-180		100	400	9.05	191	79	< 2	1.69	< 30	< 20	< 20
55-BLK: CTEU Blank		< 0.001	400	7.60	5	2	< 2	< 0.06	< 30	< 20	< 20

Sample ID	NO2 as N mg/L	NO3 as N mg/L	Tot.Reactive P mg/L	Hg mg/L	Ag mg/L	Al mg/L	As mg/L	Ba mg/L	Be mg/L	B mg/L	Bi mg/L	Ca mg/L
1: Analysis Start Date	11-Mar-25	11-Mar-25	11-Mar-25	17-Mar-25	12-Mar-25	12-Mar-25	12-Mar-25	12-Mar-25	12-Mar-25	12-Mar-25	12-Mar-25	12-Mar-25
2: Analysis Start Time	12:55	12:55	11:10	11:08	18:25	18:25	18:25	18:25	18:25	18:25	18:25	18:25
3: Analysis Completed Date	14-Mar-25	14-Mar-25	17-Mar-25	17-Mar-25	18-Mar-25	18-Mar-25	19-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25
4: Analysis Completed Time	15:16	15:16	09:39	14:24	22:29	22:29	08:48	22:29	22:29	22:29	22:29	22:29
5: VIS-CV5-AMP-133	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.511	0.0129	0.00241	< 0.000007	0.134	< 0.00001	8.07
6: VIS-CV5-AMP-134	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.284	0.0402	0.00170	< 0.000007	0.070	< 0.00001	15.6
7: VIS-CV5-AMP-135	< 3	< 6	0.30	< 0.00001	< 0.00005	0.316	0.893	0.00154	< 0.000007	0.122	< 0.00001	5.45
8: VIS-CV5-AMP-136	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.781	0.0682	0.00075	< 0.000007	0.091	< 0.00001	4.33
9: VIS-CV5-AMP-137	< 3	< 6	0.35	< 0.00001	< 0.00005	0.409	0.948	0.00139	< 0.000007	0.205	0.00002	6.29
10: VIS-CV5-AMP-138	< 3	< 6	0.04	< 0.00001	< 0.00005	0.772	0.137	0.00108	0.000011	0.111	< 0.00001	4.56
11: VIS-CV5-AMP-139	< 3	< 6	0.09	< 0.00001	< 0.00005	1.13	0.235	0.00265	0.000009	0.208	< 0.00001	4.40
12: VIS-CV5-AMP-140	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.180	0.0082	0.00108	< 0.000007	0.062	< 0.00001	14.9
13: VIS-CV5-AMP-141	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.410	0.0659	0.00178	0.000018	0.090	< 0.00001	7.65
14: VIS-CV5-AMP-142	< 3	< 6	0.05	< 0.00001	< 0.00005	1.22	0.0110	0.00181	0.000009	0.063	0.00002	5.89
15: VIS-CV5-AMP-143	< 3	< 6	0.04	< 0.00001	0.00006	0.244	0.298	0.00172	< 0.000007	0.149	< 0.00001	10.2
16: VIS-CV5-AMP-144	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.555	0.0710	0.00106	< 0.000007	0.117	< 0.00001	6.61
17: VIS-CV5-AMP-145	< 3	< 6	< 0.03	< 0.00001	< 0.00005	1.20	0.0309	0.00084	< 0.000007	0.112	0.00001	6.30
18: VIS-CV5-AMP-146	< 3	< 6	0.10	< 0.00001	< 0.00005	0.905	0.237	0.00192	0.000017	0.104	0.00002	4.98
19: VIS-CV5-AMP-147	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.113	0.0234	0.00108	< 0.000007	0.100	< 0.00001	5.18
20: VIS-CV5-AMP-148	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.953	0.0219	0.00052	< 0.000007	0.066	< 0.00001	4.16
21: VIS-CV5-AMP-149	< 3	< 6	0.20	< 0.00001	< 0.00005	0.504	0.560	0.00148	0.000024	0.082	0.00003	6.62
22: VIS-CV5-AMP-150	< 3	< 6	< 0.03	< 0.00001	0.00011	0.504	0.169	0.00232	0.000042	0.159	0.00002	9.77
23: VIS-CV5-AMP-151	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.198	0.0624	0.00093	< 0.000007	0.087	< 0.00001	6.28
24: VIS-CV5-AMP-152	< 3	< 6	0.06	< 0.00001	< 0.00005	1.52	0.122	0.00202	0.000017	0.108	0.00002	4.16
25: VIS-CV5-AMP-153	< 3	< 6	0.11	< 0.00001	< 0.00005	0.189	0.499	0.00213	0.000043	0.121	< 0.00001	9.90
26: VIS-CV5-AMP-154	< 3	< 6	0.05	< 0.00001	< 0.00005	0.781	0.0640	0.00224	0.000035	0.216	0.00002	4.72

OnLine LIMS

00004055057

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : CA11016-FEB25

Sample ID	NO2 as N mg/L	NO3 as N mg/L	Tot.Reactive P mg/L	Hg mg/L	Ag mg/L	Al mg/L	As mg/L	Ba mg/L	Be mg/L	B mg/L	Bi mg/L	Ca mg/L
27: VIS-CV5-AMP-155	< 3	< 6	1.09	< 0.00001	0.00008	0.508	3.14	0.00222	0.000099	0.130	0.00003	6.62
28: VIS-CV5-AMP-156	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.328	0.0772	0.00100	< 0.000007	0.055	0.00002	4.73
29: VIS-CV5-AMP-157	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.961	0.0484	0.00061	< 0.000007	0.086	< 0.00001	3.78
30: VIS-CV5-AMP-158	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.448	0.0071	0.00104	< 0.000007	0.073	< 0.00001	4.77
31: VIS-CV5-AMP-159	< 3	< 6	0.33	< 0.00001	< 0.00005	0.854	0.934	0.00546	0.000283	0.272	0.00006	7.25
32: VIS-CV5-AMP-160	< 3	< 6	0.44	< 0.00001	< 0.00005	0.886	1.21	0.00939	0.000222	0.149	0.00004	4.51
33: VIS-CV5-AMP-161	< 3	< 6	0.16	< 0.00001	0.00007	1.20	0.375	0.00701	0.000180	0.103	0.00003	8.39
34: VIS-CV5-AMP-162	< 3	< 6	0.05	< 0.00001	< 0.00005	1.12	0.0520	0.00142	< 0.000007	0.112	0.00002	3.45
35: VIS-CV5-AMP-163	< 3	< 6	< 0.03	< 0.00001	0.00012	0.036	0.0591	0.00686	< 0.000007	0.132	< 0.00001	33.0
36: VIS-CV5-AMP-164	< 3	< 6	0.05	< 0.00001	< 0.00005	0.262	0.131	0.00123	0.000008	0.117	< 0.00001	6.44
37: VIS-CV5-AMP-165	< 3	< 6	0.08	< 0.00001	< 0.00005	0.865	0.275	0.00157	0.000066	0.137	< 0.00001	5.17
38: VIS-CV5-AMP-166	< 3	< 6	0.06	< 0.00001	< 0.00005	0.962	0.185	0.00105	< 0.000007	0.106	< 0.00001	3.78
39: VIS-CV5-AMP-167	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.058	0.0157	0.00215	< 0.000007	0.120	< 0.00001	12.5
40: VIS-CV5-AMP-168	< 3	< 6	0.11	< 0.00001	< 0.00005	0.561	0.337	0.00164	0.000032	0.161	0.00001	4.16
41: VIS-CV5-AMP-169	< 3	< 6	0.07	< 0.00001	< 0.00005	0.816	0.188	0.00232	0.000043	0.152	0.00002	4.81
42: VIS-CV5-AMP-170	< 3	< 6	0.11	< 0.00001	< 0.00005	0.402	0.374	0.00162	0.000238	0.130	< 0.00001	7.16
43: VIS-CV5-AMP-171	< 3	< 6	0.11	< 0.00001	< 0.00005	0.653	0.277	0.00580	0.000029	0.090	< 0.00001	4.60
44: VIS-CV5-AMP-172	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.621	0.0187	0.00068	< 0.000007	0.106	< 0.00001	3.66
45: VIS-CV5-AMP-173	< 3	< 6	0.06	< 0.00001	< 0.00005	0.860	0.111	0.00100	0.000060	0.129	0.00004	4.22
46: VIS-CV5-AMP-174	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.349	0.0128	0.00075	< 0.000007	0.065	< 0.00001	4.94
47: VIS-CV5-AMP-175	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.164	0.396	0.00224	0.000026	0.146	< 0.00001	9.36
48: VIS-CV5-AMP-176	< 3	< 6	0.23	< 0.00001	< 0.00005	0.894	0.459	0.00940	0.000010	0.122	0.00002	2.88
49: VIS-CV5-AMP-177	< 3	< 6	0.19	< 0.00001	< 0.00005	1.61	0.493	0.00281	0.000215	0.136	0.00003	5.41
50: VIS-CV5-AMP-178	< 3	< 6	0.08	< 0.00001	< 0.00005	0.609	0.251	0.00186	0.000076	0.139	0.00002	5.78
51: VIS-CV5-AMP-179	< 3	< 6	0.16	< 0.00001	0.00013	0.619	0.471	0.00311	0.000132	0.254	0.00001	6.35
52: VIS-CV5-AMP-180	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.176	0.0517	0.00244	0.000010	0.117	< 0.00001	7.99
53-DUP: VIS-CV5-AMP-152	< 3	< 6	0.07	< 0.00001	< 0.00005	1.54	0.122	0.00204	0.000035	0.106	0.00002	4.25
54-DUP: VIS-CV5-AMP-180	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.176	0.0518	0.00253	0.000013	0.117	< 0.00001	7.93
55-BLK: CTEU Blank	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.003	< 0.0002	0.00102	< 0.000007	< 0.002	< 0.00001	0.01

OnLine LIMS

00004055057

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11016-FEB25**

Sample ID	Cd mg/L	Co mg/L	Cr mg/L	Cu mg/L	Fe mg/L	K mg/L	Li mg/L	Mg mg/L	Mn mg/L	Mo mg/L	Na mg/L	Ni mg/L
1: Analysis Start Date	12-Mar-25	12-Mar-25	12-Mar-25	12-Mar-25	12-Mar-25	12-Mar-25	12-Mar-25	12-Mar-25	12-Mar-25	12-Mar-25	12-Mar-25	12-Mar-25
2: Analysis Start Time	18:25	18:25	18:25	18:25	18:25	18:25	18:25	18:25	18:25	18:25	18:25	18:25
3: Analysis Completed Date	18-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25
4: Analysis Completed Time	22:29	22:30	22:30	22:30	22:30	22:30	22:30	22:30	22:30	22:30	22:30	22:30
5: VIS-CV5-AMP-133	< 0.000003	0.000105	0.00087	0.002	0.120	14.1	1.59	2.80	0.00193	0.0038	19.3	0.0002
6: VIS-CV5-AMP-134	< 0.000003	0.000103	< 0.00008	0.002	0.107	1.31	0.984	10.3	0.00316	0.0020	21.9	0.0001
7: VIS-CV5-AMP-135	0.000004	0.000349	0.03071	0.001	0.289	6.55	1.85	4.19	0.00649	0.0053	17.6	0.0015
8: VIS-CV5-AMP-136	< 0.000003	0.000017	0.00334	< 0.001	0.010	3.47	1.28	2.17	0.00040	0.0011	12.8	0.0001
9: VIS-CV5-AMP-137	< 0.000003	0.000523	0.00471	0.002	0.498	9.76	1.41	2.40	0.00647	0.0013	12.8	0.0020
10: VIS-CV5-AMP-138	< 0.000003	0.000560	0.0194	0.001	0.573	5.98	0.958	2.54	0.00951	0.0028	15.4	0.0019
11: VIS-CV5-AMP-139	< 0.000003	0.000607	0.00536	0.003	0.609	10.4	1.07	1.18	0.0129	0.0024	17.8	0.0012
12: VIS-CV5-AMP-140	< 0.000003	0.000057	0.00014	0.002	< 0.007	0.524	0.836	8.02	0.00228	0.0010	12.0	0.0003
13: VIS-CV5-AMP-141	0.000007	0.000432	< 0.00008	< 0.001	0.698	3.41	0.194	5.08	0.0114	0.0268	22.6	0.0005
14: VIS-CV5-AMP-142	0.000008	0.000498	0.00535	0.006	0.687	2.55	1.61	2.71	0.0112	0.0008	12.8	0.0012
15: VIS-CV5-AMP-143	< 0.000003	0.000062	0.00099	< 0.001	0.012	3.86	1.41	4.84	0.00125	0.0042	14.5	0.0006
16: VIS-CV5-AMP-144	< 0.000003	0.000112	0.00335	< 0.001	0.151	3.37	1.32	2.01	0.00297	0.0029	13.6	0.0004
17: VIS-CV5-AMP-145	0.000009	0.000371	0.00781	0.004	0.503	1.89	1.39	2.64	0.00866	0.0140	12.7	0.0011
18: VIS-CV5-AMP-146	0.000077	0.000893	0.00634	0.004	0.877	6.98	1.09	3.35	0.01692	0.0058	16.7	0.0032
19: VIS-CV5-AMP-147	< 0.000003	0.000068	0.0127	< 0.001	0.104	4.91	0.927	1.46	0.00256	0.0030	12.9	0.0003
20: VIS-CV5-AMP-148	< 0.000003	0.000036	0.00414	< 0.001	0.041	1.90	1.38	1.31	0.00105	0.0010	11.3	0.0001
21: VIS-CV5-AMP-149	0.000004	0.000804	0.0251	0.005	0.671	2.96	2.34	3.96	0.0163	0.0012	12.8	0.0036
22: VIS-CV5-AMP-150	0.000004	0.000465	0.00423	0.003	0.404	8.96	1.61	4.34	0.00880	0.0115	14.6	0.0017
23: VIS-CV5-AMP-151	< 0.000003	0.000046	0.00237	< 0.001	0.048	1.95	1.00	2.33	0.00134	0.0029	15.6	0.0002
24: VIS-CV5-AMP-152	0.000008	0.000525	0.0190	0.002	0.538	3.26	2.23	2.01	0.0208	0.0033	11.6	0.0013
25: VIS-CV5-AMP-153	< 0.000003	0.000268	0.00243	< 0.001	0.234	4.75	0.678	6.54	0.00346	0.0052	17.1	0.0013
26: VIS-CV5-AMP-154	0.000008	0.000384	0.00615	0.003	0.645	12.6	0.888	2.36	0.0105	0.0087	19.3	0.0012
27: VIS-CV5-AMP-155	0.000013	0.00105	0.0452	0.001	0.553	13.4	2.25	4.99	0.0165	0.0042	17.4	0.0059
28: VIS-CV5-AMP-156	0.000011	0.000023	0.00233	< 0.001	< 0.007	3.58	1.04	0.951	0.00014	0.0015	9.38	0.0001
29: VIS-CV5-AMP-157	< 0.000003	0.000076	0.00317	< 0.001	0.122	0.935	2.37	0.884	0.00235	0.0008	12.8	0.0002
30: VIS-CV5-AMP-158	0.000003	0.000243	0.00350	0.004	0.473	3.18	0.201	2.12	0.00716	0.0008	15.6	0.0005
31: VIS-CV5-AMP-159	0.000015	0.00100	0.00518	0.005	0.856	17.0	1.71	3.36	0.0171	0.0055	13.1	0.0042
32: VIS-CV5-AMP-160	0.000008	0.000793	0.0136	0.002	0.743	36.2	3.15	2.40	0.0207	0.0028	9.20	0.0027
33: VIS-CV5-AMP-161	0.000022	0.00131	0.0152	0.010	1.74	8.24	0.816	3.42	0.0408	0.0128	12.3	0.0042

OnLine LIMS

00004055057

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11016-FEB25**

Sample ID	Cd mg/L	Co mg/L	Cr mg/L	Cu mg/L	Fe mg/L	K mg/L	Li mg/L	Mg mg/L	Mn mg/L	Mo mg/L	Na mg/L	Ni mg/L
34: VIS-CV5-AMP-162	0.000009	0.000177	0.00354	0.002	0.207	11.8	3.46	0.896	0.00366	0.0162	10.5	0.0003
35: VIS-CV5-AMP-163	0.000056	0.000419	0.00043	0.002	0.020	24.8	0.731	16.5	0.00738	0.0097	14.8	0.0046
36: VIS-CV5-AMP-164	0.000003	0.000131	0.00319	0.002	0.223	2.99	0.937	2.00	0.00482	0.0065	15.6	0.0004
37: VIS-CV5-AMP-165	0.000040	0.00104	0.00425	0.001	1.08	5.74	2.01	4.19	0.0146	0.0012	20.5	0.0021
38: VIS-CV5-AMP-166	0.000004	0.000120	0.00182	< 0.001	0.138	7.69	1.07	0.969	0.00234	0.0029	12.2	0.0004
39: VIS-CV5-AMP-167	0.000006	0.000043	0.00017	< 0.001	0.066	1.91	0.0554	6.91	0.00114	0.0057	15.7	0.0003
40: VIS-CV5-AMP-168	0.000004	0.00196	0.00898	0.003	0.770	9.44	0.731	2.44	0.0134	0.0018	16.1	0.0015
41: VIS-CV5-AMP-169	0.000007	0.000521	0.00695	0.002	0.696	9.38	0.749	1.93	0.0145	0.0054	17.5	0.0020
42: VIS-CV5-AMP-170	< 0.000003	0.000737	0.00235	0.003	0.427	4.43	0.697	3.86	0.00574	0.0019	22.7	0.0009
43: VIS-CV5-AMP-171	0.000005	0.000690	0.00368	0.001	0.645	10.5	0.947	1.13	0.0118	0.0019	17.7	0.0018
44: VIS-CV5-AMP-172	0.000003	0.000028	0.00129	< 0.001	0.022	2.22	1.25	0.738	0.00059	0.0021	16.6	< 0.0001
45: VIS-CV5-AMP-173	0.000006	0.000653	0.00326	0.002	0.846	6.55	0.562	1.30	0.0157	0.0121	15.9	0.0016
46: VIS-CV5-AMP-174	0.000012	0.000022	0.00069	< 0.001	0.018	0.651	0.552	1.10	0.00056	0.0016	17.1	0.0003
47: VIS-CV5-AMP-175	0.000004	0.000141	0.00225	< 0.001	0.103	7.40	0.563	3.34	0.00253	0.0037	21.2	0.0007
48: VIS-CV5-AMP-176	0.000016	0.000841	0.00531	0.001	0.784	8.75	1.62	1.52	0.0109	0.0236	15.9	0.0026
49: VIS-CV5-AMP-177	0.000013	0.00154	0.0112	0.007	1.58	6.06	1.36	2.62	0.0310	0.0023	20.3	0.0053
50: VIS-CV5-AMP-178	0.000006	0.000565	0.00548	0.002	0.563	6.90	0.734	2.57	0.0123	0.0037	17.5	0.0020
51: VIS-CV5-AMP-179	0.000048	0.000723	0.00204	0.004	0.612	10.1	0.818	3.60	0.0132	0.0057	15.6	0.0025
52: VIS-CV5-AMP-180	0.000012	0.000177	0.00101	< 0.001	0.228	2.79	1.11	4.78	0.00316	0.0108	21.1	0.0009
53-DUP: VIS-CV5-AMP-152	0.000003	0.000544	0.0198	0.002	0.611	3.13	2.20	2.02	0.0228	0.0005	11.5	0.0015
54-DUP: VIS-CV5-AMP-180	0.000019	0.000176	0.00097	< 0.001	0.236	2.82	1.12	4.81	0.00322	0.0111	20.9	0.0011
55-BLK: CTEU Blank	< 0.000003	0.000009	< 0.00008	< 0.001	< 0.007	0.299	< 0.0001	0.002	0.00014	< 0.0004	0.55	< 0.0001

Sample ID	P mg/L	Pb mg/L	Sb mg/L	Se mg/L	Si mg/L	Sn mg/L	Sr mg/L	Ti mg/L	Tl mg/L	U mg/L	V mg/L	Zn mg/L
1: Analysis Start Date	14-Mar-25	12-Mar-25	12-Mar-25	12-Mar-25	12-Mar-25	12-Mar-25	12-Mar-25	12-Mar-25	12-Mar-25	12-Mar-25	12-Mar-25	12-Mar-25
2: Analysis Start Time	15:59	18:25	18:25	18:25	18:25	18:25	18:25	18:25	18:25	18:25	18:25	18:25
3: Analysis Completed Date	18-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25
4: Analysis Completed Time	22:30	22:30	22:30	22:30	22:30	22:30	22:30	22:30	22:30	22:30	22:30	22:30
5: VIS-CV5-AMP-133	< 0.003	< 0.00009	0.0861	0.00031	2.32	< 0.00006	0.00956	0.0053	0.000016	0.000040	0.0210	< 0.002
6: VIS-CV5-AMP-134	< 0.003	< 0.00009	0.0951	0.00084	1.68	< 0.00006	0.0197	0.0016	< 0.000005	0.000558	0.00386	< 0.002
7: VIS-CV5-AMP-135	< 0.003	0.00010	0.219	0.00043	4.48	< 0.00006	0.00804	0.0068	0.000023	0.000119	0.0649	< 0.002

OnLine LIMS

00004055057

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

CTEU-9--(4:1 L/S ratio, 7 day on 100mesh)

LR Report : **CA11016-FEB25**

Sample ID	P mg/L	Pb mg/L	Sb mg/L	Se mg/L	Si mg/L	Sn mg/L	Sr mg/L	Ti mg/L	Tl mg/L	U mg/L	V mg/L	Zn mg/L
8: VIS-CV5-AMP-136	< 0.003	< 0.00009	0.0856	0.00015	2.50	0.00066	0.00605	0.0005	0.000006	0.00155	0.0490	< 0.002
9: VIS-CV5-AMP-137	0.037	< 0.00009	0.0291	0.00012	5.27	< 0.00006	0.00685	0.0233	0.000021	0.000150	0.0608	< 0.002
10: VIS-CV5-AMP-138	0.005	< 0.00009	0.0261	0.00015	4.80	0.00010	0.00768	0.0123	0.000031	0.000176	0.0442	< 0.002
11: VIS-CV5-AMP-139	0.014	0.00010	0.241	0.00044	4.05	0.00015	0.00686	0.0314	0.000036	0.000093	0.0660	< 0.002
12: VIS-CV5-AMP-140	< 0.003	< 0.00009	0.0244	0.00027	1.84	< 0.00006	0.0337	< 0.0001	< 0.000005	0.000105	0.00264	< 0.002
13: VIS-CV5-AMP-141	0.003	< 0.00009	0.0613	0.00050	3.39	0.00009	0.0201	0.0083	0.000011	0.000796	0.0184	< 0.002
14: VIS-CV5-AMP-142	0.051	< 0.00009	0.0420	0.00030	3.70	< 0.00006	0.00462	0.0388	0.000029	0.000069	0.0606	< 0.002
15: VIS-CV5-AMP-143	< 0.003	< 0.00009	0.402	0.00052	1.98	0.00058	0.0154	0.0005	0.000017	0.000293	0.0147	< 0.002
16: VIS-CV5-AMP-144	< 0.003	< 0.00009	0.0834	0.00009	3.14	0.00007	0.0123	0.0065	< 0.000005	0.00236	0.0475	< 0.002
17: VIS-CV5-AMP-145	0.020	< 0.00009	0.0242	0.00027	3.85	0.00007	0.0112	0.0251	0.000005	0.000234	0.0602	< 0.002
18: VIS-CV5-AMP-146	0.013	0.00095	0.538	0.00033	4.44	0.00018	0.00657	0.0250	0.000028	0.000157	0.0397	0.011
19: VIS-CV5-AMP-147	< 0.003	< 0.00009	0.0260	0.00026	8.94	0.00008	0.00926	0.0045	0.000019	0.000113	0.0919	< 0.002
20: VIS-CV5-AMP-148	< 0.003	< 0.00009	0.0179	0.00011	3.53	0.00067	0.00385	0.0024	0.000006	0.000081	0.0713	< 0.002
21: VIS-CV5-AMP-149	0.013	0.00031	0.775	0.00060	6.17	0.00011	0.0125	0.0239	0.000078	0.00135	0.0655	< 0.002
22: VIS-CV5-AMP-150	< 0.003	0.00011	0.190	0.00120	3.82	0.00011	0.0177	0.0121	0.000058	0.00151	0.0196	< 0.002
23: VIS-CV5-AMP-151	< 0.003	0.00038	0.0599	0.00037	3.58	< 0.00006	0.00738	0.0022	0.000011	0.000855	0.0555	< 0.002
24: VIS-CV5-AMP-152	0.025	< 0.00009	0.116	0.00017	4.25	0.00028	0.00644	0.0419	0.000084	0.000290	0.0924	< 0.002
25: VIS-CV5-AMP-153	< 0.003	< 0.00009	0.177	0.00047	3.98	0.00007	0.0291	0.0054	0.000020	0.000116	0.0177	< 0.002
26: VIS-CV5-AMP-154	0.028	0.00061	0.0414	0.00098	4.30	0.00010	0.00805	0.0171	0.000039	0.000386	0.0535	0.003
27: VIS-CV5-AMP-155	0.018	0.00046	0.430	0.00025	6.16	0.00074	0.0117	0.0162	0.000352	0.00449	0.0535	< 0.002
28: VIS-CV5-AMP-156	< 0.003	0.00268	0.236	0.00015	3.32	< 0.00006	0.00958	< 0.0001	0.000016	0.000024	0.0477	< 0.002
29: VIS-CV5-AMP-157	< 0.003	< 0.00009	0.0764	0.00013	3.31	< 0.00006	0.00505	0.0063	0.000006	0.000030	0.0713	< 0.002
30: VIS-CV5-AMP-158	0.016	< 0.00009	0.0025	0.00018	5.60	< 0.00006	0.00752	0.0153	0.000010	0.000116	0.0735	< 0.002
31: VIS-CV5-AMP-159	0.009	0.00023	0.824	0.00111	5.94	0.00037	0.0119	0.0283	0.000536	0.00341	0.0520	0.007
32: VIS-CV5-AMP-160	0.012	0.00068	0.356	0.00278	5.41	0.00069	0.0107	0.0247	0.00144	0.00946	0.0654	< 0.002
33: VIS-CV5-AMP-161	0.021	0.00241	0.281	0.00071	11.7	0.00088	0.0171	0.0983	0.000112	0.000833	0.0740	0.004
34: VIS-CV5-AMP-162	0.008	0.00010	0.258	0.00021	3.02	< 0.00006	0.00687	0.0113	0.000163	0.000149	0.0663	< 0.002
35: VIS-CV5-AMP-163	< 0.003	< 0.00009	0.908	0.00126	2.76	< 0.00006	0.0536	0.0003	0.000023	0.0313	0.0016	< 0.002
36: VIS-CV5-AMP-164	< 0.003	< 0.00009	0.150	0.00071	4.59	< 0.00006	0.00876	0.0099	0.000012	0.000810	0.0679	< 0.002
37: VIS-CV5-AMP-165	0.005	0.00268	0.267	0.00050	4.55	< 0.00006	0.0173	0.0244	0.000036	0.000027	0.0285	0.005
38: VIS-CV5-AMP-166	< 0.003	0.00019	0.0492	0.00027	2.62	0.00082	0.00571	0.0058	0.000025	0.000074	0.0493	< 0.002
39: VIS-CV5-AMP-167	< 0.003	< 0.00009	0.0058	0.00019	3.01	0.00135	0.0785	0.0018	0.000221	0.000124	0.0100	< 0.002
40: VIS-CV5-AMP-168	0.007	0.00010	0.0931	0.00018	5.09	< 0.00006	0.0106	0.0201	0.000023	0.000285	0.0595	< 0.002

OnLine LIMS

0004055057

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : CA11016-FEB25

Sample ID	P mg/L	Pb mg/L	Sb mg/L	Se mg/L	Si mg/L	Sn mg/L	Sr mg/L	Ti mg/L	Tl mg/L	U mg/L	V mg/L	Zn mg/L
41: VIS-CV5-AMP-169	0.011	0.00011	0.138	0.00031	4.70	0.00011	0.00765	0.0231	0.000035	0.00236	0.0578	< 0.002
42: VIS-CV5-AMP-170	0.011	0.00010	0.146	0.00104	3.56	0.00013	0.00884	0.0142	0.000047	0.00121	0.0409	< 0.002
43: VIS-CV5-AMP-171	0.012	0.00012	0.0596	0.00066	4.93	0.00019	0.00986	0.0354	0.000059	0.000105	0.0427	0.002
44: VIS-CV5-AMP-172	< 0.003	0.00077	0.0706	0.00025	3.11	< 0.00006	0.00488	0.0011	0.000006	0.000793	0.0500	< 0.002
45: VIS-CV5-AMP-173	0.007	0.00022	0.0599	0.00029	5.74	0.00078	0.00671	0.0392	0.000093	0.000621	0.0559	< 0.002
46: VIS-CV5-AMP-174	< 0.003	< 0.00009	0.0042	0.00080	3.50	< 0.00006	0.00830	0.0009	< 0.000005	0.001028	0.0369	< 0.002
47: VIS-CV5-AMP-175	0.004	< 0.00009	0.407	0.00096	3.55	< 0.00006	0.0167	0.0034	0.000028	0.000780	0.0272	< 0.002
48: VIS-CV5-AMP-176	0.038	0.00034	0.143	0.00010	4.48	0.00010	0.00468	0.0325	0.000053	0.000156	0.0605	0.004
49: VIS-CV5-AMP-177	0.016	0.00009	0.429	0.00038	5.38	0.00049	0.00756	0.0784	0.000177	0.000067	0.0646	0.003
50: VIS-CV5-AMP-178	0.010	< 0.00009	0.125	0.00062	3.97	0.00017	0.00801	0.0162	0.000029	0.00135	0.0481	< 0.002
51: VIS-CV5-AMP-179	0.016	0.0114	0.246	0.00057	3.33	0.00100	0.00773	0.0154	0.000050	0.000394	0.0231	0.006
52: VIS-CV5-AMP-180	< 0.003	0.00058	0.112	0.00037	3.00	< 0.00006	0.0319	0.0038	0.000010	0.000022	0.0106	< 0.002
53-DUP: VIS-CV5-AMP-152	0.027	< 0.00009	0.114	0.00019	4.36	0.00029	0.00645	0.0446	0.000085	0.000298	0.0928	< 0.002
54-DUP: VIS-CV5-AMP-180	< 0.003	0.00060	0.109	0.00040	2.96	< 0.00006	0.0326	0.0037	0.000009	0.000023	0.0108	< 0.002
55-BLK: CTEU Blank	< 0.003	< 0.00009	< 0.0009	< 0.00004	< 0.02	< 0.00006	0.00034	< 0.0001	< 0.000005	< 0.000002	< 0.00001	< 0.002

Sample ID	Au mg/L	Ce mg/L	Cs mg/L	Dy mg/L	Er mg/L	Eu mg/L	Ga mg/L	Gd (tot) mg/L	Ge mg/L	Hf mg/L	Ho mg/L	In mg/L
1: Analysis Start Date	12-Mar-25	14-Mar-25	12-Mar-25	14-Mar-25	14-Mar-25	14-Mar-25	14-Mar-25	14-Mar-25	12-Mar-25	12-Mar-25	14-Mar-25	14-Mar-25
2: Analysis Start Time	18:25	12:31	18:25	12:31	12:31	12:31	12:31	12:31	18:25	18:25	12:31	12:31
3: Analysis Completed Date	18-Mar-25	17-Mar-25	17-Mar-25	17-Mar-25	17-Mar-25	17-Mar-25	17-Mar-25	17-Mar-25	18-Mar-25	18-Mar-25	17-Mar-25	17-Mar-25
4: Analysis Completed Time	22:31	14:00	14:00	14:00	14:00	14:00	14:00	14:00	22:31	22:31	14:00	14:00
5: VIS-CV5-AMP-133	< 0.00001	0.00002	0.0332	< 0.00001	< 0.00001	< 0.00001	0.0045	< 0.00001	< 0.0001	< 0.0001	< 0.00001	< 0.00001
6: VIS-CV5-AMP-134	---	---	---	---	---	---	---	---	---	---	---	---
7: VIS-CV5-AMP-135	---	---	---	---	---	---	---	---	---	---	---	---
8: VIS-CV5-AMP-136	---	---	---	---	---	---	---	---	---	---	---	---
9: VIS-CV5-AMP-137	< 0.00001	0.00030	0.225	0.00002	< 0.00001	< 0.00001	0.0017	0.00003	< 0.0001	< 0.0001	< 0.00001	< 0.00001
10: VIS-CV5-AMP-138	---	---	---	---	---	---	---	---	---	---	---	---
11: VIS-CV5-AMP-139	---	---	---	---	---	---	---	---	---	---	---	---
12: VIS-CV5-AMP-140	---	---	---	---	---	---	---	---	---	---	---	---
13: VIS-CV5-AMP-141	< 0.00001	0.00024	0.0031	0.00002	0.00001	< 0.00001	0.0024	0.00003	< 0.0001	< 0.0001	< 0.00001	< 0.00001
14: VIS-CV5-AMP-142	---	---	---	---	---	---	---	---	---	---	---	---

OnLine LIMS

00004055057

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11016-FEB25**

Sample ID	Au mg/L	Ce mg/L	Cs mg/L	Dy mg/L	Er mg/L	Eu mg/L	Ga mg/L	Gd (tot) mg/L	Ge mg/L	Hf mg/L	Ho mg/L	In mg/L
15: VIS-CV5-AMP-143	---	---	---	---	---	---	---	---	---	---	---	---
16: VIS-CV5-AMP-144	---	---	---	---	---	---	---	---	---	---	---	---
17: VIS-CV5-AMP-145	< 0.00001	0.00008	0.0030	0.00002	0.00001	< 0.00001	0.0045	0.00002	< 0.0001	< 0.0001	< 0.00001	< 0.00001
18: VIS-CV5-AMP-146	---	---	---	---	---	---	---	---	---	---	---	---
19: VIS-CV5-AMP-147	---	---	---	---	---	---	---	---	---	---	---	---
20: VIS-CV5-AMP-148	---	---	---	---	---	---	---	---	---	---	---	---
21: VIS-CV5-AMP-149	< 0.00001	0.00009	0.118	0.00002	< 0.00001	< 0.00001	0.0013	0.00001	< 0.0001	0.0002	< 0.00001	< 0.00001
22: VIS-CV5-AMP-150	---	---	---	---	---	---	---	---	---	---	---	---
23: VIS-CV5-AMP-151	---	---	---	---	---	---	---	---	---	---	---	---
24: VIS-CV5-AMP-152	---	---	---	---	---	---	---	---	---	---	---	---
25: VIS-CV5-AMP-153	< 0.00001	0.00002	0.118	< 0.00001	< 0.00001	< 0.00001	0.0003	< 0.00001	< 0.0001	< 0.0001	< 0.00001	< 0.00001
26: VIS-CV5-AMP-154	---	---	---	---	---	---	---	---	---	---	---	---
27: VIS-CV5-AMP-155	---	---	---	---	---	---	---	---	---	---	---	---
28: VIS-CV5-AMP-156	---	---	---	---	---	---	---	---	---	---	---	---
29: VIS-CV5-AMP-157	< 0.00001	0.00001	0.0384	< 0.00001	< 0.00001	< 0.00001	0.0050	< 0.00001	< 0.0001	< 0.0001	< 0.00001	< 0.00001
30: VIS-CV5-AMP-158	---	---	---	---	---	---	---	---	---	---	---	---
31: VIS-CV5-AMP-159	---	---	---	---	---	---	---	---	---	---	---	---
32: VIS-CV5-AMP-160	---	---	---	---	---	---	---	---	---	---	---	---
33: VIS-CV5-AMP-161	0.00001	0.00075	0.0791	0.00005	0.00002	0.00002	0.0005	0.00007	0.0002	< 0.0001	< 0.00001	< 0.00001
34: VIS-CV5-AMP-162	---	---	---	---	---	---	---	---	---	---	---	---
35: VIS-CV5-AMP-163	---	---	---	---	---	---	---	---	---	---	---	---
36: VIS-CV5-AMP-164	---	---	---	---	---	---	---	---	---	---	---	---
37: VIS-CV5-AMP-165	< 0.00001	0.00020	0.149	0.00002	0.00001	< 0.00001	0.0013	0.00002	< 0.0001	< 0.0001	< 0.00001	< 0.00001
38: VIS-CV5-AMP-166	---	---	---	---	---	---	---	---	---	---	---	---
39: VIS-CV5-AMP-167	---	---	---	---	---	---	---	---	---	---	---	---
40: VIS-CV5-AMP-168	---	---	---	---	---	---	---	---	---	---	---	---
41: VIS-CV5-AMP-169	< 0.00001	0.00008	0.0080	0.00001	< 0.00001	< 0.00001	0.0028	0.00001	< 0.0001	< 0.0001	< 0.00001	< 0.00001
42: VIS-CV5-AMP-170	---	---	---	---	---	---	---	---	---	---	---	---
43: VIS-CV5-AMP-171	---	---	---	---	---	---	---	---	---	---	---	---
44: VIS-CV5-AMP-172	---	---	---	---	---	---	---	---	---	---	---	---
45: VIS-CV5-AMP-173	< 0.00001	0.00019	0.0345	0.00003	0.00002	< 0.00001	0.0030	0.00002	< 0.0001	< 0.0001	< 0.00001	< 0.00001
46: VIS-CV5-AMP-174	---	---	---	---	---	---	---	---	---	---	---	---
47: VIS-CV5-AMP-175	---	---	---	---	---	---	---	---	---	---	---	---

OnLine LIMS

00004055057

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11016-FEB25**

Sample ID	Au mg/L	Ce mg/L	Cs mg/L	Dy mg/L	Er mg/L	Eu mg/L	Ga mg/L	Gd (tot) mg/L	Ge mg/L	Hf mg/L	Ho mg/L	In mg/L
48: VIS-CV5-AMP-176	---	---	---	---	---	---	---	---	---	---	---	---
49: VIS-CV5-AMP-177	< 0.00001	0.00029	0.0856	0.00004	0.00002	0.00001	0.0050	0.00004	< 0.0001	0.0002	< 0.00001	< 0.00001
50: VIS-CV5-AMP-178	---	---	---	---	---	---	---	---	---	---	---	---
51: VIS-CV5-AMP-179	---	---	---	---	---	---	---	---	---	---	---	---
52: VIS-CV5-AMP-180	---	---	---	---	---	---	---	---	---	---	---	---
53-DUP: VIS-CV5-AMP-152	< 0.00001	0.00010	0.0650	0.00002	0.00001	< 0.00001	0.0065	0.00002	< 0.0001	< 0.0001	< 0.00001	< 0.00001
54-DUP: VIS-CV5-AMP-180	< 0.00001	0.00003	0.0277	< 0.00001	< 0.00001	< 0.00001	0.0004	< 0.00001	< 0.0001	< 0.0001	< 0.00001	< 0.00001
55-BLK: CTEU Blank	< 0.00001	< 0.00001	< 0.0001	< 0.00001	< 0.00001	< 0.00001	< 0.0001	< 0.00001	< 0.0001	< 0.0001	< 0.00001	< 0.00001

Sample ID	La mg/L	Lu mg/L	Nb mg/L	Nd mg/L	Os mg/L	Pd mg/L	Pr mg/L	Pt mg/L	Rh mg/L	Rb mg/L	Re mg/L	Ru mg/L
1: Analysis Start Date	14-Mar-25	14-Mar-25	12-Mar-25	14-Mar-25	12-Mar-25	12-Mar-25	14-Mar-25	12-Mar-25	12-Mar-25	12-Mar-25	12-Mar-25	12-Mar-25
2: Analysis Start Time	12:31	12:31	18:25	12:31	18:25	18:25	12:31	18:25	18:25	18:25	18:25	18:25
3: Analysis Completed Date	17-Mar-25	17-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25	17-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25	18-Mar-25
4: Analysis Completed Time	14:00	14:00	22:31	22:31	22:31	22:31	14:00	22:31	22:31	22:31	22:31	22:31
5: VIS-CV5-AMP-133	0.00001	< 0.0001	< 0.0001	0.00001	< 0.0001	< 0.0001	< 0.00001	< 0.0001	< 0.00001	0.212	< 0.0001	< 0.00001
6: VIS-CV5-AMP-134	---	---	---	---	---	---	---	---	---	---	---	---
7: VIS-CV5-AMP-135	---	---	---	---	---	---	---	---	---	---	---	---
8: VIS-CV5-AMP-136	---	---	---	---	---	---	---	---	---	---	---	---
9: VIS-CV5-AMP-137	0.00013	< 0.0001	< 0.0001	0.00015	< 0.0001	< 0.0001	0.00004	< 0.0001	< 0.00001	0.0949	< 0.0001	< 0.00001
10: VIS-CV5-AMP-138	---	---	---	---	---	---	---	---	---	---	---	---
11: VIS-CV5-AMP-139	---	---	---	---	---	---	---	---	---	---	---	---
12: VIS-CV5-AMP-140	---	---	---	---	---	---	---	---	---	---	---	---
13: VIS-CV5-AMP-141	0.00011	< 0.0001	< 0.0001	0.00012	< 0.0001	< 0.0001	0.00003	< 0.0001	< 0.00001	0.0214	< 0.0001	< 0.00001
14: VIS-CV5-AMP-142	---	---	---	---	---	---	---	---	---	---	---	---
15: VIS-CV5-AMP-143	---	---	---	---	---	---	---	---	---	---	---	---
16: VIS-CV5-AMP-144	---	---	---	---	---	---	---	---	---	---	---	---
17: VIS-CV5-AMP-145	0.00004	< 0.0001	< 0.0001	0.00005	< 0.0001	< 0.0001	0.00001	< 0.0001	< 0.00001	0.0118	< 0.0001	< 0.00001
18: VIS-CV5-AMP-146	---	---	---	---	---	---	---	---	---	---	---	---
19: VIS-CV5-AMP-147	---	---	---	---	---	---	---	---	---	---	---	---
20: VIS-CV5-AMP-148	---	---	---	---	---	---	---	---	---	---	---	---
21: VIS-CV5-AMP-149	0.00009	< 0.0001	< 0.0001	0.00004	< 0.0001	< 0.0001	0.00001	< 0.0001	< 0.00001	0.151	< 0.0001	< 0.00001

OnLine LIMS

00004055057

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : CA11016-FEB25

Sample ID	La mg/L	Lu mg/L	Nb mg/L	Nd mg/L	Os mg/L	Pd mg/L	Pr mg/L	Pt mg/L	Rh mg/L	Rb mg/L	Re mg/L	Ru mg/L
22: VIS-CV5-AMP-150	---	---	---	---	---	---	---	---	---	---	---	---
23: VIS-CV5-AMP-151	---	---	---	---	---	---	---	---	---	---	---	---
24: VIS-CV5-AMP-152	---	---	---	---	---	---	---	---	---	---	---	---
25: VIS-CV5-AMP-153	0.00002	< 0.0001	< 0.0001	0.00001	< 0.0001	< 0.0001	< 0.00001	< 0.0001	< 0.00001	0.0679	< 0.0001	< 0.00001
26: VIS-CV5-AMP-154	---	---	---	---	---	---	---	---	---	---	---	---
27: VIS-CV5-AMP-155	---	---	---	---	---	---	---	---	---	---	---	---
28: VIS-CV5-AMP-156	---	---	---	---	---	---	---	---	---	---	---	---
29: VIS-CV5-AMP-157	0.00001	< 0.0001	< 0.0001	< 0.00001	< 0.0001	< 0.0001	< 0.00001	< 0.0001	< 0.00001	0.0350	< 0.0001	< 0.00001
30: VIS-CV5-AMP-158	---	---	---	---	---	---	---	---	---	---	---	---
31: VIS-CV5-AMP-159	---	---	---	---	---	---	---	---	---	---	---	---
32: VIS-CV5-AMP-160	---	---	---	---	---	---	---	---	---	---	---	---
33: VIS-CV5-AMP-161	0.00035	< 0.0001	0.0005	0.00041	< 0.0001	< 0.0001	0.00010	< 0.0001	< 0.00001	0.161	< 0.0001	< 0.00001
34: VIS-CV5-AMP-162	---	---	---	---	---	---	---	---	---	---	---	---
35: VIS-CV5-AMP-163	---	---	---	---	---	---	---	---	---	---	---	---
36: VIS-CV5-AMP-164	---	---	---	---	---	---	---	---	---	---	---	---
37: VIS-CV5-AMP-165	0.00010	< 0.0001	< 0.0001	0.00008	< 0.0001	< 0.0001	0.00002	< 0.0001	< 0.00001	0.0797	< 0.0001	< 0.00001
38: VIS-CV5-AMP-166	---	---	---	---	---	---	---	---	---	---	---	---
39: VIS-CV5-AMP-167	---	---	---	---	---	---	---	---	---	---	---	---
40: VIS-CV5-AMP-168	---	---	---	---	---	---	---	---	---	---	---	---
41: VIS-CV5-AMP-169	0.00004	< 0.0001	< 0.0001	0.00004	< 0.0001	< 0.0001	< 0.00001	< 0.0001	< 0.00001	0.0868	< 0.0001	< 0.00001
42: VIS-CV5-AMP-170	---	---	---	---	---	---	---	---	---	---	---	---
43: VIS-CV5-AMP-171	---	---	---	---	---	---	---	---	---	---	---	---
44: VIS-CV5-AMP-172	---	---	---	---	---	---	---	---	---	---	---	---
45: VIS-CV5-AMP-173	0.00007	< 0.0001	0.0001	0.00009	< 0.0001	< 0.0001	0.00002	< 0.0001	< 0.00001	0.174	< 0.0001	< 0.00001
46: VIS-CV5-AMP-174	---	---	---	---	---	---	---	---	---	---	---	---
47: VIS-CV5-AMP-175	---	---	---	---	---	---	---	---	---	---	---	---
48: VIS-CV5-AMP-176	---	---	---	---	---	---	---	---	---	---	---	---
49: VIS-CV5-AMP-177	0.00016	< 0.0001	< 0.0001	0.00015	< 0.0001	< 0.0001	0.00004	< 0.0001	< 0.00001	0.356	< 0.0001	< 0.00001
50: VIS-CV5-AMP-178	---	---	---	---	---	---	---	---	---	---	---	---
51: VIS-CV5-AMP-179	---	---	---	---	---	---	---	---	---	---	---	---
52: VIS-CV5-AMP-180	---	---	---	---	---	---	---	---	---	---	---	---
53-DUP: VIS-CV5-AMP-152	0.00005	< 0.0001	< 0.0001	0.00007	< 0.0001	< 0.0001	0.00001	< 0.0001	< 0.00001	0.271	< 0.0001	< 0.00001
54-DUP: VIS-CV5-AMP-180	0.00003	< 0.0001	< 0.0001	0.00002	< 0.0001	< 0.0001	< 0.00001	< 0.0001	< 0.00001	0.0229	< 0.0001	< 0.00001

OnLine LIMS

00004055057

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11016-FEB25**

Sample ID	La mg/L	Lu mg/L	Nb mg/L	Nd mg/L	Os mg/L	Pd mg/L	Pr mg/L	Pt mg/L	Rh mg/L	Rb mg/L	Re mg/L	Ru mg/L
55-BLK: CTEU Blank	< 0.00001	< 0.0001	< 0.0001	< 0.00001	< 0.0001	< 0.0001	< 0.00001	< 0.0001	< 0.00001	0.0002	< 0.0001	< 0.00001

Sample ID	Sm mg/L	Sc mg/L	Ta mg/L	Tb mg/L	Te mg/L	Th mg/L	Tm mg/L
1: Analysis Start Date	14-Mar-25	14-Mar-25	12-Mar-25	14-Mar-25	12-Mar-25	12-Mar-25	14-Mar-25
2: Analysis Start Time	12:31	12:31	18:25	12:31	18:25	18:25	12:31
3: Analysis Completed Date	17-Mar-25	17-Mar-25	18-Mar-25	17-Mar-25	18-Mar-25	18-Mar-25	17-Mar-25
4: Analysis Completed Time	14:00	14:00	22:31	14:00	22:31	22:31	14:00
5: VIS-CV5-AMP-133	< 0.00001	0.0001	< 0.0001	< 0.00001	< 0.0001	< 0.0001	< 0.00001
6: VIS-CV5-AMP-134	---	---	---	---	---	---	---
7: VIS-CV5-AMP-135	---	---	---	---	---	---	---
8: VIS-CV5-AMP-136	---	---	---	---	---	---	---
9: VIS-CV5-AMP-137	0.00003	0.0003	< 0.0001	< 0.00001	< 0.0001	< 0.0001	< 0.00001
10: VIS-CV5-AMP-138	---	---	---	---	---	---	---
11: VIS-CV5-AMP-139	---	---	---	---	---	---	---
12: VIS-CV5-AMP-140	---	---	---	---	---	---	---
13: VIS-CV5-AMP-141	0.00003	0.0003	< 0.0001	< 0.00001	< 0.0001	< 0.0001	< 0.00001
14: VIS-CV5-AMP-142	---	---	---	---	---	---	---
15: VIS-CV5-AMP-143	---	---	---	---	---	---	---
16: VIS-CV5-AMP-144	---	---	---	---	---	---	---
17: VIS-CV5-AMP-145	< 0.00001	0.0003	< 0.0001	< 0.00001	< 0.0001	< 0.0001	< 0.00001
18: VIS-CV5-AMP-146	---	---	---	---	---	---	---
19: VIS-CV5-AMP-147	---	---	---	---	---	---	---
20: VIS-CV5-AMP-148	---	---	---	---	---	---	---
21: VIS-CV5-AMP-149	0.00001	0.0004	< 0.0001	< 0.00001	< 0.0001	< 0.0001	< 0.00001
22: VIS-CV5-AMP-150	---	---	---	---	---	---	---
23: VIS-CV5-AMP-151	---	---	---	---	---	---	---
24: VIS-CV5-AMP-152	---	---	---	---	---	---	---
25: VIS-CV5-AMP-153	< 0.00001	0.0003	< 0.0001	< 0.00001	< 0.0001	< 0.0001	< 0.00001
26: VIS-CV5-AMP-154	---	---	---	---	---	---	---
27: VIS-CV5-AMP-155	---	---	---	---	---	---	---
28: VIS-CV5-AMP-156	---	---	---	---	---	---	---

OnLine LIMS

00004055057

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11016-FEB25**

Sample ID	Sm mg/L	Sc mg/L	Ta mg/L	Tb mg/L	Te mg/L	Th mg/L	Tm mg/L
29: VIS-CV5-AMP-157	< 0.00001	0.0002	< 0.0001	< 0.00001	< 0.0001	< 0.0001	< 0.00001
30: VIS-CV5-AMP-158	---	---	---	---	---	---	---
31: VIS-CV5-AMP-159	---	---	---	---	---	---	---
32: VIS-CV5-AMP-160	---	---	---	---	---	---	---
33: VIS-CV5-AMP-161	0.00007	0.0010	< 0.0001	< 0.00001	< 0.0001	< 0.0001	< 0.00001
34: VIS-CV5-AMP-162	---	---	---	---	---	---	---
35: VIS-CV5-AMP-163	---	---	---	---	---	---	---
36: VIS-CV5-AMP-164	---	---	---	---	---	---	---
37: VIS-CV5-AMP-165	0.00001	0.0005	< 0.0001	< 0.00001	< 0.0001	< 0.0001	< 0.00001
38: VIS-CV5-AMP-166	---	---	---	---	---	---	---
39: VIS-CV5-AMP-167	---	---	---	---	---	---	---
40: VIS-CV5-AMP-168	---	---	---	---	---	---	---
41: VIS-CV5-AMP-169	< 0.00001	0.0004	< 0.0001	< 0.00001	< 0.0001	< 0.0001	< 0.00001
42: VIS-CV5-AMP-170	---	---	---	---	---	---	---
43: VIS-CV5-AMP-171	---	---	---	---	---	---	---
44: VIS-CV5-AMP-172	---	---	---	---	---	---	---
45: VIS-CV5-AMP-173	0.00002	0.0005	0.0002	< 0.00001	< 0.0001	< 0.0001	< 0.00001
46: VIS-CV5-AMP-174	---	---	---	---	---	---	---
47: VIS-CV5-AMP-175	---	---	---	---	---	---	---
48: VIS-CV5-AMP-176	---	---	---	---	---	---	---
49: VIS-CV5-AMP-177	0.00003	0.0008	< 0.0001	< 0.00001	< 0.0001	0.0001	< 0.00001
50: VIS-CV5-AMP-178	---	---	---	---	---	---	---
51: VIS-CV5-AMP-179	---	---	---	---	---	---	---
52: VIS-CV5-AMP-180	---	---	---	---	---	---	---
53-DUP: VIS-CV5-AMP-152	0.00002	0.0004	< 0.0001	< 0.00001	< 0.0001	< 0.0001	< 0.00001
54-DUP: VIS-CV5-AMP-180	< 0.00001	0.0002	< 0.0001	< 0.00001	< 0.0001	< 0.0001	< 0.00001
55-BLK: CTEU Blank	< 0.00001	< 0.0001	< 0.0001	< 0.00001	< 0.0001	< 0.0001	< 0.00001

Method Descriptions

Parameter	Units	SGS Method Code	CALA	PALA
	g	NA	N	N
	mL	NA	N	N

OnLine LIMS

00004055057

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11016-FEB25**

Parameter	Units	SGS Method Code	CALA	PALA
Acidity	mg/L as CaCO3	ME-CA-[ENV]EWL-LAK-AN-006	Y	N
Alkalinity	mg/L as CaCO3	ME-CA-[ENV]EWL-LAK-AN-006	Y	N
Anions by IC	mg/L	ME-CA-[ENV]IC-LAK-AN-001	Y	N
Anions by IC	mg/L	ME-CA-[ENV]IC-LAK-AN-001	Y	Y
Conductivity	uS/cm	ME-CA-[ENV]EWL-LAK-AN-006	Y	Y
Fluoride by Specific Ion Electrode	mg/L	ME-CA-[ENV]EWL-LAK-AN-014	Y	Y
Inorganics-General	mg/L	ME-CA-[ENV]SPE-LAK-AN-004	Y	Y
Metals in aqueous samples - ICP-MS	mg/L	ME-CA-[ENV]SPE-LAK-AN-006	Y	N
Metals in aqueous samples - ICP-MS	mg/L	ME-CA-[ENV]SPE-LAK-AN-006	Y	Y
pH	No unit	ME-CA-[ENV]EWL-LAK-AN-006	Y	Y
Reactive Phosphorus by SFA	mg/L	ME-CA-[ENV]SFA-LAK-AN-004	Y	N

Accreditation Descriptions

CALA:
SGS Canada Industries & Environment conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation found at https://directory.cala.ca/#. Analytes and SGS Method Codes marked with a “Y” in the “CALA” column in the table denote ISO/IEC17025 accreditation

PALA:
SGS Canada Industries & Environment conforms to the requirements of ISO/IEC 17025:2005 for specific tests as listed on their scope of accreditation found at https://www.ceaeq.gouv.qc.ca/documents/publications/listes.htm#labo_accr. Analytes and SGS Method Codes marked with a “Y” in the “PALA” column in the table denote ISO/IEC17025:2005 accreditation

Catharine Arnold

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0004055057

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quality Control Report

Inorganic Analysis													
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Acidity - QCBatchID: EWL0183-MAR25													
Acidity	2	mg/L as Ca	< 2			ND	20	100	90	110	NA		
Acidity - QCBatchID: EWL0243-MAR25													
Acidity	2	mg/L as Ca	2			ND	20	102	90	110	NA		
Acidity - QCBatchID: EWL0271-MAR25													
Acidity	2	mg/L as Ca	< 2			0	20	106	90	110	NA		
Alkalinity - QCBatchID: EWL0183-MAR25													
Alkalinity	2	mg/L as Ca	< 2			0	20	104	80	120	NA		
Alkalinity - QCBatchID: EWL0243-MAR25													
Alkalinity	2	mg/L as Ca	< 2			0	20	102	80	120	NA		
Alkalinity - QCBatchID: EWL0247-MAR25													
Alkalinity	2	mg/L as Ca	< 2			3	20	98	80	120	NA		
Anions by IC - QCBatchID: DIO0208-MAR25													
Bromide	0.3	mg/L	<0.3			ND	20	101	90	110	99	75	125
Chloride	0.2	mg/L	<0.2			5	20	100	90	110	124	75	125
Nitrate (as N)	0.06	mg/L	<0.06			ND	20	101	90	110	103	75	125
Nitrite (as N)	0.03	mg/L	<0.03			ND	20	98	90	110	102	75	125
Sulphate	0.2	mg/L	<0.2			7	20	96	90	110	95	75	125
Anions by IC - QCBatchID: DIO0209-MAR25													
Bromide	0.3	mg/L	<0.3			ND	20	101	90	110	101	75	125
Chloride	0.2	mg/L	<0.2			ND	20	100	90	110	104	75	125
Nitrate (as N)	0.06	mg/L	<0.06			ND	20	101	90	110	104	75	125
Nitrite (as N)	0.03	mg/L	<0.03			ND	20	98	90	110	104	75	125
Sulphate	0.2	mg/L	<0.2			7	20	96	90	110	96	75	125
Anions by IC - QCBatchID: DIO0268-MAR25													
Bromide	0.3	mg/L	<0.3			ND	20	99	90	110	95	75	125
Chloride	0.2	mg/L	<0.2			8	20	100	90	110	98	75	125
Nitrate (as N)	0.06	mg/L	<0.06			ND	20	102	90	110	102	75	125
Nitrite (as N)	0.03	mg/L	<0.03			ND	20	98	90	110	103	75	125
Sulphate	0.2	mg/L	<0.2			16	20	98	90	110	95	75	125
Anions by IC - QCBatchID: DIO0269-MAR25													
Bromide	0.3	mg/L	<0.3			ND	20	102	90	110	98	75	125
Chloride	0.2	mg/L	<0.2			3	20	102	90	110	102	75	125
Nitrate (as N)	0.06	mg/L	<0.06			ND	20	101	90	110	101	75	125
Nitrite (as N)	0.03	mg/L	<0.03			ND	20	98	90	110	102	75	125
Sulphate	0.2	mg/L	<0.2			8	20	96	90	110	93	75	125

OnLine LIMS

00040555057

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material			
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Conductivity - QCBatchID: EWL0183-MAR25													
Conductivity	2	uS/cm	2			3	20	105	90	110	NA		
Conductivity - QCBatchID: EWL0243-MAR25													
Conductivity	2	uS/cm	< 2			0	20	101	90	110	NA		
Conductivity - QCBatchID: EWL0247-MAR25													
Conductivity	2	uS/cm	< 2			0	20	100	90	110	NA		
Fluoride by Specific Ion Electrode - QCBatchID: EWL0186-MAR25													
Fluoride	0.06	mg/L	<0.06			0	10	99	90	110	107	75	125
Fluoride by Specific Ion Electrode - QCBatchID: EWL0201-MAR25													
Fluoride	0.06	mg/L	<0.06			ND	10	100	90	110	96	75	125
Fluoride by Specific Ion Electrode - QCBatchID: EWL0251-MAR25													
Fluoride	0.06	mg/L	<0.06			ND	10	100	90	110	108	75	125
Fluoride by Specific Ion Electrode - QCBatchID: EWL0259-MAR25													
Fluoride	0.06	mg/L	<0.06			0	10	97	90	110	94	75	125
Inorganics-General - QCBatchID: EHG0017-MAR25													
Mercury	0.00001	mg/L	< 0.00001			ND	20	113	80	120	121	70	130
Inorganics-General - QCBatchID: EHG0024-MAR25													
Mercury	0.00001	mg/L	< 0.00001			ND	20	118	80	120	108	70	130
Metals in aqueous samples - ICP-MS - QCBatchID: EMS0083-MAR25													
Aluminum	0.001	mg/L	<0.001			6	20	99	90	110	106	70	130
Antimony	0.0009	mg/L	<0.0009			ND	20	108	90	110	116	70	130
Arsenic	0.0002	mg/L	<0.0002			0	20	100	90	110	97	70	130
Barium	0.00008	mg/L	<0.00008			2	20	98	90	110	102	70	130
Beryllium	0.000007	mg/L	<0.000007			13	20	93	90	110	98	70	130
Bismuth	0.00001	mg/L	<0.00001			8	20	92	90	110	102	70	130
Boron	0.002	mg/L	<0.002			1	20	100	90	110	99	70	130
Cadmium	0.000003	mg/L	<0.000003			0	20	98	90	110	108	70	130
Calcium	0.01	mg/L	<0.01			1	20	101	90	110	85	70	130
Cesium	0.0001	mg/L	<0.0001			2	20	105	90	110	NV	70	130
Chromium	0.00008	mg/L	<0.00008			3	20	97	90	110	84	70	130
Cobalt	0.000004	mg/L	<0.000004			10	20	95	90	110	92	70	130
Copper	0.001	mg/L	<0.001			6	20	99	90	110	101	70	130
Germanium	0.0001	mg/L	<0.0001			ND	20	104	90	110	NV	70	130
Gold	0.00001	mg/L	<0.00001			ND	20	98	90	110	NV	70	130
Hafnium	0.0001	mg/L	<0.0001			ND	20	97	90	110	NV	70	130
Iron	0.007	mg/L	<0.007			9	20	102	90	110	100	70	130
Lead	0.00009	mg/L	<0.00009			7	20	96	90	110	95	70	130
Lithium	0.0001	mg/L	<0.0001			1	20	95	90	110	96	70	130
Magnesium	0.001	mg/L	<0.001			1	20	102	90	110	90	70	130

OnLine LIMS

00004055057

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Manganese	0.00001	mg/L	<0.00001			7	20	99	90	110	98	70	130
Molybdenum	0.0004	mg/L	<0.0004			5	20	101	90	110	104	70	130
Nickel	0.0001	mg/L	<0.0001			3	20	99	90	110	99	70	130
Niobium	0.0001	mg/L	<0.0001			ND	20	105	90	110	NV	70	130
Osmium	0.0001	mg/L	<0.0001			ND	20	98	90	110	NV	70	130
Palladium	0.0001	mg/L	<0.0001			ND	20	100	90	110	NV	70	130
Phosphorus	0.003	mg/L	<0.003			ND	20	101	90	110	NV	70	130
Platinum	0.0001	mg/L	<0.0001			ND	20	98	90	110	NV	70	130
Potassium	0.009	mg/L	<0.009			2	20	107	90	110	99	70	130
Rhenium	0.0001	mg/L	<0.0001			ND	20	96	90	110	NV	70	130
Rhodium	0.00001	mg/L	<0.0001			ND	20	99	90	110	NV	70	130
Rubidium	0.0001	mg/L	<0.0001			2	20	99	90	110	NV	70	130
Ruthenium	0.00001	mg/L	<0.0001			ND	20	101	90	110	NV	70	130
Selenium	0.00004	mg/L	<0.00004			3	20	97	90	110	98	70	130
Silicon	0.02	mg/L	<0.02			2	20	96	90	110	NV	70	130
Silver	0.00005	mg/L	<0.00005			ND	20	97	90	110	99	70	130
Sodium	0.01	mg/L	<0.01			1	20	99	90	110	100	70	130
Strontium	0.00008	mg/L	<0.00008			1	20	97	90	110	95	70	130
Tantalum	0.0001	mg/L	<0.0001			ND	20	106	90	110	NV	70	130
Tellurium	0.0001	mg/L	<0.0001			ND	20	99	90	110	NV	70	130
Thallium	0.000005	mg/L	<0.000005			5	20	96	90	110	96	70	130
Thorium	0.0001	mg/L	<0.0001			ND	20	96	90	110	NV	70	130
Tin	0.00006	mg/L	<0.00006			3	20	101	90	110	NV	70	130
Titanium	0.0001	mg/L	<0.0001			7	20	97	90	110	NV	70	130
Uranium	0.000002	mg/L	<0.000002			4	20	98	90	110	93	70	130
Vanadium	0.00001	mg/L	<0.00001			0	20	99	90	110	100	70	130
Zinc	0.002	mg/L	<0.002			ND	20	98	90	110	103	70	130
Metals in aqueous samples - ICP-MS - QCBatchID: EMS0100-MAR25													
Antimony	0.0009	mg/L	<0.0009			ND	20	102	90	110	109	70	130
Arsenic	0.0002	mg/L	<0.0002			2	20	98	90	110	108	70	130
Metals in aqueous samples - ICP-MS - QCBatchID: EMS0106-MAR25													
Aluminum	0.001	mg/L	<0.001			1	20	100	90	110	86	70	130
Antimony	0.0009	mg/L	<0.0009			ND	20	109	90	110	116	70	130
Arsenic	0.0002	mg/L	<0.0002			2	20	101	90	110	107	70	130
Barium	0.00008	mg/L	<0.00008			3	20	97	90	110	101	70	130
Beryllium	0.000007	mg/L	<0.000007			ND	20	101	90	110	96	70	130
Bismuth	0.00001	mg/L	<0.00001			ND	20	98	90	110	110	70	130
Boron	0.002	mg/L	<0.002			ND	20	98	90	110	97	70	130
Cadmium	0.000003	mg/L	<0.000003			11	20	97	90	110	98	70	130

OnLine LIMS

00004055057

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - K0L 2H0
Phone: 705-652-2000 FAX: 705-652-6365

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank				Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)			Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High			Low	High
Calcium	0.01	mg/L	<0.01			1	20	95	90	110		85	70	130
Chromium	0.00008	mg/L	<0.00008			ND	20	98	90	110		95	70	130
Cobalt	0.000004	mg/L	<0.000004			9	20	96	90	110		95	70	130
Copper	0.001	mg/L	<0.001			ND	20	99	90	110		101	70	130
Germanium	0.0001	mg/L	<0.0001			ND	20	99	90	110		NV	70	130
Gold	0.00001	mg/L	<0.00001			ND	20	99	90	110		NV	70	130
Hafnium	0.0001	mg/L	<0.0001			ND	20	91	90	110		NV	70	130
Iron	0.007	mg/L	<0.007			ND	20	98	90	110		100	70	130
Lead	0.00009	mg/L	<0.00009			4	20	99	90	110		98	70	130
Lithium	0.0001	mg/L	<0.0001			4	20	101	90	110		96	70	130
Magnesium	0.001	mg/L	<0.001			0	20	99	90	110		94	70	130
Manganese	0.00001	mg/L	<0.00001			1	20	99	90	110		99	70	130
Molybdenum	0.0004	mg/L	<0.0004			ND	20	97	90	110		97	70	130
Nickel	0.0001	mg/L	<0.0001			9	20	99	90	110		97	70	130
Niobium	0.0001	mg/L	<0.0001			ND	20	100	90	110		NV	70	130
Osmium	0.0001	mg/L	<0.0001			ND	20	97	90	110		NV	70	130
Palladium	0.0001	mg/L	<0.0001			ND	20	100	90	110		NV	70	130
Phosphorus	0.003	mg/L	<0.003			ND	20	93	90	110		NV	70	130
Platinum	0.0001	mg/L	<0.0001			ND	20	102	90	110		NV	70	130
Potassium	0.009	mg/L	<0.009			2	20	99	90	110		98	70	130
Rhenium	0.0001	mg/L	<0.0001			ND	20	96	90	110		NV	70	130
Rhodium	0.00001	mg/L	<0.0001			ND	20	101	90	110		NV	70	130
Ruthenium	0.00001	mg/L	<0.0001			ND	20	102	90	110		NV	70	130
Selenium	0.00004	mg/L	<0.00004			4	20	99	90	110		108	70	130
Silicon	0.02	mg/L	<0.02			2	20	93	90	110		NV	70	130
Silver	0.00005	mg/L	<0.00005			ND	20	94	90	110		78	70	130
Sodium	0.01	mg/L	<0.01			0	20	94	90	110		94	70	130
Strontium	0.00008	mg/L	<0.00008			1	20	98	90	110		96	70	130
Tantalum	0.0001	mg/L	<0.0001			ND	20	104	90	110		NV	70	130
Tellurium	0.0001	mg/L	<0.0001			ND	20	96	90	110		NV	70	130
Thallium	0.000005	mg/L	<0.000005			ND	20	100	90	110		97	70	130
Tin	0.00006	mg/L	<0.00006			ND	20	98	90	110		NV	70	130
Titanium	0.0001	mg/L	<0.0001			ND	20	96	90	110		NV	70	130
Uranium	0.000002	mg/L	<0.000002			11	20	101	90	110		96	70	130
Vanadium	0.00001	mg/L	<0.00001			15	20	100	90	110		98	70	130
Zinc	0.002	mg/L	<0.002			1	20	99	90	110		99	70	130
Metals in aqueous samples - ICP-MS - QCBatchID: EMS0116-MAR25														
Cerium	0.00001	mg/L	<0.00001			0	20	100	90	110		NV	70	130
Cesium	0.0001	mg/L	<0.0001			2	20	100	90	110		NV	70	130

OnLine LIMS

00004055057

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11016-FEB25**

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material			
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Dysprosium	0.00001	mg/L	<0.00001			ND	20	100	90	110	NV	70	130
Erbium	0.00001	mg/L	<0.00001			ND	20	99	90	110	NV	70	130
Europium	0.00001	mg/L	<0.00001			ND	20	99	90	110	NV	70	130
Gadolinium	0.00001	mg/L	<0.0001			ND	20	101	90	110	NV	70	130
Gallium	0.0001	mg/L	<0.0001			1	20	100	90	110	NV	70	130
Holmium	0.00001	mg/L	<0.00001			ND	20	98	90	110	NV	70	130
Indium	0.00001	mg/L	<0.00001			5	20	101	90	110	NV	70	130
Lanthanum	0.00001	mg/L	<0.00001			5	20	99	90	110	NV	70	130
Lutetium	0.0001	mg/L	<0.0001			ND	20	101	90	110	NV	70	130
Neodymium	0.00001	mg/L	<0.00001			ND	20	100	90	110	NV	70	130
Praseodymium	0.00001	mg/L	<0.00001			ND	20	101	90	110	NV	70	130
Rubidium	0.0001	mg/L	<0.0001			2	20	99	90	110	NV	70	130
Samarium	0.00001	mg/L	<0.00001			ND	20	100	90	110	NV	70	130
Scandium	0.0001	mg/L	<0.0001			11	20	94	90	110	NV	70	130
Terbium	0.00001	mg/L	<0.00001			ND	20	101	90	110	NV	70	130
Thorium	0.0001	mg/L	<0.0001			ND	20	102	90	110	NV	70	130
Thulium	0.00001	mg/L	<0.00001			ND	20	99	90	110	NV	70	130
Uranium	0.000002	mg/L	<0.000002			2	20	95	90	110	NV	70	130
Metals in aqueous samples - ICP-MS - QCBatchID: EMS0122-MAR25													
Lithium	0.0001	mg/L	<0.0001			0	20	94	90	110	97	70	130
Metals in aqueous samples - ICP-MS - QCBatchID: EMS0139-MAR25													
Arsenic	0.0002	mg/L	<0.0002			ND	20	93	90	110	95	70	130
pH - QCBatchID: EWL0183-MAR25													
pH	0.05	No unit	NA			0		100			NA		
pH - QCBatchID: EWL0243-MAR25													
pH	0.05	No unit	NA			0		100			NA		
pH - QCBatchID: EWL0247-MAR25													
pH	0.05	No unit	NA			1		100			NA		
Reactive Phosphorus by SFA - QCBatchID: SKA0083-MAR25													
Total Reactive Phosphorous (o-phosphate as P)	0.03	mg/L	<0.03			4	10	95	90	110	107	75	125
Reactive Phosphorus by SFA - QCBatchID: SKA0119-MAR25													
Total Reactive Phosphorous (o-phosphate as P)	0.03	mg/L	<0.03			ND	10	100	90	110	76	75	125

OnLine LIMS

00004055057

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

24-March-2025

Innova Lithium Inc.
Attn : John Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 05 February 2025
LR Report: **CA11017-FEB25**
Reference: Shaakichiuwaanaan Project

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Sample ID	Sample Date & Time	Paste pH no unit	Fizz Rate rating	Sample weight g	HCl_add mL	HCl Normality	NaOH Normality	Vol NaOH to pH=8.3 mL	Final pH no unit	NP t CaCO3/1000 t	AP t CaCO3/1000 t
1: Analysis Start Date		19-Mar-25	18-Mar-25	14-Mar-25	19-Mar-25	18-Mar-25	18-Mar-25	19-Mar-25	19-Mar-25	19-Mar-25	19-Mar-25
2: Analysis Start Time		11:49	07:15	20:27	06:30	08:34	08:34	13:36	08:31	13:36	13:36
3: Analysis Completed Date		20-Mar-25	20-Mar-25	20-Mar-25	20-Mar-25	20-Mar-25	20-Mar-25	20-Mar-25	20-Mar-25	20-Mar-25	20-Mar-25
4: Analysis Completed Time		16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:01
5: VIS-CV5-AMP-181	NA	9.57	3	2.00	20.00	0.10	0.10	13.98	1.51	15.0	7.66
6: VIS-CV5-AMP-182	NA	9.92	2	2.02	20.00	0.10	0.10	16.52	1.39	8.6	1.34
7: VIS-CV5-MS-183	NA	9.98	2	2.01	20.00	0.10	0.10	15.94	1.44	10.1	2.88
8: VIS-CV5-MS-184	NA	9.83	3	2.01	25.10	0.10	0.10	17.13	1.55	19.8	8.44
9: VIS-CV5-MS-185	NA	9.51	2	2.04	20.00	0.10	0.10	16.56	1.36	8.4	16.2
10: VIS-CV5-MS-186	NA	9.42	2	2.03	20.00	0.10	0.10	16.53	1.37	8.6	13.2
11: VIS-CV5-MS-187	NA	9.75	3	2.01	23.40	0.10	0.10	11.14	1.77	30.5	21.0
12: VIS-CV5-MS-188	NA	10.13	2	2.00	20.00	0.10	0.10	15.74	1.63	10.7	0.31
13: VIS-CV5-MS-189	NA	10.08	3	2.00	20.00	0.10	0.10	14.38	1.54	14.1	0.31
14: VIS-CV5-MS-190	NA	10.20	2	2.01	20.00	0.10	0.10	15.83	1.54	10.4	0.31
15: VIS-CV5-MS-191	NA	9.18	3	2.00	20.00	0.10	0.10	12.61	1.85	18.5	1.22
16: VIS-CV5-MS-192	NA	9.83	3	1.99	20.00	0.10	0.10	15.09	1.54	12.3	0.31
17: VIS-CV5-MS-193	NA	9.59	3	1.99	20.00	0.10	0.10	14.36	1.62	14.2	0.31
18: VIS-CV5-MS-194	NA	9.15	2	2.03	20.00	0.10	0.10	14.29	1.90	14.1	0.31

OnLine LIMS

0004055169

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

ABA - Modified Sobek

LR Report : CA11017-FEB25

Sample ID	Sample Date & Time	Paste pH no unit	Fizz Rate rating	Sample weight g	HCl_add mL	HCl Normality	NaOH Normality	Vol NaOH to pH=8.3 mL	Final pH no unit	NP t CaCO3/1000 t	AP t CaCO3/1000 t
19: VIS-CV5-MS-195	NA	8.31	4	2.03	73.40	0.10	0.10	17.34	1.81	138	110
20: VIS-CV5-MS-196	NA	8.45	4	2.01	67.50	0.10	0.10	19.66	1.70	119	88.2
21: VIS-CV5-MS-197	NA	8.49	4	2.02	65.80	0.10	0.10	16.75	1.80	121	133
22: VIS-CV5-MS-198	NA	9.42	3	1.98	20.00	0.10	0.10	14.21	1.54	14.6	9.19
23: VIS-CV5-MS-199	NA	9.55	2	2.03	20.00	0.10	0.10	15.94	1.55	10.0	4.94
24: VIS-CV5-MS-200	NA	9.76	3	2.01	20.00	0.10	0.10	16.60	1.26	8.5	0.66
25: VIS-CV5-MS-201	NA	9.16	2	1.99	20.00	0.10	0.10	17.29	1.44	6.8	25.6
26: VIS-CV5-MS-202	NA	5.20	2	2.00	20.00	0.10	0.10	17.71	1.61	5.7	194
27: VIS-CV5-MS-203	NA	8.27	2	1.98	20.00	0.10	0.10	18.14	1.41	4.7	6.97
28: VIS-CV5-MS-204	NA	9.57	2	2.00	20.00	0.10	0.10	14.54	1.59	13.7	0.75
29: VIS-CV5-MS-205	NA	10.14	2	1.99	20.00	0.10	0.10	17.51	1.40	6.3	2.91
30: VIS-CV5-MS-206	NA	9.37	2	2.00	20.00	0.10	0.10	15.89	1.47	10.3	3.91
31: VIS-CV5-MS-207	NA	9.10	2	1.98	20.00	0.10	0.10	17.28	1.34	6.9	13.8
32: VIS-CV5-MS-208	NA	10.00	2	1.98	20.00	0.10	0.10	16.84	1.35	8.0	1.16
33: VIS-CV5-MS-209	NA	9.86	2	2.02	20.00	0.10	0.10	15.10	1.50	12.1	3.03
34: VIS-CV5-MS-210	NA	9.59	2	2.00	20.00	0.10	0.10	17.62	1.35	5.9	22.0
35: VIS-CV5-MS-211	NA	10.24	2	1.98	20.00	0.10	0.10	17.61	1.21	6.0	2.00
36: VIS-CV5-MS-212	NA	9.95	2	2.00	20.00	0.10	0.10	16.42	1.08	9.0	5.44
37: VIS-CV5-MS-213	NA	10.18	3	1.99	20.00	0.10	0.10	12.77	1.52	18.2	0.31
38: VIS-CV5-MS-214	NA	9.69	2	2.02	20.00	0.10	0.10	16.64	1.45	8.3	0.31
39: VIS-CV5-MS-215	NA	10.07	2	2.03	20.00	0.10	0.10	14.46	1.30	13.7	3.47
40: VIS-CV5-MS-216	NA	9.57	3	2.00	20.00	0.10	0.10	11.39	1.51	21.5	8.78
41: VIS-CV5-MS-217	NA	10.04	2	1.99	20.00	0.10	0.10	15.37	1.51	11.6	0.31
42: VIS-CV5-MS-218	NA	10.14	2	2.02	20.00	0.10	0.10	15.57	1.40	11.0	0.31
43: VIS-CV5-MS-219	NA	10.05	3	2.03	26.60	0.10	0.10	18.40	1.72	20.2	0.31
44: VIS-CV5-MS-220	NA	9.17	2	1.99	20.00	0.10	0.10	17.32	1.39	6.7	14.7
45: VIS-CV5-MS-221	NA	9.63	3	2.03	20.00	0.10	0.10	12.87	1.42	17.6	17.3
46: VIS-CV5-MS-222	NA	9.54	2	2.00	20.00	0.10	0.10	15.04	1.51	12.4	0.81
47: VIS-CV5-MS-223	NA	9.75	2	2.01	20.00	0.10	0.10	17.54	1.38	6.1	3.19
48: VIS-CV5-MS-224	NA	9.23	2	2.02	20.00	0.10	0.10	17.93	1.33	5.1	10.4
49: VIS-CV5-MS-225	NA	9.59	2	1.99	20.00	0.10	0.10	17.09	1.39	7.3	0.31
50: VIS-CV5-MS-226	NA	9.67	3	2.02	30.80	0.10	0.10	11.94	1.74	46.7	2.91
51: VIS-CV5-MS-227	NA	8.54	2	1.98	20.00	0.10	0.10	15.77	1.89	10.7	43.6

OnLine LIMS

0004055169

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

ABA - Modified Sobek

LR Report : CA11017-FEB25

Sample ID	Sample Date & Time	Paste pH no unit	Fizz Rate rating	Sample weight g	HCl_add mL	HCl Normality	NaOH Normality	Vol NaOH to pH=8.3 mL	Final pH no unit	NP t CaCO3/1000 t	AP t CaCO3/1000 t
52: VIS-CV5-MS-228	NA	10.00	2	2.03	20.00	0.10	0.10	15.74	1.43	10.5	0.31

Sample ID	Net NP t CaCO3/1000 t	NP/AP ratio	S %	Acid Leachable SO4-S %	Sulphide %	C %	CO3 (HCl) as %CO3 %
1: Analysis Start Date	19-Mar-25	19-Mar-25	12-Mar-25	14-Mar-25	14-Mar-25	12-Mar-25	14-Mar-25
2: Analysis Start Time	13:36	13:36	08:49	10:08	09:15	08:49	12:35
3: Analysis Completed Date	20-Mar-25	20-Mar-25	14-Mar-25	14-Mar-25	14-Mar-25	14-Mar-25	14-Mar-25
4: Analysis Completed Time	16:01	16:01	10:08	10:08	10:08	10:08	16:18
5: VIS-CV5-AMP-181	7.34	1.96	0.374	0.13	0.24	0.096	0.46
6: VIS-CV5-AMP-182	7.26	6.40	0.076	< 0.04	0.04	0.018	0.09
7: VIS-CV5-MS-183	7.22	3.51	0.167	0.08	0.09	0.048	0.22
8: VIS-CV5-MS-184	11.4	2.35	0.418	0.15	0.27	0.134	0.64
9: VIS-CV5-MS-185	-7.82	0.52	0.659	0.14	0.52	0.030	0.09
10: VIS-CV5-MS-186	-4.65	0.65	0.616	0.19	0.42	0.052	0.20
11: VIS-CV5-MS-187	9.47	1.45	0.899	0.23	0.67	0.318	1.49
12: VIS-CV5-MS-188	10.4	34.2	0.010	<0.04	< 0.01	0.026	0.04
13: VIS-CV5-MS-189	13.8	45.1	0.041	< 0.04	0.01	0.110	0.46
14: VIS-CV5-MS-190	10.1	33.3	0.008	<0.04	< 0.01	0.058	0.26
15: VIS-CV5-MS-191	17.3	15.2	0.108	0.07	0.04	0.122	0.53
16: VIS-CV5-MS-192	12.0	39.4	0.008	<0.04	< 0.01	0.068	0.32
17: VIS-CV5-MS-193	13.9	45.4	0.007	<0.04	< 0.01	0.063	0.29
18: VIS-CV5-MS-194	13.8	45.1	0.029	< 0.04	0.01	0.031	0.13
19: VIS-CV5-MS-195	28.1	1.26	4.16	0.64	3.52	1.84	9.17
20: VIS-CV5-MS-196	30.8	1.35	3.16	0.33	2.82	1.53	7.57
21: VIS-CV5-MS-197	-11.19	0.92	4.92	0.68	4.24	1.67	8.00
22: VIS-CV5-MS-198	5.41	1.59	0.458	0.16	0.29	0.079	0.38
23: VIS-CV5-MS-199	5.06	2.03	0.262	0.10	0.16	0.040	0.19
24: VIS-CV5-MS-200	7.84	13.0	0.049	< 0.04	0.02	0.045	0.24
25: VIS-CV5-MS-201	-18.76	0.27	1.09	0.27	0.82	0.018	0.09
26: VIS-CV5-MS-202	-188.58	0.03	6.34	0.13	6.22	0.026	0.21
27: VIS-CV5-MS-203	-2.27	0.67	0.345	0.12	0.22	0.043	0.27

OnLine LIMS

0004055169

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Sample ID	Net NP t CaCO3/1000 t	NP/AP ratio	S %	Acid Leachable SO4-S %	Sulphide %	C %	CO3 (HCl) as %CO3 %
28: VIS-CV5-MS-204	13.0	18.3	0.039	< 0.04	0.02	0.069	0.49
29: VIS-CV5-MS-205	3.39	2.17	0.185	0.09	0.09	0.014	0.15
30: VIS-CV5-MS-206	6.39	2.64	0.185	0.06	0.12	0.019	0.11
31: VIS-CV5-MS-207	-6.88	0.50	0.591	0.15	0.44	0.028	0.16
32: VIS-CV5-MS-208	6.84	6.92	0.096	0.06	0.04	0.079	0.51
33: VIS-CV5-MS-209	9.07	3.99	0.121	< 0.04	0.10	0.061	0.44
34: VIS-CV5-MS-210	-16.10	0.27	0.878	0.17	0.70	0.013	0.23
35: VIS-CV5-MS-211	4.00	3.00	0.128	0.06	0.06	0.029	0.24
36: VIS-CV5-MS-212	3.56	1.66	0.303	0.13	0.17	0.068	0.40
37: VIS-CV5-MS-213	17.9	58.2	0.017	<0.04	< 0.01	0.138	0.69
38: VIS-CV5-MS-214	7.99	26.6	0.010	<0.04	< 0.01	0.023	0.19
39: VIS-CV5-MS-215	10.2	3.95	0.181	0.07	0.11	0.058	0.37
40: VIS-CV5-MS-216	12.7	2.45	0.380	0.10	0.28	0.116	0.71
41: VIS-CV5-MS-217	11.3	37.1	0.009	<0.04	< 0.01	0.071	0.48
42: VIS-CV5-MS-218	10.7	35.2	0.005	<0.04	< 0.01	0.060	0.43
43: VIS-CV5-MS-219	19.9	64.6	0.006	<0.04	< 0.01	0.156	0.86
44: VIS-CV5-MS-220	-8.02	0.46	0.923	0.45	0.47	0.014	0.17
45: VIS-CV5-MS-221	0.26	1.01	0.952	0.40	0.56	0.190	0.89
46: VIS-CV5-MS-222	11.6	15.3	0.051	< 0.04	0.03	0.074	0.46
47: VIS-CV5-MS-223	2.91	1.91	0.190	0.09	0.10	0.098	0.14
48: VIS-CV5-MS-224	-5.28	0.49	0.488	0.16	0.33	0.013	< 0.04
49: VIS-CV5-MS-225	6.99	23.4	0.014	<0.04	< 0.01	0.042	0.18
50: VIS-CV5-MS-226	43.8	16.1	0.169	0.08	0.09	0.539	2.67
51: VIS-CV5-MS-227	-32.89	0.25	1.76	0.37	1.40	0.032	0.12
52: VIS-CV5-MS-228	10.2	33.6	0.037	<0.04	< 0.01	0.031	0.15

Method Descriptions

Parameter	Units	SGS Method Code	CALA	PALA
	g	NA	N	N
	mL		N	N
	mL	NA	N	N
	no unit	NA	N	N

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0004055169

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Parameter	Units	SGS Method Code	CALA	PALA
	Normality	NA	N	N
	rating	NA	N	N
	ratio	ME-CA-[ENV]ARD-LAK-AN-001/003	N	N
	t CaCO3/1000 t	ME-CA-[ENV]ARD-LAK-AN-001/003	N	N
Acid Potential	t CaCO3/1000 t	ME-CA-[ENV]ARD-LAK-AN-001/003	Y	Y
Carbon/Sulphur	%	ME-CA-[ENV]ARD-LAK-AN-019	Y	N
Carbon/Sulphur	%	ME-CA-[ENV]ARD-LAK-AN-019	Y	Y
Carbon/Sulphur	%	ME-CA-[ENV]ARD-LAK-AN-020	Y	N
Neutralization Potential	t CaCO3/1000 t	ME-CA-[ENV]ARD-LAK-AN-001/003	N	Y
Paste pH	no unit	ME-CA-[ENV]ARD-LAK-AN-005	Y	N

Accreditation Descriptions

CALA:
SGS Canada Industries & Environment conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation found at https://directory.cala.ca/#. Analytes and SGS Method Codes marked with a “Y” in the “CALA” column in the table denote ISO/IEC17025 accreditation

PALA:
SGS Canada Industries & Environment conforms to the requirements of ISO/IEC 17025:2005 for specific tests as listed on their scope of accreditation found at https://www.ceaeq.gouv.qc.ca/documents/publications/listes.htm#labo_accr. Analytes and SGS Method Codes marked with a “Y” in the “PALA” column in the table denote ISO/IEC17025:2005 accreditation

Catharine Arnold

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0004055169

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quality Control Report

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material			
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)		
							%		Low	High		Low	High	
Carbon/Sulphur - QCBatchID: ECS0034-MAR25														
Carbon (total)	0.005	%	<0.005			0	20				102	70	130	
Sulphur (total)	0.005	%	<0.005			1	20				105	70	130	
Carbon/Sulphur - QCBatchID: ECS0037-MAR25														
Carbon (total)	0.005	%	<0.005			3	20				103	70	130	
Sulphur (total)	0.005	%	0.0050			1	20				105	70	130	
Carbon/Sulphur - QCBatchID: ECS0044-MAR25														
Sulphide	0.01	%	< 0.01			0	20	110	80	120				
Carbon/Sulphur - QCBatchID: ECS0045-MAR25														
Carbonate (HCl) as %CO3	0.04	%	<0.04			4	20	99	80	120				

OnLine LIMS

0004055169

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quebec MA200-Met 1.2 Digest

24-March-2025

Innova Lithium Inc.
Attn : John Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 05 February 2025
LR Report: **CA11018-FEB25**
Reference: Shaakichiuwaanaan Project

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Sample ID	Sample Date & Time	Hg ug/g	Ag µg/g	Al µg/g	As µg/g	B µg/g	Ba µg/g	Be µg/g	Bi µg/g	Ca µg/g	Cd µg/g	Co µg/g
1: Analysis Start Date		17-Mar-25	14-Mar-25	14-Mar-25	14-Mar-25	14-Mar-25	14-Mar-25	14-Mar-25	14-Mar-25	14-Mar-25	14-Mar-25	14-Mar-25
2: Analysis Start Time		09:36	00:01	00:01	00:01	00:01	00:01	00:01	00:01	00:01	00:01	00:01
3: Analysis Completed Date		17-Mar-25	16-Mar-25	16-Mar-25	16-Mar-25	16-Mar-25	16-Mar-25	16-Mar-25	16-Mar-25	16-Mar-25	16-Mar-25	16-Mar-25
4: Analysis Completed Time		10:27	21:09	21:09	21:09	21:09	21:09	21:09	21:09	21:09	21:09	21:09
5: VIS-CV5-AMP-181	NA	< 0.05	< 0.5	10000	14	4	22	0.24	0.39	6300	0.03	22
6: VIS-CV5-AMP-182	NA	< 0.05	< 0.5	7200	14	4	7.5	0.06	< 0.09	6200	0.03	12
7: VIS-CV5-MS-183	NA	< 0.05	< 0.5	12000	9.8	2	130	0.12	< 0.09	2800	0.11	12
8: VIS-CV5-MS-184	NA	< 0.05	< 0.5	13000	110	1	180	0.05	< 0.09	5600	0.04	8.0
9: VIS-CV5-MS-185	NA	< 0.05	< 0.5	9200	7.3	2	28	0.40	< 0.09	1900	0.03	9.6
10: VIS-CV5-MS-186	NA	< 0.05	< 0.5	9500	11	3	41	0.15	< 0.09	3500	0.03	9.4
11: VIS-CV5-MS-187	NA	< 0.05	< 0.5	9400	1.3	3	26	0.09	0.14	12000	0.23	13
12: VIS-CV5-MS-188	NA	< 0.05	< 0.5	19000	10	10	170	1.4	0.16	6100	0.03	8.2
13: VIS-CV5-MS-189	NA	< 0.05	< 0.5	13000	36	6	120	0.26	< 0.09	5000	0.06	7.7
14: VIS-CV5-MS-190	NA	< 0.05	< 0.5	14000	1.4	1	210	0.05	< 0.09	2500	0.02	11
15: VIS-CV5-MS-191	NA	< 0.05	1.2	24000	3.1	4	24	1.4	< 0.09	4500	1.6	11
16: VIS-CV5-MS-192	NA	< 0.05	< 0.5	15000	25	28	72	1.2	0.15	5400	0.07	11
17: VIS-CV5-MS-193	NA	< 0.05	< 0.5	21000	47	6	53	1.7	0.10	4100	0.05	12
18: VIS-CV5-MS-194	NA	< 0.05	< 0.5	29000	16	4	57	2.7	0.11	2300	< 0.02	17
19: VIS-CV5-MS-195	NA	< 0.05	< 0.5	2600	11	1	95	0.07	< 0.09	42000	0.05	18
20: VIS-CV5-MS-196	NA	< 0.05	< 0.5	3500	24	1	31	0.04	< 0.09	40000	0.05	19

OnLine LIMS

0004055187

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quebec MA200-Met 1.2 Digest

LR Report : **CA11018-FEB25**

Sample ID	Sample Date & Time	Hg ug/g	Ag µg/g	Al µg/g	As µg/g	B µg/g	Ba µg/g	Be µg/g	Bi µg/g	Ca µg/g	Cd µg/g	Co µg/g
21: VIS-CV5-MS-197	NA	< 0.05	< 0.5	4200	61	2	48	0.02	0.11	42000	0.05	32
22: VIS-CV5-MS-198	NA	< 0.05	< 0.5	14000	15	3	81	1.8	1.2	5400	0.06	12
23: VIS-CV5-MS-199	NA	< 0.05	< 0.5	14000	2.2	3	38	0.19	< 0.09	4700	0.05	16
24: VIS-CV5-MS-200	NA	< 0.05	< 0.5	12000	44	3	21	1.2	0.10	2400	0.15	9.7
25: VIS-CV5-MS-201	NA	< 0.05	< 0.5	13000	1.6	2	71	0.21	0.10	4300	0.06	16
26: VIS-CV5-MS-202	NA	< 0.05	< 0.5	12000	37	3	37	0.67	0.40	3200	0.16	12
27: VIS-CV5-MS-203	NA	< 0.05	< 0.5	4200	68	3	16	0.43	0.16	1200	< 0.02	5.8
28: VIS-CV5-MS-204	NA	< 0.05	< 0.5	25000	39	20	140	1.2	< 0.09	7200	0.21	18
29: VIS-CV5-MS-205	NA	< 0.05	< 0.5	22000	120	2	150	1.5	0.72	1500	0.06	12
30: VIS-CV5-MS-206	NA	< 0.05	< 0.5	17000	50	4	170	0.16	0.18	4500	0.04	13
31: VIS-CV5-MS-207	NA	< 0.05	< 0.5	14000	41	7	100	0.69	0.18	2600	0.02	12
32: VIS-CV5-MS-208	NA	< 0.05	< 0.5	4100	7.5	3	49	0.27	< 0.09	2700	0.13	5.0
33: VIS-CV5-MS-209	NA	< 0.05	< 0.5	14000	5.2	5	160	0.77	< 0.09	7600	0.05	13
34: VIS-CV5-MS-210	NA	< 0.05	1.8	17000	3100	12	140	3.8	7.9	2000	4.2	13
35: VIS-CV5-MS-211	NA	< 0.05	< 0.5	15000	85	4	120	0.91	0.20	1500	0.07	10
36: VIS-CV5-MS-212	NA	< 0.05	< 0.5	13000	490	5	120	0.92	0.68	3700	0.29	9.5
37: VIS-CV5-MS-213	NA	< 0.05	< 0.5	22000	4.4	2	150	0.18	< 0.09	9000	0.02	8.9
38: VIS-CV5-MS-214	NA	< 0.05	< 0.5	18000	30	3	77	1.7	0.10	1700	0.03	7.1
39: VIS-CV5-MS-215	NA	< 0.05	< 0.5	6700	11	3	45	0.49	< 0.09	5800	0.10	7.5
40: VIS-CV5-MS-216	NA	< 0.05	< 0.5	9500	32	360	35	0.33	0.10	6500	0.03	9.6
41: VIS-CV5-MS-217	NA	< 0.05	< 0.5	17000	12	7	110	1.0	< 0.09	4500	0.05	6.9
42: VIS-CV5-MS-218	NA	< 0.05	< 0.5	16000	7.7	4	110	0.24	< 0.09	4200	0.05	6.1
43: VIS-CV5-MS-219	NA	< 0.05	< 0.5	26000	37	4	290	0.36	0.10	8600	0.10	13
44: VIS-CV5-MS-220	NA	< 0.05	< 0.5	11000	0.5	4	63	0.09	0.17	3900	0.03	13
45: VIS-CV5-MS-221	NA	< 0.05	< 0.5	5600	1.3	1	150	0.07	0.10	4600	0.11	8.4
46: VIS-CV5-MS-222	NA	< 0.05	< 0.5	15000	3.8	7	50	1.9	< 0.09	6700	0.02	9.1
47: VIS-CV5-MS-223	NA	< 0.05	< 0.5	15000	98	5	64	0.57	0.09	950	0.12	18
48: VIS-CV5-MS-224	NA	< 0.05	< 0.5	14000	23	3	29	0.61	0.42	1400	1.6	17
49: VIS-CV5-MS-225	NA	< 0.05	< 0.5	15000	110	2	26	0.63	0.17	1900	0.03	10
50: VIS-CV5-MS-226	NA	< 0.05	< 0.5	7700	7.7	17	8.3	0.23	< 0.09	18000	0.03	8.3
51: VIS-CV5-MS-227	NA	< 0.05	< 0.5	17000	7.9	3	51	0.28	0.30	3200	0.09	10
52: VIS-CV5-MS-228	NA	< 0.05	< 0.5	19000	97	5	64	0.65	0.22	7400	0.03	22

OnLine LIMS

0004055187

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quebec MA200-Met 1.2 Digest

LR Report : **CA11018-FEB25**

Sample ID	Cr µg/g	Cu µg/g	Fe µg/g	K µg/g	Li µg/g	Mg µg/g	Mn µg/g	Mo µg/g	Na µg/g	Ni µg/g	P µg/g	Pb µg/g
1: Analysis Start Date	14-Mar-25	14-Mar-25	14-Mar-25	14-Mar-25	14-Mar-25	14-Mar-25	14-Mar-25	14-Mar-25	14-Mar-25	14-Mar-25	14-Mar-25	14-Mar-25
2: Analysis Start Time	00:01	00:01	00:01	00:01	00:01	00:01	00:01	00:01	00:01	00:01	00:01	00:01
3: Analysis Completed Date	16-Mar-25	16-Mar-25	17-Mar-25	16-Mar-25	16-Mar-25	16-Mar-25	16-Mar-25	16-Mar-25	16-Mar-25	16-Mar-25	16-Mar-25	17-Mar-25
4: Analysis Completed Time	21:09	21:09	10:27	21:10	21:10	21:10	21:10	21:10	21:10	21:10	21:10	10:19
5: VIS-CV5-AMP-181	57	100	20000	520	190	6900	300	0.8	590	54	220	1.1
6: VIS-CV5-AMP-182	35	85	8600	290	61	4600	120	0.4	1000	26	130	0.13
7: VIS-CV5-MS-183	61	27	15000	4200	360	6700	240	1.3	670	23	330	1.6
8: VIS-CV5-MS-184	21	18	25000	5700	200	6100	350	0.9	520	4.2	570	1.7
9: VIS-CV5-MS-185	41	23	16000	1200	220	7000	220	1.1	580	15	310	4.6
10: VIS-CV5-MS-186	47	27	19000	2000	270	4300	280	1.2	570	16	320	3.4
11: VIS-CV5-MS-187	68	55	16000	2100	64	3100	210	2.3	710	37	61	1.6
12: VIS-CV5-MS-188	39	15	26000	8200	670	7000	450	2.2	630	13	470	2.7
13: VIS-CV5-MS-189	32	26	19000	5500	450	4400	280	2.1	460	11	460	3.2
14: VIS-CV5-MS-190	24	23	21000	7800	23	6000	130	1.0	660	13	370	1.5
15: VIS-CV5-MS-191	25	50	40000	1800	380	21000	630	1.4	230	16	310	1600
16: VIS-CV5-MS-192	31	23	21000	4300	290	7000	280	1.6	470	17	520	11
17: VIS-CV5-MS-193	36	20	29000	3400	580	16000	490	1.5	360	21	490	3.8
18: VIS-CV5-MS-194	38	8.5	49000	3900	620	28000	450	1.1	240	30	480	1.9
19: VIS-CV5-MS-195	47	190	47000	83	5	1700	1000	0.7	98	97	130	1.0
20: VIS-CV5-MS-196	54	190	45000	240	3	2100	1100	0.8	220	98	150	0.81
21: VIS-CV5-MS-197	79	240	64000	490	3	2600	1100	0.7	250	155	130	1.3
22: VIS-CV5-MS-198	57	34	22000	3500	330	8300	360	1.1	630	37	640	3.0
23: VIS-CV5-MS-199	51	39	22000	2500	230	8200	370	1.2	540	38	370	5.1
24: VIS-CV5-MS-200	70	38	13000	1300	390	7900	340	1.8	430	23	190	12
25: VIS-CV5-MS-201	57	34	27000	3300	370	5100	180	1.8	710	29	370	3.5
26: VIS-CV5-MS-202	64	140	80000	1700	330	4900	480	2.3	280	19	310	6.0
27: VIS-CV5-MS-203	110	51	12000	450	120	2600	140	4.4	320	9.4	40	4.1
28: VIS-CV5-MS-204	72	73	30000	5600	940	13000	910	1.6	580	32	500	20
29: VIS-CV5-MS-205	160	70	23000	12000	1600	8700	420	2.3	290	61	370	2.0
30: VIS-CV5-MS-206	68	44	25000	5200	190	11000	120	2.0	560	26	580	2.6
31: VIS-CV5-MS-207	74	43	23000	6000	680	7000	470	1.9	520	25	300	1.8
32: VIS-CV5-MS-208	43	10	3800	1900	88	1000	110	2.3	400	11	170	4.6
33: VIS-CV5-MS-209	79	56	13000	2000	350	6600	230	1.2	530	33	220	3.3
34: VIS-CV5-MS-210	53	860	20000	7400	1700	5600	270	2.4	140	20	170	97

OnLine LIMS

0004055187

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quebec MA200-Met 1.2 Digest

LR Report : **CA11018-FEB25**

Sample ID	Cr µg/g	Cu µg/g	Fe µg/g	K µg/g	Li µg/g	Mg µg/g	Mn µg/g	Mo µg/g	Na µg/g	Ni µg/g	P µg/g	Pb µg/g
35: VIS-CV5-MS-211	120	36	20000	8700	640	7200	360	2.8	260	36	280	3.1
36: VIS-CV5-MS-212	59	36	16000	6000	600	3900	330	2.5	300	19	350	15
37: VIS-CV5-MS-213	35	18	25000	8700	440	7700	310	2.8	800	22	310	2.6
38: VIS-CV5-MS-214	31	7.0	28000	4400	490	12000	480	2.2	270	14	150	2.2
39: VIS-CV5-MS-215	41	77	8600	1100	240	4200	79	0.9	570	20	1100	3.7
40: VIS-CV5-MS-216	47	79	17000	740	240	9000	160	1.2	390	31	650	6.2
41: VIS-CV5-MS-217	24	6.3	24000	7200	690	5400	430	1.4	390	4.3	640	3.1
42: VIS-CV5-MS-218	25	4.3	22000	7900	450	5500	340	1.3	320	2.7	570	2.7
43: VIS-CV5-MS-219	29	24	33000	12000	770	10000	540	1.5	650	11	520	2.7
44: VIS-CV5-MS-220	40	41	22000	3200	83	2500	87	1.4	740	20	360	4.1
45: VIS-CV5-MS-221	73	27	21000	2000	93	6400	220	2.5	360	20	77	2.5
46: VIS-CV5-MS-222	77	16	17000	2300	380	7900	470	1.7	360	25	520	2.8
47: VIS-CV5-MS-223	190	48	20000	4600	360	10000	140	1.6	260	83	79	1.9
48: VIS-CV5-MS-224	61	130	23000	2000	400	8700	470	2.5	210	39	150	6.7
49: VIS-CV5-MS-225	58	2.4	23000	720	370	9700	320	1.7	410	22	91	1.2
50: VIS-CV5-MS-226	44	82	9800	410	97	4400	210	1.3	530	20	180	1.2
51: VIS-CV5-MS-227	92	97	45000	2500	380	10000	580	2.4	320	22	150	2.6
52: VIS-CV5-MS-228	150	37	20000	5600	430	11000	260	0.8	560	89	240	1.2

Sample ID	Sb µg/g	Se µg/g	Sn µg/g	Sr µg/g	Ti µg/g	Tl µg/g	U µg/g	V µg/g	Zn µg/g	Au µg/g	Ce µg/g	Cs µg/g
1: Analysis Start Date	14-Mar-25	14-Mar-25	14-Mar-25	14-Mar-25	14-Mar-25	14-Mar-25	14-Mar-25	14-Mar-25	14-Mar-25	14-Mar-25	14-Mar-25	14-Mar-25
2: Analysis Start Time	00:01	00:01	00:01	00:01	00:01	00:01	00:01	00:01	00:01	00:01	00:01	00:01
3: Analysis Completed Date	17-Mar-25	17-Mar-25	17-Mar-25	16-Mar-25	16-Mar-25	16-Mar-25	16-Mar-25	16-Mar-25	17-Mar-25	16-Mar-25	16-Mar-25	17-Mar-25
4: Analysis Completed Time	10:19	10:19	10:19	21:10	21:10	21:10	21:10	21:11	10:19	21:11	21:11	10:19
5: VIS-CV5-AMP-181	1.3	0.4	< 5	5.7	460	0.12	0.13	36	21	< 0.02	6.96	13
6: VIS-CV5-AMP-182	1.1	0.2	< 5	9.0	290	0.10	0.041	20	9.9	---	---	---
7: VIS-CV5-MS-183	3.5	0.1	< 5	8.9	800	0.71	0.48	52	61	< 0.02	21.5	140
8: VIS-CV5-MS-184	< 0.8	< 0.1	< 5	9.8	970	0.12	0.57	43	39	---	---	---
9: VIS-CV5-MS-185	0.9	0.2	< 5	4.5	460	0.13	0.29	36	23	---	---	---
10: VIS-CV5-MS-186	0.8	0.3	< 5	6.0	710	0.23	0.36	40	25	---	---	---
11: VIS-CV5-MS-187	< 0.8	0.6	< 5	13	390	0.08	0.61	10	26	< 0.02	15.5	12
12: VIS-CV5-MS-188	2.0	< 0.1	7	9.7	1600	7.0	0.84	51	46	---	---	---
13: VIS-CV5-MS-189	1.8	< 0.1	< 5	6.3	1100	1.3	0.70	38	47	---	---	---

OnLine LIMS

00040055187

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quebec MA200-Met 1.2 Digest

LR Report : **CA11018-FEB25**

Sample ID	Sb µg/g	Se µg/g	Sn µg/g	Sr µg/g	Ti µg/g	Tl µg/g	U µg/g	V µg/g	Zn µg/g	Au µg/g	Ce µg/g	Cs µg/g
14: VIS-CV5-MS-190	< 0.8	< 0.1	< 5	5.7	1300	0.15	0.42	79	41	---	---	---
15: VIS-CV5-MS-191	0.9	0.3	< 5	4.6	1000	0.09	0.45	45	440	< 0.02	16.7	24
16: VIS-CV5-MS-192	< 0.8	< 0.1	< 5	6.1	1300	0.85	0.59	60	49	---	---	---
17: VIS-CV5-MS-193	2.3	< 0.1	6	5.8	1000	2.9	0.55	69	38	---	---	---
18: VIS-CV5-MS-194	< 0.8	< 0.1	< 5	4.8	1200	0.22	0.55	67	33	---	---	---
19: VIS-CV5-MS-195	< 0.8	0.4	< 5	51	110	< 0.02	0.18	12	7.1	< 0.02	7.27	2
20: VIS-CV5-MS-196	< 0.8	0.3	< 5	53	160	< 0.02	0.11	13	8.0	---	---	---
21: VIS-CV5-MS-197	< 0.8	0.7	< 5	46	210	< 0.02	0.13	15	11	---	---	---
22: VIS-CV5-MS-198	2.0	< 0.1	< 5	7.4	830	1.2	2.2	33	52	---	---	---
23: VIS-CV5-MS-199	< 0.8	0.2	< 5	6.4	840	0.21	1.2	41	49	< 0.02	30.2	19
24: VIS-CV5-MS-200	4.4	< 0.1	< 5	4.8	550	0.24	1.8	37	67	---	---	---
25: VIS-CV5-MS-201	< 0.8	0.1	< 5	7.8	800	0.42	0.96	52	23	---	---	---
26: VIS-CV5-MS-202	1.8	1.0	8	3.1	590	0.82	0.62	25	72	---	---	---
27: VIS-CV5-MS-203	2.8	0.4	< 5	2.2	270	0.36	1.6	9	10	< 0.02	15.0	37
28: VIS-CV5-MS-204	40	0.2	< 5	8.0	1200	5.6	2.2	66	64	---	---	---
29: VIS-CV5-MS-205	33	0.2	48	1.8	1100	27	1.3	33	57	---	---	---
30: VIS-CV5-MS-206	1.5	0.3	< 5	8.4	920	0.26	0.70	60	45	---	---	---
31: VIS-CV5-MS-207	1.9	0.2	7	5.0	1000	4.3	0.79	49	27	< 0.02	18.2	560
32: VIS-CV5-MS-208	1.8	< 0.1	< 5	11	150	0.31	1.7	5	36	---	---	---
33: VIS-CV5-MS-209	2.3	0.2	< 5	13	740	0.47	1.3	45	22	---	---	---
34: VIS-CV5-MS-210	230	2.6	34	1.3	450	22	1.5	13	1000	---	---	---
35: VIS-CV5-MS-211	7.1	0.2	< 5	4.2	1100	6.3	2.0	28	55	< 0.02	21.6	850
36: VIS-CV5-MS-212	19	0.2	6	5.0	750	5.8	2.6	23	67	---	---	---
37: VIS-CV5-MS-213	< 0.8	< 0.1	< 5	23	1300	0.46	0.67	36	41	---	---	---
38: VIS-CV5-MS-214	< 0.8	0.1	< 5	4.6	750	2.3	1.6	8	39	---	---	---
39: VIS-CV5-MS-215	2.5	0.2	< 5	21	620	1.6	0.30	16	12	< 0.02	34.1	350
40: VIS-CV5-MS-216	1.6	0.6	< 5	15	320	0.52	0.97	26	20	---	---	---
41: VIS-CV5-MS-217	1.0	< 0.1	13	5.3	1500	9.5	1.6	17	56	---	---	---
42: VIS-CV5-MS-218	< 0.8	< 0.1	< 5	5.5	1600	1.2	1.1	14	49	---	---	---
43: VIS-CV5-MS-219	5.5	< 0.1	< 5	17	2000	0.96	2.0	84	64	< 0.02	33.4	120
44: VIS-CV5-MS-220	< 0.8	0.3	< 5	17	590	0.14	3.3	33	46	---	---	---
45: VIS-CV5-MS-221	< 0.8	0.4	< 5	2.8	510	0.06	1.1	17	41	---	---	---
46: VIS-CV5-MS-222	< 0.8	< 0.1	< 5	7.6	820	1.6	1.4	34	20	---	---	---
47: VIS-CV5-MS-223	2.5	0.2	< 5	3.2	520	1.1	1.1	32	70	< 0.02	15.2	340

OnLine LIMS

00040055187

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Sample ID	Sb µg/g	Se µg/g	Sn µg/g	Sr µg/g	Ti µg/g	Tl µg/g	U µg/g	V µg/g	Zn µg/g	Au µg/g	Ce µg/g	Cs µg/g
48: VIS-CV5-MS-224	4.4	0.7	< 5	2.1	860	1.3	2.0	30	500	---	---	---
49: VIS-CV5-MS-225	1.6	< 0.1	< 5	2.3	1000	0.27	2.0	38	40	---	---	---
50: VIS-CV5-MS-226	1.7	0.3	< 5	11	450	0.08	0.59	22	15	---	---	---
51: VIS-CV5-MS-227	1.8	0.7	< 5	3.9	810	1.2	1.5	37	59	< 0.02	21.2	170
52: VIS-CV5-MS-228	2.3	< 0.1	< 5	11	1000	1.8	0.19	37	24	---	---	---

Sample ID	Dy µg/g	Er µg/g	Eu µg/g	Ga µg/g	Gd µg/g	Ge µg/g	Hf µg/g	Ho µg/g	In µg/g	Ir µg/g	La µg/g	Lu µg/g
1: Analysis Start Date	14-Mar-25	14-Mar-25	14-Mar-25	14-Mar-25	14-Mar-25	14-Mar-25	14-Mar-25	14-Mar-25	14-Mar-25	14-Mar-25	14-Mar-25	14-Mar-25
2: Analysis Start Time	00:01	00:01	00:01	14:17	00:01	00:01	00:01	00:01	14:17	00:01	00:01	00:01
3: Analysis Completed Date	16-Mar-25	16-Mar-25	16-Mar-25	19-Mar-25	16-Mar-25	19-Mar-25	16-Mar-25	16-Mar-25	19-Mar-25	16-Mar-25	16-Mar-25	16-Mar-25
4: Analysis Completed Time	21:11	21:11	21:11	09:50	21:12	09:50	21:12	21:12	09:50	21:12	21:12	21:12
5: VIS-CV5-AMP-181	0.37	0.22	0.13	3	0.51	0.3	< 0.1	0.074	< 0.01	< 0.01	3.27	0.12
6: VIS-CV5-AMP-182	---	---	---	---	---	---	---	---	---	---	---	---
7: VIS-CV5-MS-183	0.90	0.38	0.27	5	1.52	0.6	0.1	0.15	0.01	< 0.01	10.2	0.087
8: VIS-CV5-MS-184	---	---	---	---	---	---	---	---	---	---	---	---
9: VIS-CV5-MS-185	---	---	---	---	---	---	---	---	---	---	---	---
10: VIS-CV5-MS-186	---	---	---	---	---	---	---	---	---	---	---	---
11: VIS-CV5-MS-187	0.37	0.18	0.24	2	0.78	0.4	< 0.1	0.070	< 0.01	< 0.01	8.66	0.10
12: VIS-CV5-MS-188	---	---	---	---	---	---	---	---	---	---	---	---
13: VIS-CV5-MS-189	---	---	---	---	---	---	---	---	---	---	---	---
14: VIS-CV5-MS-190	---	---	---	---	---	---	---	---	---	---	---	---
15: VIS-CV5-MS-191	1.52	0.82	0.31	9	1.79	1.0	0.3	0.30	0.04	< 0.01	8.04	0.20
16: VIS-CV5-MS-192	---	---	---	---	---	---	---	---	---	---	---	---
17: VIS-CV5-MS-193	---	---	---	---	---	---	---	---	---	---	---	---
18: VIS-CV5-MS-194	---	---	---	---	---	---	---	---	---	---	---	---
19: VIS-CV5-MS-195	0.41	0.16	0.41	1	0.85	0.8	< 0.1	0.063	< 0.01	< 0.01	3.57	0.11
20: VIS-CV5-MS-196	---	---	---	---	---	---	---	---	---	---	---	---
21: VIS-CV5-MS-197	---	---	---	---	---	---	---	---	---	---	---	---
22: VIS-CV5-MS-198	---	---	---	---	---	---	---	---	---	---	---	---
23: VIS-CV5-MS-199	1.14	0.55	0.39	5	1.99	0.8	0.2	0.21	0.01	< 0.01	14.9	0.095
24: VIS-CV5-MS-200	---	---	---	---	---	---	---	---	---	---	---	---
25: VIS-CV5-MS-201	---	---	---	---	---	---	---	---	---	---	---	---
26: VIS-CV5-MS-202	---	---	---	---	---	---	---	---	---	---	---	---

OnLine LIMS

00040055187

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Sample ID	Dy µg/g	Er µg/g	Eu µg/g	Ga µg/g	Gd µg/g	Ge µg/g	Hf µg/g	Ho µg/g	In µg/g	Ir µg/g	La µg/g	Lu µg/g
27: VIS-CV5-MS-203	0.35	0.18	0.15	3	0.72	0.4	< 0.1	0.060	< 0.01	< 0.01	8.74	0.062
28: VIS-CV5-MS-204	---	---	---	---	---	---	---	---	---	---	---	---
29: VIS-CV5-MS-205	---	---	---	---	---	---	---	---	---	---	---	---
30: VIS-CV5-MS-206	---	---	---	---	---	---	---	---	---	---	---	---
31: VIS-CV5-MS-207	0.98	0.45	0.24	5	1.49	0.7	0.2	0.17	0.03	< 0.01	8.78	0.090
32: VIS-CV5-MS-208	---	---	---	---	---	---	---	---	---	---	---	---
33: VIS-CV5-MS-209	---	---	---	---	---	---	---	---	---	---	---	---
34: VIS-CV5-MS-210	---	---	---	---	---	---	---	---	---	---	---	---
35: VIS-CV5-MS-211	0.83	0.34	0.21	5	1.53	0.7	0.2	0.13	0.02	< 0.01	11.4	0.074
36: VIS-CV5-MS-212	---	---	---	---	---	---	---	---	---	---	---	---
37: VIS-CV5-MS-213	---	---	---	---	---	---	---	---	---	---	---	---
38: VIS-CV5-MS-214	---	---	---	---	---	---	---	---	---	---	---	---
39: VIS-CV5-MS-215	1.46	0.73	0.52	2	2.59	0.8	< 0.1	0.26	< 0.01	< 0.01	15.8	0.14
40: VIS-CV5-MS-216	---	---	---	---	---	---	---	---	---	---	---	---
41: VIS-CV5-MS-217	---	---	---	---	---	---	---	---	---	---	---	---
42: VIS-CV5-MS-218	---	---	---	---	---	---	---	---	---	---	---	---
43: VIS-CV5-MS-219	1.97	0.95	0.56	8	2.70	1.1	0.2	0.36	0.02	< 0.01	16.6	0.16
44: VIS-CV5-MS-220	---	---	---	---	---	---	---	---	---	---	---	---
45: VIS-CV5-MS-221	---	---	---	---	---	---	---	---	---	---	---	---
46: VIS-CV5-MS-222	---	---	---	---	---	---	---	---	---	---	---	---
47: VIS-CV5-MS-223	0.68	0.35	0.21	5	1.10	0.6	< 0.1	0.12	0.01	< 0.01	7.92	0.080
48: VIS-CV5-MS-224	---	---	---	---	---	---	---	---	---	---	---	---
49: VIS-CV5-MS-225	---	---	---	---	---	---	---	---	---	---	---	---
50: VIS-CV5-MS-226	---	---	---	---	---	---	---	---	---	---	---	---
51: VIS-CV5-MS-227	0.61	0.24	0.31	5	1.21	1.0	< 0.1	0.094	0.02	< 0.01	11.1	0.087
52: VIS-CV5-MS-228	---	---	---	---	---	---	---	---	---	---	---	---

Sample ID	Nb µg/g	Nd µg/g	Os µg/g	Pd µg/g	Pr µg/g	Pt µg/g	Rh µg/g	Rb µg/g	Re µg/g	Ru µg/g	Sm µg/g	Sc µg/g
1: Analysis Start Date	14-Mar-25	14-Mar-25	14-Mar-25	14-Mar-25	14-Mar-25	14-Mar-25	14-Mar-25	14-Mar-25	14-Mar-25	14-Mar-25	14-Mar-25	14-Mar-25
2: Analysis Start Time	00:01	00:01	00:01	00:01	00:01	00:01	00:01	14:17	00:01	00:01	14:17	14:17
3: Analysis Completed Date	16-Mar-25	16-Mar-25	16-Mar-25	16-Mar-25	16-Mar-25	16-Mar-25	19-Mar-25	19-Mar-25	16-Mar-25	19-Mar-25	19-Mar-25	19-Mar-25
4: Analysis Completed Time	21:12	21:12	21:12	21:12	21:12	21:12	09:49	09:49	21:12	09:49	09:49	09:49
5: VIS-CV5-AMP-181	< 0.1	3.1	< 0.1	< 0.2	0.79	< 0.1	< 0.01	10.6	< 0.05	< 0.01	0.48	3

OnLine LIMS

0004055187

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Sample ID	Nb µg/g	Nd µg/g	Os µg/g	Pd µg/g	Pr µg/g	Pt µg/g	Rh µg/g	Rb µg/g	Re µg/g	Ru µg/g	Sm µg/g	Sc µg/g
6: VIS-CV5-AMP-182	---	---	---	---	---	---	---	---	---	---	---	---
7: VIS-CV5-MS-183	< 0.1	9.4	< 0.1	< 0.2	2.40	< 0.1	< 0.01	70.4	< 0.05	< 0.01	1.55	6
8: VIS-CV5-MS-184	---	---	---	---	---	---	---	---	---	---	---	---
9: VIS-CV5-MS-185	---	---	---	---	---	---	---	---	---	---	---	---
10: VIS-CV5-MS-186	---	---	---	---	---	---	---	---	---	---	---	---
11: VIS-CV5-MS-187	< 0.1	5.3	< 0.1	< 0.2	1.54	< 0.1	< 0.01	12.9	< 0.05	< 0.01	0.75	0.91
12: VIS-CV5-MS-188	---	---	---	---	---	---	---	---	---	---	---	---
13: VIS-CV5-MS-189	---	---	---	---	---	---	---	---	---	---	---	---
14: VIS-CV5-MS-190	---	---	---	---	---	---	---	---	---	---	---	---
15: VIS-CV5-MS-191	< 0.1	8.3	< 0.1	< 0.2	2.02	< 0.1	0.06	11.7	< 0.05	< 0.01	1.58	7
16: VIS-CV5-MS-192	---	---	---	---	---	---	---	---	---	---	---	---
17: VIS-CV5-MS-193	---	---	---	---	---	---	---	---	---	---	---	---
18: VIS-CV5-MS-194	---	---	---	---	---	---	---	---	---	---	---	---
19: VIS-CV5-MS-195	< 0.1	4.1	< 0.1	< 0.2	0.91	< 0.1	< 0.01	0.74	< 0.05	< 0.01	0.89	1
20: VIS-CV5-MS-196	---	---	---	---	---	---	---	---	---	---	---	---
21: VIS-CV5-MS-197	---	---	---	---	---	---	---	---	---	---	---	---
22: VIS-CV5-MS-198	---	---	---	---	---	---	---	---	---	---	---	---
23: VIS-CV5-MS-199	< 0.1	12.5	< 0.1	< 0.2	3.31	< 0.1	< 0.01	22.4	< 0.05	< 0.01	1.97	3
24: VIS-CV5-MS-200	---	---	---	---	---	---	---	---	---	---	---	---
25: VIS-CV5-MS-201	---	---	---	---	---	---	---	---	---	---	---	---
26: VIS-CV5-MS-202	---	---	---	---	---	---	---	---	---	---	---	---
27: VIS-CV5-MS-203	< 0.1	5.1	< 0.1	< 0.2	1.51	< 0.1	< 0.01	37.3	< 0.05	< 0.01	0.71	0.83
28: VIS-CV5-MS-204	---	---	---	---	---	---	---	---	---	---	---	---
29: VIS-CV5-MS-205	---	---	---	---	---	---	---	---	---	---	---	---
30: VIS-CV5-MS-206	---	---	---	---	---	---	---	---	---	---	---	---
31: VIS-CV5-MS-207	< 0.1	8.3	< 0.1	< 0.2	2.08	< 0.1	< 0.01	457	< 0.05	< 0.01	1.40	7
32: VIS-CV5-MS-208	---	---	---	---	---	---	---	---	---	---	---	---
33: VIS-CV5-MS-209	---	---	---	---	---	---	---	---	---	---	---	---
34: VIS-CV5-MS-210	---	---	---	---	---	---	---	---	---	---	---	---
35: VIS-CV5-MS-211	0.2	8.2	< 0.1	< 0.2	2.24	< 0.1	< 0.01	805	< 0.05	< 0.01	1.44	3
36: VIS-CV5-MS-212	---	---	---	---	---	---	---	---	---	---	---	---
37: VIS-CV5-MS-213	---	---	---	---	---	---	---	---	---	---	---	---
38: VIS-CV5-MS-214	---	---	---	---	---	---	---	---	---	---	---	---
39: VIS-CV5-MS-215	< 0.1	15.9	< 0.1	< 0.2	4.12	< 0.1	< 0.01	147	< 0.05	< 0.01	2.50	1

OnLine LIMS

0004055187

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Sample ID	Nb µg/g	Nd µg/g	Os µg/g	Pd µg/g	Pr µg/g	Pt µg/g	Rh µg/g	Rb µg/g	Re µg/g	Ru µg/g	Sm µg/g	Sc µg/g
40: VIS-CV5-MS-216	---	---	---	---	---	---	---	---	---	---	---	---
41: VIS-CV5-MS-217	---	---	---	---	---	---	---	---	---	---	---	---
42: VIS-CV5-MS-218	---	---	---	---	---	---	---	---	---	---	---	---
43: VIS-CV5-MS-219	0.1	14.3	< 0.1	< 0.2	3.66	< 0.1	< 0.01	106	< 0.05	< 0.01	2.65	11
44: VIS-CV5-MS-220	---	---	---	---	---	---	---	---	---	---	---	---
45: VIS-CV5-MS-221	---	---	---	---	---	---	---	---	---	---	---	---
46: VIS-CV5-MS-222	---	---	---	---	---	---	---	---	---	---	---	---
47: VIS-CV5-MS-223	< 0.1	6.1	< 0.1	< 0.2	1.62	< 0.1	< 0.01	115	< 0.05	< 0.01	1.09	3
48: VIS-CV5-MS-224	---	---	---	---	---	---	---	---	---	---	---	---
49: VIS-CV5-MS-225	---	---	---	---	---	---	---	---	---	---	---	---
50: VIS-CV5-MS-226	---	---	---	---	---	---	---	---	---	---	---	---
51: VIS-CV5-MS-227	< 0.1	8.2	< 0.1	< 0.2	2.19	< 0.1	< 0.01	115	< 0.05	< 0.01	1.34	3
52: VIS-CV5-MS-228	---	---	---	---	---	---	---	---	---	---	---	---

Sample ID	Ta µg/g	Tb µg/g	Te µg/g	Th µg/g	Tm µg/g
1: Analysis Start Date	14-Mar-25	14-Mar-25	14-Mar-25	14-Mar-25	14-Mar-25
2: Analysis Start Time	00:01	14:17	00:01	00:01	14:17
3: Analysis Completed Date	16-Mar-25	19-Mar-25	16-Mar-25	16-Mar-25	19-Mar-25
4: Analysis Completed Time	21:12	09:49	21:12	21:12	09:49
5: VIS-CV5-AMP-181	< 0.01	0.063	0.2	0.70	0.028
6: VIS-CV5-AMP-182	---	---	---	---	---
7: VIS-CV5-MS-183	< 0.01	0.18	< 0.1	2.2	0.040
8: VIS-CV5-MS-184	---	---	---	---	---
9: VIS-CV5-MS-185	---	---	---	---	---
10: VIS-CV5-MS-186	---	---	---	---	---
11: VIS-CV5-MS-187	< 0.01	0.076	0.1	2.3	0.021
12: VIS-CV5-MS-188	---	---	---	---	---
13: VIS-CV5-MS-189	---	---	---	---	---
14: VIS-CV5-MS-190	---	---	---	---	---
15: VIS-CV5-MS-191	< 0.01	0.25	< 0.1	3.9	0.099
16: VIS-CV5-MS-192	---	---	---	---	---
17: VIS-CV5-MS-193	---	---	---	---	---
18: VIS-CV5-MS-194	---	---	---	---	---

OnLine LIMS

0004055187

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Sample ID	Ta µg/g	Tb µg/g	Te µg/g	Th µg/g	Tm µg/g
19: VIS-CV5-MS-195	< 0.01	0.092	< 0.1	0.51	0.019
20: VIS-CV5-MS-196	---	---	---	---	---
21: VIS-CV5-MS-197	---	---	---	---	---
22: VIS-CV5-MS-198	---	---	---	---	---
23: VIS-CV5-MS-199	0.01	0.23	< 0.1	4.6	0.058
24: VIS-CV5-MS-200	---	---	---	---	---
25: VIS-CV5-MS-201	---	---	---	---	---
26: VIS-CV5-MS-202	---	---	---	---	---
27: VIS-CV5-MS-203	< 0.01	0.073	< 0.1	2.5	0.019
28: VIS-CV5-MS-204	---	---	---	---	---
29: VIS-CV5-MS-205	---	---	---	---	---
30: VIS-CV5-MS-206	---	---	---	---	---
31: VIS-CV5-MS-207	0.01	0.18	< 0.1	2.3	0.047
32: VIS-CV5-MS-208	---	---	---	---	---
33: VIS-CV5-MS-209	---	---	---	---	---
34: VIS-CV5-MS-210	---	---	---	---	---
35: VIS-CV5-MS-211	0.05	0.18	< 0.1	6.6	0.037
36: VIS-CV5-MS-212	---	---	---	---	---
37: VIS-CV5-MS-213	---	---	---	---	---
38: VIS-CV5-MS-214	---	---	---	---	---
39: VIS-CV5-MS-215	< 0.01	0.28	< 0.1	1.8	0.076
40: VIS-CV5-MS-216	---	---	---	---	---
41: VIS-CV5-MS-217	---	---	---	---	---
42: VIS-CV5-MS-218	---	---	---	---	---
43: VIS-CV5-MS-219	0.02	0.36	< 0.1	4.6	0.11
44: VIS-CV5-MS-220	---	---	---	---	---
45: VIS-CV5-MS-221	---	---	---	---	---
46: VIS-CV5-MS-222	---	---	---	---	---
47: VIS-CV5-MS-223	< 0.01	0.14	< 0.1	3.7	0.041
48: VIS-CV5-MS-224	---	---	---	---	---
49: VIS-CV5-MS-225	---	---	---	---	---
50: VIS-CV5-MS-226	---	---	---	---	---
51: VIS-CV5-MS-227	< 0.01	0.14	< 0.1	6.0	0.027
52: VIS-CV5-MS-228	---	---	---	---	---

OnLine LIMS

0004055187

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Method Descriptions

Parameter	Units	SGS Method Code	CALA	PALA
Mercury by CVAAS	ug/g	ME-CA-[ENV]SPE-LAK-AN-004	Y	Y
Metals - Microwave/ICP-MS	µg/g	ME-CA-[ENV]SPE-LAK-AN-007	Y	N
Metals, ICP-MS	µg/g	ME-CA-[ENV]SPE-LAK-AN-005	Y	N
Metals, ICP-MS	µg/g	ME-CA-[ENV]SPE-LAK-AN-005	Y	Y

Accreditation Descriptions

CALA:

SGS Canada Industries & Environment conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation found at https://directory.cala.ca/#. Analytes and SGS Method Codes marked with a “Y” in the “CALA” column in the table denote ISO/IEC17025 accreditation

PALA:

SGS Canada Industries & Environment conforms to the requirements of ISO/IEC 17025:2005 for specific tests as listed on their scope of accreditation found at https://www.ceaeq.gouv.qc.ca/documents/publications/listes.htm#labo_accr. Analytes and SGS Method Codes marked with a “Y” in the “PALA” column in the table denote ISO/IEC17025:2005 accreditation

Catharine Arnold

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0004055187

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quality Control Report

Inorganic Analysis													
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Mercury by CVAAS - QCBatchID: EHG0021-MAR25													
Mercury	0.05	ug/g	<0.05			ND	20	99	80	120	105	70	130
Metals - Microwave/ICP-MS - QCBatchID: EMS0097-MAR25													
Cerium	0.001	µg/g	<0.001			1	20	102	70	130	NV	70	130
Cesium	0.01	µg/g	<0.01			0	20	91	70	130	NV	70	130
Dysprosium	0.001	µg/g	<0.001			2	20	105	70	130	NV	70	130
Erbium	0.001	µg/g	<0.001			1	20	107	70	130	NV	70	130
Europium	0.001	µg/g	<0.001			3	20	105	70	130	NV	70	130
Gadolinium	0.001	µg/g	<0.001			0	20	105	70	130	NV	70	130
Germanium	0.3	µg/g	<0.01			ND	20	101	70	130	NV	70	130
Gold	0.02	µg/g	<0.01			ND	20	98	70	130	NV	70	130
Hafnium	0.1	µg/g	<0.1			ND	20	92	70	130	NV	70	130
Holmium	0.001	µg/g	<0.001			0	20	105	70	130	NV	70	130
Iridium	0.01	µg/g	<0.01			ND	20	102	70	130	NV	70	130
Lanthanum	0.001	µg/g	<0.001			0	20	102	70	130	NV	70	130
Lutetium	0.001	µg/g	<0.001			8	20	104	70	130	NV	70	130
Neodymium	0.006	µg/g	<0.001			0	20	102	70	130	NV	70	130
Niobium	0.1	µg/g	<0.1			ND	20	96	70	130	NV	70	130
Osmium	0.1	µg/g	<0.1			ND	20	105	70	130	NV	70	130
Palladium	0.2	µg/g	<0.01			ND	20	98	70	130	NV	70	130
Platinum	0.1	µg/g	<0.01			ND	20	100	70	130	NV	70	130
Praseodymium	0.001	µg/g	<0.001			3	20	102	70	130	NV	70	130
Rhenium	0.05	µg/g	<0.05			ND	20	105	70	130	NV	70	130
Rhodium	0.01	µg/g	<0.01			ND	20	99	70	130	NV	70	130
Ruthenium	0.01	µg/g	<0.01			ND	20	101	70	130	NV	70	130
Tantalum	0.01	µg/g	<0.01			ND	20	107	70	130	NV	70	130
Tellurium	0.1	µg/g	<0.01			1	20	102	70	130	NV	70	130
Metals - Microwave/ICP-MS - QCBatchID: EMS0121-MAR25													
Gallium	0.03	µg/g	< 0.03			1	20	100	70	130			
Indium	0.01	µg/g	< 0.01			ND	20	101	70	130			
Rubidium	0.004	µg/g	< 0.004			2	20	100	70	130			
Samarium	0.001	µg/g	< 0.001			6	20	100	70	130			
Scandium	0.03	µg/g	< 0.03			1	20	99	70	130			
Terbium	0.001	µg/g	< 0.001			2	20	101	70	130			
Thulium	0.001	µg/g	< 0.001			6	20	99	70	130			
Metals, ICP-MS - QCBatchID: EMS0097-MAR25													

OnLine LIMS

0004055187

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quebec MA200-Met 1.2 Digest

LR Report : **CA11018-FEB25**

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material			
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)		
							%		Low	High		Low	High	
Aluminum	3	µg/g	<3			0	20	104	70	130	92	70	130	
Antimony	0.8	µg/g	<0.8			3	20	98	70	130	NV	70	130	
Arsenic	0.5	µg/g	<0.5			12	20	101	70	130	96	70	130	
Barium	0.01	µg/g	<0.01			0	20	101	70	130	88	70	130	
Beryllium	0.02	µg/g	<0.02			7	20	105	70	130	106	70	130	
Bismuth	0.09	µg/g	<0.09			1	20	93	70	130	NV	70	130	
Boron	1	µg/g	<1			2	20	94	70	130	NV	70	130	
Cadmium	0.02	µg/g	<0.02			ND	20	106	70	130	100	70	130	
Calcium	3	µg/g	<3			1	20	95	70	130	87	70	130	
Chromium	0.5	µg/g	<0.5			1	20	101	70	130	102	70	130	
Cobalt	0.01	µg/g	<0.01			5	20	100	70	130	91	70	130	
Copper	0.1	µg/g	<0.1			0	20	99	70	130	85	70	130	
Iron	3	µg/g	<3			0	20	102	70	130	109	70	130	
Lead	0.05	µg/g	<0.05			8	20	103	70	130	101	70	130	
Lithium	2	µg/g	<2			4	20	102	70	130	101	70	130	
Magnesium	3	µg/g	<1			0	20	105	70	130	98	70	130	
Manganese	0.1	µg/g	<0.1			1	20	102	70	130	93	70	130	
Molybdenum	0.1	µg/g	<0.1			3	20	99	70	130	111	70	130	
Nickel	0.1	µg/g	<0.1			0	20	101	70	130	95	70	130	
Phosphorus	3	µg/g	<3			3	20	97	70	130	NV	70	130	
Potassium	3	µg/g	<3			0	20	97	70	130	83	70	130	
Selenium	0.1	µg/g	<0.1			6	20	106	70	130	NV	70	130	
Silver	0.5	µg/g	<0.5			ND	20	109	70	130	112	70	130	
Sodium	3	µg/g	<3			0	20	105	70	130	91	70	130	
Strontium	0.02	µg/g	<0.02			3	20	99	70	130	90	70	130	
Thallium	0.02	µg/g	<0.02			3	20	97	70	130	105	70	130	
Thorium	0.01	µg/g	<0.5			6	20	106	70	130	NV	70	130	
Tin	5	µg/g	<5			ND	20	102	70	130	112	70	130	
Titanium	0.1	µg/g	<0.1			2	20	96	70	130	NV	70	130	
Uranium	0.002	µg/g	<0.002			2	20	106	70	130	87	70	130	
Vanadium	1	µg/g	<1			1	20	97	70	130	102	70	130	
Zinc	0.7	µg/g	<0.7			1	20	104	70	130	94	70	130	

OnLine LIMS

0004055187

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

Innova Lithium Inc.
Attn : John Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

24-March-2025

Date Rec. : 05 February 2025
LR Report: **CA11019-FEB25**
Reference: Shaakichiuwaanaan Project

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Sample ID	Sample Date & Time	Sample weight g	Ext Fluid #1 or #2	Ext Volume mL	pH No unit	Conductivity uS/cm	Alkalinity mg/L as CaCO3	Acidity mg/L as CaCO3	F mg/L	Br mg/L	Cl mg/L
1: Analysis Start Date		17-Mar-25	17-Mar-25	17-Mar-25	19-Mar-25	19-Mar-25	19-Mar-25	19-Mar-25	19-Mar-25	18-Mar-25	18-Mar-25
2: Analysis Start Time		13:10	14:31	14:31	12:43	12:43	12:43	12:43	08:23	21:00	21:00
3: Analysis Completed Date		19-Mar-25	19-Mar-25	19-Mar-25	21-Mar-25	21-Mar-25	21-Mar-25	21-Mar-25	20-Mar-25	20-Mar-25	20-Mar-25
4: Analysis Completed Time		13:35	13:35	13:35	15:41	11:16	11:16	11:16	12:10	13:13	13:13
5: VIS-CV5-AMP-181	NA	21	1	400	8.02	57	29	< 2	0.06	< 30	< 20
6: VIS-CV5-AMP-182	NA	19	1	400	7.67	44	18	< 2	0.09	< 30	< 20
7: VIS-CV5-MS-183	NA	20	1	400	7.85	54	28	< 2	0.08	< 30	< 20
8: VIS-CV5-MS-184	NA	19	1	400	7.89	60	28	< 2	< 0.06	< 30	< 20
9: VIS-CV5-MS-185	NA	20	1	400	7.73	56	26	< 2	0.20	< 30	< 20
10: VIS-CV5-MS-186	NA	21	1	400	7.82	62	27	< 2	< 0.06	< 30	< 20
11: VIS-CV5-MS-187	NA	20	1	400	7.71	56	27	< 2	< 0.06	< 30	< 20
12: VIS-CV5-MS-188	NA	20	1	400	7.84	54	26	< 2	0.48	< 30	< 20
13: VIS-CV5-MS-189	NA	20	1	400	7.29	56	29	< 2	0.25	< 30	< 20
14: VIS-CV5-MS-190	NA	20	1	400	7.77	57	29	< 2	< 0.06	< 30	< 20
15: VIS-CV5-MS-191	NA	20	1	400	7.73	58	30	< 2	< 0.06	< 30	< 20
16: VIS-CV5-MS-192	NA	20	1	400	7.52	58	29	< 2	< 0.06	< 30	< 20
17: VIS-CV5-MS-193	NA	20	1	400	7.67	58	29	< 2	0.35	< 30	< 20
18: VIS-CV5-MS-194	NA	20	1	400	7.73	57	29	< 2	0.08	< 30	< 20
19: VIS-CV5-MS-195	NA	20	1	400	7.59	110	37	< 2	< 0.06	< 30	< 20

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0004055200

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11019-FEB25**

Sample ID	Sample Date & Time	Sample weight g	Ext Fluid #1 or #2	Ext Volume mL	pH No unit	Conductivity uS/cm	Alkalinity mg/L as CaCO3	Acidity mg/L as CaCO3	F mg/L	Br mg/L	Cl mg/L
20: VIS-CV5-MS-196	NA	21	1	400	7.92	96	31	< 2	< 0.06	< 30	< 20
21: VIS-CV5-MS-197	NA	20	1	400	7.65	81	27	< 2	< 0.06	< 30	< 20
22: VIS-CV5-MS-198	NA	20	1	400	7.86	63	28	< 2	0.09	< 30	< 20
23: VIS-CV5-MS-199	NA	21	1	400	7.73	54	25	< 2	< 0.06	< 30	< 20
24: VIS-CV5-MS-200	NA	21	1	400	7.81	60	28	< 2	0.10	< 30	< 20
25: VIS-CV5-MS-201	NA	20	1	400	7.61	55	18	< 2	0.47	< 30	< 20
26: VIS-CV5-MS-202	NA	19	1	400	5.72	166	2	39	3.74	< 30	< 20
27: VIS-CV5-MS-203	NA	20	1	400	7.61	82	28	< 2	0.11	< 30	< 20
28: VIS-CV5-MS-204	NA	20	1	400	7.64	68	32	< 2	0.55	< 30	< 20
29: VIS-CV5-MS-205	NA	20	1	400	7.02	40	14	< 2	0.87	< 30	< 20
30: VIS-CV5-MS-206	NA	20	1	400	7.13	42	17	< 2	0.12	< 30	< 20
31: VIS-CV5-MS-207	NA	20	1	400	7.25	61	21	< 2	0.84	< 30	< 20
32: VIS-CV5-MS-208	NA	20	1	400	7.74	58	30	< 2	0.11	< 30	< 20
33: VIS-CV5-MS-209	NA	20	1	400	7.57	57	28	< 2	0.28	< 30	< 20
34: VIS-CV5-MS-210	NA	21	1	400	7.10	46	11	< 2	2.61	< 30	< 20
35: VIS-CV5-MS-211	NA	20	1	400	7.59	50	22	< 2	0.30	< 30	< 20
36: VIS-CV5-MS-212	NA	20	1	400	7.81	62	30	< 2	0.36	< 30	< 20
37: VIS-CV5-MS-213	NA	20	1	400	7.81	56	28	< 2	< 0.06	< 30	< 20
38: VIS-CV5-MS-214	NA	20	1	400	7.99	52	25	< 2	0.62	< 30	< 20
39: VIS-CV5-MS-215	NA	20	1	400	8.06	58	29	< 2	0.09	< 30	< 20
40: VIS-CV5-MS-216	NA	20	1	400	7.94	58	28	< 2	< 0.06	< 30	< 20
41: VIS-CV5-MS-217	NA	20	1	400	7.87	54	31	< 2	0.27	< 30	< 20
42: VIS-CV5-MS-218	NA	20	1	400	7.80	55	27	< 2	0.07	< 30	< 20
43: VIS-CV5-MS-219	NA	20	1	400	8.07	62	32	< 2	0.06	< 30	< 20
44: VIS-CV5-MS-220	NA	21	1	400	7.72	41	15	< 2	0.07	< 30	< 20
45: VIS-CV5-MS-221	NA	20	1	400	8.24	57	29	< 2	< 0.06	< 30	< 20
46: VIS-CV5-MS-222	NA	20	1	400	7.77	54	27	< 2	0.13	< 30	< 20
47: VIS-CV5-MS-223	NA	20	1	400	7.46	46	25	< 2	0.07	< 30	< 20
48: VIS-CV5-MS-224	NA	20	1	400	7.28	47	17	< 2	0.15	< 30	< 20
49: VIS-CV5-MS-225	NA	20	1	400	8.04	52	27	< 2	< 0.06	< 30	< 20
50: VIS-CV5-MS-226	NA	20	1	400	8.13	55	27	< 2	< 0.06	< 30	< 20
51: VIS-CV5-MS-227	NA	21	1	400	7.59	57	14	< 2	< 0.06	< 30	< 20
52: VIS-CV5-MS-228	NA	20	1	400	8.50	52	27	< 2	0.10	< 30	< 20

OnLine LIMS

0004055200

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11019-FEB25**

Sample ID	Sample Date & Time	Sample weight g	Ext Fluid #1 or #2	Ext Volume mL	pH No unit	Conductivity uS/cm	Alkalinity mg/L as CaCO3	Acidity mg/L as CaCO3	F mg/L	Br mg/L	Cl mg/L
53-DUP: VIS-CV5-MS-201		20	1	400	7.65	61	21	< 2	0.45	< 30	< 20
54-DUP: VIS-CV5-MS-228		20	1	400	8.93	54	28	< 2	0.07	< 30	< 20
55-BLK: $SPLP1312 Blank #1		---	1	400	4.35	21	< 2	4	< 0.06	< 30	< 20

Sample ID	SO4 mg/L	NO2 as N mg/L	NO3 as N mg/L	Tot.Reactive P mg/L	Hg mg/L	Ag mg/L	Al mg/L	As mg/L	Ba mg/L	Be mg/L	B mg/L
1: Analysis Start Date	18-Mar-25	18-Mar-25	18-Mar-25	20-Mar-25	20-Mar-25	19-Mar-25	19-Mar-25	19-Mar-25	19-Mar-25	19-Mar-25	19-Mar-25
2: Analysis Start Time	21:00	21:00	21:00	13:01	09:23	17:18	17:18	17:18	17:18	17:18	17:18
3: Analysis Completed Date	20-Mar-25	20-Mar-25	20-Mar-25	24-Mar-25	20-Mar-25	21-Mar-25	21-Mar-25	21-Mar-25	21-Mar-25	21-Mar-25	21-Mar-25
4: Analysis Completed Time	13:13	13:13	13:13	10:41	14:43	16:20	16:20	16:20	16:20	16:20	16:20
5: VIS-CV5-AMP-181	< 20	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.463	0.0054	0.00087	< 0.000007	0.020
6: VIS-CV5-AMP-182	< 20	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.498	0.0059	0.00081	0.000008	0.027
7: VIS-CV5-MS-183	< 20	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.471	0.0125	0.00253	< 0.000007	0.024
8: VIS-CV5-MS-184	< 20	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.461	0.0072	0.00460	< 0.000007	0.021
9: VIS-CV5-MS-185	< 20	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.534	0.0051	0.00203	0.000010	0.027
10: VIS-CV5-MS-186	< 20	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.483	0.0078	0.00181	< 0.000007	0.027
11: VIS-CV5-MS-187	< 20	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.172	0.0004	0.00188	< 0.000007	0.021
12: VIS-CV5-MS-188	< 20	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.466	0.0132	0.00203	0.000019	0.026
13: VIS-CV5-MS-189	< 20	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.489	0.0210	0.00274	0.000007	0.027
14: VIS-CV5-MS-190	< 20	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.588	0.0024	0.00430	< 0.000007	0.031
15: VIS-CV5-MS-191	< 20	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.348	0.0025	0.00081	0.000007	0.030
16: VIS-CV5-MS-192	< 20	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.593	0.0213	0.00173	0.000053	0.037
17: VIS-CV5-MS-193	< 20	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.500	0.0444	0.00095	< 0.000007	0.027
18: VIS-CV5-MS-194	< 20	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.317	0.0271	0.00093	< 0.000007	0.033
19: VIS-CV5-MS-195	< 20	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.043	0.0025	0.00212	< 0.000007	0.025
20: VIS-CV5-MS-196	< 20	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.088	0.0124	0.00167	< 0.000007	0.023
21: VIS-CV5-MS-197	< 20	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.095	0.0118	0.00261	< 0.000007	0.025
22: VIS-CV5-MS-198	< 20	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.368	0.0061	0.00127	0.000053	0.028
23: VIS-CV5-MS-199	< 20	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.476	0.0020	0.00174	< 0.000007	0.025
24: VIS-CV5-MS-200	< 20	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.525	0.0742	0.00155	0.000041	0.029
25: VIS-CV5-MS-201	< 20	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.239	0.0008	0.00192	0.000011	0.027
26: VIS-CV5-MS-202	68	< 3	< 6	< 0.03	< 0.00001	< 0.00005	1.15	0.0004	0.00623	0.000861	0.066

OnLine LIMS

0004055200

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11019-FEB25**

Sample ID	SO4 mg/L	NO2 as N mg/L	NO3 as N mg/L	Tot.Reactive P mg/L	Hg mg/L	Ag mg/L	Al mg/L	As mg/L	Ba mg/L	Be mg/L	B mg/L
27: VIS-CV5-MS-203	< 20	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.135	0.0047	0.00110	0.000013	0.032
28: VIS-CV5-MS-204	< 20	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.501	0.0582	0.00224	0.000013	0.033
29: VIS-CV5-MS-205	< 20	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.437	0.0112	0.00336	0.000055	0.044
30: VIS-CV5-MS-206	< 20	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.418	0.0062	0.00371	0.000015	0.041
31: VIS-CV5-MS-207	< 20	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.299	0.0046	0.00175	0.000011	0.041
32: VIS-CV5-MS-208	< 20	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.750	0.0137	0.00489	0.000013	0.026
33: VIS-CV5-MS-209	< 20	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.570	0.0094	0.00417	0.000011	0.025
34: VIS-CV5-MS-210	< 20	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.307	0.161	0.00387	0.000164	0.087
35: VIS-CV5-MS-211	< 20	< 3	< 6	0.04	< 0.00001	< 0.00005	0.559	0.270	0.00388	0.000028	0.036
36: VIS-CV5-MS-212	< 20	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.721	0.0709	0.00341	0.000052	0.031
37: VIS-CV5-MS-213	< 20	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.566	0.0058	0.00247	< 0.000007	0.024
38: VIS-CV5-MS-214	< 20	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.517	0.0127	0.00216	0.000036	0.030
39: VIS-CV5-MS-215	< 20	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.555	0.0246	0.00190	0.000016	0.026
40: VIS-CV5-MS-216	< 20	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.421	0.106	0.00114	< 0.000007	0.042
41: VIS-CV5-MS-217	< 20	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.691	0.0087	0.00240	0.000040	0.024
42: VIS-CV5-MS-218	< 20	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.637	0.0834	0.00285	0.000018	0.029
43: VIS-CV5-MS-219	< 20	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.570	0.0572	0.00259	< 0.000007	0.026
44: VIS-CV5-MS-220	< 20	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.326	0.0009	0.00301	< 0.000007	0.048
45: VIS-CV5-MS-221	< 20	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.218	0.0024	0.00611	< 0.000007	0.022
46: VIS-CV5-MS-222	< 20	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.641	0.0054	0.00205	0.000029	0.028
47: VIS-CV5-MS-223	< 20	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.776	0.0723	0.00284	0.000019	0.035
48: VIS-CV5-MS-224	< 20	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.453	0.0127	0.00263	0.000021	0.035
49: VIS-CV5-MS-225	< 20	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.663	0.0922	0.00223	0.000023	0.027
50: VIS-CV5-MS-226	< 20	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.437	0.0046	0.00051	< 0.000007	0.034
51: VIS-CV5-MS-227	< 20	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.012	0.0011	0.00154	< 0.000007	0.036
52: VIS-CV5-MS-228	< 20	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.463	0.0624	0.00184	0.000008	0.032
53-DUP: VIS-CV5-MS-201	< 20	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.227	0.0004	0.00187	0.000013	0.028
54-DUP: VIS-CV5-MS-228	< 20	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.463	0.0947	0.00171	0.000008	0.031
55-BLK: $SPLP1312 Blank #1	< 20	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.001	< 0.0002	< 0.00008	< 0.000007	< 0.002

OnLine LIMS

0004055200

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11019-FEB25**

Sample ID	Bi mg/L	Ca mg/L	Cd mg/L	Co mg/L	Cr mg/L	Cu mg/L	Fe mg/L	K mg/L	Li mg/L	Mg mg/L	Mn mg/L	Mo mg/L
1: Analysis Start Date	19-Mar-25	19-Mar-25	19-Mar-25	19-Mar-25	19-Mar-25	19-Mar-25	19-Mar-25	19-Mar-25	19-Mar-25	19-Mar-25	19-Mar-25	19-Mar-25
2: Analysis Start Time	17:18	17:18	17:18	17:18	17:18	17:18	17:18	17:18	17:18	17:18	17:18	17:18
3: Analysis Completed Date	21-Mar-25	21-Mar-25	21-Mar-25	21-Mar-25	21-Mar-25	21-Mar-25	21-Mar-25	21-Mar-25	21-Mar-25	21-Mar-25	21-Mar-25	21-Mar-25
4: Analysis Completed Time	16:20	16:20	16:20	16:21	16:21	16:21	16:21	16:21	16:21	16:21	16:21	16:21
5: VIS-CV5-AMP-181	< 0.00001	6.83	< 0.000003	0.000053	0.00031	< 0.001	0.105	0.264	0.0251	0.612	0.00238	0.0009
6: VIS-CV5-AMP-182	< 0.00001	4.05	0.000006	0.000293	0.00138	< 0.001	0.372	0.257	0.0412	0.889	0.00581	< 0.0004
7: VIS-CV5-MS-183	< 0.00001	5.33	< 0.000003	0.000053	0.00030	< 0.001	0.077	1.29	0.0502	0.393	0.00182	0.0006
8: VIS-CV5-MS-184	< 0.00001	5.84	< 0.000003	0.000023	< 0.00008	< 0.001	0.078	3.08	0.0318	0.309	0.00176	< 0.0004
9: VIS-CV5-MS-185	< 0.00001	5.62	< 0.000003	0.000041	0.00016	< 0.001	0.079	0.803	0.0302	0.527	0.00187	0.0005
10: VIS-CV5-MS-186	< 0.00001	6.56	< 0.000003	0.000058	0.00028	< 0.001	0.095	1.12	0.0367	0.411	0.00302	0.0007
11: VIS-CV5-MS-187	< 0.00001	7.01	< 0.000003	0.000019	0.00011	< 0.001	0.049	0.994	0.0117	0.558	0.00185	< 0.0004
12: VIS-CV5-MS-188	< 0.00001	5.41	< 0.000003	0.000081	0.00010	< 0.001	0.133	2.16	0.0951	0.331	0.00302	< 0.0004
13: VIS-CV5-MS-189	< 0.00001	5.73	< 0.000003	0.000066	0.00022	< 0.001	0.108	1.69	0.0704	0.238	0.00218	0.0004
14: VIS-CV5-MS-190	0.00001	4.87	< 0.000003	0.000092	0.00033	< 0.001	0.198	2.93	0.0037	0.266	0.00193	< 0.0004
15: VIS-CV5-MS-191	< 0.00001	5.97	< 0.000003	0.000007	< 0.00008	< 0.001	0.024	1.25	0.0198	0.640	0.00045	0.0017
16: VIS-CV5-MS-192	< 0.00001	5.47	< 0.000003	0.000076	0.00013	< 0.001	0.094	1.75	0.0299	0.305	0.00175	< 0.0004
17: VIS-CV5-MS-193	< 0.00001	5.84	< 0.000003	0.000028	< 0.00008	< 0.001	0.027	1.50	0.0538	0.580	0.00055	< 0.0004
18: VIS-CV5-MS-194	< 0.00001	4.76	< 0.000003	0.000023	< 0.00008	< 0.001	0.020	1.82	0.0457	1.08	0.00035	0.0007
19: VIS-CV5-MS-195	< 0.00001	13.7	< 0.000003	0.000010	< 0.00008	< 0.001	< 0.007	0.141	0.0010	0.941	0.00144	< 0.0004
20: VIS-CV5-MS-196	< 0.00001	11.0	< 0.000003	0.000009	0.00014	< 0.001	< 0.007	0.698	0.0013	0.765	0.00085	< 0.0004
21: VIS-CV5-MS-197	< 0.00001	9.78	< 0.000003	0.000013	0.00008	< 0.001	< 0.007	0.716	0.0011	0.772	0.00060	< 0.0004
22: VIS-CV5-MS-198	< 0.00001	6.64	< 0.000003	0.000035	0.00015	< 0.001	0.039	1.58	0.0526	0.669	0.00106	0.0005
23: VIS-CV5-MS-199	< 0.00001	5.74	< 0.000003	0.000046	0.00016	< 0.001	0.065	1.09	0.0244	0.430	0.00191	0.0005
24: VIS-CV5-MS-200	< 0.00001	5.56	< 0.000003	0.000135	0.00031	< 0.001	0.064	1.30	0.0598	0.527	0.00219	0.0011
25: VIS-CV5-MS-201	< 0.00001	5.23	< 0.000003	0.000032	0.00016	< 0.001	0.065	1.54	0.0556	0.488	0.00122	0.0006
26: VIS-CV5-MS-202	< 0.00001	10.8	0.000069	0.0225	< 0.00008	0.003	16.5	1.33	0.133	2.43	0.213	< 0.0004
27: VIS-CV5-MS-203	< 0.00001	10.9	< 0.000003	0.000023	0.00025	< 0.001	0.016	0.236	0.0235	0.814	0.00118	0.0033
28: VIS-CV5-MS-204	< 0.00001	6.21	0.000005	0.000113	0.00019	< 0.001	0.069	2.24	0.139	0.594	0.00455	0.0004
29: VIS-CV5-MS-205	0.00002	1.15	0.000003	0.000161	0.00197	< 0.001	0.338	2.30	0.150	0.422	0.00704	< 0.0004
30: VIS-CV5-MS-206	< 0.00001	1.24	0.000021	0.000234	0.00041	< 0.001	0.341	2.84	0.0301	0.567	0.00245	< 0.0004
31: VIS-CV5-MS-207	< 0.00001	5.74	< 0.000003	0.000056	0.00047	< 0.001	0.055	1.39	0.0853	0.521	0.00481	0.0005
32: VIS-CV5-MS-208	< 0.00001	5.61	0.000008	0.000100	0.00026	< 0.001	0.053	1.60	0.0370	0.258	0.00449	0.0006
33: VIS-CV5-MS-209	< 0.00001	5.66	0.000003	0.000070	0.00057	< 0.001	0.107	1.15	0.0772	0.541	0.00241	< 0.0004

OnLine LIMS

0004055200

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11019-FEB25**

Sample ID	Bi mg/L	Ca mg/L	Cd mg/L	Co mg/L	Cr mg/L	Cu mg/L	Fe mg/L	K mg/L	Li mg/L	Mg mg/L	Mn mg/L	Mo mg/L
34: VIS-CV5-MS-210	0.00010	2.05	0.000040	0.00136	0.00023	0.002	0.141	2.23	0.262	0.572	0.0226	< 0.0004
35: VIS-CV5-MS-211	0.00002	3.18	0.000006	0.000439	0.00120	< 0.001	0.305	2.66	0.124	0.430	0.00951	0.0004
36: VIS-CV5-MS-212	0.00003	5.98	0.000011	0.000109	0.00036	< 0.001	0.119	2.44	0.129	0.286	0.00512	0.0039
37: VIS-CV5-MS-213	< 0.00001	5.32	< 0.000003	0.000038	0.00013	< 0.001	0.096	3.11	0.0877	0.315	0.00203	0.0008
38: VIS-CV5-MS-214	< 0.00001	4.17	0.000003	0.000049	< 0.00008	< 0.001	0.146	1.84	0.0523	0.522	0.00339	0.0017
39: VIS-CV5-MS-215	< 0.00001	5.90	< 0.000003	0.000158	0.00093	< 0.001	0.175	0.494	0.206	0.712	0.00273	< 0.0004
40: VIS-CV5-MS-216	< 0.00001	5.98	< 0.000003	0.000026	0.00021	< 0.001	0.029	0.655	0.0754	0.649	0.00064	< 0.0004
41: VIS-CV5-MS-217	< 0.00001	5.24	< 0.000003	0.000049	< 0.00008	< 0.001	0.152	1.85	0.0636	0.261	0.00404	0.0010
42: VIS-CV5-MS-218	< 0.00001	4.90	0.000003	0.000049	0.00008	< 0.001	0.180	2.66	0.0544	0.270	0.00416	0.0025
43: VIS-CV5-MS-219	< 0.00001	5.30	< 0.000003	0.000028	0.00009	< 0.001	0.060	3.58	0.125	0.320	0.00137	0.0064
44: VIS-CV5-MS-220	< 0.00001	2.22	< 0.000003	0.000093	0.00026	< 0.001	0.116	1.97	0.0044	0.217	0.00121	< 0.0004
45: VIS-CV5-MS-221	< 0.00001	6.42	< 0.000003	0.000016	0.00020	< 0.001	0.068	0.733	0.0137	0.629	0.00243	< 0.0004
46: VIS-CV5-MS-222	< 0.00001	5.49	< 0.000003	0.000030	0.00027	< 0.001	0.062	1.46	0.0449	0.386	0.00245	0.0005
47: VIS-CV5-MS-223	< 0.00001	3.05	< 0.000003	0.000203	0.00176	< 0.001	0.163	3.05	0.0787	0.574	0.00175	< 0.0004
48: VIS-CV5-MS-224	0.00002	2.17	0.000010	0.000141	0.00045	< 0.001	0.107	2.80	0.0322	0.488	0.00264	0.0012
49: VIS-CV5-MS-225	< 0.00001	5.01	< 0.000003	0.000183	0.00020	< 0.001	0.073	0.549	0.0236	0.470	0.00108	< 0.0004
50: VIS-CV5-MS-226	< 0.00001	6.34	< 0.000003	0.000009	< 0.00008	< 0.001	0.015	0.255	0.0150	0.396	0.00052	< 0.0004
51: VIS-CV5-MS-227	< 0.00001	4.77	< 0.000003	0.000054	< 0.00008	< 0.001	< 0.007	1.22	0.0491	1.15	0.0194	< 0.0004
52: VIS-CV5-MS-228	< 0.00001	4.72	< 0.000003	0.000121	0.00162	< 0.001	0.172	2.18	0.0734	0.720	0.00361	0.0006
53-DUP: VIS-CV5-MS-201	< 0.00001	6.37	< 0.000003	0.000028	0.00016	< 0.001	0.053	1.48	0.0649	0.514	0.00125	0.0007
54-DUP: VIS-CV5-MS-228	< 0.00001	5.09	< 0.000003	0.000167	0.00204	< 0.001	0.196	1.98	0.0706	0.757	0.00417	< 0.0004
55-BLK: $SPLP1312 Blank #1	< 0.00001	< 0.01	< 0.000003	< 0.000004	< 0.00008	< 0.001	< 0.007	< 0.009	< 0.0001	0.001	0.00002	< 0.0004

Sample ID	Na mg/L	Ni mg/L	P mg/L	Pb mg/L	Sb mg/L	Se mg/L	Si mg/L	Sn mg/L	Sr mg/L	Ti mg/L	Tl mg/L	U mg/L
1: Analysis Start Date	19-Mar-25	19-Mar-25	19-Mar-25	19-Mar-25	19-Mar-25	19-Mar-25	19-Mar-25	19-Mar-25	19-Mar-25	19-Mar-25	19-Mar-25	19-Mar-25
2: Analysis Start Time	17:18	17:18	17:18	17:18	17:18	17:18	17:18	17:18	17:18	17:18	17:18	17:18
3: Analysis Completed Date	21-Mar-25	21-Mar-25	21-Mar-25	21-Mar-25	21-Mar-25	21-Mar-25	21-Mar-25	24-Mar-25	24-Mar-25	21-Mar-25	21-Mar-25	21-Mar-25
4: Analysis Completed Time	16:21	16:21	16:21	16:21	16:21	16:21	16:21	10:27	10:27	16:22	16:22	16:22
5: VIS-CV5-AMP-181	4.07	0.0001	0.003	0.00012	0.0041	0.00004	1.72	< 0.00006	0.00920	0.0038	< 0.000005	0.000049
6: VIS-CV5-AMP-182	4.12	0.0009	0.011	< 0.00009	0.0112	0.00005	2.06	< 0.00006	0.00607	0.0130	0.000005	0.000026
7: VIS-CV5-MS-183	5.24	0.0002	0.011	< 0.00009	0.0139	< 0.00004	1.71	0.00038	0.00900	0.0082	0.000010	0.000443

OnLine LIMS

0004055200

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11019-FEB25**

Sample ID	Na mg/L	Ni mg/L	P mg/L	Pb mg/L	Sb mg/L	Se mg/L	Si mg/L	Sn mg/L	Sr mg/L	Ti mg/L	Tl mg/L	U mg/L
8: VIS-CV5-MS-184	4.76	< 0.0001	0.010	< 0.00009	< 0.0009	< 0.00004	1.42	0.00009	0.0103	0.0058	< 0.000005	0.000082
9: VIS-CV5-MS-185	5.36	< 0.0001	0.010	< 0.00009	0.0027	< 0.00004	1.80	0.00007	0.00756	0.0077	0.000005	0.000037
10: VIS-CV5-MS-186	5.37	0.0002	0.007	0.00018	0.0038	0.00005	1.76	< 0.00006	0.00935	0.0076	0.000006	0.000063
11: VIS-CV5-MS-187	3.52	< 0.0001	0.003	< 0.00009	< 0.0009	0.00004	1.72	< 0.00006	0.0160	0.0013	< 0.000005	0.000071
12: VIS-CV5-MS-188	4.53	0.0001	0.013	< 0.00009	0.0075	< 0.00004	1.42	< 0.00006	0.0102	0.0103	0.000048	0.000043
13: VIS-CV5-MS-189	5.06	0.0002	0.008	< 0.00009	0.0056	< 0.00004	1.63	0.00009	0.00677	0.0102	0.000016	0.000047
14: VIS-CV5-MS-190	5.61	0.0001	0.015	0.00011	< 0.0009	< 0.00004	1.76	0.00011	0.00635	0.0205	< 0.000005	0.000097
15: VIS-CV5-MS-191	5.04	< 0.0001	0.004	0.00275	0.0025	0.00007	1.34	< 0.00006	0.0205	0.0022	0.000005	0.000024
16: VIS-CV5-MS-192	5.39	0.0001	0.009	< 0.00009	0.0017	< 0.00004	1.75	0.00036	0.00861	0.0123	0.000012	0.000323
17: VIS-CV5-MS-193	5.32	< 0.0001	0.005	< 0.00009	0.0027	< 0.00004	1.52	< 0.00006	0.0132	0.0026	0.000009	0.000029
18: VIS-CV5-MS-194	5.14	< 0.0001	0.003	< 0.00009	0.0051	< 0.00004	1.24	< 0.00006	0.0202	0.0018	< 0.000005	0.000016
19: VIS-CV5-MS-195	5.63	0.0003	< 0.003	< 0.00009	< 0.0009	< 0.00004	1.08	0.00016	0.0251	< 0.0001	< 0.000005	0.000340
20: VIS-CV5-MS-196	5.85	0.0004	< 0.003	< 0.00009	< 0.0009	< 0.00004	1.21	< 0.00006	0.0231	0.0001	< 0.000005	0.000064
21: VIS-CV5-MS-197	3.77	0.0003	< 0.003	< 0.00009	< 0.0009	0.00006	1.26	< 0.00006	0.0194	0.0001	< 0.000005	0.000041
22: VIS-CV5-MS-198	4.80	0.0002	0.005	< 0.00009	0.0056	< 0.00004	1.34	0.00009	0.00939	0.0035	0.000008	0.000073
23: VIS-CV5-MS-199	4.82	0.0001	0.008	< 0.00009	0.0025	< 0.00004	1.50	0.00007	0.00781	0.0064	< 0.000005	0.000046
24: VIS-CV5-MS-200	6.14	0.0004	0.006	0.00020	0.0172	0.00010	2.00	0.00013	0.00833	0.0069	0.000010	0.000075
25: VIS-CV5-MS-201	4.43	0.0001	< 0.003	< 0.00009	0.0022	< 0.00004	1.15	< 0.00006	0.00950	0.0055	0.000005	0.000040
26: VIS-CV5-MS-202	4.86	0.0537	< 0.003	< 0.00009	< 0.0009	0.00020	1.08	< 0.00006	0.0137	< 0.0001	0.000020	0.000289
27: VIS-CV5-MS-203	4.90	0.0001	< 0.003	< 0.00009	0.0054	0.00038	1.33	< 0.00006	0.0112	0.0008	< 0.000005	0.000063
28: VIS-CV5-MS-204	5.69	0.0002	< 0.003	0.00015	0.119	0.00012	1.68	0.00007	0.0171	0.0066	0.000052	0.000085
29: VIS-CV5-MS-205	5.12	0.0038	< 0.003	0.00018	0.225	0.00005	1.78	0.00068	0.00224	0.0217	0.000500	0.000213
30: VIS-CV5-MS-206	5.26	0.0006	0.011	0.00010	0.0047	0.00018	1.88	< 0.00006	0.00443	0.0203	0.000012	0.000047
31: VIS-CV5-MS-207	5.01	0.0002	< 0.003	< 0.00009	0.0094	0.00005	1.40	< 0.00006	0.00905	0.0054	0.000030	0.000107
32: VIS-CV5-MS-208	5.28	0.0004	0.003	0.00019	0.0070	< 0.00004	2.37	0.00009	0.0109	0.0081	0.000017	0.000305
33: VIS-CV5-MS-209	5.25	0.0003	0.003	< 0.00009	0.0085	0.00010	1.98	< 0.00006	0.0115	0.0070	0.000008	0.000071
34: VIS-CV5-MS-210	4.41	0.0086	< 0.003	0.00307	0.873	0.00062	1.74	0.00053	0.00606	0.0084	0.000741	0.000089
35: VIS-CV5-MS-211	5.07	0.0022	0.009	0.00040	0.0728	0.00016	1.75	0.00013	0.00537	0.0246	0.000159	0.000423
36: VIS-CV5-MS-212	5.27	0.0005	0.005	0.00051	0.0538	0.00013	1.86	0.00030	0.00883	0.0115	0.000107	0.000399
37: VIS-CV5-MS-213	4.63	0.0001	< 0.003	< 0.00009	0.0017	< 0.00004	1.72	< 0.00006	0.0134	0.0086	0.000008	0.000044
38: VIS-CV5-MS-214	5.04	0.0002	< 0.003	0.00012	0.0031	< 0.00004	1.82	< 0.00006	0.00870	0.0075	0.000041	0.000123
39: VIS-CV5-MS-215	5.38	0.0005	0.017	0.00016	0.0083	0.00012	2.30	0.00008	0.0177	0.0115	0.000037	0.000030
40: VIS-CV5-MS-216	4.87	0.0003	< 0.003	< 0.00009	0.0080	0.00014	1.81	< 0.00006	0.0232	0.0015	0.000010	0.000017

OnLine LIMS

0004055200

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11019-FEB25**

Sample ID	Na mg/L	Ni mg/L	P mg/L	Pb mg/L	Sb mg/L	Se mg/L	Si mg/L	Sn mg/L	Sr mg/L	Ti mg/L	Tl mg/L	U mg/L
41: VIS-CV5-MS-217	5.09	< 0.0001	0.013	0.00024	0.0023	0.00005	1.89	0.00039	0.00713	0.0125	0.000114	0.000176
42: VIS-CV5-MS-218	5.20	< 0.0001	0.012	0.00020	0.0030	< 0.00004	1.99	< 0.00006	0.00767	0.0194	0.000024	0.000258
43: VIS-CV5-MS-219	5.59	< 0.0001	< 0.003	< 0.00009	0.0107	< 0.00004	1.67	0.00024	0.0109	0.0063	0.000010	0.000193
44: VIS-CV5-MS-220	5.29	0.0002	< 0.003	0.00020	< 0.0009	< 0.00004	1.43	0.00007	0.00741	0.0132	0.000006	0.000208
45: VIS-CV5-MS-221	4.87	< 0.0001	< 0.003	< 0.00009	< 0.0009	0.00004	2.00	< 0.00006	0.00667	0.0027	< 0.000005	0.000035
46: VIS-CV5-MS-222	4.79	0.0002	0.003	< 0.00009	0.0017	< 0.00004	1.84	0.00007	0.00919	0.0055	0.000028	0.000055
47: VIS-CV5-MS-223	4.31	0.0012	< 0.003	< 0.00009	0.0152	0.00007	1.70	< 0.00006	0.00418	0.0127	0.000040	0.000029
48: VIS-CV5-MS-224	5.39	0.0005	< 0.003	0.00020	0.0209	0.00018	1.80	0.00009	0.00398	0.0130	0.000034	0.000108
49: VIS-CV5-MS-225	5.29	0.0004	< 0.003	< 0.00009	0.0040	< 0.00004	1.69	0.00023	0.00451	0.0079	0.000008	0.000106
50: VIS-CV5-MS-226	4.84	< 0.0001	< 0.003	< 0.00009	0.0027	0.00007	2.03	< 0.00006	0.0160	0.0005	< 0.000005	0.000056
51: VIS-CV5-MS-227	4.26	0.0007	< 0.003	< 0.00009	0.0025	< 0.00004	1.12	< 0.00006	0.00579	0.0002	0.000011	0.000017
52: VIS-CV5-MS-228	4.75	0.0007	< 0.003	0.00011	0.0069	< 0.00004	2.35	0.00011	0.00562	0.0069	0.000026	0.000029
53-DUP: VIS-CV5-MS-201	4.54	< 0.0001	< 0.003	< 0.00009	0.0025	< 0.00004	1.14	< 0.00006	0.0110	0.0048	< 0.000005	0.000039
54-DUP: VIS-CV5-MS-228	4.38	0.0008	< 0.003	< 0.00009	0.0078	< 0.00004	2.24	0.00009	0.00537	0.0079	0.000028	0.000013
55-BLK: $SPLP1312 Blank #1	< 0.01	< 0.0001	< 0.003	< 0.00009	< 0.0009	< 0.00004	< 0.02	< 0.00006	< 0.00008	< 0.0001	< 0.000005	< 0.000002

Sample ID	V mg/L	Zn mg/L	Au mg/L	Ce mg/L	Cs mg/L	Dy mg/L	Er mg/L	Eu mg/L	Ga mg/L	Gd (tot) mg/L	Ge mg/L	Hf mg/L
1: Analysis Start Date	19-Mar-25	19-Mar-25	19-Mar-25	20-Mar-25	19-Mar-25	20-Mar-25	20-Mar-25	20-Mar-25	20-Mar-25	20-Mar-25	19-Mar-25	19-Mar-25
2: Analysis Start Time	17:18	17:18	17:18	12:04	17:18	12:04	12:04	12:04	12:04	12:04	17:18	17:18
3: Analysis Completed Date	21-Mar-25	21-Mar-25	21-Mar-25	24-Mar-25	24-Mar-25	24-Mar-25	24-Mar-25	24-Mar-25	24-Mar-25	24-Mar-25	24-Mar-25	24-Mar-25
4: Analysis Completed Time	16:22	16:22	16:22	10:27	10:27	10:27	10:27	10:27	10:27	10:27	10:27	10:27
5: VIS-CV5-AMP-181	0.00336	< 0.002	< 0.00001	0.00004	0.0017	< 0.00001	< 0.00001	< 0.00001	0.0006	< 0.00001	< 0.0001	< 0.0001
6: VIS-CV5-AMP-182	0.00359	< 0.002	---	---	---	---	---	---	---	---	---	---
7: VIS-CV5-MS-183	0.00308	< 0.002	< 0.00001	0.00013	0.0052	< 0.00001	< 0.00001	< 0.00001	0.0004	0.00001	< 0.0001	< 0.0001
8: VIS-CV5-MS-184	0.00171	< 0.002	---	---	---	---	---	---	---	---	---	---
9: VIS-CV5-MS-185	0.00202	< 0.002	---	---	---	---	---	---	---	---	---	---
10: VIS-CV5-MS-186	0.00188	< 0.002	---	---	---	---	---	---	---	---	---	---
11: VIS-CV5-MS-187	0.00075	< 0.002	< 0.00001	0.00006	0.0017	< 0.00001	< 0.00001	< 0.00001	0.0001	< 0.00001	< 0.0001	< 0.0001
12: VIS-CV5-MS-188	0.00178	< 0.002	---	---	---	---	---	---	---	---	---	---
13: VIS-CV5-MS-189	0.00198	< 0.002	---	---	---	---	---	---	---	---	---	---
14: VIS-CV5-MS-190	0.00355	< 0.002	---	---	---	---	---	---	---	---	---	---

OnLine LIMS

0004055200

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11019-FEB25**

Sample ID	V mg/L	Zn mg/L	Au mg/L	Ce mg/L	Cs mg/L	Dy mg/L	Er mg/L	Eu mg/L	Ga mg/L	Gd (tot) mg/L	Ge mg/L	Hf mg/L
15: VIS-CV5-MS-191	0.00048	< 0.002	< 0.00001	0.00004	0.0035	< 0.00001	< 0.00001	< 0.00001	0.0004	< 0.00001	< 0.0001	< 0.0001
16: VIS-CV5-MS-192	0.00281	< 0.002	---	---	---	---	---	---	---	---	---	---
17: VIS-CV5-MS-193	0.00204	< 0.002	---	---	---	---	---	---	---	---	---	---
18: VIS-CV5-MS-194	0.00120	< 0.002	---	---	---	---	---	---	---	---	---	---
19: VIS-CV5-MS-195	0.00055	< 0.002	< 0.00001	< 0.00001	0.0002	< 0.00001	< 0.00001	< 0.00001	0.0001	< 0.00001	< 0.0001	< 0.0001
20: VIS-CV5-MS-196	0.00049	< 0.002	---	---	---	---	---	---	---	---	---	---
21: VIS-CV5-MS-197	0.00053	< 0.002	---	---	---	---	---	---	---	---	---	---
22: VIS-CV5-MS-198	0.00110	< 0.002	---	---	---	---	---	---	---	---	---	---
23: VIS-CV5-MS-199	0.00147	< 0.002	< 0.00001	0.00019	0.0012	< 0.00001	< 0.00001	< 0.00001	0.0004	0.00002	< 0.0001	< 0.0001
24: VIS-CV5-MS-200	0.00281	< 0.002	---	---	---	---	---	---	---	---	---	---
25: VIS-CV5-MS-201	0.00045	< 0.002	---	---	---	---	---	---	---	---	---	---
26: VIS-CV5-MS-202	0.00005	0.015	---	---	---	---	---	---	---	---	---	---
27: VIS-CV5-MS-203	0.00016	< 0.002	< 0.00001	0.00009	0.0047	< 0.00001	< 0.00001	< 0.00001	0.0002	< 0.00001	< 0.0001	< 0.0001
28: VIS-CV5-MS-204	0.00256	< 0.002	---	---	---	---	---	---	---	---	---	---
29: VIS-CV5-MS-205	0.00116	< 0.002	---	---	---	---	---	---	---	---	---	---
30: VIS-CV5-MS-206	0.00210	< 0.002	---	---	---	---	---	---	---	---	---	---
31: VIS-CV5-MS-207	0.00094	< 0.002	< 0.00001	0.00026	0.0262	0.00001	< 0.00001	< 0.00001	0.0003	0.00002	< 0.0001	< 0.0001
32: VIS-CV5-MS-208	0.00144	< 0.002	---	---	---	---	---	---	---	---	---	---
33: VIS-CV5-MS-209	0.00403	< 0.002	---	---	---	---	---	---	---	---	---	---
34: VIS-CV5-MS-210	0.00048	0.004	---	---	---	---	---	---	---	---	---	---
35: VIS-CV5-MS-211	0.00155	0.002	< 0.00001	0.00104	0.0690	0.00005	0.00002	0.00001	0.0004	0.00009	< 0.0001	< 0.0001
36: VIS-CV5-MS-212	0.00158	< 0.002	---	---	---	---	---	---	---	---	---	---
37: VIS-CV5-MS-213	0.00156	< 0.002	---	---	---	---	---	---	---	---	---	---
38: VIS-CV5-MS-214	0.00038	< 0.002	---	---	---	---	---	---	---	---	---	---
39: VIS-CV5-MS-215	0.00251	< 0.002	< 0.00001	0.00027	0.0613	0.00001	< 0.00001	< 0.00001	0.0003	0.00003	< 0.0001	< 0.0001
40: VIS-CV5-MS-216	0.00254	< 0.002	---	---	---	---	---	---	---	---	---	---
41: VIS-CV5-MS-217	0.00084	< 0.002	---	---	---	---	---	---	---	---	---	---
42: VIS-CV5-MS-218	0.00076	< 0.002	---	---	---	---	---	---	---	---	---	---
43: VIS-CV5-MS-219	0.00272	< 0.002	< 0.00001	0.00008	0.0127	0.00001	< 0.00001	< 0.00001	0.0004	0.00001	< 0.0001	< 0.0001
44: VIS-CV5-MS-220	0.00080	< 0.002	---	---	---	---	---	---	---	---	---	---
45: VIS-CV5-MS-221	0.00099	< 0.002	---	---	---	---	---	---	---	---	---	---
46: VIS-CV5-MS-222	0.00159	< 0.002	---	---	---	---	---	---	---	---	---	---
47: VIS-CV5-MS-223	0.00150	< 0.002	< 0.00001	0.00015	0.0309	0.00001	< 0.00001	< 0.00001	0.0005	0.00002	< 0.0001	< 0.0001

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Sample ID	V mg/L	Zn mg/L	Au mg/L	Ce mg/L	Cs mg/L	Dy mg/L	Er mg/L	Eu mg/L	Ga mg/L	Gd (tot) mg/L	Ge mg/L	Hf mg/L
48: VIS-CV5-MS-224	0.00077	0.003	---	---	---	---	---	---	---	---	---	---
49: VIS-CV5-MS-225	0.00169	< 0.002	---	---	---	---	---	---	---	---	---	---
50: VIS-CV5-MS-226	0.00318	< 0.002	---	---	---	---	---	---	---	---	---	---
51: VIS-CV5-MS-227	0.00009	< 0.002	< 0.00001	< 0.00001	0.0111	< 0.00001	< 0.00001	< 0.00001	< 0.0001	< 0.00001	< 0.0001	< 0.0001
52: VIS-CV5-MS-228	0.00328	< 0.002	---	---	---	---	---	---	---	---	---	---
53-DUP: VIS-CV5-MS-201	0.00037	< 0.002	< 0.00001	0.00029	0.0019	0.00001	< 0.00001	< 0.00001	0.0002	0.00002	< 0.0001	< 0.0001
54-DUP: VIS-CV5-MS-228	0.00311	< 0.002	< 0.00001	0.00004	0.0458	< 0.00001	< 0.00001	< 0.00001	0.0004	< 0.00001	< 0.0001	< 0.0001
55-BLK: $SPLP1312 Blank #1	< 0.00001	< 0.002	< 0.00001	< 0.00001	< 0.0001	< 0.00001	< 0.00001	< 0.00001	< 0.0001	< 0.00001	< 0.0001	< 0.0001

Sample ID	Ho mg/L	In mg/L	Ir mg/L	La mg/L	Lu mg/L	Nb mg/L	Nd mg/L	Os mg/L	Pd mg/L	Pr mg/L	Pt mg/L	Rh mg/L
1: Analysis Start Date	20-Mar-25	20-Mar-25	19-Mar-25	20-Mar-25	20-Mar-25	19-Mar-25	20-Mar-25	19-Mar-25	19-Mar-25	20-Mar-25	19-Mar-25	19-Mar-25
2: Analysis Start Time	12:04	12:04	17:18	12:04	12:04	17:18	12:04	17:18	17:18	12:04	17:18	17:18
3: Analysis Completed Date	24-Mar-25	24-Mar-25	24-Mar-25	24-Mar-25	24-Mar-25	24-Mar-25	24-Mar-25	24-Mar-25	24-Mar-25	24-Mar-25	24-Mar-25	24-Mar-25
4: Analysis Completed Time	10:27	10:27	10:27	10:27	10:27	10:27	10:27	10:27	10:27	10:27	10:27	10:27
5: VIS-CV5-AMP-181	< 0.00001	< 0.00001	< 0.00001	0.00002	< 0.0001	< 0.0001	0.00001	< 0.0001	< 0.0001	< 0.00001	< 0.0001	< 0.00001
6: VIS-CV5-AMP-182	---	---	---	---	---	---	---	---	---	---	---	---
7: VIS-CV5-MS-183	< 0.00001	< 0.00001	< 0.00001	0.00007	< 0.0001	< 0.0001	0.00006	< 0.0001	< 0.0001	0.00002	< 0.0001	< 0.00001
8: VIS-CV5-MS-184	---	---	---	---	---	---	---	---	---	---	---	---
9: VIS-CV5-MS-185	---	---	---	---	---	---	---	---	---	---	---	---
10: VIS-CV5-MS-186	---	---	---	---	---	---	---	---	---	---	---	---
11: VIS-CV5-MS-187	< 0.00001	< 0.00001	< 0.00001	0.00003	< 0.0001	< 0.0001	0.00002	< 0.0001	< 0.0001	< 0.00001	< 0.0001	< 0.00001
12: VIS-CV5-MS-188	---	---	---	---	---	---	---	---	---	---	---	---
13: VIS-CV5-MS-189	---	---	---	---	---	---	---	---	---	---	---	---
14: VIS-CV5-MS-190	---	---	---	---	---	---	---	---	---	---	---	---
15: VIS-CV5-MS-191	< 0.00001	< 0.00001	< 0.00001	0.00002	< 0.0001	< 0.0001	0.00002	< 0.0001	< 0.0001	< 0.00001	< 0.0001	< 0.00001
16: VIS-CV5-MS-192	---	---	---	---	---	---	---	---	---	---	---	---
17: VIS-CV5-MS-193	---	---	---	---	---	---	---	---	---	---	---	---
18: VIS-CV5-MS-194	---	---	---	---	---	---	---	---	---	---	---	---
19: VIS-CV5-MS-195	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.0001	< 0.0001	< 0.00001	< 0.0001	< 0.0001	< 0.00001	< 0.0001	< 0.00001
20: VIS-CV5-MS-196	---	---	---	---	---	---	---	---	---	---	---	---
21: VIS-CV5-MS-197	---	---	---	---	---	---	---	---	---	---	---	---

OnLine LIMS

0004055200

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11019-FEB25**

Sample ID	Ho mg/L	In mg/L	Ir mg/L	La mg/L	Lu mg/L	Nb mg/L	Nd mg/L	Os mg/L	Pd mg/L	Pr mg/L	Pt mg/L	Rh mg/L
22: VIS-CV5-MS-198	---	---	---	---	---	---	---	---	---	---	---	---
23: VIS-CV5-MS-199	< 0.00001	< 0.00001	< 0.00001	0.00009	< 0.0001	< 0.0001	0.00008	< 0.0001	< 0.0001	0.00002	< 0.0001	< 0.00001
24: VIS-CV5-MS-200	---	---	---	---	---	---	---	---	---	---	---	---
25: VIS-CV5-MS-201	---	---	---	---	---	---	---	---	---	---	---	---
26: VIS-CV5-MS-202	---	---	---	---	---	---	---	---	---	---	---	---
27: VIS-CV5-MS-203	< 0.00001	< 0.00001	< 0.00001	0.00005	< 0.0001	< 0.0001	0.00004	< 0.0001	< 0.0001	0.00001	< 0.0001	< 0.00001
28: VIS-CV5-MS-204	---	---	---	---	---	---	---	---	---	---	---	---
29: VIS-CV5-MS-205	---	---	---	---	---	---	---	---	---	---	---	---
30: VIS-CV5-MS-206	---	---	---	---	---	---	---	---	---	---	---	---
31: VIS-CV5-MS-207	< 0.00001	< 0.00001	< 0.00001	0.00012	< 0.0001	< 0.0001	0.00011	< 0.0001	< 0.0001	0.00003	< 0.0001	< 0.00001
32: VIS-CV5-MS-208	---	---	---	---	---	---	---	---	---	---	---	---
33: VIS-CV5-MS-209	---	---	---	---	---	---	---	---	---	---	---	---
34: VIS-CV5-MS-210	---	---	---	---	---	---	---	---	---	---	---	---
35: VIS-CV5-MS-211	< 0.00001	< 0.00001	< 0.00001	0.00054	< 0.0001	0.0001	0.00043	< 0.0001	< 0.0001	0.00013	< 0.0001	< 0.00001
36: VIS-CV5-MS-212	---	---	---	---	---	---	---	---	---	---	---	---
37: VIS-CV5-MS-213	---	---	---	---	---	---	---	---	---	---	---	---
38: VIS-CV5-MS-214	---	---	---	---	---	---	---	---	---	---	---	---
39: VIS-CV5-MS-215	< 0.00001	< 0.00001	< 0.00001	0.00013	< 0.0001	< 0.0001	0.00014	< 0.0001	< 0.0001	0.00004	< 0.0001	< 0.00001
40: VIS-CV5-MS-216	---	---	---	---	---	---	---	---	---	---	---	---
41: VIS-CV5-MS-217	---	---	---	---	---	---	---	---	---	---	---	---
42: VIS-CV5-MS-218	---	---	---	---	---	---	---	---	---	---	---	---
43: VIS-CV5-MS-219	< 0.00001	< 0.00001	< 0.00001	0.00004	< 0.0001	< 0.0001	0.00004	< 0.0001	< 0.0001	0.00001	< 0.0001	< 0.00001
44: VIS-CV5-MS-220	---	---	---	---	---	---	---	---	---	---	---	---
45: VIS-CV5-MS-221	---	---	---	---	---	---	---	---	---	---	---	---
46: VIS-CV5-MS-222	---	---	---	---	---	---	---	---	---	---	---	---
47: VIS-CV5-MS-223	< 0.00001	< 0.00001	< 0.00001	0.00010	< 0.0001	< 0.0001	0.00008	< 0.0001	< 0.0001	0.00003	< 0.0001	< 0.00001
48: VIS-CV5-MS-224	---	---	---	---	---	---	---	---	---	---	---	---
49: VIS-CV5-MS-225	---	---	---	---	---	---	---	---	---	---	---	---
50: VIS-CV5-MS-226	---	---	---	---	---	---	---	---	---	---	---	---
51: VIS-CV5-MS-227	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.0001	< 0.0001	< 0.00001	< 0.0001	< 0.0001	< 0.00001	< 0.0001	< 0.00001
52: VIS-CV5-MS-228	---	---	---	---	---	---	---	---	---	---	---	---
53-DUP: VIS-CV5-MS-201	< 0.00001	< 0.00001	< 0.00001	0.00014	< 0.0001	< 0.0001	0.00014	< 0.0001	< 0.0001	0.00004	< 0.0001	< 0.00001
54-DUP: VIS-CV5-MS-228	< 0.00001	< 0.00001	< 0.00001	0.00002	< 0.0001	< 0.0001	0.00002	< 0.0001	< 0.0001	< 0.00001	< 0.0001	< 0.00001

OnLine LIMS

0004055200

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Sample ID	Ho mg/L	In mg/L	Ir mg/L	La mg/L	Lu mg/L	Nb mg/L	Nd mg/L	Os mg/L	Pd mg/L	Pr mg/L	Pt mg/L	Rh mg/L
55-BLK: $SPLP1312 Blank #1	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.0001	< 0.0001	< 0.00001	< 0.0001	< 0.0001	< 0.00001	< 0.0001	< 0.00001

Sample ID	Rb mg/L	Re mg/L	Ru mg/L	Sm mg/L	Sc mg/L	Ta mg/L	Tb mg/L	Te mg/L	Th mg/L	Tm mg/L
1: Analysis Start Date	19-Mar-25	19-Mar-25	19-Mar-25	20-Mar-25	20-Mar-25	19-Mar-25	20-Mar-25	19-Mar-25	19-Mar-25	20-Mar-25
2: Analysis Start Time	17:18	17:18	17:18	12:04	12:04	17:18	12:04	17:18	17:18	12:04
3: Analysis Completed Date	24-Mar-25	24-Mar-25	24-Mar-25	24-Mar-25	24-Mar-25	24-Mar-25	24-Mar-25	24-Mar-25	24-Mar-25	24-Mar-25
4: Analysis Completed Time	10:27	10:27	10:27	10:27	10:27	10:27	10:27	10:27	10:27	10:27
5: VIS-CV5-AMP-181	0.0021	< 0.0001	< 0.00001	< 0.00001	0.0001	< 0.0001	< 0.00001	< 0.0001	< 0.0001	< 0.00001
6: VIS-CV5-AMP-182	---	---	---	---	---	---	---	---	---	---
7: VIS-CV5-MS-183	0.0075	< 0.0001	< 0.00001	0.00002	0.0001	< 0.0001	< 0.00001	< 0.0001	< 0.0001	< 0.00001
8: VIS-CV5-MS-184	---	---	---	---	---	---	---	---	---	---
9: VIS-CV5-MS-185	---	---	---	---	---	---	---	---	---	---
10: VIS-CV5-MS-186	---	---	---	---	---	---	---	---	---	---
11: VIS-CV5-MS-187	0.0024	< 0.0001	< 0.00001	< 0.00001	< 0.0001	< 0.0001	< 0.00001	< 0.0001	< 0.0001	< 0.00001
12: VIS-CV5-MS-188	---	---	---	---	---	---	---	---	---	---
13: VIS-CV5-MS-189	---	---	---	---	---	---	---	---	---	---
14: VIS-CV5-MS-190	---	---	---	---	---	---	---	---	---	---
15: VIS-CV5-MS-191	0.0043	< 0.0001	< 0.00001	< 0.00001	< 0.0001	< 0.0001	< 0.00001	< 0.0001	< 0.0001	< 0.00001
16: VIS-CV5-MS-192	---	---	---	---	---	---	---	---	---	---
17: VIS-CV5-MS-193	---	---	---	---	---	---	---	---	---	---
18: VIS-CV5-MS-194	---	---	---	---	---	---	---	---	---	---
19: VIS-CV5-MS-195	0.0003	< 0.0001	< 0.00001	< 0.00001	< 0.0001	< 0.0001	< 0.00001	< 0.0001	< 0.0001	< 0.00001
20: VIS-CV5-MS-196	---	---	---	---	---	---	---	---	---	---
21: VIS-CV5-MS-197	---	---	---	---	---	---	---	---	---	---
22: VIS-CV5-MS-198	---	---	---	---	---	---	---	---	---	---
23: VIS-CV5-MS-199	0.0033	< 0.0001	< 0.00001	0.00002	< 0.0001	< 0.0001	< 0.00001	< 0.0001	< 0.0001	< 0.00001
24: VIS-CV5-MS-200	---	---	---	---	---	---	---	---	---	---
25: VIS-CV5-MS-201	---	---	---	---	---	---	---	---	---	---
26: VIS-CV5-MS-202	---	---	---	---	---	---	---	---	---	---
27: VIS-CV5-MS-203	0.0063	< 0.0001	< 0.00001	< 0.00001	< 0.0001	< 0.0001	< 0.00001	< 0.0001	< 0.0001	< 0.00001
28: VIS-CV5-MS-204	---	---	---	---	---	---	---	---	---	---

OnLine LIMS

0004055200

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Sample ID	Rb mg/L	Re mg/L	Ru mg/L	Sm mg/L	Sc mg/L	Ta mg/L	Tb mg/L	Te mg/L	Th mg/L	Tm mg/L
29: VIS-CV5-MS-205	---	---	---	---	---	---	---	---	---	---
30: VIS-CV5-MS-206	---	---	---	---	---	---	---	---	---	---
31: VIS-CV5-MS-207	0.0321	< 0.0001	< 0.00001	0.00003	0.0001	< 0.0001	< 0.00001	< 0.0001	0.0002	< 0.00001
32: VIS-CV5-MS-208	---	---	---	---	---	---	---	---	---	---
33: VIS-CV5-MS-209	---	---	---	---	---	---	---	---	---	---
34: VIS-CV5-MS-210	---	---	---	---	---	---	---	---	---	---
35: VIS-CV5-MS-211	0.0897	< 0.0001	< 0.00001	0.00010	0.0002	< 0.0001	0.00001	< 0.0001	0.0003	< 0.00001
36: VIS-CV5-MS-212	---	---	---	---	---	---	---	---	---	---
37: VIS-CV5-MS-213	---	---	---	---	---	---	---	---	---	---
38: VIS-CV5-MS-214	---	---	---	---	---	---	---	---	---	---
39: VIS-CV5-MS-215	0.0313	< 0.0001	< 0.00001	0.00002	0.0002	< 0.0001	< 0.00001	< 0.0001	< 0.0001	< 0.00001
40: VIS-CV5-MS-216	---	---	---	---	---	---	---	---	---	---
41: VIS-CV5-MS-217	---	---	---	---	---	---	---	---	---	---
42: VIS-CV5-MS-218	---	---	---	---	---	---	---	---	---	---
43: VIS-CV5-MS-219	0.0147	< 0.0001	< 0.00001	< 0.00001	0.0001	< 0.0001	< 0.00001	< 0.0001	< 0.0001	< 0.00001
44: VIS-CV5-MS-220	---	---	---	---	---	---	---	---	---	---
45: VIS-CV5-MS-221	---	---	---	---	---	---	---	---	---	---
46: VIS-CV5-MS-222	---	---	---	---	---	---	---	---	---	---
47: VIS-CV5-MS-223	0.0308	< 0.0001	< 0.00001	0.00002	0.0001	< 0.0001	< 0.00001	< 0.0001	< 0.0001	< 0.00001
48: VIS-CV5-MS-224	---	---	---	---	---	---	---	---	---	---
49: VIS-CV5-MS-225	---	---	---	---	---	---	---	---	---	---
50: VIS-CV5-MS-226	---	---	---	---	---	---	---	---	---	---
51: VIS-CV5-MS-227	0.0254	< 0.0001	< 0.00001	< 0.00001	< 0.0001	< 0.0001	< 0.00001	< 0.0001	< 0.0001	< 0.00001
52: VIS-CV5-MS-228	---	---	---	---	---	---	---	---	---	---
53-DUP: VIS-CV5-MS-201	0.0079	< 0.0001	< 0.00001	0.00003	< 0.0001	< 0.0001	< 0.00001	< 0.0001	< 0.0001	< 0.00001
54-DUP: VIS-CV5-MS-228	0.0367	< 0.0001	< 0.00001	< 0.00001	0.0002	< 0.0001	< 0.00001	< 0.0001	< 0.0001	< 0.00001
55-BLK: $SPLP1312 Blank #1	< 0.0001	< 0.0001	< 0.00001	< 0.00001	< 0.0001	< 0.0001	< 0.00001	< 0.0001	< 0.0001	< 0.00001

Method Descriptions

Parameter	Units	SGS Method Code	CALA	PALA
	#1 or #2	NA	N	N
	g	NA	N	N

OnLine LIMS

0004055200

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Parameter	Units	SGS Method Code	CALA	PALA
	mL	NA	N	N
Acidity	mg/L as CaCO3	ME-CA-[ENV]EWL-LAK-AN-006	Y	N
Alkalinity	mg/L as CaCO3	ME-CA-[ENV]EWL-LAK-AN-006	Y	N
Anions by IC	mg/L	ME-CA-[ENV]IC-LAK-AN-001	Y	N
Anions by IC	mg/L	ME-CA-[ENV]IC-LAK-AN-001	Y	Y
Conductivity	uS/cm	ME-CA-[ENV]EWL-LAK-AN-006	Y	Y
Fluoride by Specific Ion Electrode	mg/L	ME-CA-[ENV]EWL-LAK-AN-014	Y	Y
Inorganics-General	mg/L	ME-CA-[ENV]SPE-LAK-AN-004	Y	Y
Metals in aqueous samples - ICP-MS	mg/L	ME-CA-[ENV]SPE-LAK-AN-006	Y	N
Metals in aqueous samples - ICP-MS	mg/L	ME-CA-[ENV]SPE-LAK-AN-006	Y	Y
pH	No unit	ME-CA-[ENV]EWL-LAK-AN-006	Y	Y
Reactive Phosphorus by SFA	mg/L	ME-CA-[ENV]SFA-LAK-AN-004	Y	N

Accreditation Descriptions

CALA:
SGS Canada Industries & Environment conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation found at https://directory.cala.ca/#. Analytes and SGS Method Codes marked with a “Y” in the “CALA” column in the table denote ISO/IEC17025 accreditation

PALA:
SGS Canada Industries & Environment conforms to the requirements of ISO/IEC 17025:2005 for specific tests as listed on their scope of accreditation found at https://www.ceaeq.gouv.qc.ca/documents/publications/listes.htm#labo_accr. Analytes and SGS Method Codes marked with a “Y” in the “PALA” column in the table denote ISO/IEC17025:2005 accreditation

Catharine Arnold

CHARTERED CATHARINE ARNOLD CHEMIST

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0004055200

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quality Control Report

Inorganic Analysis													
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Acidity - QCBatchID: EWL0353-MAR25													
Acidity	2	mg/L as Ca	2			ND	20	104	90	110	NA		
Acidity - QCBatchID: EWL0354-MAR25													
Acidity	2	mg/L as Ca	< 2			ND	20	102	90	110	NA		
Acidity - QCBatchID: EWL0382-MAR25													
Acidity	2	mg/L as Ca	< 2			ND	20	98	90	110	NA		
Acidity - QCBatchID: EWL0386-MAR25													
Acidity	2	mg/L as Ca	< 2			ND	20	100	90	110	NA		
Alkalinity - QCBatchID: EWL0353-MAR25													
Alkalinity	2	mg/L as Ca	< 2			0	20	96	80	120	NA		
Alkalinity - QCBatchID: EWL0354-MAR25													
Alkalinity	2	mg/L as Ca	< 2			0	20	102	80	120	NA		
Alkalinity - QCBatchID: EWL0382-MAR25													
Alkalinity	2	mg/L as Ca	< 2			4	20	109	80	120	NA		
Alkalinity - QCBatchID: EWL0386-MAR25													
Alkalinity	2	mg/L as Ca	< 2			4	20	100	80	120	NA		
Anions by IC - QCBatchID: DIO0373-MAR25													
Bromide	0.3	mg/L	<0.3			ND	20	100	90	110	97	75	125
Chloride	0.2	mg/L	<0.2			0	20	100	90	110	105	75	125
Nitrate (as N)	0.06	mg/L	<0.06			ND	20	101	90	110	102	75	125
Nitrite (as N)	0.03	mg/L	<0.03			ND	20	97	90	110	100	75	125
Sulphate	0.2	mg/L	<0.2			8	20	99	90	110	98	75	125
Anions by IC - QCBatchID: DIO0375-MAR25													
Bromide	0.3	mg/L	<0.3			ND	20	100	90	110	94	75	125
Chloride	0.2	mg/L	<0.2			40	20	101	90	110	103	75	125
Nitrate (as N)	0.06	mg/L	<0.06			ND	20	101	90	110	101	75	125
Nitrite (as N)	0.03	mg/L	<0.03			ND	20	97	90	110	100	75	125
Sulphate	0.2	mg/L	<0.2			1	20	100	90	110	96	75	125
Anions by IC - QCBatchID: DIO0410-MAR25													
Bromide	0.3	mg/L	<0.3			ND	20	101	90	110	100	75	125
Chloride	0.2	mg/L	<0.2			ND	20	101	90	110	120	75	125
Nitrate (as N)	0.06	mg/L	<0.06			11	20	101	90	110	104	75	125
Nitrite (as N)	0.03	mg/L	<0.03			ND	20	99	90	110	103	75	125
Sulphate	0.2	mg/L	<0.2			ND	20	101	90	110	100	75	125
Anions by IC - QCBatchID: DIO0411-MAR25													
Bromide	0.3	mg/L	<0.3			ND	20	100	90	110	97	75	125

OnLine LIMS

00004055200

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0)
20:1 L/S ratio, 18hr

LR Report : **CA11019-FEB25**

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material			
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)		
							%		Low	High		Low	High	
Chloride	0.2	mg/L	<0.2			ND	20	99	90	110	103	75	125	
Nitrate (as N)	0.06	mg/L	<0.06			ND	20	98	90	110	100	75	125	
Nitrite (as N)	0.03	mg/L	<0.03			ND	20	98	90	110	101	75	125	
Sulphate	0.2	mg/L	<0.2			4	20	99	90	110	98	75	125	
Conductivity - QCBatchID: EWL0353-MAR25														
Conductivity	2	uS/cm	< 2			0	20	99	90	110	NA			
Conductivity - QCBatchID: EWL0354-MAR25														
Conductivity	2	uS/cm	< 2			0	20	97	90	110	NA			
Conductivity - QCBatchID: EWL0382-MAR25														
Conductivity	2	uS/cm	< 2			0	20	97	90	110	NA			
Conductivity - QCBatchID: EWL0386-MAR25														
Conductivity	2	uS/cm	2			0	20	103	90	110	NA			
Fluoride by Specific Ion Electrode - QCBatchID: EWL0343-MAR25														
Fluoride	0.06	mg/L	<0.06			ND	10	100	90	110	101	75	125	
Fluoride by Specific Ion Electrode - QCBatchID: EWL0371-MAR25														
Fluoride	0.06	mg/L	<0.06			ND	10	98	90	110	105	75	125	
Inorganics-General - QCBatchID: EHG0035-MAR25														
Mercury	0.00001	mg/L	< 0.00001			10	20	100	80	120	125	70	130	
Inorganics-General - QCBatchID: EHG0037-MAR25														
Mercury	0.00001	mg/L	< 0.00001			ND	20	113	80	120	115	70	130	
Metals in aqueous samples - ICP-MS - QCBatchID: EMS0149-MAR25														
Aluminum	0.001	mg/L	<0.001			5	20	100	90	110	118	70	130	
Antimony	0.0009	mg/L	<0.0009			2	20	107	90	110	118	70	130	
Arsenic	0.0002	mg/L	<0.0002			0	20	99	90	110	105	70	130	
Barium	0.00008	mg/L	<0.00008			19	20	97	90	110	96	70	130	
Beryllium	0.000007	mg/L	<0.000007			11	20	97	90	110	105	70	130	
Bismuth	0.00001	mg/L	<0.00001			1	20	92	90	110	90	70	130	
Boron	0.002	mg/L	<0.002			2	20	100	90	110	102	70	130	
Cadmium	0.000003	mg/L	<0.000003			0	20	100	90	110	108	70	130	
Calcium	0.01	mg/L	<0.01			0	20	104	90	110	95	70	130	
Cesium	0.0001	mg/L	<0.0001			0	20	102	90	110	NV	70	130	
Chromium	0.00008	mg/L	<0.00008			1	20	95	90	110	89	70	130	
Cobalt	0.000004	mg/L	<0.000004			4	20	98	90	110	92	70	130	
Copper	0.001	mg/L	<0.001			18	20	98	90	110	102	70	130	
Germanium	0.0001	mg/L	<0.0001			3	20	106	90	110	NV	70	130	
Gold	0.00001	mg/L	<0.00001			18	20	103	90	110	NV	70	130	
Hafnium	0.0001	mg/L	<0.0001			ND	20	102	90	110	NV	70	130	
Iridium	0.00001	mg/L	<0.00001			ND	20	108	90	110	NV	70	130	
Iron	0.007	mg/L	<0.007			1	20	106	90	110	100	70	130	

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

00004055200

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0)
20:1 L/S ratio, 18hr

LR Report : **CA11019-FEB25**

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Lead	0.00009	mg/L	<0.00009			1	20	94	90	110	128	70	130
Lithium	0.0001	mg/L	<0.0001			4	20	100	90	110	102	70	130
Magnesium	0.001	mg/L	<0.001			5	20	107	90	110	81	70	130
Manganese	0.00001	mg/L	<0.00001			0	20	100	90	110	107	70	130
Molybdenum	0.0004	mg/L	<0.0004			2	20	105	90	110	93	70	130
Nickel	0.0001	mg/L	<0.0001			4	20	98	90	110	91	70	130
Niobium	0.0001	mg/L	<0.0001			5	20	102	90	110	NV	70	130
Osmium	0.0001	mg/L	<0.0001			ND	20	97	90	110	NV	70	130
Palladium	0.0001	mg/L	<0.0001			ND	20	101	90	110	NV	70	130
Phosphorus	0.003	mg/L	<0.003			4	20	102	90	110	NV	70	130
Platinum	0.0001	mg/L	<0.0001			ND	20	104	90	110	NV	70	130
Potassium	0.009	mg/L	<0.009			1	20	105	90	110	101	70	130
Rhenium	0.0001	mg/L	<0.0001			ND	20	102	90	110	NV	70	130
Rhodium	0.00001	mg/L	<0.0001			ND	20	101	90	110	NV	70	130
Rubidium	0.0001	mg/L	Error!			1	20	95	90	110	NV	70	130
Ruthenium	0.00001	mg/L	<0.0001			ND	20	102	90	110	NV	70	130
Selenium	0.00004	mg/L	<0.00004			4	20	100	90	110	104	70	130
Silicon	0.02	mg/L	<0.02			1	20	100	90	110	NV	70	130
Silver	0.00005	mg/L	<0.00005			ND	20	95	90	110	81	70	130
Sodium	0.01	mg/L	<0.01			1	20	100	90	110	95	70	130
Strontium	0.00008	mg/L	<0.00008			2	20	100	90	110	91	70	130
Tantalum	0.0001	mg/L	<0.0001			1	20	102	90	110	NV	70	130
Tellurium	0.0001	mg/L	<0.0001			ND	20	101	90	110	NV	70	130
Thallium	0.000005	mg/L	<0.000005			1	20	97	90	110	110	70	130
Thorium	0.0001	mg/L	<0.0001			1	20	97	90	110	NV	70	130
Tin	0.00006	mg/L	<0.00006			1	20	103	90	110	NV	70	130
Titanium	0.0001	mg/L	<0.0001			6	20	106	90	110	NV	70	130
Uranium	0.000002	mg/L	<0.000002			1	20	98	90	110	99	70	130
Vanadium	0.00001	mg/L	<0.00001			1	20	99	90	110	101	70	130
Zinc	0.002	mg/L	<0.002			6	20	100	90	110	102	70	130
Metals in aqueous samples - ICP-MS - QCBatchID: EMS0167-MAR25													
Aluminum	0.001	mg/L	<0.001			1	20	101	90	110	117	70	130
Antimony	0.0009	mg/L	<0.0009			6	20	105	90	110	96	70	130
Arsenic	0.0002	mg/L	<0.0002			0	20	106	90	110	107	70	130
Barium	0.00008	mg/L	<0.00008			4	20	98	90	110	105	70	130
Beryllium	0.000007	mg/L	7e-006			ND	20	95	90	110	93	70	130
Bismuth	0.00001	mg/L	<0.00001			ND	20	92	90	110	99	70	130
Boron	0.002	mg/L	<0.002			ND	20	104	90	110	104	70	130
Cadmium	0.000003	mg/L	<0.000003			ND	20	99	90	110	93	70	130

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

00004055200

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0)
20:1 L/S ratio, 18hr

LR Report : **CA11019-FEB25**

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material			
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)		
							%		Low	High		Low	High	
Calcium	0.01	mg/L	<0.01			1	20	96	90	110	101	70	130	
Chromium	0.00008	mg/L	<0.00008			11	20	100	90	110	88	70	130	
Cobalt	0.000004	mg/L	<0.000004			10	20	97	90	110	92	70	130	
Copper	0.001	mg/L	<0.001			ND	20	103	90	110	102	70	130	
Germanium	0.0001	mg/L	<0.0001			ND	20	101	90	110	NV	70	130	
Gold	0.00001	mg/L	<0.00001			1	20	99	90	110	NV	70	130	
Hafnium	0.0001	mg/L	<0.0001			ND	20	90	90	110	NV	70	130	
Iridium	0.00001	mg/L	<0.00001			ND	20	98	90	110	NV	70	130	
Iron	0.007	mg/L	<0.007			9	20	100	90	110	100	70	130	
Lead	0.00009	mg/L	<0.00009			ND	20	99	90	110	103	70	130	
Lithium	0.0001	mg/L	<0.0001			5	20	94	90	110	91	70	130	
Magnesium	0.001	mg/L	<0.001			2	20	106	90	110	79	70	130	
Manganese	0.00001	mg/L	<0.00001			1	20	97	90	110	99	70	130	
Molybdenum	0.0004	mg/L	<0.0004			2	20	103	90	110	100	70	130	
Nickel	0.0001	mg/L	<0.0001			8	20	101	90	110	96	70	130	
Niobium	0.0001	mg/L	<0.0001			ND	20	104	90	110	NV	70	130	
Osmium	0.0001	mg/L	<0.0001			ND	20	98	90	110	NV	70	130	
Palladium	0.0001	mg/L	<0.0001			ND	20	103	90	110	NV	70	130	
Phosphorus	0.003	mg/L	0.003			ND	20	94	90	110	NV	70	130	
Platinum	0.0001	mg/L	<0.0001			ND	20	99	90	110	NV	70	130	
Potassium	0.009	mg/L	<0.009			1	20	96	90	110	86	70	130	
Rhenium	0.0001	mg/L	<0.0001			ND	20	91	90	110	NV	70	130	
Rhodium	0.00001	mg/L	<0.0001			ND	20	103	90	110	NV	70	130	
Ruthenium	0.00001	mg/L	<0.0001			ND	20	104	90	110	NV	70	130	
Selenium	0.00004	mg/L	<0.00004			8	20	100	90	110	105	70	130	
Silicon	0.02	mg/L	<0.02			4	20	93	90	110	NV	70	130	
Silver	0.00005	mg/L	<0.00005			ND	20	100	90	110	83	70	130	
Sodium	0.01	mg/L	<0.01			6	20	101	90	110	70	70	130	
Strontium	0.00008	mg/L	<0.00008			2	20	94	90	110	97	70	130	
Tantalum	0.0001	mg/L	<0.0001			ND	20	98	90	110	NV	70	130	
Tellurium	0.0001	mg/L	<0.0001			ND	20	96	90	110	NV	70	130	
Thallium	0.000005	mg/L	<0.000005			ND	20	99	90	110	99	70	130	
Tin	0.00006	mg/L	<0.00006			ND	20	98	90	110	NV	70	130	
Titanium	0.0001	mg/L	<0.0001			ND	20	94	90	110	NV	70	130	
Uranium	0.000002	mg/L	<0.000002			0	20	104	90	110	106	70	130	
Vanadium	0.00001	mg/L	<0.00001			0	20	99	90	110	96	70	130	
Zinc	0.002	mg/L	<0.002			ND	20	100	90	110	104	70	130	
Metals in aqueous samples - ICP-MS - QCBatchID: EMS0177-MAR25														
Cerium	0.00001	mg/L	<0.00001			ND	20	95	90	110	NV	70	130	

OnLine LIMS

0004055200

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0)
20:1 L/S ratio, 18hr

LR Report : **CA11019-FEB25**

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Cesium	0.0001	mg/L	<0.0001			1	20	99	90	110	NV	70	130
Dysprosium	0.00001	mg/L	<0.00001			ND	20	97	90	110	NV	70	130
Erbium	0.00001	mg/L	<0.00001			ND	20	96	90	110	NV	70	130
Europium	0.00001	mg/L	<0.00001			ND	20	95	90	110	NV	70	130
Gadolinium	0.00001	mg/L	<0.0001			ND	20	93	90	110	NV	70	130
Gallium	0.0001	mg/L	<0.0001			2	20	102	90	110	NV	70	130
Holmium	0.00001	mg/L	<0.00001			ND	20	97	90	110	NV	70	130
Indium	0.00001	mg/L	<0.00001			5	20	100	90	110	NV	70	130
Lanthanum	0.00001	mg/L	<0.00001			ND	20	95	90	110	NV	70	130
Lutetium	0.0001	mg/L	<0.0001			ND	20	95	90	110	NV	70	130
Neodymium	0.00001	mg/L	<0.00001			ND	20	98	90	110	NV	70	130
Praseodymium	0.00001	mg/L	<0.00001			ND	20	91	90	110	NV	70	130
Rubidium	0.0001	mg/L	<0.0001			2	20	106	90	110	NV	70	130
Samarium	0.00001	mg/L	<0.00001			ND	20	98	90	110	NV	70	130
Terbium	0.00001	mg/L	<0.00001			ND	20	91	90	110	NV	70	130
Thorium	0.0001	mg/L	0.0001			ND	20	107	90	110	NV	70	130
Thulium	0.00001	mg/L	<0.00001			ND	20	94	90	110	NV	70	130
Uranium	0.000002	mg/L	<0.000002			2	20	92	90	110	NV	70	130
pH - QCBatchID: EWL0353-MAR25													
pH	0.05	No unit	NA			0		100			NA		
pH - QCBatchID: EWL0354-MAR25													
pH	0.05	No unit	NA			0		100			NA		
pH - QCBatchID: EWL0382-MAR25													
pH	0.05	No unit	NA			1		100			NA		
pH - QCBatchID: EWL0386-MAR25													
pH	0.05	No unit	NA			0		101			NA		
Reactive Phosphorus by SFA - QCBatchID: SKA0177-MAR25													
Total Reactive Phosphorous (o-phosphate as P)	0.03	mg/L	<0.03			ND	10	98	90	110	89	75	125
Reactive Phosphorus by SFA - QCBatchID: SKA0187-MAR25													
Total Reactive Phosphorous (o-phosphate as P)	0.03	mg/L	<0.03			2	10	100	90	110	105	75	125

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

00004055200

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

16-April-2025

Innova Lithium Inc.
Attn : John Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 05 February 2025
LR Report: **CA11020-FEB25**
Reference: Shaakichiuwaanaan Project

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: VIS-CV5-AMP-18 1	6: VIS-CV5-AMP-18 2	7: VIS-CV5-MS-183	8: VIS-CV5-MS-184	9: VIS-CV5-MS-185	10: VIS-CV5-MS-186
Sample Date & Time					NA	NA	NA	NA	NA	NA
Sample weight [g]	13-Mar-25	06:28	24-Mar-25	10:02	100	100	99	101	100	100
Volume D.I. Water [mL]	13-Mar-25	07:07	24-Mar-25	10:02	400	400	400	400	400	400
pH [No unit]	21-Mar-25	12:51	28-Mar-25	11:17	8.64	9.15	9.09	9.05	8.26	8.53
Conductivity [uS/cm]	21-Mar-25	12:51	28-Mar-25	11:17	178	146	204	445	298	253
Alkalinity [mg/L as CaCO3]	21-Mar-25	12:51	28-Mar-25	11:17	64	63	84	110	67	73
Acidity [mg/L as CaCO3]	21-Mar-25	12:51	28-Mar-25	11:17	< 2	< 2	< 2	< 2	< 2	< 2
F [mg/L]	21-Mar-25	08:47	25-Mar-25	13:56	1.45	0.57	2.05	1.44	1.49	1.40
Br [mg/L]	21-Mar-25	07:08	25-Mar-25	09:43	< 30	< 30	< 30	< 30	< 30	< 30
Cl [mg/L]	21-Mar-25	07:08	25-Mar-25	09:43	< 20	< 20	< 20	31	< 20	< 20
SO4 [mg/L]	21-Mar-25	07:08	25-Mar-25	09:43	< 20	< 20	< 20	38	43	27
NO2 [as N mg/L]	21-Mar-25	07:08	25-Mar-25	09:43	< 3	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	21-Mar-25	07:08	25-Mar-25	09:43	< 6	< 6	< 6	< 6	< 6	< 6
\] [mg/L]	25-Mar-25	10:46	26-Mar-25	08:48	< 0.03	0.13	0.08	0.05	< 0.03	< 0.03
Hg [mg/L]	24-Mar-25	15:54	27-Mar-25	13:48	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	25-Mar-25	18:27	26-Mar-25	12:03	< 0.00005	< 0.00005	< 0.00005	< 0.00005	0.00010	< 0.00005
Al [mg/L]	25-Mar-25	18:27	26-Mar-25	12:03	0.530	1.74	2.11	1.79	0.550	1.66
As [mg/L]	25-Mar-25	18:27	26-Mar-25	12:03	0.0480	0.270	0.105	0.0720	0.0075	0.0210

OnLine LIMS

00004081350

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

CTEU-9--(4:1 L/S ratio, 7 day on 100mesh)

LR Report : **CA11020-FEB25**

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: VIS-CV5-AMP-18 1	6: VIS-CV5-AMP-18 2	7: VIS-CV5-MS-183	8: VIS-CV5-MS-184	9: VIS-CV5-MS-185	10: VIS-CV5-MS-186
Ba [mg/L]	25-Mar-25	18:27	26-Mar-25	12:03	0.00157	0.00284	0.0118	0.00748	0.00344	0.00629
Be [mg/L]	25-Mar-25	18:27	26-Mar-25	12:03	0.000010	0.000023	0.000018	< 0.000007	0.000015	0.000022
B [mg/L]	25-Mar-25	18:27	26-Mar-25	12:05	0.108	0.209	0.120	0.085	0.130	0.151
Bi [mg/L]	25-Mar-25	18:27	26-Mar-25	12:05	0.00002	0.00003	0.00002	< 0.00001	< 0.00001	0.00002
Ca [mg/L]	25-Mar-25	18:27	26-Mar-25	12:05	5.17	7.10	1.55	2.77	5.82	4.54
Cd [mg/L]	25-Mar-25	18:27	26-Mar-25	12:05	0.000003	0.000010	0.000014	0.000003	0.000005	0.000010
Co [mg/L]	25-Mar-25	18:27	26-Mar-25	12:05	0.000271	0.00189	0.000998	0.000066	0.000120	0.000277
Cr [mg/L]	25-Mar-25	18:27	26-Mar-25	12:05	0.00347	0.0113	0.00562	0.00020	0.00217	0.00290
Cu [mg/L]	25-Mar-25	18:27	26-Mar-25	12:07	< 0.001	0.011	0.001	< 0.001	< 0.001	0.001
Fe [mg/L]	25-Mar-25	18:27	26-Mar-25	12:07	0.361	1.80	1.09	0.313	0.317	1.04
K [mg/L]	25-Mar-25	18:27	26-Mar-25	12:07	5.74	3.26	20.0	65.0	18.8	19.8
Li [mg/L]	25-Mar-25	18:27	26-Mar-25	12:07	1.66	1.43	2.49	2.69	1.61	1.96
Mg [mg/L]	25-Mar-25	18:27	26-Mar-25	12:07	3.59	3.85	1.21	1.23	4.18	2.27
Mn [mg/L]	25-Mar-25	18:27	26-Mar-25	12:07	0.00697	0.0274	0.0221	0.00525	0.00642	0.0226
Mo [mg/L]	25-Mar-25	18:27	26-Mar-25	12:07	0.0085	0.0014	0.0046	0.0031	0.0069	0.0061
Na [mg/L]	25-Mar-25	18:27	26-Mar-25	12:12	17.4	15.6	20.2	31.8	29.9	26.3
Ni [mg/L]	25-Mar-25	18:27	26-Mar-25	12:12	0.0006	0.0038	0.0016	< 0.0001	0.0003	0.0005
P [mg/L]	25-Mar-25	18:27	26-Mar-25	12:12	0.009	0.076	0.050	0.046	0.021	0.032
Pb [mg/L]	25-Mar-25	18:27	26-Mar-25	12:12	< 0.00009	< 0.00009	0.00046	< 0.00009	0.00023	0.00066
Sb [mg/L]	25-Mar-25	18:27	26-Mar-25	12:12	0.0434	0.0429	0.134	0.0037	0.0235	0.0248
Se [mg/L]	25-Mar-25	18:27	26-Mar-25	12:12	0.00015	0.00024	0.00008	0.00006	0.00049	0.00041
Si [mg/L]	25-Mar-25	18:27	26-Mar-25	12:13	2.64	8.29	4.19	2.04	2.45	3.47
Sn [mg/L]	25-Mar-25	18:27	26-Mar-25	12:13	0.00028	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	25-Mar-25	18:27	26-Mar-25	12:13	0.00859	0.0125	0.00453	0.00793	0.0124	0.0101
Ti [mg/L]	25-Mar-25	18:27	30-Mar-25	13:24	0.0085	0.0620	0.0715	0.0200	0.0147	0.0896
Tl [mg/L]	25-Mar-25	18:27	30-Mar-25	13:24	0.000008	0.000031	0.000084	0.000011	0.000018	0.000026
U [mg/L]	25-Mar-25	18:27	30-Mar-25	13:24	0.000202	0.000321	0.000856	0.000506	0.000298	0.00125
V [mg/L]	25-Mar-25	18:27	30-Mar-25	13:23	0.0198	0.0967	0.0821	0.0299	0.0170	0.0248
Zn [mg/L]	25-Mar-25	18:27	30-Mar-25	13:23	< 0.002	0.003	0.006	< 0.002	< 0.002	0.002
Au [mg/L]	25-Mar-25	18:27	30-Mar-25	13:23	< 0.00001	---	< 0.00001	---	---	---
Ce [mg/L]	29-Mar-25	12:06	31-Mar-25	17:48	0.00015	---	0.00328	---	---	---
Cs [mg/L]	25-Mar-25	18:27	30-Mar-25	13:23	0.0187	---	0.0686	---	---	---
Dy [mg/L]	29-Mar-25	12:06	31-Mar-25	17:48	0.00001	---	0.00013	---	---	---

OnLine LIMS

00004081350

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: VIS-CV5-AMP-18 1	6: VIS-CV5-AMP-18 2	7: VIS-CV5-MS-183	8: VIS-CV5-MS-184	9: VIS-CV5-MS-185	10: VIS-CV5-MS-186
Er [mg/L]	29-Mar-25	12:06	31-Mar-25	17:48	< 0.00001	---	0.00006	---	---	---
Eu [mg/L]	29-Mar-25	12:06	31-Mar-25	17:48	< 0.00001	---	0.00004	---	---	---
Ga [mg/L]	29-Mar-25	12:06	31-Mar-25	17:48	0.0042	---	0.0146	---	---	---
Gd (tot) [mg/L]	29-Mar-25	12:06	31-Mar-25	17:48	0.00001	---	0.00023	---	---	---
Ge [mg/L]	25-Mar-25	18:27	30-Mar-25	13:23	< 0.0001	---	0.0001	---	---	---
Hf [mg/L]	25-Mar-25	18:27	30-Mar-25	13:23	< 0.0001	---	0.0002	---	---	---
Ho [mg/L]	29-Mar-25	12:06	31-Mar-25	17:48	< 0.00001	---	0.00002	---	---	---
In [mg/L]	29-Mar-25	12:06	31-Mar-25	17:48	< 0.00001	---	< 0.00001	---	---	---
Ir [mg/L]	25-Mar-25	18:27	30-Mar-25	13:23	< 0.00001	---	< 0.00001	---	---	---
La [mg/L]	29-Mar-25	12:06	31-Mar-25	17:48	0.00007	---	0.00160	---	---	---
Lu [mg/L]	29-Mar-25	12:06	31-Mar-25	17:48	< 0.0001	---	< 0.0001	---	---	---
Nb [mg/L]	25-Mar-25	18:27	30-Mar-25	13:23	< 0.0001	---	< 0.0001	---	---	---
Nd [mg/L]	29-Mar-25	12:06	31-Mar-25	17:48	0.00007	---	0.00148	---	---	---
Os [mg/L]	25-Mar-25	18:27	30-Mar-25	13:23	< 0.0001	---	< 0.0001	---	---	---
Pd [mg/L]	25-Mar-25	18:27	30-Mar-25	13:23	< 0.0001	---	< 0.0001	---	---	---
Pr [mg/L]	29-Mar-25	12:06	31-Mar-25	17:48	0.00002	---	0.00039	---	---	---
Pt [mg/L]	25-Mar-25	18:27	30-Mar-25	13:23	< 0.0001	---	< 0.0001	---	---	---
Rh [mg/L]	25-Mar-25	18:27	30-Mar-25	13:23	< 0.00001	---	< 0.00001	---	---	---
Rb [mg/L]	25-Mar-25	18:27	30-Mar-25	13:23	0.0403	---	0.133	---	---	---
Re [mg/L]	25-Mar-25	18:27	30-Mar-25	13:23	< 0.0001	---	< 0.0001	---	---	---
Ru [mg/L]	25-Mar-25	18:27	30-Mar-25	13:23	< 0.00001	---	< 0.00001	---	---	---
Sm [mg/L]	29-Mar-25	12:06	31-Mar-25	17:48	0.00001	---	0.00023	---	---	---
Sc [mg/L]	29-Mar-25	12:06	31-Mar-25	17:48	0.0002	---	0.0011	---	---	---
Ta [mg/L]	25-Mar-25	18:27	30-Mar-25	13:23	< 0.0001	---	< 0.0001	---	---	---
Tb [mg/L]	29-Mar-25	12:06	31-Mar-25	17:48	< 0.00001	---	0.00003	---	---	---
Te [mg/L]	25-Mar-25	18:27	30-Mar-25	13:23	< 0.0001	---	< 0.0001	---	---	---
Th [mg/L]	25-Mar-25	18:27	30-Mar-25	13:23	< 0.0001	---	0.0004	---	---	---
Tm [mg/L]	29-Mar-25	12:06	31-Mar-25	17:48	< 0.00001	---	< 0.00001	---	---	---

OnLine LIMS

00004081350

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11020-FEB25**

Analysis	11: VIS-CV5-MS-187	12: VIS-CV5-MS-188	13: VIS-CV5-MS-189	14: VIS-CV5-MS-190	15: VIS-CV5-MS-191	16: VIS-CV5-MS-192	17: VIS-CV5-MS-193	18: VIS-CV5-MS-194	19: VIS-CV5-MS-195	20: VIS-CV5-MS-196
Sample Date & Time	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sample weight [g]	101	100	99	100	100	100	100	99	101	101
Volume D.I. Water [mL]	400	400	400	400	400	400	400	400	400	400
pH [No unit]	8.31	9.29	8.90	9.20	8.40	9.01	8.83	8.41	8.29	8.13
Conductivity [uS/cm]	219	277	240	181	194	173	194	175	626	539
Alkalinity [mg/L as CaCO3]	56	122	106	84	64	77	79	76	104	96
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
F [mg/L]	0.24	8.78	2.70	0.69	0.69	0.66	4.51	1.02	< 0.06	< 0.06
Br [mg/L]	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30
Cl [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
SO4 [mg/L]	24	< 20	< 20	< 20	< 20	< 20	< 20	< 20	110	77
NO2 [as N mg/L]	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
\] [mg/L]	< 0.03	0.14	0.10	0.12	< 0.03	0.11	0.04	< 0.03	< 0.03	< 0.03
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	0.00015	< 0.00005
Al [mg/L]	0.237	8.97	3.42	4.95	0.299	3.17	0.850	0.290	0.007	0.026
As [mg/L]	0.0034	0.127	0.229	0.0134	0.0032	0.178	0.237	0.0337	0.0035	0.0146
Ba [mg/L]	0.00227	0.0478	0.0102	0.0338	0.00234	0.00752	0.00244	0.00222	0.0262	0.00995
Be [mg/L]	< 0.000007	0.000412	0.000048	0.000016	0.000020	0.000261	0.000074	0.000027	< 0.000007	< 0.000007
B [mg/L]	0.104	0.156	0.114	0.081	0.138	0.222	0.173	0.138	0.090	0.068
Bi [mg/L]	< 0.00001	0.00010	0.00002	0.00004	< 0.00001	0.00006	0.00002	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	5.84	1.97	1.83	1.26	6.28	1.76	3.00	4.30	86.6	65.4
Cd [mg/L]	0.000007	0.000029	0.000018	0.000017	0.000014	0.000014	0.000008	0.000004	0.000010	0.000015
Co [mg/L]	0.000021	0.00290	0.000723	0.00168	0.000097	0.00148	0.000943	0.000263	0.000499	0.000763
Cr [mg/L]	0.00193	0.00237	0.00134	0.00162	0.00012	0.00123	0.00065	0.00022	< 0.00008	< 0.00008
Cu [mg/L]	< 0.001	0.003	0.001	0.003	< 0.001	0.001	< 0.001	< 0.001	0.002	0.003
Fe [mg/L]	0.016	6.27	1.25	3.01	0.338	1.72	0.835	0.373	< 0.007	< 0.007
K [mg/L]	28.1	45.5	29.4	35.0	16.2	23.5	18.6	16.6	1.86	6.44
Li [mg/L]	0.990	5.34	2.97	0.0482	0.316	0.885	1.24	0.447	0.0493	0.0237
Mg [mg/L]	2.38	2.44	0.681	1.26	3.50	1.09	2.27	3.46	19.8	18.5
Mn [mg/L]	0.00073	0.117	0.0212	0.0202	0.00582	0.0261	0.0157	0.00395	0.0393	0.0334
Mo [mg/L]	0.0056	0.0083	0.0073	0.0030	0.0157	0.0059	0.0070	0.0088	0.0031	0.0033

OnLine LIMS

00004081350

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	11: VIS-CV5-MS-187	12: VIS-CV5-MS-188	13: VIS-CV5-MS-189	14: VIS-CV5-MS-190	15: VIS-CV5-MS-191	16: VIS-CV5-MS-192	17: VIS-CV5-MS-193	18: VIS-CV5-MS-194	19: VIS-CV5-MS-195	20: VIS-CV5-MS-196
Na [mg/L]	10.4	13.3	22.8	13.8	17.9	17.1	19.4	16.3	6.86	7.13
Ni [mg/L]	< 0.0001	0.0034	0.0009	0.0018	0.0002	0.0017	0.0011	0.0003	0.0136	0.0170
P [mg/L]	0.017	0.100	0.045	0.140	0.006	0.058	0.010	0.006	< 0.003	< 0.003
Pb [mg/L]	< 0.00009	0.00222	0.00064	0.00090	0.0352	0.00204	0.00055	0.00010	0.00010	< 0.00009
Sb [mg/L]	0.0017	0.112	0.0868	0.0022	0.0231	0.0189	0.0513	0.0324	0.0015	0.0022
Se [mg/L]	0.00018	0.00019	0.00023	0.00016	0.00049	0.00011	0.00014	0.00022	0.00022	0.00020
Si [mg/L]	5.07	11.4	3.95	5.70	2.36	4.00	3.28	2.54	3.18	3.10
Sn [mg/L]	< 0.00006	0.00132	0.00018	0.00022	0.00033	0.00032	0.00031	< 0.00006	0.00010	< 0.00006
Sr [mg/L]	0.0134	0.00638	0.00400	0.00305	0.0343	0.00457	0.0115	0.0220	0.348	0.314
Ti [mg/L]	0.0008	0.572	0.101	0.261	0.0076	0.161	0.0343	0.0111	< 0.0001	< 0.0001
Tl [mg/L]	< 0.000005	0.00224	0.000174	0.000036	0.000022	0.000122	0.000201	0.000018	0.000039	0.000011
U [mg/L]	0.000499	0.00281	0.00368	0.00159	0.000088	0.00114	0.000199	0.000061	0.000683	0.000228
V [mg/L]	0.0284	0.0745	0.0485	0.118	0.00140	0.0476	0.0167	0.00430	0.00027	0.00036
Zn [mg/L]	< 0.002	0.014	0.004	0.008	0.002	0.005	< 0.002	< 0.002	< 0.002	< 0.002
Au [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	0.00008	---
Ce [mg/L]	0.00004	---	---	---	0.00017	---	---	---	0.00001	---
Cs [mg/L]	0.0343	---	---	---	0.0290	---	---	---	0.0037	---
Dy [mg/L]	< 0.00001	---	---	---	0.00001	---	---	---	< 0.00001	---
Er [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Eu [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Ga [mg/L]	0.0026	---	---	---	0.0017	---	---	---	< 0.0001	---
Gd (tot) [mg/L]	< 0.00001	---	---	---	0.00002	---	---	---	< 0.00001	---
Ge [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Hf [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Ho [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
In [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Ir [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
La [mg/L]	0.00003	---	---	---	0.00008	---	---	---	< 0.00001	---
Lu [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Nb [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Nd [mg/L]	0.00003	---	---	---	0.00009	---	---	---	0.00001	---
Os [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Pd [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---

OnLine LIMS

0004081350

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	11: VIS-CV5-MS-187	12: VIS-CV5-MS-188	13: VIS-CV5-MS-189	14: VIS-CV5-MS-190	15: VIS-CV5-MS-191	16: VIS-CV5-MS-192	17: VIS-CV5-MS-193	18: VIS-CV5-MS-194	19: VIS-CV5-MS-195	20: VIS-CV5-MS-196
Pr [mg/L]	< 0.00001	---	---	---	0.00002	---	---	---	< 0.00001	---
Pt [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Rh [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Rb [mg/L]	0.0732	---	---	---	0.0525	---	---	---	0.0058	---
Re [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Ru [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Sm [mg/L]	< 0.00001	---	---	---	0.00002	---	---	---	< 0.00001	---
Sc [mg/L]	0.0002	---	---	---	0.0001	---	---	---	0.0001	---
Ta [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Tb [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Te [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Th [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Tm [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---

Analysis	21: VIS-CV5-MS-197	22: VIS-CV5-MS-198	23: VIS-CV5-MS-199	24: VIS-CV5-MS-200	25: VIS-CV5-MS-201	26: VIS-CV5-MS-202	27: VIS-CV5-MS-203	28: VIS-CV5-MS-204	29: VIS-CV5-MS-205	30: VIS-CV5-MS-206
Sample Date & Time	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sample weight [g]	100	99	100	101	100	99	99	100	100	100
Volume D.I. Water [mL]	400	400	400	400	400	400	400	400	400	400
pH [No unit]	8.08	8.71	9.06	9.16	8.31	4.64	8.08	9.09	8.76	8.87
Conductivity [uS/cm]	484	257	192	208	271	1280	482	236	237	179
Alkalinity [mg/L as CaCO3]	82	65	63	70	51	< 2	51	80	69	48
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	269	< 2	< 2	< 2	< 2
F [mg/L]	0.08	1.60	0.75	1.72	1.77	5.25	1.20	4.69	15.3	0.84
Br [mg/L]	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30
Cl [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
SO4 [mg/L]	57	37	31	< 20	42	580	190	38	< 20	27
NO2 [as N mg/L]	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
\] [mg/L]	< 0.03	< 0.03	< 0.03	0.14	< 0.03	< 0.03	< 0.03	0.03	0.57	< 0.03
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

OnLine LIMS

00004081350

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : CA11020-FEB25

Analysis	21: VIS-CV5-MS-197	22: VIS-CV5-MS-198	23: VIS-CV5-MS-199	24: VIS-CV5-MS-200	25: VIS-CV5-MS-201	26: VIS-CV5-MS-202	27: VIS-CV5-MS-203	28: VIS-CV5-MS-204	29: VIS-CV5-MS-205	30: VIS-CV5-MS-206
Ag [mg/L]	0.00005	< 0.00005	< 0.00005	< 0.00005	0.00007	< 0.00005	0.00008	< 0.00005	0.00007	< 0.00005
Al [mg/L]	0.009	0.639	1.20	1.02	0.610	0.423	0.043	0.931	10.4	1.63
As [mg/L]	0.0418	0.0255	0.0064	0.500	0.0027	0.0007	0.0058	0.185	0.914	0.0231
Ba [mg/L]	0.0186	0.00497	0.00451	0.00350	0.00540	0.0580	0.00599	0.00705	0.0609	0.0130
Be [mg/L]	< 0.000007	0.000140	0.000017	0.000132	0.000009	0.000465	< 0.000007	0.000088	0.00138	0.000021
B [mg/L]	0.092	0.117	0.110	0.147	0.094	0.158	0.203	0.227	0.139	0.124
Bi [mg/L]	< 0.00001	0.00003	0.00002	0.00003	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00264	0.00005
Ca [mg/L]	55.1	6.75	4.22	2.66	8.10	70.6	39.4	4.51	1.32	3.64
Cd [mg/L]	0.000015	0.000010	0.000023	0.000030	0.000005	0.000648	0.000022	0.000014	0.000086	0.000011
Co [mg/L]	0.000694	0.000300	0.000741	0.00130	0.000127	0.000671	0.000120	0.00138	0.00600	0.00121
Cr [mg/L]	0.00011	0.00142	0.00217	0.00288	0.00081	< 0.00008	0.00066	0.00147	0.0445	0.00263
Cu [mg/L]	0.002	< 0.001	0.001	0.001	< 0.001	0.016	< 0.001	0.001	0.018	0.002
Fe [mg/L]	0.008	0.443	1.10	0.625	0.372	145	0.017	0.883	7.43	1.93
K [mg/L]	7.46	21.5	18.7	13.7	21.6	27.1	4.78	21.1	32.6	22.4
Li [mg/L]	0.0255	1.54	0.702	1.33	1.76	2.25	0.911	3.18	5.23	0.317
Mg [mg/L]	13.8	3.18	2.38	1.52	3.34	42.8	17.7	2.12	3.72	2.80
Mn [mg/L]	0.0112	0.00958	0.0230	0.0183	0.00465	4.20	0.0130	0.0294	0.166	0.0106
Mo [mg/L]	0.0032	0.0050	0.0042	0.0119	0.0080	0.0009	0.0523	0.0053	0.0044	0.0040
Na [mg/L]	11.8	20.6	18.2	24.4	18.4	17.1	20.3	16.7	10.9	13.6
Ni [mg/L]	0.0232	0.0008	0.0014	0.0023	0.0002	0.0034	0.0006	0.0018	0.0350	0.0023
P [mg/L]	< 0.003	0.020	0.016	0.021	0.008	< 0.003	< 0.003	0.014	0.167	0.041
Pb [mg/L]	< 0.00009	0.00024	0.00084	0.00171	0.00019	0.00028	< 0.00009	0.00190	0.00564	0.00060
Sb [mg/L]	0.0041	0.0686	0.0204	0.230	0.0142	< 0.0009	0.0456	2.13	1.63	0.0359
Se [mg/L]	0.00022	0.00017	0.00019	0.00060	0.00011	0.00244	0.00463	0.00068	0.00169	0.00151
Si [mg/L]	3.01	2.80	2.93	3.50	2.15	10.8	3.09	3.14	17.3	4.34
Sn [mg/L]	0.00007	0.00012	0.00009	0.00016	0.00016	< 0.00006	0.00012	0.00011	0.01695	0.00014
Sr [mg/L]	0.227	0.0148	0.0103	0.00769	0.0177	0.0966	0.0542	0.0167	0.00337	0.0102
Ti [mg/L]	0.0001	0.0268	0.0611	0.0245	0.0260	0.0002	0.0006	0.0435	0.484	0.105
Tl [mg/L]	0.000014	0.000058	0.000019	0.000049	0.000016	0.000006	0.000053	0.000342	0.0114	0.000036
U [mg/L]	0.000247	0.00389	0.00213	0.00384	0.00178	0.000054	0.00490	0.00259	0.00433	0.000861
V [mg/L]	0.00030	0.0107	0.0147	0.0343	0.00850	0.00006	0.00066	0.0158	0.0458	0.0205
Zn [mg/L]	< 0.002	< 0.002	0.005	0.005	< 0.002	0.016	< 0.002	0.003	0.027	0.005
Au [mg/L]	---	---	< 0.00001	---	---	---	0.00011	---	---	---

OnLine LIMS

0004081350

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	21: VIS-CV5-MS-197	22: VIS-CV5-MS-198	23: VIS-CV5-MS-199	24: VIS-CV5-MS-200	25: VIS-CV5-MS-201	26: VIS-CV5-MS-202	27: VIS-CV5-MS-203	28: VIS-CV5-MS-204	29: VIS-CV5-MS-205	30: VIS-CV5-MS-206
Ce [mg/L]	---	---	0.00260	---	---	---	0.00007	---	---	---
Cs [mg/L]	---	---	0.0101	---	---	---	0.0587	---	---	---
Dy [mg/L]	---	---	0.00010	---	---	---	0.00002	---	---	---
Er [mg/L]	---	---	0.00004	---	---	---	0.00002	---	---	---
Eu [mg/L]	---	---	0.00003	---	---	---	0.00002	---	---	---
Ga [mg/L]	---	---	0.0063	---	---	---	0.0007	---	---	---
Gd (tot) [mg/L]	---	---	0.00017	---	---	---	0.00002	---	---	---
Ge [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Hf [mg/L]	---	---	0.0001	---	---	---	< 0.0001	---	---	---
Ho [mg/L]	---	---	0.00002	---	---	---	0.00002	---	---	---
In [mg/L]	---	---	< 0.00001	---	---	---	0.00002	---	---	---
Ir [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
La [mg/L]	---	---	0.00132	---	---	---	0.00005	---	---	---
Lu [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Nb [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Nd [mg/L]	---	---	0.00112	---	---	---	0.00004	---	---	---
Os [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Pd [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Pr [mg/L]	---	---	0.00030	---	---	---	0.00002	---	---	---
Pt [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Rh [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Rb [mg/L]	---	---	0.0506	---	---	---	0.123	---	---	---
Re [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Ru [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Sm [mg/L]	---	---	0.00018	---	---	---	0.00002	---	---	---
Sc [mg/L]	---	---	0.0003	---	---	---	0.0001	---	---	---
Ta [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Tb [mg/L]	---	---	0.00002	---	---	---	0.00002	---	---	---
Te [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Th [mg/L]	---	---	0.0004	---	---	---	< 0.0001	---	---	---
Tm [mg/L]	---	---	< 0.00001	---	---	---	0.00002	---	---	---

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

00004081350

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	31: VIS-CV5-MS-207	32: VIS-CV5-MS-208	33: VIS-CV5-MS-209	34: VIS-CV5-MS-210	35: VIS-CV5-MS-211	36: VIS-CV5-MS-212	37: VIS-CV5-MS-213	38: VIS-CV5-MS-214	39: VIS-CV5-MS-215	40: VIS-CV5-MS-216
Sample Date & Time	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sample weight [g]	101	100	99	100	99	100	100	99	99	100
Volume D.I. Water [mL]	400	400	400	400	400	400	400	400	400	400
pH [No unit]	8.35	9.31	8.95	8.03	9.28	9.06	9.34	9.06	8.99	8.81
Conductivity [uS/cm]	343	187	218	377	220	241	205	174	162	224
Alkalinity [mg/L as CaCO3]	47	77	87	33	85	80	86	66	61	63
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
F [mg/L]	6.44	1.49	3.30	22.9	2.53	5.19	0.84	4.23	1.03	0.67
Br [mg/L]	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30
Cl [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
SO4 [mg/L]	66	< 20	< 20	32	< 20	< 20	< 20	< 20	< 20	24
NO2 [as N mg/L]	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
\] [mg/L]	< 0.03	0.08	0.04	0.11	0.62	0.39	0.03	0.04	0.30	0.18
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	0.00010	< 0.00005	< 0.00005	0.00028	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.572	5.63	1.26	0.672	4.65	3.12	2.85	1.63	1.07	0.371
As [mg/L]	0.0165	0.119	0.0422	0.406	1.15	0.798	0.0380	0.0694	0.286	0.561
Ba [mg/L]	0.00663	0.0406	0.0101	0.0127	0.0166	0.00949	0.00628	0.00526	0.00488	0.00274
Be [mg/L]	0.000034	0.000210	0.000043	0.000245	0.000101	0.000200	0.000010	0.000167	0.000084	0.000011
B [mg/L]	0.265	0.117	0.195	0.515	0.153	0.195	0.089	0.137	0.114	0.638
Bi [mg/L]	0.00001	0.00007	0.00001	0.00100	0.00013	0.00021	< 0.00001	0.00003	0.00004	< 0.00001
Ca [mg/L]	9.38	2.36	2.53	1.98	1.10	2.20	1.39	1.93	3.62	6.52
Cd [mg/L]	0.000008	0.000077	0.000007	0.000178	0.000041	0.000080	0.000010	0.000020	0.000071	0.000013
Co [mg/L]	0.000244	0.00126	0.000321	0.000554	0.00151	0.000456	0.000318	0.000496	0.00107	0.000315
Cr [mg/L]	0.00155	0.00327	0.00754	0.00061	0.00796	0.00181	0.00102	0.00025	0.00615	0.00343
Cu [mg/L]	0.001	0.002	< 0.001	0.020	0.004	0.003	0.001	< 0.001	0.004	0.001
Fe [mg/L]	0.410	0.887	0.394	0.485	1.77	0.588	0.819	1.29	0.767	0.317
K [mg/L]	32.5	25.3	21.8	39.4	36.5	33.2	36.5	21.6	6.34	9.20
Li [mg/L]	3.70	1.14	3.51	9.16	3.03	3.79	2.39	1.22	3.36	1.88
Mg [mg/L]	4.28	0.855	1.07	2.54	0.896	0.578	0.515	1.58	1.67	3.49
Mn [mg/L]	0.0126	0.0382	0.00762	0.0116	0.0422	0.0196	0.0119	0.0242	0.0101	0.00500
Mo [mg/L]	0.0088	0.0117	0.0042	0.0056	0.0046	0.0351	0.0123	0.0186	0.0029	0.0031

OnLine LIMS

00004081350

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	31: VIS-CV5-MS-207	32: VIS-CV5-MS-208	33: VIS-CV5-MS-209	34: VIS-CV5-MS-210	35: VIS-CV5-MS-211	36: VIS-CV5-MS-212	37: VIS-CV5-MS-213	38: VIS-CV5-MS-214	39: VIS-CV5-MS-215	40: VIS-CV5-MS-216
Na [mg/L]	18.0	18.2	16.0	11.9	12.1	13.4	12.0	16.7	15.0	23.0
Ni [mg/L]	0.0005	0.0023	0.0009	0.0013	0.0056	0.0013	0.0008	0.0007	0.0022	0.0016
P [mg/L]	0.006	0.039	0.029	0.024	0.089	0.053	0.029	0.024	0.182	0.019
Pb [mg/L]	0.00015	0.00362	0.00022	0.00885	0.00195	0.00276	0.00031	0.00037	0.00079	0.00028
Sb [mg/L]	0.0786	0.0779	0.0908	11.2	0.472	0.700	0.0183	0.0290	0.105	0.101
Se [mg/L]	0.00025	0.00016	0.00042	0.00936	0.00146	0.00086	0.00028	0.00015	0.00044	0.00095
Si [mg/L]	2.47	7.63	3.09	4.47	5.67	3.88	3.59	4.06	5.42	4.22
Sn [mg/L]	0.00033	0.00030	< 0.00006	0.00117	0.00055	0.00074	0.00011	0.00018	0.00021	< 0.00006
Sr [mg/L]	0.0175	0.0114	0.00678	0.00545	0.00260	0.00686	0.00561	0.00497	0.0118	0.0282
Ti [mg/L]	0.0264	0.111	0.0264	0.0161	0.157	0.0567	0.0773	0.0454	0.0584	0.0074
Tl [mg/L]	0.000169	0.000180	0.000052	0.002867	0.000667	0.000529	0.000049	0.000185	0.000213	0.000093
U [mg/L]	0.00121	0.0145	0.00451	0.000210	0.0114	0.0213	0.00129	0.00121	0.000402	0.00114
V [mg/L]	0.0114	0.0331	0.0657	0.00335	0.0449	0.0287	0.0399	0.00403	0.0461	0.0221
Zn [mg/L]	< 0.002	0.014	< 0.002	0.039	0.011	0.007	0.003	0.003	0.008	< 0.002
Au [mg/L]	< 0.00001	---	---	---	0.00001	---	---	---	< 0.00001	---
Ce [mg/L]	0.00091	---	---	---	0.00927	---	---	---	0.00318	---
Cs [mg/L]	0.269	---	---	---	0.429	---	---	---	0.322	---
Dy [mg/L]	0.00005	---	---	---	0.00034	---	---	---	0.00013	---
Er [mg/L]	0.00001	---	---	---	0.00014	---	---	---	0.00006	---
Eu [mg/L]	0.00001	---	---	---	0.00008	---	---	---	0.00005	---
Ga [mg/L]	0.0038	---	---	---	0.0139	---	---	---	0.0033	---
Gd (tot) [mg/L]	0.00007	---	---	---	0.00061	---	---	---	0.00023	---
Ge [mg/L]	< 0.0001	---	---	---	0.0002	---	---	---	0.0001	---
Hf [mg/L]	0.0001	---	---	---	< 0.0001	---	---	---	0.0001	---
Ho [mg/L]	< 0.00001	---	---	---	0.00006	---	---	---	0.00003	---
In [mg/L]	< 0.00001	---	---	---	0.00002	---	---	---	< 0.00001	---
Ir [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
La [mg/L]	0.00043	---	---	---	0.00501	---	---	---	0.00153	---
Lu [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Nb [mg/L]	< 0.0001	---	---	---	0.0003	---	---	---	< 0.0001	---
Nd [mg/L]	0.00043	---	---	---	0.00364	---	---	---	0.00148	---
Os [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Pd [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---

OnLine LIMS

00004081350

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	31: VIS-CV5-MS-207	32: VIS-CV5-MS-208	33: VIS-CV5-MS-209	34: VIS-CV5-MS-210	35: VIS-CV5-MS-211	36: VIS-CV5-MS-212	37: VIS-CV5-MS-213	38: VIS-CV5-MS-214	39: VIS-CV5-MS-215	40: VIS-CV5-MS-216
Pr [mg/L]	0.00011	---	---	---	0.00102	---	---	---	0.00039	---
Pt [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Rh [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Rb [mg/L]	0.871	---	---	---	1.02	---	---	---	0.326	---
Re [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Ru [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Sm [mg/L]	0.00007	---	---	---	0.00063	---	---	---	0.00027	---
Sc [mg/L]	0.0003	---	---	---	0.0007	---	---	---	0.0004	---
Ta [mg/L]	< 0.0001	---	---	---	0.0001	---	---	---	< 0.0001	---
Tb [mg/L]	0.00001	---	---	---	0.00009	---	---	---	0.00003	---
Te [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Th [mg/L]	0.0004	---	---	---	0.0021	---	---	---	0.0002	---
Tm [mg/L]	< 0.00001	---	---	---	0.00003	---	---	---	< 0.00001	---

Analysis	41: VIS-CV5-MS-217	42: VIS-CV5-MS-218	43: VIS-CV5-MS-219	44: VIS-CV5-MS-220	45: VIS-CV5-MS-221	46: VIS-CV5-MS-222	47: VIS-CV5-MS-223	48: VIS-CV5-MS-224	49: VIS-CV5-MS-225	50: VIS-CV5-MS-226
Sample Date & Time	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sample weight [g]	99	100	100	100	101	100	99	100	100	99
Volume D.I. Water [mL]	400	400	400	400	400	400	400	400	400	400
pH [No unit]	9.35	9.47	9.44	8.90	8.68	9.19	8.92	8.18	8.94	8.12
Conductivity [uS/cm]	178	178	204	200	152	189	184	247	147	173
Alkalinity [mg/L as CaCO3]	84	79	94	49	52	70	66	48	56	47
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
F [mg/L]	3.16	0.84	0.92	0.70	0.20	2.40	0.88	1.57	0.50	0.61
Br [mg/L]	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30
Cl [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
SO4 [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	31	< 20	< 20
NO2 [as N mg/L]	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
\] [mg/L]	0.10	0.28	0.14	< 0.03	< 0.03	< 0.03	0.27	< 0.03	0.16	< 0.03
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

OnLine LIMS

00004081350

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : CA11020-FEB25

Analysis	41: VIS-CV5-MS-217	42: VIS-CV5-MS-218	43: VIS-CV5-MS-219	44: VIS-CV5-MS-220	45: VIS-CV5-MS-221	46: VIS-CV5-MS-222	47: VIS-CV5-MS-223	48: VIS-CV5-MS-224	49: VIS-CV5-MS-225	50: VIS-CV5-MS-226
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	0.00011	< 0.00005	< 0.00005
Al [mg/L]	3.12	5.53	3.31	1.35	0.218	0.870	2.15	0.712	0.658	0.399
As [mg/L]	0.0649	0.313	0.245	0.0015	0.0120	0.0217	0.811	0.0444	0.443	0.0393
Ba [mg/L]	0.00644	0.0177	0.0146	0.00464	0.00655	0.00324	0.00890	0.00449	0.00310	0.00058
Be [mg/L]	0.000127	0.000087	0.000054	< 0.000007	< 0.000007	0.000106	0.000110	0.000038	0.000057	< 0.000007
B [mg/L]	0.117	0.102	0.123	0.133	0.062	0.225	0.247	0.111	0.168	0.287
Bi [mg/L]	0.00003	0.00004	0.00003	0.00002	0.00001	< 0.00001	0.00004	0.00004	0.00002	< 0.00001
Ca [mg/L]	1.31	1.38	1.45	4.27	5.84	3.57	2.12	6.09	2.74	6.09
Cd [mg/L]	0.000026	0.000022	0.000036	0.000006	0.000011	0.000007	0.000020	0.000043	0.000014	< 0.000003
Co [mg/L]	0.000335	0.000702	0.000727	0.000223	0.000059	0.000183	0.00251	0.000444	0.000820	0.000013
Cr [mg/L]	0.00022	0.00028	0.00058	0.00071	0.00115	0.00205	0.0186	0.00104	0.00110	0.00125
Cu [mg/L]	< 0.001	< 0.001	0.001	0.002	< 0.001	< 0.001	0.002	0.002	< 0.001	< 0.001
Fe [mg/L]	0.985	2.49	1.47	0.357	0.224	0.338	1.22	0.358	0.383	0.009
K [mg/L]	23.7	31.0	31.5	26.5	9.06	17.2	24.6	28.7	6.71	6.67
Li [mg/L]	2.25	1.62	3.09	0.326	0.403	1.28	1.38	0.976	0.122	0.926
Mg [mg/L]	0.537	0.871	0.723	1.11	3.26	1.44	1.47	2.81	1.03	2.32
Mn [mg/L]	0.0192	0.0427	0.0294	0.00216	0.00431	0.0100	0.0108	0.00895	0.00598	0.00088
Mo [mg/L]	0.0094	0.0122	0.0417	0.0030	0.0061	0.0057	0.0115	0.0099	0.0052	0.0043
Na [mg/L]	13.8	12.0	12.1	13.8	16.3	19.8	15.5	14.8	22.3	17.9
Ni [mg/L]	0.0002	0.0003	0.0006	0.0003	0.0002	0.0006	0.0081	0.0011	0.0010	< 0.0001
P [mg/L]	0.066	0.120	0.044	0.032	0.017	0.033	0.014	0.009	0.025	< 0.003
Pb [mg/L]	0.00077	0.00164	0.00049	0.00033	0.00013	0.00019	0.00062	0.00045	0.00013	< 0.00009
Sb [mg/L]	0.0246	0.0217	0.213	0.0018	0.0020	0.0267	0.105	0.237	0.0415	0.0599
Se [mg/L]	0.00015	0.00011	0.00013	0.00022	0.00015	0.00021	0.00060	0.00314	0.00029	0.00032
Si [mg/L]	3.64	4.98	3.85	2.29	5.37	3.08	3.71	2.95	3.07	3.93
Sn [mg/L]	0.00043	0.00021	0.00016	< 0.00006	< 0.00006	0.00012	0.00009	0.00015	0.00009	< 0.00006
Sr [mg/L]	0.00280	0.00393	0.00535	0.0103	0.00890	0.00872	0.00469	0.0139	0.00411	0.0146
Ti [mg/L]	0.0939	0.215	0.133	0.0306	0.0128	0.0239	0.0509	0.0246	0.0326	0.0003
Tl [mg/L]	0.000584	0.000197	0.000132	0.000040	0.000013	0.000153	0.000197	0.000145	0.000254	0.000026
U [mg/L]	0.0110	0.0108	0.0107	0.0161	0.000977	0.00353	0.00170	0.00172	0.00153	0.000607
V [mg/L]	0.0149	0.0164	0.0535	0.0176	0.0239	0.0165	0.0353	0.00604	0.00989	0.0441
Zn [mg/L]	0.005	0.008	0.004	< 0.002	< 0.002	< 0.002	0.008	0.009	0.003	< 0.002
Au [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---

OnLine LIMS

00004081350

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	41: VIS-CV5-MS-217	42: VIS-CV5-MS-218	43: VIS-CV5-MS-219	44: VIS-CV5-MS-220	45: VIS-CV5-MS-221	46: VIS-CV5-MS-222	47: VIS-CV5-MS-223	48: VIS-CV5-MS-224	49: VIS-CV5-MS-225	50: VIS-CV5-MS-226
Ce [mg/L]	---	---	0.00415	---	---	---	0.00375	---	---	---
Cs [mg/L]	---	---	0.0684	---	---	---	0.217	---	---	---
Dy [mg/L]	---	---	0.00026	---	---	---	0.00016	---	---	---
Er [mg/L]	---	---	0.00012	---	---	---	0.00007	---	---	---
Eu [mg/L]	---	---	0.00005	---	---	---	0.00005	---	---	---
Ga [mg/L]	---	---	0.0119	---	---	---	0.0066	---	---	---
Gd (tot) [mg/L]	---	---	0.00035	---	---	---	0.00026	---	---	---
Ge [mg/L]	---	---	0.0001	---	---	---	0.0001	---	---	---
Hf [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Ho [mg/L]	---	---	0.00005	---	---	---	0.00003	---	---	---
In [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Ir [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
La [mg/L]	---	---	0.00208	---	---	---	0.00189	---	---	---
Lu [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Nb [mg/L]	---	---	0.0002	---	---	---	< 0.0001	---	---	---
Nd [mg/L]	---	---	0.00190	---	---	---	0.00149	---	---	---
Os [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Pd [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Pr [mg/L]	---	---	0.00050	---	---	---	0.00041	---	---	---
Pt [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Rh [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Rb [mg/L]	---	---	0.115	---	---	---	0.256	---	---	---
Re [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Ru [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Sm [mg/L]	---	---	0.00036	---	---	---	0.00027	---	---	---
Sc [mg/L]	---	---	0.0009	---	---	---	0.0007	---	---	---
Ta [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Tb [mg/L]	---	---	0.00005	---	---	---	0.00004	---	---	---
Te [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Th [mg/L]	---	---	0.0008	---	---	---	0.0007	---	---	---
Tm [mg/L]	---	---	0.00001	---	---	---	0.00001	---	---	---

OnLine LIMS

00004081350

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11020-FEB25**

Analysis	51: VIS-CV5-MS-227	52: VIS-CV5-MS-228	53: VIS-CV5-MS-201	54: VIS-CV5-MS-221	55:BLK: CTEU Blank	56: VIS-CV5-MS-228
Sample Date & Time	NA	NA				
Sample weight [g]	100	100	100	---	---	100
Volume D.I. Water [mL]	400	400	400	---	400	400
pH [No unit]	7.92	9.47	8.18	---	7.38	9.40
Conductivity [uS/cm]	409	204	267	---	2	204
Alkalinity [mg/L as CaCO3]	57	82	49	---	< 2	77
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	---	3	< 2
F [mg/L]	0.80	1.59	1.77	---	< 0.06	1.59
Br [mg/L]	< 30	< 30	< 30	---	< 30	< 30
Cl [mg/L]	< 20	< 20	< 20	---	< 20	< 20
SO4 [mg/L]	87	< 20	40	---	< 20	< 20
NO2 [as N mg/L]	< 3	< 3	< 3	---	< 3	< 3
NO3 [as N mg/L]	< 6	< 6	< 6	---	< 6	< 6
\] [mg/L]	< 0.03	0.85	< 0.03	---	< 0.03	0.84
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	---	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	0.00008	---	< 0.00005	< 0.00005
Al [mg/L]	0.129	0.861	0.658	---	0.004	0.960
As [mg/L]	0.0006	2.16	0.0023	---	0.0009	2.09
Ba [mg/L]	0.00585	0.00281	0.00523	---	0.00008	0.00311
Be [mg/L]	< 0.000007	0.000029	0.000012	---	< 0.000007	0.000032
B [mg/L]	0.075	0.207	0.096	---	< 0.002	0.210
Bi [mg/L]	< 0.00001	0.00004	< 0.00001	---	< 0.00001	0.00004
Ca [mg/L]	25.4	2.18	8.27	---	0.02	2.32
Cd [mg/L]	0.000021	0.000007	0.000009	---	< 0.000003	0.000012
Co [mg/L]	0.000045	0.00145	0.000123	---	0.000011	0.00148
Cr [mg/L]	0.00012	0.0219	0.00079	---	< 0.00008	0.0236
Cu [mg/L]	< 0.001	0.002	< 0.001	---	< 0.001	0.002
Fe [mg/L]	0.009	0.740	0.387	---	< 0.007	0.860
K [mg/L]	16.9	26.5	21.8	---	0.094	27.5
Li [mg/L]	1.24	2.58	1.84	---	0.0005	2.70
Mg [mg/L]	20.1	1.06	3.40	---	0.005	1.14
Mn [mg/L]	0.0285	0.0116	0.00460	---	0.00011	0.0140
Mo [mg/L]	0.0105	0.0014	0.0082	---	< 0.0004	0.0012

OnLine LIMS

00004081350

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11020-FEB25**

Analysis	51: VIS-CV5-MS-227	52: VIS-CV5-MS-228	53: VIS-CV5-MS-201	54: VIS-CV5-MS-221	55:BLK: CTEU Blank	56: VIS-CV5-MS-228
Na [mg/L]	5.82	15.3	18.6	---	0.43	15.1
Ni [mg/L]	0.0001	0.0043	0.0002	---	< 0.0001	0.0046
P [mg/L]	< 0.003	0.071	0.008	---	0.036	0.067
Pb [mg/L]	< 0.00009	0.00037	0.00019	---	< 0.00009	0.00035
Sb [mg/L]	0.0367	0.119	0.0139	---	< 0.0009	0.121
Se [mg/L]	0.00065	0.00020	0.00010	---	< 0.00004	0.00023
Si [mg/L]	2.26	4.58	2.28	---	< 0.02	5.10
Sn [mg/L]	< 0.00006	0.00024	0.00022	---	< 0.00006	0.00028
Sr [mg/L]	0.0253	0.00262	0.0173	---	< 0.00008	0.00279
Ti [mg/L]	0.0003	0.0422	0.0300	---	< 0.0001	0.0530
Tl [mg/L]	0.000047	0.000117	0.000015	---	< 0.000005	0.000129
U [mg/L]	0.000740	0.000145	0.00178	---	< 0.000002	0.000150
V [mg/L]	0.00050	0.0637	0.00879	---	0.00004	0.0659
Zn [mg/L]	< 0.002	0.003	< 0.002	---	< 0.002	0.004
Au [mg/L]	< 0.00001	---	< 0.00001	---	< 0.00001	< 0.00001
Ce [mg/L]	0.00003	---	0.00113	---	< 0.00001	0.00027
Cs [mg/L]	0.145	---	0.0156	---	0.0002	0.243
Dy [mg/L]	< 0.00001	---	0.00004	---	< 0.00001	0.00002
Er [mg/L]	< 0.00001	---	0.00001	---	< 0.00001	< 0.00001
Eu [mg/L]	< 0.00001	---	0.00001	---	< 0.00001	< 0.00001
Ga [mg/L]	0.0008	---	0.0050	---	< 0.0001	0.0033
Gd (tot) [mg/L]	< 0.00001	---	0.00008	---	< 0.00001	0.00002
Ge [mg/L]	< 0.0001	---	< 0.0001	---	< 0.0001	< 0.0001
Hf [mg/L]	< 0.0001	---	0.0001	---	< 0.0001	< 0.0001
Ho [mg/L]	< 0.00001	---	< 0.00001	---	< 0.00001	< 0.00001
In [mg/L]	< 0.00001	---	< 0.00001	---	< 0.00001	< 0.00001
Ir [mg/L]	< 0.00001	---	< 0.00001	---	< 0.00001	< 0.00001
La [mg/L]	0.00002	---	0.00057	---	< 0.00001	0.00014
Lu [mg/L]	< 0.0001	---	< 0.0001	---	< 0.0001	< 0.0001
Nb [mg/L]	< 0.0001	---	< 0.0001	---	< 0.0001	< 0.0001
Nd [mg/L]	0.00001	---	0.00049	---	< 0.00001	0.00013
Os [mg/L]	< 0.0001	---	< 0.0001	---	< 0.0001	< 0.0001
Pd [mg/L]	< 0.0001	---	< 0.0001	---	< 0.0001	< 0.0001

OnLine LIMS

0004081350

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11020-FEB25**

Analysis	51: VIS-CV5-MS-227	52: VIS-CV5-MS-228	53: VIS-CV5-MS-201	54: VIS-CV5-MS-221	55:BLK: CTEU Blank	56: VIS-CV5-MS-228
Pr [mg/L]	< 0.00001	---	0.00014	---	< 0.00001	0.00003
Pt [mg/L]	< 0.0001	---	< 0.0001	---	< 0.0001	< 0.0001
Rh [mg/L]	< 0.00001	---	< 0.00001	---	< 0.00001	< 0.00001
Rb [mg/L]	0.258	---	0.119	---	0.0002	0.381
Re [mg/L]	< 0.0001	---	< 0.0001	---	< 0.0001	< 0.0001
Ru [mg/L]	< 0.00001	---	< 0.00001	---	< 0.00001	< 0.00001
Sm [mg/L]	< 0.00001	---	0.00009	---	< 0.00001	0.00003
Sc [mg/L]	< 0.0001	---	0.0002	---	< 0.0001	0.0003
Ta [mg/L]	< 0.0001	---	< 0.0001	---	< 0.0001	< 0.0001
Tb [mg/L]	< 0.00001	---	< 0.00001	---	< 0.00001	< 0.00001
Te [mg/L]	< 0.0001	---	< 0.0001	---	< 0.0001	< 0.0001
Th [mg/L]	< 0.0001	---	0.0003	---	< 0.0001	< 0.0001
Tm [mg/L]	< 0.00001	---	< 0.00001	---	< 0.00001	< 0.00001

Method Descriptions

Parameter	Units	SGS Method Code	CALA	PALA
	g	NA	N	N
	mL	NA	N	N
Acidity	mg/L as CaCO3	ME-CA-[ENV]EWL-LAK-AN-006	Y	N
Alkalinity	mg/L as CaCO3	ME-CA-[ENV]EWL-LAK-AN-006	Y	N
Anions by IC	mg/L	ME-CA-[ENV]IC-LAK-AN-001	Y	N
Anions by IC	mg/L	ME-CA-[ENV]IC-LAK-AN-001	Y	Y
Conductivity	uS/cm	ME-CA-[ENV]EWL-LAK-AN-006	Y	Y
Fluoride by Specific Ion Electrode	mg/L	ME-CA-[ENV]EWL-LAK-AN-014	Y	Y
Inorganics-General	mg/L	ME-CA-[ENV]SPE-LAK-AN-004	Y	Y
Metals in aqueous samples - ICP-MS	mg/L	ME-CA-[ENV]SPE-LAK-AN-006	Y	N
Metals in aqueous samples - ICP-MS	mg/L	ME-CA-[ENV]SPE-LAK-AN-006	Y	Y
pH	No unit	ME-CA-[ENV]EWL-LAK-AN-006	Y	Y
Reactive Phosphorus by SFA	mg/L	ME-CA-[ENV]SFA-LAK-AN-004	Y	N

OnLine LIMS

00004081350

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11020-FEB25**

Accreditation Descriptions

CALA:

SGS Canada Industries & Environment conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation found at https://directory.cala.ca/#. Analytes and SGS Method Codes marked with a “Y” in the “CALA” column in the table denote ISO/IEC17025 accreditation

PALA:

SGS Canada Industries & Environment conforms to the requirements of ISO/IEC 17025:2005 for specific tests as listed on their scope of accreditation found at https://www.ceaeq.gouv.qc.ca/documents/publications/listes.htm#labo_accr. Analytes and SGS Method Codes marked with a “Y” in the “PALA” column in the table denote ISO/IEC17025:2005 accreditation

Catharine Arnold

CHARTERED CHEMICAL PROFESSION OF ONTARIO CATHARINE ARNOLD CHEMIST

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0004081350

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quality Control Report

Inorganic Analysis													
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Acidity - QCBatchID: EWL0413-MAR25													
Acidity	2	mg/L as Ca	2			ND	20	104	90	110	NA		
Acidity - QCBatchID: EWL0471-MAR25													
Acidity	2	mg/L as Ca	< 2			3	20	100	90	110	NA		
Acidity - QCBatchID: EWL0472-MAR25													
Acidity	2	mg/L as Ca	2			ND	20	108	90	110	NA		
Acidity - QCBatchID: EWL0523-MAR25													
Acidity	2	mg/L as Ca	2			ND	20	96	90	110	NA		
Alkalinity - QCBatchID: EWL0413-MAR25													
Alkalinity	2	mg/L as Ca	< 2			6	20	102	80	120	NA		
Alkalinity - QCBatchID: EWL0471-MAR25													
Alkalinity	2	mg/L as Ca	< 2			2	20	104	80	120	NA		
Alkalinity - QCBatchID: EWL0472-MAR25													
Alkalinity	2	mg/L as Ca	< 2			5	20	104	80	120	NA		
Alkalinity - QCBatchID: EWL0523-MAR25													
Alkalinity	2	mg/L as Ca	< 2			0	20	100	80	120	NA		
Anions by IC - QCBatchID: DIO0452-MAR25													
Bromide	0.3	mg/L	<0.3			ND	20	100	90	110	100	75	125
Chloride	0.2	mg/L	<0.2			16	20	99	90	110	105	75	125
Nitrate (as N)	0.06	mg/L	<0.06			ND	20	100	90	110	103	75	125
Nitrite (as N)	0.03	mg/L	<0.03			ND	20	99	90	110	105	75	125
Sulphate	0.2	mg/L	<0.2			5	20	100	90	110	100	75	125
Anions by IC - QCBatchID: DIO0454-MAR25													
Bromide	0.3	mg/L	<0.3			ND	20	101	90	110	104	75	125
Chloride	0.2	mg/L	<0.2			10	20	101	90	110	106	75	125
Nitrate (as N)	0.06	mg/L	<0.06			ND	20	101	90	110	105	75	125
Nitrite (as N)	0.03	mg/L	<0.03			ND	20	99	90	110	104	75	125
Sulphate	0.2	mg/L	<0.2			4	20	101	90	110	101	75	125
Anions by IC - QCBatchID: DIO0482-MAR25													
Sulphate	0.2	mg/L	<0.2			0	20	100	90	110	101	75	125
Anions by IC - QCBatchID: DIO0510-MAR25													
Bromide	0.3	mg/L	<0.3			ND	20	100	90	110	91	75	125
Chloride	0.2	mg/L	<0.2			9	20	103	90	110	100	75	125
Nitrate (as N)	0.06	mg/L	<0.06			ND	20	100	90	110	101	75	125
Nitrite (as N)	0.03	mg/L	<0.03			ND	20	100	90	110	102	75	125
Sulphate	0.2	mg/L	<0.2			14	20	102	90	110	98	75	125

OnLine LIMS

00004081350

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - K0L 2H0
Phone: 705-652-2000 FAX: 705-652-6365

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material			
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)		
							%		Low	High		Low	High	
Anions by IC - QCBatchID: DIO0511-MAR25														
Bromide	0.3	mg/L	<0.3			ND	20	103	90	110	101	75	125	
Chloride	0.2	mg/L	<0.2			15	20	102	90	110	101	75	125	
Nitrate (as N)	0.06	mg/L	<0.06			ND	20	102	90	110	102	75	125	
Nitrite (as N)	0.03	mg/L	<0.03			ND	20	102	90	110	105	75	125	
Sulphate	0.2	mg/L	<0.2			1	20	100	90	110	96	75	125	
Conductivity - QCBatchID: EWL0413-MAR25														
Conductivity	2	uS/cm	< 2			1	20	99	90	110	NA			
Conductivity - QCBatchID: EWL0471-MAR25														
Conductivity	2	uS/cm	< 2			0	20	99	90	110	NA			
Conductivity - QCBatchID: EWL0472-MAR25														
Conductivity	2	uS/cm	< 2			2	20	99	90	110	NA			
Conductivity - QCBatchID: EWL0523-MAR25														
Conductivity	2	uS/cm	2			2	20	107	90	110	NA			
Fluoride by Specific Ion Electrode - QCBatchID: EWL0403-MAR25														
Fluoride	0.06	mg/L	<0.06			ND	10	97	90	110	96	75	125	
Fluoride by Specific Ion Electrode - QCBatchID: EWL0418-MAR25														
Fluoride	0.06	mg/L	<0.06			ND	10	96	90	110	106	75	125	
Fluoride by Specific Ion Electrode - QCBatchID: EWL0458-MAR25														
Fluoride	0.06	mg/L	<0.06			ND	10	100	90	110	102	75	125	
Fluoride by Specific Ion Electrode - QCBatchID: EWL0468-MAR25														
Fluoride	0.06	mg/L	<0.06			1	10	99	90	110	76	75	125	
Inorganics-General - QCBatchID: EHG0044-MAR25														
Mercury	0.00001	mg/L	< 0.00001			ND	20	112	80	120	104	70	130	
Inorganics-General - QCBatchID: EHG0051-MAR25														
Mercury	0.00001	mg/L	< 0.00001			ND	20	97	80	120	119	70	130	
Metals in aqueous samples - ICP-MS - QCBatchID: EMS0214-MAR25														
Aluminum	0.001	mg/L	<0.001			ND	20	102	90	110	112	70	130	
Antimony	0.0009	mg/L	<0.0009			ND	20	105	90	110	110	70	130	
Arsenic	0.0002	mg/L	<0.0002			2	20	109	90	110	98	70	130	
Barium	0.00008	mg/L	<0.00008			ND	20	103	90	110	93	70	130	
Beryllium	0.000007	mg/L	<0.000007			ND	20	105	90	110	101	70	130	
Bismuth	0.00001	mg/L	<0.00001			ND	20	104	90	110	89	70	130	
Boron	0.002	mg/L	<0.002			ND	20	97	90	110	100	70	130	
Cadmium	0.000003	mg/L	<0.000003			ND	20	104	90	110	106	70	130	
Calcium	0.01	mg/L	<0.01			ND	20	98	90	110	97	70	130	
Cesium	0.0001	mg/L	<0.0001			3	20	101	90	110	NV	70	130	
Chromium	0.00008	mg/L	<0.00008			ND	20	106	90	110	100	70	130	
Cobalt	0.000004	mg/L	<0.000004			0	20	108	90	110	96	70	130	

OnLine LIMS

00004081350

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - K0L 2H0
Phone: 705-652-2000 FAX: 705-652-6365

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Copper	0.001	mg/L	<0.001			ND	20	109	90	110	98	70	130
Germanium	0.0001	mg/L	<0.0001			ND	20	102	90	110	NV	70	130
Gold	0.00001	mg/L	<0.00001			ND	20	101	90	110	NV	70	130
Hafnium	0.0001	mg/L	<0.0001			ND	20	97	90	110	NV	70	130
Iridium	0.00001	mg/L	<0.00001			ND	20	102	90	110	NV	70	130
Iron	0.007	mg/L	<0.007			ND	20	104	90	110	100	70	130
Lead	0.00009	mg/L	<0.00009			ND	20	103	90	110	97	70	130
Lithium	0.0001	mg/L	<0.0001			4	20	103	90	110	91	70	130
Magnesium	0.001	mg/L	<0.001			ND	20	102	90	110	100	70	130
Manganese	0.00001	mg/L	<0.00001			ND	20	105	90	110	107	70	130
Molybdenum	0.0004	mg/L	<0.0004			ND	20	102	90	110	95	70	130
Nickel	0.0001	mg/L	<0.0001			ND	20	108	90	110	100	70	130
Niobium	0.0001	mg/L	<0.0001			ND	20	96	90	110	NV	70	130
Osmium	0.0001	mg/L	<0.0001			ND	20	90	90	110	NV	70	130
Palladium	0.0001	mg/L	<0.0001			ND	20	103	90	110	NV	70	130
Phosphorus	0.003	mg/L	<0.003			6	20	98	90	110	NV	70	130
Platinum	0.0001	mg/L	<0.0001			ND	20	100	90	110	NV	70	130
Potassium	0.009	mg/L	<0.009			1	20	103	90	110	89	70	130
Rhenium	0.0001	mg/L	<0.0001			ND	20	98	90	110	NV	70	130
Rhodium	0.00001	mg/L	<0.0001			ND	20	103	90	110	NV	70	130
Rubidium	0.0001	mg/L	Error!			6	20	97	90	110	NV	70	130
Ruthenium	0.00001	mg/L	<0.0001			ND	20	105	90	110	NV	70	130
Selenium	0.00004	mg/L	<0.00004			ND	20	103	90	110	83	70	130
Silicon	0.02	mg/L	<0.02			ND	20	92	90	110	NV	70	130
Silver	0.00005	mg/L	<0.00005			ND	20	106	90	110	78	70	130
Sodium	0.01	mg/L	<0.01			1	20	99	90	110	100	70	130
Strontium	0.00008	mg/L	<0.00008			ND	20	100	90	110	95	70	130
Tantalum	0.0001	mg/L	<0.0001			ND	20	100	90	110	NV	70	130
Tellurium	0.0001	mg/L	<0.0001			ND	20	100	90	110	NV	70	130
Thallium	0.000005	mg/L	<0.000005			ND	20	106	90	110	98	70	130
Thorium	0.0001	mg/L	<0.0001			ND	20	97	90	110	NV	70	130
Tin	0.00006	mg/L	<0.00006			ND	20	100	90	110	NV	70	130
Titanium	0.0001	mg/L	<0.0001			ND	20	103	90	110	NV	70	130
Uranium	0.000002	mg/L	<0.000002			ND	20	102	90	110	99	70	130
Vanadium	0.00001	mg/L	<0.00001			ND	20	106	90	110	99	70	130
Zinc	0.002	mg/L	<0.002			ND	20	106	90	110	76	70	130
Metals in aqueous samples - ICP-MS - QCBatchID: EMS0224-MAR25													
Aluminum	0.001	mg/L	<0.001			6	20	102	90	110	118	70	130
Antimony	0.0009	mg/L	<0.0009			ND	20	108	90	110	73	70	130

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

00004081350

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material			
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)		
							%		Low	High		Low	High	
Metals in aqueous samples - ICP-MS - QCBatchID: EMS0266-MAR25														
Cerium	0.00001	mg/L	<0.00001			ND	20	106	90	110	NV	70	130	
Dysprosium	0.00001	mg/L	<0.00001			ND	20	105	90	110	NV	70	130	
Erbium	0.00001	mg/L	<0.00001			ND	20	105	90	110	NV	70	130	
Europium	0.00001	mg/L	<0.00001			7	20	103	90	110	NV	70	130	
Gadolinium	0.00001	mg/L	<0.0001			ND	20	107	90	110	NV	70	130	
Gallium	0.0001	mg/L	<0.0001			ND	20	103	90	110	NV	70	130	
Holmium	0.00001	mg/L	<0.00001			ND	20	103	90	110	NV	70	130	
Indium	0.00001	mg/L	<0.00001			ND	20	105	90	110	NV	70	130	
Lanthanum	0.00001	mg/L	<0.00001			ND	20	104	90	110	NV	70	130	
Lutetium	0.0001	mg/L	<0.0001			ND	20	105	90	110	NV	70	130	
Neodymium	0.00001	mg/L	<0.00001			ND	20	106	90	110	NV	70	130	
Praseodymium	0.00001	mg/L	<0.00001			ND	20	105	90	110	NV	70	130	
Samarium	0.00001	mg/L	<0.00001			ND	20	105	90	110	NV	70	130	
Terbium	0.00001	mg/L	<0.00001			ND	20	107	90	110	NV	70	130	
Thulium	0.00001	mg/L	<0.00001			ND	20	105	90	110	NV	70	130	
pH - QCBatchID: EWL0413-MAR25														
pH	0.05	No unit	NA			0		100			NA			
pH - QCBatchID: EWL0444-MAR25														
pH	0.05	No unit	NA			1		101			NA			
pH - QCBatchID: EWL0471-MAR25														
pH	0.05	No unit	NA			1		100			NA			
pH - QCBatchID: EWL0472-MAR25														
pH	0.05	No unit	NA			0		100			NA			
pH - QCBatchID: EWL0523-MAR25														
pH	0.05	No unit	NA			0		100			NA			
Reactive Phosphorus by SFA - QCBatchID: SKA0208-MAR25														
Total Reactive Phosphorous (o-phosphate as P)	0.03	mg/L	<0.03			6	10	94	90	110	105	75	125	

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

00004081350

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

24-March-2025

Innova Lithium Inc.
Attn : John Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 05 February 2025
LR Report: **CA11021-FEB25**
Reference: Shaakichiuwaanaan Project

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Sample ID	Sample Date & Time	Paste pH no unit	Fizz Rate rating	Sample weight g	HCl_add mL	HCl Normality	NaOH Normality	Vol NaOH to pH=8.3 mL	Final pH no unit	NP t CaCO3/1000 t	AP t CaCO3/1000 t
1: Analysis Start Date		22-Mar-25	22-Mar-25	22-Mar-25	23-Mar-25	22-Mar-25	22-Mar-25	23-Mar-25	23-Mar-25	23-Mar-25	23-Mar-25
2: Analysis Start Time		09:53	08:00	13:00	08:36	08:33	08:33	12:25	08:36	12:25	12:25
3: Analysis Completed Date		24-Mar-25	24-Mar-25	24-Mar-25	24-Mar-25	24-Mar-25	24-Mar-25	24-Mar-25	24-Mar-25	24-Mar-25	24-Mar-25
4: Analysis Completed Time		09:58	09:58	09:58	09:58	09:58	09:58	09:58	09:58	09:58	09:58
5: VIS-CV5-MS-229	NA	8.99	2	2.01	20.00	0.10	0.10	13.75	1.74	15.5	50.1
6: VIS-CV5-MS-230	NA	9.59	3	2.00	20.00	0.10	0.10	13.19	1.50	17.0	6.34
7: VIS-CV5-MS-231	NA	8.57	2	2.03	20.00	0.10	0.10	17.63	1.43	5.8	25.1
8: VIS-CV5-MS-232	NA	9.57	2	2.01	20.00	0.10	0.10	16.48	1.46	8.7	1.62
9: VIS-CV5-MS-233	NA	9.48	2	1.99	20.00	0.10	0.10	15.41	1.60	11.5	0.34
10: VIS-CV5-MS-234	NA	9.84	2	2.01	20.00	0.10	0.10	17.49	1.51	6.3	6.31
11: VIS-CV5-MS-235	NA	10.00	2	1.99	20.00	0.10	0.10	15.94	1.44	10.2	0.31
12: VIS-CV5-MS-236	NA	9.68	2	2.00	20.00	0.10	0.10	15.71	1.48	10.7	0.31
13: VIS-CV5-MS-237	NA	9.64	2	2.02	20.00	0.10	0.10	17.43	1.46	6.4	0.31
14: VIS-CV5-MS-238	NA	9.90	3	2.03	25.20	0.10	0.10	18.26	1.58	17.1	0.75
15: VIS-CV5-MS-239	NA	9.59	3	2.02	20.00	0.10	0.10	12.67	1.68	18.1	14.0
16: VIS-CV5-MS-240	NA	10.12	2	1.99	20.00	0.10	0.10	16.58	1.40	8.6	1.19
17: VIS-CV5-MS-241	NA	10.01	2	2.01	20.00	0.10	0.10	17.24	1.38	6.9	3.09
18: VIS-CV5-MS-242	NA	9.98	3	2.00	20.00	0.10	0.10	13.91	1.73	15.2	0.53

OnLine LIMS

0004055211

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

ABA - Modified Sobek

LR Report : CA11021-FEB25

Sample ID	Sample Date & Time	Paste pH no unit	Fizz Rate rating	Sample weight g	HCl_add mL	HCl Normality	NaOH Normality	Vol NaOH to pH=8.3 mL	Final pH no unit	NP t CaCO3/1000 t	AP t CaCO3/1000 t
19: VIS-CV5-MS-243	NA	9.76	2	2.02	20.00	0.10	0.10	15.85	1.35	10.3	0.31
20: VIS-CV5-MS-244	NA	10.18	3	1.98	25.00	0.10	0.10	17.80	1.52	18.2	0.31
21: VIS-CV5-MS-245	NA	10.05	3	2.02	20.00	0.10	0.10	14.37	1.81	13.9	0.31
22: VIS-CV5-MS-246	NA	10.06	2	2.03	20.00	0.10	0.10	17.32	1.35	6.6	0.31
23: VIS-CV5-MS-247	NA	10.20	2	1.98	20.00	0.10	0.10	17.14	1.36	7.2	0.75
24: VIS-CV5-MS-248	NA	9.99	3	2.03	24.80	0.10	0.10	15.48	1.56	22.9	0.31
25: VIS-CV5-MS-249	NA	10.22	3	2.02	20.00	0.10	0.10	14.13	1.76	14.5	0.31
26: VIS-CV5-MS-250	NA	9.14	3	2.02	20.00	0.10	0.10	9.81	1.85	25.2	14.5
27: VIS-CV5-MS-251	NA	9.59	2	2.01	20.00	0.10	0.10	15.73	1.51	10.6	4.16
28: VIS-CV5-MS-252	NA	9.51	2	1.98	20.00	0.10	0.10	14.96	1.40	12.7	0.34
29: VIS-CV5-MS-253	NA	7.50	2	2.00	20.00	0.10	0.10	17.47	1.48	6.3	128
30: VIS-CV5-MS-254	NA	9.79	2	1.99	20.00	0.10	0.10	16.16	1.38	9.7	0.44
31: VIS-CV5-MS-255	NA	9.92	2	2.02	20.00	0.10	0.10	16.10	1.33	9.7	4.78
32: VIS-CV5-MS-256	NA	9.75	2	2.02	20.00	0.10	0.10	16.56	1.38	8.5	11.4
33: VIS-CV5-MS-257	NA	9.54	2	2.00	20.00	0.10	0.10	18.58	1.24	3.5	0.31
34: VIS-CV5-MS-258	NA	9.85	2	2.00	20.00	0.10	0.10	15.67	1.78	10.8	0.38
35: VIS-CV5-PEG-259	NA	9.79	3	2.02	20.00	0.10	0.10	14.74	1.37	13.0	0.78
36: VIS-CV5-PEG-260	NA	9.30	2	2.04	20.00	0.10	0.10	18.54	1.26	3.6	0.31
37: VIS-CV5-PEG-261	NA	9.65	2	1.99	20.00	0.10	0.10	18.30	1.20	4.3	0.31
38: VIS-CV5-PEG-262	NA	10.09	2	2.02	20.00	0.10	0.10	18.51	1.10	3.7	0.31
39: VIS-CV5-PEG-263	NA	10.01	2	2.01	20.00	0.10	0.10	18.98	1.15	2.5	0.31
40: VIS-CV5-PEG-264	NA	10.58	2	2.01	20.00	0.10	0.10	18.66	1.23	3.3	0.31
41: VIS-CV5-PEG-265	NA	10.47	2	2.01	20.00	0.10	0.10	18.74	1.16	3.1	0.31
42: VIS-CV5-PEG-266	NA	9.47	2	2.00	20.00	0.10	0.10	18.50	1.18	3.8	0.31
43: VIS-CV5-PEG-267	NA	9.01	2	2.01	20.00	0.10	0.10	18.72	1.13	3.2	0.31
44: VIS-CV5-PEG-268	NA	9.42	2	2.01	20.00	0.10	0.10	18.18	1.17	4.5	0.31
45: VIS-CV5-PEG-269	NA	10.12	2	2.00	20.00	0.10	0.10	18.77	1.16	3.1	0.31
46: VIS-CV5-PEG-270	NA	10.17	2	1.98	20.00	0.10	0.10	15.99	1.27	10.1	0.31
47: VIS-CV5-PEG-271	NA	10.09	2	1.98	20.00	0.10	0.10	19.27	1.14	1.8	0.31
48: VIS-CV5-PEG-272	NA	10.05	2	1.98	20.00	0.10	0.10	18.79	1.18	3.1	0.31
49: VIS-CV5-PEG-273	NA	10.18	2	1.98	20.00	0.10	0.10	18.88	1.17	2.8	0.31
50: VIS-CV5-PEG-274	NA	9.74	3	2.01	20.00	0.10	0.10	11.63	1.66	20.8	0.31
51: VIS-CV5-PEG-275	NA	10.30	2	2.03	20.00	0.10	0.10	18.96	1.17	2.6	0.31

OnLine LIMS

0004055211

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

ABA - Modified Sobek

LR Report : **CA11021-FEB25**

Sample ID	Sample Date & Time	Paste pH no unit	Fizz Rate rating	Sample weight g	HCl_add mL	HCl Normality	NaOH Normality	Vol NaOH to pH=8.3 mL	Final pH no unit	NP t CaCO3/1000 t	AP t CaCO3/1000 t
52: VIS-CV5-PEG-276	NA	10.01	2	2.00	20.00	0.10	0.10	19.17	1.16	2.1	0.31

Sample ID	Net NP t CaCO3/1000 t	NP/AP ratio	S %	Acid Leachable SO4-S %	Sulphide %	C %	CO3 (HCl) as %CO3 %
1: Analysis Start Date	23-Mar-25	23-Mar-25	19-Mar-25	20-Mar-25	19-Mar-25	19-Mar-25	20-Mar-25
2: Analysis Start Time	12:25	12:25	13:19	14:32	16:22	13:19	15:15
3: Analysis Completed Date	24-Mar-25	24-Mar-25	20-Mar-25	20-Mar-25	20-Mar-25	20-Mar-25	20-Mar-25
4: Analysis Completed Time	09:58	09:58	14:33	14:33	14:33	14:33	15:59
5: VIS-CV5-MS-229	-34.59	0.31	2.01	0.41	1.60	0.108	0.46
6: VIS-CV5-MS-230	10.7	2.68	0.288	0.08	0.20	0.127	0.54
7: VIS-CV5-MS-231	-19.26	0.23	1.06	0.26	0.80	0.018	< 0.04
8: VIS-CV5-MS-232	7.08	5.35	0.087	< 0.04	0.05	0.014	< 0.04
9: VIS-CV5-MS-233	11.2	33.5	0.008	< 0.04	0.01	0.013	< 0.04
10: VIS-CV5-MS-234	-0.01	1.00	0.309	0.11	0.20	0.095	< 0.04
11: VIS-CV5-MS-235	9.89	32.6	0.016	< 0.04	0.01	0.043	0.11
12: VIS-CV5-MS-236	10.4	34.2	< 0.005	< 0.04	< 0.01	0.058	0.19
13: VIS-CV5-MS-237	6.09	20.5	< 0.005	< 0.04	< 0.01	0.020	< 0.04
14: VIS-CV5-MS-238	16.4	22.8	0.032	< 0.04	0.02	0.108	0.49
15: VIS-CV5-MS-239	4.07	1.29	0.545	0.10	0.45	0.098	0.41
16: VIS-CV5-MS-240	7.41	7.24	0.118	0.08	0.04	0.037	0.10
17: VIS-CV5-MS-241	3.81	2.23	0.169	0.07	0.10	0.020	< 0.04
18: VIS-CV5-MS-242	14.7	28.6	0.031	< 0.04	0.02	0.101	0.40
19: VIS-CV5-MS-243	9.99	33.0	0.014	< 0.04	< 0.01	0.057	0.19
20: VIS-CV5-MS-244	17.9	58.2	0.006	< 0.04	< 0.01	0.104	0.44
21: VIS-CV5-MS-245	13.6	44.5	0.005	< 0.04	< 0.01	0.060	0.20
22: VIS-CV5-MS-246	6.29	21.1	< 0.005	< 0.04	< 0.01	0.033	0.09
23: VIS-CV5-MS-247	6.45	9.60	0.095	0.07	0.02	0.021	< 0.04
24: VIS-CV5-MS-248	22.6	73.3	< 0.005	< 0.04	< 0.01	0.183	0.84
25: VIS-CV5-MS-249	14.2	46.4	< 0.005	< 0.04	< 0.01	0.081	0.32
26: VIS-CV5-MS-250	10.7	1.74	0.654	0.19	0.46	0.236	1.05
27: VIS-CV5-MS-251	6.44	2.55	0.180	0.05	0.13	0.033	0.08

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0004055211

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Sample ID	Net NP t CaCO3/1000 t	NP/AP ratio	S %	Acid Leachable SO4-S %	Sulphide %	C %	CO3 (HCl) as %CO3 %
28: VIS-CV5-MS-252	12.4	36.9	0.005	< 0.04	0.01	0.052	0.17
29: VIS-CV5-MS-253	-122.11	0.05	5.08	0.97	4.11	0.036	< 0.04
30: VIS-CV5-MS-254	9.26	22.2	0.016	< 0.04	0.01	0.049	0.10
31: VIS-CV5-MS-255	4.92	2.03	0.195	0.04	0.15	0.065	0.18
32: VIS-CV5-MS-256	-2.94	0.74	0.491	0.12	0.37	0.037	0.06
33: VIS-CV5-MS-257	3.19	11.2	0.086	0.08	0.01	0.040	0.10
34: VIS-CV5-MS-258	10.4	28.8	0.021	< 0.04	0.01	0.041	0.12
35: VIS-CV5-PEG-259	12.2	16.6	0.067	0.04	0.02	0.127	0.49
36: VIS-CV5-PEG-260	3.29	11.5	< 0.005	< 0.04	< 0.01	0.042	0.09
37: VIS-CV5-PEG-261	3.99	13.8	0.006	< 0.04	< 0.01	0.032	0.05
38: VIS-CV5-PEG-262	3.39	11.8	< 0.005	< 0.04	< 0.01	0.024	< 0.04
39: VIS-CV5-PEG-263	2.19	8.00	< 0.005	< 0.04	< 0.01	0.021	< 0.04
40: VIS-CV5-PEG-264	2.99	10.6	< 0.005	< 0.04	< 0.01	0.028	0.06
41: VIS-CV5-PEG-265	2.79	9.92	< 0.005	< 0.04	< 0.01	0.036	< 0.04
42: VIS-CV5-PEG-266	3.49	12.2	< 0.005	< 0.04	< 0.01	0.035	< 0.04
43: VIS-CV5-PEG-267	2.89	10.2	< 0.005	< 0.04	< 0.01	0.038	< 0.04
44: VIS-CV5-PEG-268	4.19	14.4	< 0.005	< 0.04	< 0.01	0.037	< 0.04
45: VIS-CV5-PEG-269	2.79	9.92	< 0.005	< 0.04	< 0.01	0.037	0.04
46: VIS-CV5-PEG-270	9.79	32.3	< 0.005	< 0.04	< 0.01	0.093	0.33
47: VIS-CV5-PEG-271	1.49	5.76	< 0.005	< 0.04	< 0.01	0.010	< 0.04
48: VIS-CV5-PEG-272	2.79	9.92	< 0.005	< 0.04	< 0.01	0.016	< 0.04
49: VIS-CV5-PEG-273	2.49	8.96	0.007	< 0.04	< 0.01	0.021	< 0.04
50: VIS-CV5-PEG-274	20.5	66.6	0.007	< 0.04	< 0.01	0.104	0.42
51: VIS-CV5-PEG-275	2.29	8.32	< 0.005	< 0.04	< 0.01	0.019	< 0.04
52: VIS-CV5-PEG-276	1.79	6.72	< 0.005	< 0.04	< 0.01	0.016	< 0.04

Method Descriptions

Parameter	Units	SGS Method Code	CALA	PALA
	g	NA	N	N
	mL		N	N
	mL	NA	N	N
	no unit	NA	N	N

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0004055211

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Parameter	Units	SGS Method Code	CALA	PALA
	Normality	NA	N	N
	rating	NA	N	N
	ratio	ME-CA-[ENV]ARD-LAK-AN-001/003	N	N
	t CaCO3/1000 t	ME-CA-[ENV]ARD-LAK-AN-001/003	N	N
Acid Potential	t CaCO3/1000 t	ME-CA-[ENV]ARD-LAK-AN-001/003	Y	Y
Carbon/Sulphur	%	ME-CA-[ENV]ARD-LAK-AN-019	Y	N
Carbon/Sulphur	%	ME-CA-[ENV]ARD-LAK-AN-019	Y	Y
Carbon/Sulphur	%	ME-CA-[ENV]ARD-LAK-AN-020	Y	N
Neutralization Potential	t CaCO3/1000 t	ME-CA-[ENV]ARD-LAK-AN-001/003	N	Y
Paste pH	no unit	ME-CA-[ENV]ARD-LAK-AN-005	Y	N

Accreditation Descriptions

CALA:
SGS Canada Industries & Environment conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation found at https://directory.cala.ca/#. Analytes and SGS Method Codes marked with a “Y” in the “CALA” column in the table denote ISO/IEC17025 accreditation

PALA:
SGS Canada Industries & Environment conforms to the requirements of ISO/IEC 17025:2005 for specific tests as listed on their scope of accreditation found at https://www.ceaeq.gouv.qc.ca/documents/publications/listes.htm#labo_accr. Analytes and SGS Method Codes marked with a “Y” in the “PALA” column in the table denote ISO/IEC17025:2005 accreditation

Catharine Arnold

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0004055211

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

27-March-2025

Innova Lithium Inc.
Attn : John Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 05 February 2025
LR Report: **CA11022-FEB25**
Reference: Shaakichiuwaanaan Project

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: VIS-CV5-MS-229	6: VIS-CV5-MS-230	7: VIS-CV5-MS-231	8: VIS-CV5-MS-232	9: VIS-CV5-MS-233	10: VIS-CV5-MS-234	11: VIS-CV5-MS-235
Sample Date & Time					NA	NA	NA	NA	NA	NA	NA
Hg [ug/g]	25-Mar-25	13:32	25-Mar-25	13:34	0.08	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Ag [µg/g]	19-Mar-25	15:25	21-Mar-25	09:52	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Al [µg/g]	19-Mar-25	15:25	21-Mar-25	09:52	7100	3600	9500	16000	21000	12000	12000
As [µg/g]	19-Mar-25	15:25	21-Mar-25	09:52	2.7	17	0.9	48	15	59	96
B [µg/g]	19-Mar-25	15:25	21-Mar-25	09:52	2	8	2	4	4	2	4
Ba [µg/g]	19-Mar-25	15:25	21-Mar-25	09:52	51	23	68	41	42	55	91
Be [µg/g]	19-Mar-25	15:25	21-Mar-25	09:52	0.04	1.0	0.42	2.4	3.2	0.43	0.52
Bi [µg/g]	19-Mar-25	15:25	21-Mar-25	09:52	0.12	0.23	0.21	0.22	< 0.09	0.32	0.38
Ca [µg/g]	19-Mar-25	15:25	21-Mar-25	09:52	6600	6600	2800	960	1400	930	3300
Cd [µg/g]	19-Mar-25	15:25	21-Mar-25	09:52	0.88	0.15	< 0.02	0.24	< 0.02	0.06	0.06
Co [µg/g]	19-Mar-25	15:25	21-Mar-25	09:52	26	8.4	9.5	11	11	9.0	5.8
Cr [µg/g]	19-Mar-25	15:25	21-Mar-25	09:52	76	51	82	75	60	44	27
Cu [µg/g]	19-Mar-25	15:25	21-Mar-25	09:52	87	25	37	49	18	36	8.6
Fe [µg/g]	19-Mar-25	15:25	21-Mar-25	09:52	27000	7900	26000	20000	28000	18000	20000
K [µg/g]	19-Mar-25	15:25	21-Mar-25	09:52	2100	570	3700	3000	2600	4700	4100
Li [µg/g]	19-Mar-25	15:25	21-Mar-25	09:52	101	40	74	417	594	430	455
Mg [µg/g]	19-Mar-25	15:25	21-Mar-25	09:52	4300	2386	3606	16000	22000	5700	5200

OnLine LIMS

0004059641

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quebec MA200-Met 1.2 Digest

LR Report : **CA11022-FEB25**

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: VIS-CV5-MS-2 29	6: VIS-CV5-MS-2 30	7: VIS-CV5-MS-2 31	8: VIS-CV5-MS-2 32	9: VIS-CV5-MS-2 33	10: VIS-CV5-MS-2 34	11: VIS-CV5-MS-2 35
Mn [µg/g]	19-Mar-25	15:25	21-Mar-25	09:52	244	108	107	358	403	212	367
Mo [µg/g]	19-Mar-25	15:25	21-Mar-25	09:52	0.3	1.4	2.5	1.9	1.3	1.3	1.7
Na [µg/g]	19-Mar-25	15:25	21-Mar-25	09:52	640	600	490	220	280	310	390
Ni [µg/g]	19-Mar-25	15:25	21-Mar-25	09:52	80	21	24	21	21	19	5.7
P [µg/g]	19-Mar-25	15:25	21-Mar-25	09:52	230	870	180	140	310	80	520
Pb [µg/g]	19-Mar-25	15:25	21-Mar-25	09:52	21	6.0	1.9	9.9	1.3	2.8	5.7
Sb [µg/g]	19-Mar-25	15:25	21-Mar-25	09:52	< 0.8	4.5	< 0.8	11	1.0	0.8	3.1
Se [µg/g]	19-Mar-25	15:25	21-Mar-25	09:52	0.6	0.1	0.2	0.1	< 0.1	0.1	< 0.1
Sn [µg/g]	19-Mar-25	15:25	21-Mar-25	09:52	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Sr [µg/g]	19-Mar-25	15:25	21-Mar-25	09:52	7.2	6.5	5.4	2.9	2.8	3.3	6.1
Ti [µg/g]	19-Mar-25	15:25	21-Mar-25	09:52	712	251	547	680	860	720	1000
Tl [µg/g]	19-Mar-25	15:25	21-Mar-25	09:52	0.40	0.36	1.2	0.99	0.31	1.2	1.6
U [µg/g]	19-Mar-25	15:25	21-Mar-25	09:52	0.15	2.0	0.73	1.4	0.66	1.5	1.1
V [µg/g]	19-Mar-25	15:25	21-Mar-25	09:52	39	15	30	51	55	24	26
Zn [µg/g]	19-Mar-25	15:25	21-Mar-25	09:52	470	32	26	70	20	59	39
Au [µg/g]	19-Mar-25	15:25	21-Mar-25	09:52	---	---	< 0.02	---	---	---	< 0.02
Ce [µg/g]	20-Mar-25	14:17	24-Mar-25	11:09	---	---	15.5	---	---	---	37.1
Cs [µg/g]	20-Mar-25	14:17	24-Mar-25	11:09	---	---	84	---	---	---	164
Dy [µg/g]	20-Mar-25	14:17	24-Mar-25	11:09	---	---	0.41	---	---	---	1.93
Er [µg/g]	20-Mar-25	14:17	24-Mar-25	11:09	---	---	0.15	---	---	---	0.90
Eu [µg/g]	20-Mar-25	14:17	24-Mar-25	11:09	---	---	0.20	---	---	---	0.38
Ga [µg/g]	20-Mar-25	14:17	24-Mar-25	11:09	---	---	5	---	---	---	6
Gd [µg/g]	20-Mar-25	14:17	24-Mar-25	11:09	---	---	0.94	---	---	---	2.80
Ge [µg/g]	19-Mar-25	15:25	24-Mar-25	16:49	---	---	1.0	---	---	---	1.2
Hf [µg/g]	19-Mar-25	15:25	21-Mar-25	09:52	---	---	< 0.1	---	---	---	0.3
Ho [µg/g]	20-Mar-25	14:17	24-Mar-25	11:09	---	---	0.063	---	---	---	0.35
In [µg/g]	20-Mar-25	14:17	24-Mar-25	11:09	---	---	0.01	---	---	---	0.01
Ir [µg/g]	19-Mar-25	15:25	24-Mar-25	16:49	---	---	< 0.01	---	---	---	< 0.01
La [µg/g]	20-Mar-25	14:17	24-Mar-25	11:09	---	---	8.61	---	---	---	19.0
Lu [µg/g]	20-Mar-25	14:17	24-Mar-25	11:09	---	---	0.015	---	---	---	0.082
Nb [µg/g]	19-Mar-25	15:25	21-Mar-25	09:52	---	---	0.2	---	---	---	0.2
Nd [µg/g]	20-Mar-25	14:17	24-Mar-25	11:09	---	---	5.7	---	---	---	14.7
Os [µg/g]	19-Mar-25	15:25	24-Mar-25	16:49	---	---	< 0.1	---	---	---	< 0.1

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0004059641

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: VIS-CV5-MS-2 29	6: VIS-CV5-MS-2 30	7: VIS-CV5-MS-2 31	8: VIS-CV5-MS-2 32	9: VIS-CV5-MS-2 33	10: VIS-CV5-MS-2 34	11: VIS-CV5-MS-2 35
Pd [µg/g]	19-Mar-25	15:25	21-Mar-25	09:52	---	---	< 0.2	---	---	---	< 0.2
Pr [µg/g]	20-Mar-25	14:17	24-Mar-25	11:11	---	---	1.63	---	---	---	4.09
Pt [µg/g]	19-Mar-25	15:25	21-Mar-25	09:52	---	---	< 0.1	---	---	---	< 0.1
Rh [µg/g]	20-Mar-25	14:17	24-Mar-25	16:48	---	---	< 0.01	---	---	---	< 0.01
Rb [µg/g]	20-Mar-25	14:17	24-Mar-25	11:10	---	---	131	---	---	---	188
Re [µg/g]	19-Mar-25	15:25	24-Mar-25	16:49	---	---	< 0.05	---	---	---	< 0.05
Ru [µg/g]	19-Mar-25	15:25	24-Mar-25	16:49	---	---	< 0.01	---	---	---	< 0.01
Sm [µg/g]	20-Mar-25	14:17	24-Mar-25	11:09	---	---	1.02	---	---	---	2.79
Sc [µg/g]	20-Mar-25	14:17	24-Mar-25	11:09	---	---	2	---	---	---	4
Ta [µg/g]	19-Mar-25	15:25	21-Mar-25	09:52	---	---	0.07	---	---	---	0.04
Tb [µg/g]	20-Mar-25	14:17	24-Mar-25	11:09	---	---	0.095	---	---	---	0.38
Te [µg/g]	19-Mar-25	15:25	21-Mar-25	09:52	---	---	0.1	---	---	---	< 0.1
Th [µg/g]	19-Mar-25	15:25	21-Mar-25	09:52	---	---	4.4	---	---	---	7.0
Tm [µg/g]	20-Mar-25	14:17	24-Mar-25	11:10	---	---	0.018	---	---	---	0.11

Analysis	12: VIS-CV5-MS-2 36	13: VIS-CV5-MS-2 37	14: VIS-CV5-MS-2 38	15: VIS-CV5-MS-2 39	16: VIS-CV5-MS-2 40	17: VIS-CV5-MS-2 41	18: VIS-CV5-MS-2 42	19: VIS-CV5-MS-2 43	20: VIS-CV5-MS-2 44	21: VIS-CV5-MS-2 45	22: VIS-CV5-MS-2 46
Sample Date & Time	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hg [ug/g]	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Ag [µg/g]	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Al [µg/g]	11000	7700	16000	9700	13000	15000	12000	7800	19000	19000	12000
As [µg/g]	1.2	0.9	50	5.6	1.6	34	7.5	22	160	4.9	22
B [µg/g]	3	5	21	38	5	5	8	3	3	21	3
Ba [µg/g]	23	32	86	37	85	130	97	23	150	110	85
Be [µg/g]	0.56	0.88	0.46	0.26	0.11	0.51	0.26	0.62	0.38	0.25	0.52
Bi [µg/g]	< 0.09	< 0.09	< 0.09	< 0.09	0.10	0.17	< 0.09	< 0.09	< 0.09	< 0.09	0.26
Ca [µg/g]	5300	1900	7100	7500	2500	1800	5500	3200	9500	7700	2200
Cd [µg/g]	< 0.02	< 0.02	0.07	0.03	0.05	0.08	0.04	< 0.02	0.05	0.04	0.08
Co [µg/g]	4.2	3.2	8.8	20	7.3	7.6	7.2	6.4	15	9.8	4.7
Cr [µg/g]	46	39	24	58	40	64	41	71	29	22	27
Cu [µg/g]	28	6.3	24	43	35	14	22	11	20	19	8.4

OnLine LIMS

0004059641

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quebec MA200-Met 1.2 Digest

LR Report : **CA11022-FEB25**

Analysis	12: VIS-CV5-MS-2 36	13: VIS-CV5-MS-2 37	14: VIS-CV5-MS-2 38	15: VIS-CV5-MS-2 39	16: VIS-CV5-MS-2 40	17: VIS-CV5-MS-2 41	18: VIS-CV5-MS-2 42	19: VIS-CV5-MS-2 43	20: VIS-CV5-MS-2 44	21: VIS-CV5-MS-2 45	22: VIS-CV5-MS-2 46
Fe [µg/g]	13000	6600	24000	21000	17000	20000	20000	13000	23000	27000	16000
K [µg/g]	1400	2000	4500	1000	7000	8700	5200	600	7500	8400	5300
Li [µg/g]	88	53	441	265	347	564	265	214	363	533	511
Mg [µg/g]	6100	5200	7400	7100	6400	7800	5100	7600	6700	7700	5300
Mn [µg/g]	246	126	456	226	395	431	342	241	280	481	371
Mo [µg/g]	0.4	0.9	0.6	0.5	0.6	2.0	0.8	1.5	1.6	0.9	2.8
Na [µg/g]	400	440	390	540	550	440	420	480	1000	540	280
Ni [µg/g]	7.4	6.0	9.9	64	16	18	13	18	22	12	6.6
P [µg/g]	560	610	400	770	150	200	380	62	560	520	200
Pb [µg/g]	3.5	1.3	4.0	1.9	3.1	2.4	2.6	1.1	3.3	4.9	8.1
Sb [µg/g]	< 0.8	< 0.8	4.3	21	< 0.8	3.2	1.6	2.4	1.5	0.9	2.8
Se [µg/g]	< 0.1	< 0.1	< 0.1	0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Sn [µg/g]	< 5	< 5	< 5	< 5	< 5	5	< 5	< 5	< 5	< 5	< 5
Sr [µg/g]	6.0	6.8	7.8	6.3	5.9	3.5	7.4	3.8	20	12	4.4
Ti [µg/g]	530	150	1300	900	1100	1300	1200	700	1200	1800	1100
Tl [µg/g]	0.11	0.13	0.73	0.18	0.82	3.0	0.68	0.20	0.43	2.6	6.1
U [µg/g]	0.58	1.9	0.81	0.22	1.3	1.4	0.67	1.3	0.53	0.85	1.8
V [µg/g]	35	25	63	40	30	31	35	25	58	88	23
Zn [µg/g]	21	30	45	52	39	38	40	18	48	50	36
Au [µg/g]	---	---	---	< 0.02	---	---	---	< 0.02	---	---	---
Ce [µg/g]	---	---	---	22.2	---	---	---	19.8	---	---	---
Cs [µg/g]	---	---	---	19	---	---	---	24	---	---	---
Dy [µg/g]	---	---	---	0.67	---	---	---	0.49	---	---	---
Er [µg/g]	---	---	---	0.32	---	---	---	0.23	---	---	---
Eu [µg/g]	---	---	---	0.38	---	---	---	0.18	---	---	---
Ga [µg/g]	---	---	---	6	---	---	---	6	---	---	---
Gd [µg/g]	---	---	---	1.41	---	---	---	0.92	---	---	---
Ge [µg/g]	---	---	---	1.1	---	---	---	0.7	---	---	---
Hf [µg/g]	---	---	---	< 0.1	---	---	---	0.2	---	---	---
Ho [µg/g]	---	---	---	0.12	---	---	---	0.086	---	---	---
In [µg/g]	---	---	---	< 0.01	---	---	---	< 0.01	---	---	---
Ir [µg/g]	---	---	---	< 0.01	---	---	---	< 0.01	---	---	---
La [µg/g]	---	---	---	10.2	---	---	---	10.6	---	---	---

OnLine LIMS

0004059641

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	12: VIS-CV5-MS-2 36	13: VIS-CV5-MS-2 37	14: VIS-CV5-MS-2 38	15: VIS-CV5-MS-2 39	16: VIS-CV5-MS-2 40	17: VIS-CV5-MS-2 41	18: VIS-CV5-MS-2 42	19: VIS-CV5-MS-2 43	20: VIS-CV5-MS-2 44	21: VIS-CV5-MS-2 45	22: VIS-CV5-MS-2 46
Lu [µg/g]	---	---	---	0.034	---	---	---	0.026	---	---	---
Nb [µg/g]	---	---	---	0.1	---	---	---	0.2	---	---	---
Nd [µg/g]	---	---	---	9.7	---	---	---	6.7	---	---	---
Os [µg/g]	---	---	---	< 0.1	---	---	---	< 0.1	---	---	---
Pd [µg/g]	---	---	---	< 0.2	---	---	---	< 0.2	---	---	---
Pr [µg/g]	---	---	---	2.62	---	---	---	2.04	---	---	---
Pt [µg/g]	---	---	---	< 0.1	---	---	---	< 0.1	---	---	---
Rh [µg/g]	---	---	---	< 0.01	---	---	---	< 0.01	---	---	---
Rb [µg/g]	---	---	---	18.9	---	---	---	29.7	---	---	---
Re [µg/g]	---	---	---	< 0.05	---	---	---	< 0.05	---	---	---
Ru [µg/g]	---	---	---	< 0.01	---	---	---	< 0.01	---	---	---
Sm [µg/g]	---	---	---	1.59	---	---	---	0.99	---	---	---
Sc [µg/g]	---	---	---	3	---	---	---	3	---	---	---
Ta [µg/g]	---	---	---	0.02	---	---	---	0.02	---	---	---
Tb [µg/g]	---	---	---	0.16	---	---	---	0.10	---	---	---
Te [µg/g]	---	---	---	< 0.1	---	---	---	0.1	---	---	---
Th [µg/g]	---	---	---	2.3	---	---	---	4.1	---	---	---
Tm [µg/g]	---	---	---	0.038	---	---	---	0.030	---	---	---

Analysis	23: VIS-CV5-MS-2 47	24: VIS-CV5-MS-2 48	25: VIS-CV5-MS-2 49	26: VIS-CV5-MS-2 50	27: VIS-CV5-MS-2 51	28: VIS-CV5-MS-2 52	29: VIS-CV5-MS-2 53	30: VIS-CV5-MS-2 54	31: VIS-CV5-MS-2 55	32: VIS-CV5-MS-2 56	33: VIS-CV5-MS-2 57
Sample Date & Time	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hg [ug/g]	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Ag [µg/g]	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Al [µg/g]	15000	17000	18000	5400	15000	8400	7500	19000	12000	14000	3300
As [µg/g]	15	29	13	2.7	5.7	28	8.5	41	20	5.0	1.5
B [µg/g]	3	3	5	1	17	12	3	30	10	7	8
Ba [µg/g]	110	120	170	2.5	40	23	56	150	100	85	30
Be [µg/g]	0.39	0.20	0.67	0.07	0.32	4.8	0.18	1.4	0.33	0.28	0.15
Bi [µg/g]	0.10	< 0.09	< 0.09	< 0.09	< 0.09	0.54	0.39	0.09	< 0.09	< 0.09	< 0.09
Ca [µg/g]	3000	9400	6800	9400	7900	4400	4100	8100	4200	5300	2500

OnLine LIMS

0004059641

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quebec MA200-Met 1.2 Digest

LR Report : **CA11022-FEB25**

Analysis	23: VIS-CV5-MS-2 47	24: VIS-CV5-MS-2 48	25: VIS-CV5-MS-2 49	26: VIS-CV5-MS-2 50	27: VIS-CV5-MS-2 51	28: VIS-CV5-MS-2 52	29: VIS-CV5-MS-2 53	30: VIS-CV5-MS-2 54	31: VIS-CV5-MS-2 55	32: VIS-CV5-MS-2 56	33: VIS-CV5-MS-2 57
Cd [µg/g]	0.15	0.07	0.05	< 0.02	0.02	0.13	0.09	0.06	0.06	0.09	< 0.02
Co [µg/g]	5.5	9.5	7.9	8.6	9.7	8.0	11	13	9.6	13	6.3
Cr [µg/g]	25	29	30	16	20	65	60	105	57	70	42
Cu [µg/g]	25	9.9	26	14	21	27	43	23	26	40	24
Fe [µg/g]	20000	25000	23000	23000	19000	14000	58000	23000	18000	24000	3200
K [µg/g]	7700	6400	8100	120	1900	900	1800	6700	3800	3800	860
Li [µg/g]	656	532	648	20	213	279	130	564	434	347	14
Mg [µg/g]	5700	7100	7500	2000	9100	5600	2000	10000	5300	6000	490
Mn [µg/g]	366	364	431	153	340	353	140	491	365	270	39
Mo [µg/g]	1.6	1.3	1.7	1.2	1.1	1.5	2.2	1.9	1.5	1.1	2.1
Na [µg/g]	570	370	620	500	410	270	890	410	570	700	510
Ni [µg/g]	3.2	13	8.0	1.4	15	16	34	39	21	29	12
P [µg/g]	270	350	370	580	570	1000	370	300	250	270	190
Pb [µg/g]	8.4	3.7	4.1	0.82	4.2	2.1	1.9	3.5	3.5	3.6	6.5
Sb [µg/g]	2.3	3.0	2.3	< 0.8	< 0.8	5.4	1.1	11	5.5	2.6	< 0.8
Se [µg/g]	< 0.1	< 0.1	< 0.1	0.2	< 0.1	< 0.1	0.4	< 0.1	< 0.1	0.1	< 0.1
Sn [µg/g]	< 5	< 5	< 5	< 5	< 5	20	< 5	< 5	< 5	< 5	< 5
Sr [µg/g]	8.2	9.7	12	4.4	8.7	4.8	14	9.0	9.4	11	6.9
Ti [µg/g]	1200	1400	1500	220	920	560	310	1200	930	910	190
Tl [µg/g]	4.2	0.47	2.4	< 0.02	0.16	1.2	0.62	3.2	1.1	0.28	0.04
U [µg/g]	1.0	0.74	0.88	0.46	0.42	1.1	0.61	0.88	0.85	0.40	1.1
V [µg/g]	34	34	45	2	39	34	22	43	41	56	6
Zn [µg/g]	36	47	37	9.1	34	47	25	47	50	50	8.5
Au [µg/g]	< 0.02	---	---	---	< 0.02	---	---	---	< 0.02	---	---
Ce [µg/g]	45.7	---	---	---	29.3	---	---	---	25.8	---	---
Cs [µg/g]	541	---	---	---	11	---	---	---	93	---	---
Dy [µg/g]	2.05	---	---	---	0.80	---	---	---	0.80	---	---
Er [µg/g]	0.91	---	---	---	0.32	---	---	---	0.32	---	---
Eu [µg/g]	0.46	---	---	---	0.35	---	---	---	0.31	---	---
Ga [µg/g]	7	---	---	---	6	---	---	---	6	---	---
Gd [µg/g]	3.24	---	---	---	1.69	---	---	---	1.56	---	---
Ge [µg/g]	1.4	---	---	---	1.2	---	---	---	1.0	---	---
Hf [µg/g]	0.5	---	---	---	< 0.1	---	---	---	0.2	---	---

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0004059641

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	23: VIS-CV5-MS-2 47	24: VIS-CV5-MS-2 48	25: VIS-CV5-MS-2 49	26: VIS-CV5-MS-2 50	27: VIS-CV5-MS-2 51	28: VIS-CV5-MS-2 52	29: VIS-CV5-MS-2 53	30: VIS-CV5-MS-2 54	31: VIS-CV5-MS-2 55	32: VIS-CV5-MS-2 56	33: VIS-CV5-MS-2 57
Ho [µg/g]	0.36	---	---	---	0.14	---	---	---	0.13	---	---
In [µg/g]	0.03	---	---	---	0.01	---	---	---	< 0.01	---	---
Ir [µg/g]	< 0.01	---	---	---	< 0.01	---	---	---	< 0.01	---	---
La [µg/g]	23.1	---	---	---	14.7	---	---	---	13.2	---	---
Lu [µg/g]	0.086	---	---	---	0.026	---	---	---	0.027	---	---
Nb [µg/g]	0.2	---	---	---	< 0.1	---	---	---	0.1	---	---
Nd [µg/g]	18.1	---	---	---	11.8	---	---	---	10.0	---	---
Os [µg/g]	< 0.1	---	---	---	< 0.1	---	---	---	< 0.1	---	---
Pd [µg/g]	< 0.2	---	---	---	< 0.2	---	---	---	< 0.2	---	---
Pr [µg/g]	5.08	---	---	---	3.27	---	---	---	2.81	---	---
Pt [µg/g]	< 0.1	---	---	---	< 0.1	---	---	---	< 0.1	---	---
Rh [µg/g]	< 0.01	---	---	---	< 0.01	---	---	---	< 0.01	---	---
Rb [µg/g]	676	---	---	---	19.8	---	---	---	135	---	---
Re [µg/g]	< 0.05	---	---	---	< 0.05	---	---	---	< 0.05	---	---
Ru [µg/g]	< 0.01	---	---	---	< 0.01	---	---	---	< 0.01	---	---
Sm [µg/g]	3.34	---	---	---	1.88	---	---	---	1.68	---	---
Sc [µg/g]	6	---	---	---	4	---	---	---	5	---	---
Ta [µg/g]	0.02	---	---	---	0.01	---	---	---	0.02	---	---
Tb [µg/g]	0.41	---	---	---	0.19	---	---	---	0.18	---	---
Te [µg/g]	< 0.1	---	---	---	< 0.1	---	---	---	< 0.1	---	---
Th [µg/g]	7.5	---	---	---	3.7	---	---	---	4.1	---	---
Tm [µg/g]	0.12	---	---	---	0.035	---	---	---	0.036	---	---

Analysis	34: VIS-CV5-MS-2 58	35: VIS-CV5-PEG-2 59	36: VIS-CV5-PEG-2 60	37: VIS-CV5-PEG-2 61	38: VIS-CV5-PEG-2 62	39: VIS-CV5-PEG-2 63	40: VIS-CV5-PEG-2 64	41: VIS-CV5-PEG-2 65	42: VIS-CV5-PEG-2 66	43: VIS-CV5-PEG-2 67	44: VIS-CV5-PEG-2 68
Sample Date & Time	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hg [ug/g]	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Ag [µg/g]	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Al [µg/g]	11000	4300	2100	4300	1700	2300	1800	1800	1900	2300	2100
As [µg/g]	11	104	4.3	18	21	20	22	16	3.8	2.8	2.2
B [µg/g]	2	27	7	4	6	5	8	3	3	5	2

OnLine LIMS

0004059641

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quebec MA200-Met 1.2 Digest

LR Report : **CA11022-FEB25**

Analysis	34: VIS-CV5-MS-2 58	35: VIS-CV5-PEG-2 59	36: VIS-CV5-PEG-2 60	37: VIS-CV5-PEG-2 61	38: VIS-CV5-PEG-2 62	39: VIS-CV5-PEG-2 63	40: VIS-CV5-PEG-2 64	41: VIS-CV5-PEG-2 65	42: VIS-CV5-PEG-2 66	43: VIS-CV5-PEG-2 67	44: VIS-CV5-PEG-2 68
Ba [µg/g]	110	49	2.5	4.3	1.7	6.3	0.64	1.8	2.6	1.4	1.4
Be [µg/g]	0.08	2.8	1.5	1.4	0.70	1.5	1.4	0.44	5.0	6.6	14.9
Bi [µg/g]	< 0.09	0.59	4.4	1.1	0.27	2.8	0.77	0.14	1.5	7.6	0.65
Ca [µg/g]	3200	3900	1700	960	1200	840	750	750	1600	1300	1800
Cd [µg/g]	< 0.02	0.03	0.10	0.10	0.13	0.08	0.04	0.04	0.04	0.07	0.07
Co [µg/g]	13	6.2	0.50	1.2	0.23	0.21	0.27	0.56	0.48	0.44	0.81
Cr [µg/g]	44	37	79	60	65	47	41	45	66	107	111
Cu [µg/g]	18	55	2.7	82	0.8	0.6	0.9	2.0	1.3	1.9	2.3
Fe [µg/g]	22000	7200	1300	4200	1300	1400	820	1100	1200	1700	2400
K [µg/g]	4400	810	1400	650	420	890	230	310	1300	1200	670
Li [µg/g]	53	96	54	187	57	61	26	27	59	122	62
Mg [µg/g]	6500	2400	310	3800	73	710	150	310	300	300	880
Mn [µg/g]	202	137	100	201	83	66	37	47	56	236	147
Mo [µg/g]	1.1	1.2	3.2	0.4	2.4	1.9	1.5	1.5	0.8	3.8	1.0
Na [µg/g]	450	590	330	340	1000	730	1500	1100	360	350	630
Ni [µg/g]	17	15	2.1	2.3	1.7	1.1	1.1	1.1	3.3	2.4	2.8
P [µg/g]	310	290	630	340	480	310	270	180	600	550	590
Pb [µg/g]	2.5	7.4	1.7	2.0	1.7	1.4	0.88	1.6	1.6	1.3	0.97
Sb [µg/g]	< 0.8	6.0	1.1	4.6	3.6	2.9	2.4	2.0	1.1	1.0	< 0.8
Se [µg/g]	< 0.1	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Sn [µg/g]	< 5	< 5	< 5	7	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Sr [µg/g]	6.5	5.6	5.8	3.0	2.4	3.9	1.4	1.4	5.1	5.6	5.5
Ti [µg/g]	910	290	3.9	4.9	2.1	1.4	6.2	2.3	1.6	3.2	3.8
Tl [µg/g]	0.09	0.80	1.5	0.68	0.59	0.52	0.32	0.15	1.5	1.7	0.77
U [µg/g]	0.66	2.2	0.25	0.74	18	2.1	9.3	12	0.25	0.39	0.35
V [µg/g]	26	7	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Zn [µg/g]	40	26	4.1	7.0	1.5	3.8	2.0	1.2	2.1	4.3	4.9
Au [µg/g]	---	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Ce [µg/g]	---	27.4	1.01	0.64	1.14	0.44	0.52	0.27	0.76	0.42	0.61
Cs [µg/g]	---	112	34	42	38	50	20	9	36	60	25
Dy [µg/g]	---	0.68	0.11	0.12	0.20	0.12	0.12	0.075	0.065	0.053	0.10
Er [µg/g]	---	0.31	0.028	0.038	0.030	0.015	0.019	0.016	0.022	0.015	0.031
Eu [µg/g]	---	0.22	0.028	0.034	0.037	0.017	0.018	0.022	0.039	0.032	0.034

OnLine LIMS

0004059641

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	34: VIS-CV5-MS-2 58	35: VIS-CV5-PEG-2 59	36: VIS-CV5-PEG-2 60	37: VIS-CV5-PEG-2 61	38: VIS-CV5-PEG-2 62	39: VIS-CV5-PEG-2 63	40: VIS-CV5-PEG-2 64	41: VIS-CV5-PEG-2 65	42: VIS-CV5-PEG-2 66	43: VIS-CV5-PEG-2 67	44: VIS-CV5-PEG-2 68
Ga [µg/g]	---	3	2	7	2	3	2	2	2	3	3
Gd [µg/g]	---	1.40	0.15	0.16	0.35	0.16	0.19	0.100	0.096	0.082	0.15
Ge [µg/g]	---	0.6	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Hf [µg/g]	---	0.2	< 0.1	0.2	0.7	0.4	0.5	0.4	0.2	0.1	0.1
Ho [µg/g]	---	0.11	0.014	0.019	0.017	0.009	0.010	0.008	0.013	0.008	0.012
In [µg/g]	---	0.01	< 0.01	0.05	< 0.01	0.02	0.01	< 0.01	0.01	0.02	0.02
Ir [µg/g]	---	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
La [µg/g]	---	15.3	0.51	0.30	0.36	0.24	0.25	0.20	0.38	0.22	0.27
Lu [µg/g]	---	0.029	0.003	0.005	0.003	0.002	0.002	0.002	0.008	0.002	0.002
Nb [µg/g]	---	0.4	0.2	0.3	0.9	0.3	0.8	0.8	0.2	0.4	0.3
Nd [µg/g]	---	9.6	0.43	0.36	0.58	0.18	0.21	0.13	0.32	0.21	0.35
Os [µg/g]	---	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pd [µg/g]	---	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Pr [µg/g]	---	2.80	0.11	0.085	0.16	0.049	0.061	0.036	0.094	0.050	0.078
Pt [µg/g]	---	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Rh [µg/g]	---	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Rb [µg/g]	---	97.1	225	117	93.5	77.3	44.9	20.6	224	310	129
Re [µg/g]	---	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Ru [µg/g]	---	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Sm [µg/g]	---	1.45	0.13	0.13	0.26	0.13	0.16	0.081	0.088	0.072	0.12
Sc [µg/g]	---	0.92	0.09	0.31	0.03	0.19	0.04	0.04	0.05	0.08	0.11
Ta [µg/g]	---	0.19	0.01	0.04	0.02	0.02	0.01	0.01	0.01	0.02	0.02
Tb [µg/g]	---	0.16	0.033	0.043	0.064	0.045	0.045	0.023	0.027	0.023	0.040
Te [µg/g]	---	< 0.1	< 0.1	0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Th [µg/g]	---	7.4	1.3	3.4	4.5	2.3	6.3	2.6	0.80	1.5	1.1
Tm [µg/g]	---	0.040	0.006	0.018	0.004	0.012	0.008	0.004	0.013	0.012	0.017

Analysis	45: VIS-CV5-PEG-2 69	46: VIS-CV5-PEG-2 70	47: VIS-CV5-PEG-2 71	48: VIS-CV5-PEG-2 72	49: VIS-CV5-PEG-2 73	50: VIS-CV5-PEG-2 74	51: VIS-CV5-PEG-2 75	52: VIS-CV5-PEG-2 76
Sample Date & Time	NA	NA	NA	NA	NA	NA	NA	NA
Hg [ug/g]	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

OnLine LIMS

0004059641

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	45: VIS-CV5-PEG-269	46: VIS-CV5-PEG-270	47: VIS-CV5-PEG-271	48: VIS-CV5-PEG-272	49: VIS-CV5-PEG-273	50: VIS-CV5-PEG-274	51: VIS-CV5-PEG-275	52: VIS-CV5-PEG-276
Ag [µg/g]	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Al [µg/g]	1900	2800	1500	2200	1800	9000	1600	1700
As [µg/g]	10	31	12	11	9.3	236	4.1	12
B [µg/g]	7	2	4	5	3	4	2	3
Ba [µg/g]	0.82	0.47	0.81	1.1	2.9	0.49	1.1	1.8
Be [µg/g]	0.99	1.1	0.68	12.4	2.0	5.3	3.1	0.70
Bi [µg/g]	2.0	0.20	0.43	0.13	0.40	1.4	8.8	2.1
Ca [µg/g]	1000	2700	580	950	710	5900	850	810
Cd [µg/g]	0.13	0.04	0.16	0.07	0.11	0.40	0.04	0.09
Co [µg/g]	0.17	4.7	0.21	0.32	0.25	4.4	0.17	0.21
Cr [µg/g]	59	58	78	54	52	65	39	56
Cu [µg/g]	0.6	6.3	0.6	1.2	1.0	2.9	0.7	0.7
Fe [µg/g]	1000	3300	1100	1500	990	12000	670	1100
K [µg/g]	1200	52	1300	600	1600	55	1400	1000
Li [µg/g]	50	49	21	29	14	167	20	42
Mg [µg/g]	61	2800	26	900	120	14000	110	190
Mn [µg/g]	132	66	58	51	75	276	49	71
Mo [µg/g]	1.9	2.1	0.7	0.3	0.4	0.5	1.2	1.8
Na [µg/g]	540	790	420	720	500	450	450	490
Ni [µg/g]	1.4	2.9	1.8	1.7	1.4	19	0.9	1.3
P [µg/g]	310	210	250	390	260	1700	320	330
Pb [µg/g]	6.0	4.3	0.72	0.71	1.4	86	1.4	1.3
Sb [µg/g]	2.6	1.1	2.3	1.9	1.9	4.3	2.0	1.9
Se [µg/g]	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Sn [µg/g]	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Sr [µg/g]	2.7	3.6	2.1	1.1	3.0	11	2.2	2.2
Ti [µg/g]	2.7	5.2	1.4	4.9	5.8	38	1.3	2.6
Tl [µg/g]	1.2	0.05	1.3	0.42	1.4	0.10	1.1	0.97
U [µg/g]	28	2.4	1.0	2.1	0.52	5.0	1.2	2.1
V [µg/g]	< 1	< 1	< 1	< 1	< 1	12	< 1	< 1
Zn [µg/g]	3.6	4.6	2.1	3.0	4.5	19	1.7	4.2
Au [µg/g]	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Ce [µg/g]	2.81	1.12	0.17	0.51	0.40	0.98	0.26	0.36

OnLine LIMS

0004059641

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	45: VIS-CV5-PEG-269	46: VIS-CV5-PEG-270	47: VIS-CV5-PEG-271	48: VIS-CV5-PEG-272	49: VIS-CV5-PEG-273	50: VIS-CV5-PEG-274	51: VIS-CV5-PEG-275	52: VIS-CV5-PEG-276
Cs [µg/g]	59	3	28	12	23	25	26	27
Dy [µg/g]	0.95	0.33	0.10	0.20	0.075	0.76	0.14	0.23
Er [µg/g]	0.15	0.18	0.009	0.036	0.009	0.20	0.017	0.032
Eu [µg/g]	0.004	0.065	0.002	0.025	0.008	0.10	0.010	0.013
Ga [µg/g]	2	4	1	3	2	9	1	2
Gd [µg/g]	1.53	0.31	0.14	0.29	0.12	0.93	0.21	0.25
Ge [µg/g]	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	0.5	< 0.3	< 0.3
Hf [µg/g]	0.9	0.2	0.2	0.2	0.2	0.3	0.3	0.2
Ho [µg/g]	0.081	0.068	0.006	0.017	0.005	0.089	0.009	0.018
In [µg/g]	0.03	0.02	0.01	0.03	0.02	0.03	0.01	0.02
Ir [µg/g]	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
La [µg/g]	1.06	0.49	0.079	0.19	0.17	0.36	0.14	0.14
Lu [µg/g]	0.017	0.019	0.001	0.003	< 0.001	0.024	< 0.001	0.002
Nb [µg/g]	2.5	0.5	0.2	0.4	0.3	0.2	0.4	0.3
Nd [µg/g]	1.4	0.70	0.072	0.35	0.17	0.93	0.13	0.18
Os [µg/g]	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pd [µg/g]	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Pr [µg/g]	0.38	0.15	0.019	0.079	0.050	0.18	0.034	0.051
Pt [µg/g]	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Rh [µg/g]	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Rb [µg/g]	192	7.29	197	84.8	216	9.99	156	140
Re [µg/g]	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Ru [µg/g]	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Sm [µg/g]	1.52	0.25	0.10	0.25	0.091	0.60	0.14	0.18
Sc [µg/g]	0.32	0.31	0.05	0.16	0.09	1	0.03	0.08
Ta [µg/g]	0.02	0.04	< 0.01	0.02	< 0.01	0.05	0.01	0.01
Tb [µg/g]	0.30	0.073	0.051	0.084	0.044	0.21	0.060	0.084
Te [µg/g]	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Th [µg/g]	14	1.1	1.2	2.6	1.6	4.0	1.6	0.84
Tm [µg/g]	0.038	0.039	0.016	0.020	0.017	0.042	0.018	0.021

OnLine LIMS

0004059641

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Method Descriptions

Parameter	Units	SGS Method Code	CALA	PALA
Mercury by CVAAS	ug/g	ME-CA-[ENV]SPE-LAK-AN-004	Y	Y
Metals - Microwave/ICP-MS	µg/g	ME-CA-[ENV]SPE-LAK-AN-007	Y	N
Metals, ICP-MS	µg/g	ME-CA-[ENV]SPE-LAK-AN-005	Y	N
Metals, ICP-MS	µg/g	ME-CA-[ENV]SPE-LAK-AN-005	Y	Y

Accreditation Descriptions

CALA:

SGS Canada Industries & Environment conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation found at https://directory.cala.ca/#. Analytes and SGS Method Codes marked with a “Y” in the “CALA” column in the table denote ISO/IEC17025 accreditation

PALA:

SGS Canada Industries & Environment conforms to the requirements of ISO/IEC 17025:2005 for specific tests as listed on their scope of accreditation found at https://www.ceaeq.gouv.qc.ca/documents/publications/listes.htm#labo_accr. Analytes and SGS Method Codes marked with a “Y” in the “PALA” column in the table denote ISO/IEC17025:2005 accreditation

Catharine Arnold

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0004059641

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quality Control Report

Inorganic Analysis													
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Mercury by CVAAS - QCBatchID: EHG0040-MAR25													
Mercury	0.05	ug/g	<0.05			1	20	90	80	120	91	70	130
Metals - Microwave/ICP-MS - QCBatchID: EMS0145-MAR25													
Germanium	0.3	µg/g				ND	20	100	70	130	NV	70	130
Gold	0.02	µg/g	<0.02			ND	20	86	70	130	NV	70	130
Hafnium	0.1	µg/g	<0.1			ND	20	96	70	130	NV	70	130
Iridium	0.01	µg/g				ND	20	105	70	130	NV	70	130
Niobium	0.1	µg/g	<0.1			ND	20	110	70	130	NV	70	130
Osmium	0.1	µg/g				ND	20	92	70	130	NV	70	130
Palladium	0.2	µg/g	<0.2			ND	20	97	70	130	NV	70	130
Platinum	0.1	µg/g	<0.1			ND	20	100	70	130	NV	70	130
Rhenium	0.05	µg/g				ND	20	99	70	130	NV	70	130
Rhodium	0.01	µg/g				ND	20	97	70	130	NV	70	130
Ruthenium	0.01	µg/g				ND	20	100	70	130	NV	70	130
Tantalum	0.01	µg/g	<0.01			13	20	106	70	130	NV	70	130
Tellurium	0.1	µg/g	<0.01			ND	20	96	70	130	NV	70	130
Metals - Microwave/ICP-MS - QCBatchID: EMS0183-MAR25													
Cerium	0.001	µg/g	< 0.001			10	20	95	70	130			
Cesium	0.01	µg/g	< 0.01			7	20	99	70	130			
Dysprosium	0.001	µg/g	< 0.001			12	20	89	70	130			
Erbium	0.001	µg/g	< 0.001			7	20	88	70	130			
Europium	0.001	µg/g	< 0.001			6	20	88	70	130			
Gadolinium	0.001	µg/g	< 0.001			8	20	93	70	130			
Gallium	0.03	µg/g	< 0.03			1	20	97	70	130			
Holmium	0.001	µg/g	< 0.001			1	20	89	70	130			
Indium	0.01	µg/g	< 0.01			ND	20	100	70	130			
Lanthanum	0.001	µg/g	< 0.001			6	20	95	70	130			
Lutetium	0.001	µg/g	< 0.001			ND	20	88	70	130			
Neodymium	0.006	µg/g	< 0.006			1	20	91	70	130			
Praseodymium	0.001	µg/g	< 0.001			8	20	91	70	130			
Rubidium	0.004	µg/g	< 0.004			6	20	103	70	130			
Samarium	0.001	µg/g	< 0.001			13	20	91	70	130			
Scandium	0.03	µg/g	< 0.03			9	20	102	70	130			
Terbium	0.001	µg/g	< 0.001			6	20	91	70	130			
Thulium	0.001	µg/g	< 0.001			1	20	87	70	130			
Metals, ICP-MS - QCBatchID: EMS0145-MAR25													

OnLine LIMS

0004059641

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quebec MA200-Met 1.2 Digest

LR Report : **CA11022-FEB25**

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Aluminum	3	µg/g	<3			0	20	99	70	130	76	70	130
Antimony	0.8	µg/g	<0.8			ND	20	102	70	130	NV	70	130
Arsenic	0.5	µg/g	<0.5			11	20	100	70	130	89	70	130
Barium	0.01	µg/g	<0.01			0	20	103	70	130	74	70	130
Beryllium	0.02	µg/g	<0.02			5	20	99	70	130	95	70	130
Bismuth	0.09	µg/g	<0.09			4	20	99	70	130	NV	70	130
Boron	1	µg/g	<1			1	20	97	70	130	NV	70	130
Cadmium	0.02	µg/g	<0.02			0	20	99	70	130	96	70	130
Calcium	3	µg/g	<3			0	20	101	70	130	78	70	130
Chromium	0.5	µg/g	<0.5			1	20	100	70	130	83	70	130
Cobalt	0.01	µg/g	<0.01			3	20	100	70	130	74	70	130
Copper	0.1	µg/g	<0.1			3	20	108	70	130	73	70	130
Iron	3	µg/g	<3			1	20	103	70	130	88	70	130
Lead	0.05	µg/g	<0.05			2	20	101	70	130	79	70	130
Lithium	2	µg/g	<2			3	20	97	70	130	91	70	130
Magnesium	3	µg/g	<1			1	20	99	70	130	79	70	130
Manganese	0.1	µg/g	<0.1			0	20	99	70	130	77	70	130
Molybdenum	0.1	µg/g	<0.1			3	20	102	70	130	101	70	130
Nickel	0.1	µg/g	<0.1			1	20	99	70	130	75	70	130
Phosphorus	3	µg/g	<3			2	20	105	70	130	NV	70	130
Potassium	3	µg/g	<3			0	20	102	70	130	73	70	130
Selenium	0.1	µg/g	<0.1			1	20	105	70	130	NV	70	130
Silver	0.5	µg/g	<0.5			ND	20	99	70	130	85	70	130
Sodium	3	µg/g	<3			1	20	100	70	130	79	70	130
Strontium	0.02	µg/g	<0.02			2	20	100	70	130	76	70	130
Thallium	0.02	µg/g	<0.02			3	20	100	70	130	NV	70	130
Thorium	0.01	µg/g	<0.5			0	20	96	70	130	NV	70	130
Tin	5	µg/g	<5			ND	20	98	70	130	91	70	130
Titanium	0.1	µg/g	<0.1			0	20	99	70	130	NV	70	130
Uranium	0.002	µg/g	<0.002			7	20	97	70	130	70	70	130
Vanadium	1	µg/g	<1			1	20	100	70	130	87	70	130
Zinc	0.7	µg/g	<0.7			1	20	99	70	130	74	70	130

OnLine LIMS

0004059641

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

17-April-2025

Innova Lithium Inc.
Attn : John Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 05 February 2025
LR Report: **CA11023-FEB25**
Reference: Shaakichiuwaanaan Project

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: VIS-CV5-MS-229	6: VIS-CV5-MS-230	7: VIS-CV5-MS-231	8: VIS-CV5-MS-232	9: VIS-CV5-MS-233	10: VIS-CV5-MS-234
Sample Date & Time					NA	NA	NA	NA	NA	NA
Sample weight [g]	24-Mar-25	13:45	28-Mar-25	15:03	21	21	20	20	21	20
Ext Fluid [#1 or #2]	24-Mar-25	14:20	28-Mar-25	15:03	1	1	1	1	1	1
Ext Volume [mL]	24-Mar-25	14:20	28-Mar-25	15:03	400	400	400	400	400	400
pH [No unit]	25-Mar-25	13:50	01-Apr-25	09:24	8.44	8.59	7.58	8.00	8.25	8.02
Conductivity [uS/cm]	25-Mar-25	13:50	02-Apr-25	13:27	80	73	61	43	42	52
Alkalinity [mg/L as CaCO3]	25-Mar-25	13:50	01-Apr-25	09:26	28	29	11	16	15	18
Acidity [mg/L as CaCO3]	25-Mar-25	13:50	01-Apr-25	09:28	< 2	< 2	< 2	< 2	< 2	< 2
F [mg/L]	26-Mar-25	07:53	01-Apr-25	12:27	< 0.06	0.11	0.42	0.17	0.11	0.08
Br [mg/L]	25-Mar-25	21:09	01-Apr-25	09:44	< 30	< 30	< 30	< 30	< 30	< 30
Cl [mg/L]	25-Mar-25	21:09	01-Apr-25	09:44	< 20	< 20	< 20	< 20	< 20	< 20
SO4 [mg/L]	25-Mar-25	21:09	01-Apr-25	09:44	< 20	< 20	< 20	< 20	< 20	< 20
NO2 [as N mg/L]	25-Mar-25	21:09	01-Apr-25	09:44	< 3	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	25-Mar-25	21:09	01-Apr-25	09:44	< 6	< 6	< 6	< 6	< 6	< 6
Tot.Reactive P [mg/L]	26-Mar-25	15:46	31-Mar-25	17:13	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Hg [mg/L]	27-Mar-25	15:06	02-Apr-25	10:53	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	01-Apr-25	12:39	02-Apr-25	12:38	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	01-Apr-25	12:39	03-Apr-25	12:49	0.491	0.456	0.075	0.537	0.644	0.669

OnLine LIMS

0004083273

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11023-FEB25**

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: VIS-CV5-MS-229	6: VIS-CV5-MS-230	7: VIS-CV5-MS-231	8: VIS-CV5-MS-232	9: VIS-CV5-MS-233	10: VIS-CV5-MS-234
As [mg/L]	01-Apr-25	12:39	02-Apr-25	12:38	0.0026	0.0241	< 0.0002	0.0267	0.0210	0.0093
Ba [mg/L]	01-Apr-25	12:39	02-Apr-25	12:38	0.00293	0.00126	0.00168	0.00160	0.00148	0.00287
Be [mg/L]	01-Apr-25	12:39	02-Apr-25	12:38	< 0.000007	0.000037	< 0.000007	0.000080	0.000066	0.000019
B [mg/L]	01-Apr-25	12:39	02-Apr-25	12:38	0.022	0.043	0.029	0.037	0.035	0.029
Bi [mg/L]	01-Apr-25	12:39	02-Apr-25	12:38	< 0.00001	< 0.00001	< 0.00001	0.00001	< 0.00001	0.00004
Ca [mg/L]	01-Apr-25	12:39	02-Apr-25	12:38	7.71	7.44	4.32	1.05	0.99	3.27
Cd [mg/L]	01-Apr-25	12:39	02-Apr-25	12:38	0.000003	< 0.000003	< 0.000003	0.000004	< 0.000003	0.000004
Co [mg/L]	01-Apr-25	12:39	02-Apr-25	12:38	0.000066	0.000199	0.000037	0.000258	0.000225	0.000161
Cr [mg/L]	01-Apr-25	12:39	02-Apr-25	12:38	0.00064	0.00025	0.00039	0.00057	0.00033	0.00044
Cu [mg/L]	01-Apr-25	12:39	02-Apr-25	12:38	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	01-Apr-25	12:39	02-Apr-25	12:38	0.144	0.090	0.053	0.220	0.236	0.237
K [mg/L]	01-Apr-25	12:39	02-Apr-25	12:38	1.83	0.549	1.99	1.77	1.60	2.20
Li [mg/L]	01-Apr-25	12:39	03-Apr-25	12:49	0.0252	0.0129	0.0177	0.0572	0.0670	0.0861
Mg [mg/L]	01-Apr-25	12:39	02-Apr-25	12:38	0.690	0.528	0.474	0.667	0.695	0.409
Mn [mg/L]	01-Apr-25	12:39	02-Apr-25	12:38	0.00359	0.00180	0.00248	0.00525	0.00399	0.00413
Mo [mg/L]	01-Apr-25	12:39	02-Apr-25	12:38	< 0.0004	0.0027	< 0.0004	< 0.0004	0.0005	< 0.0004
Na [mg/L]	01-Apr-25	12:39	02-Apr-25	12:38	5.37	5.43	3.89	5.47	5.78	5.06
Ni [mg/L]	01-Apr-25	12:39	02-Apr-25	12:38	0.0004	0.0005	0.0011	0.0008	0.0003	0.0003
P [mg/L]	01-Apr-25	12:39	02-Apr-25	12:38	< 0.003	0.020	< 0.003	< 0.003	< 0.003	< 0.003
Pb [mg/L]	01-Apr-25	12:39	02-Apr-25	12:38	0.00033	0.00016	< 0.00009	0.00025	< 0.00009	0.00027
Sb [mg/L]	01-Apr-25	12:39	02-Apr-25	12:38	< 0.0009	0.0076	< 0.0009	0.0459	0.0045	0.0029
Se [mg/L]	01-Apr-25	12:39	02-Apr-25	12:38	0.00016	0.00045	< 0.00004	< 0.00004	< 0.00004	0.00007
Si [mg/L]	01-Apr-25	12:39	02-Apr-25	12:38	1.86	2.08	0.99	1.78	1.76	1.80
Sn [mg/L]	01-Apr-25	12:39	02-Apr-25	12:38	< 0.00006	0.00007	< 0.00006	0.00023	0.00009	0.00007
Sr [mg/L]	01-Apr-25	12:39	02-Apr-25	12:38	0.00874	0.0117	0.00605	0.00301	0.00346	0.00603
Ti [mg/L]	01-Apr-25	12:39	02-Apr-25	12:37	0.0039	0.0023	0.0024	0.0119	0.0109	0.0146
Tl [mg/L]	01-Apr-25	12:39	02-Apr-25	12:37	< 0.000005	0.000007	0.000014	0.000051	0.000021	0.000034
U [mg/L]	01-Apr-25	12:39	02-Apr-25	12:37	0.000011	0.000275	0.000033	0.000058	0.000024	0.000084
V [mg/L]	01-Apr-25	12:39	02-Apr-25	12:37	0.00198	0.00549	0.00017	0.00200	0.00195	0.00134
Zn [mg/L]	01-Apr-25	12:39	02-Apr-25	12:37	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au [mg/L]	01-Apr-25	12:39	02-Apr-25	12:37	---	---	< 0.00001	---	---	---
Ce [mg/L]	29-Mar-25	12:06	02-Apr-25	12:37	---	---	0.00028	---	---	---
Cs [mg/L]	01-Apr-25	12:39	02-Apr-25	12:37	---	---	0.0023	---	---	---

OnLine LIMS

0004083273

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11023-FEB25**

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: VIS-CV5-MS-229	6: VIS-CV5-MS-230	7: VIS-CV5-MS-231	8: VIS-CV5-MS-232	9: VIS-CV5-MS-233	10: VIS-CV5-MS-234
Dy [mg/L]	29-Mar-25	12:06	02-Apr-25	12:37	---	---	< 0.00001	---	---	---
Er [mg/L]	29-Mar-25	12:06	02-Apr-25	12:37	---	---	< 0.00001	---	---	---
Eu [mg/L]	29-Mar-25	12:06	02-Apr-25	12:37	---	---	< 0.00001	---	---	---
Ga [mg/L]	29-Mar-25	12:06	02-Apr-25	12:37	---	---	< 0.0001	---	---	---
Gd (tot) [mg/L]	29-Mar-25	12:06	02-Apr-25	12:37	---	---	0.00002	---	---	---
Ge [mg/L]	01-Apr-25	12:39	02-Apr-25	12:37	---	---	< 0.0001	---	---	---
Hf [mg/L]	01-Apr-25	12:39	02-Apr-25	12:37	---	---	< 0.0001	---	---	---
Ho [mg/L]	29-Mar-25	12:06	02-Apr-25	12:37	---	---	< 0.00001	---	---	---
In [mg/L]	29-Mar-25	12:06	02-Apr-25	12:37	---	---	< 0.00001	---	---	---
Ir [mg/L]	01-Apr-25	12:39	02-Apr-25	12:37	---	---	< 0.00001	---	---	---
La [mg/L]	29-Mar-25	12:06	02-Apr-25	12:37	---	---	0.00014	---	---	---
Lu [mg/L]	29-Mar-25	12:06	02-Apr-25	12:37	---	---	< 0.0001	---	---	---
Nb [mg/L]	01-Apr-25	12:39	02-Apr-25	12:37	---	---	< 0.0001	---	---	---
Nd [mg/L]	29-Mar-25	12:06	02-Apr-25	12:37	---	---	0.00010	---	---	---
Os [mg/L]	01-Apr-25	12:39	02-Apr-25	12:37	---	---	< 0.0001	---	---	---
Pd [mg/L]	01-Apr-25	12:39	02-Apr-25	12:37	---	---	< 0.0001	---	---	---
Pr [mg/L]	29-Mar-25	12:06	02-Apr-25	12:37	---	---	0.00003	---	---	---
Pt [mg/L]	01-Apr-25	12:39	02-Apr-25	12:37	---	---	< 0.0001	---	---	---
Rh [mg/L]	01-Apr-25	12:39	02-Apr-25	12:37	---	---	< 0.00001	---	---	---
Rb [mg/L]	01-Apr-25	12:39	02-Apr-25	12:37	---	---	0.0232	---	---	---
Re [mg/L]	01-Apr-25	12:39	02-Apr-25	12:37	---	---	< 0.0001	---	---	---
Ru [mg/L]	01-Apr-25	12:39	02-Apr-25	12:37	---	---	< 0.00001	---	---	---
Sm [mg/L]	29-Mar-25	12:06	02-Apr-25	12:37	---	---	0.00002	---	---	---
Sc [mg/L]	29-Mar-25	12:06	02-Apr-25	12:37	---	---	< 0.0001	---	---	---
Ta [mg/L]	01-Apr-25	12:39	02-Apr-25	12:37	---	---	< 0.0001	---	---	---
Tb [mg/L]	29-Mar-25	12:06	02-Apr-25	12:37	---	---	< 0.00001	---	---	---
Te [mg/L]	01-Apr-25	12:39	02-Apr-25	12:37	---	---	< 0.0001	---	---	---
Th [mg/L]	01-Apr-25	12:39	02-Apr-25	12:37	---	---	< 0.0001	---	---	---
Tm [mg/L]	29-Mar-25	12:06	02-Apr-25	12:37	---	---	< 0.00001	---	---	---

OnLine LIMS

0004083273

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11023-FEB25**

Analysis	11: VIS-CV5-MS-235	12: VIS-CV5-MS-236	13: VIS-CV5-MS-237	14: VIS-CV5-MS-238	15: VIS-CV5-MS-239	16: VIS-CV5-MS-240	17: VIS-CV5-MS-241	18: VIS-CV5-MS-242	19: VIS-CV5-MS-243	20: VIS-CV5-MS-244
Sample Date & Time	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sample weight [g]	19	20	20	21	21	20	20	21	20	21
Ext Fluid [#1 or #2]	1	1	1	1	1	1	1	1	1	1
Ext Volume [mL]	400	400	400	400	400	400	400	400	400	400
pH [No unit]	8.98	8.42	8.33	8.23	8.16	8.32	7.88	8.16	8.12	8.38
Conductivity [uS/cm]	61	64	48	62	62	64	48	60	58	61
Alkalinity [mg/L as CaCO3]	27	27	16	29	27	23	17	26	27	28
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
F [mg/L]	0.17	< 0.06	0.07	0.22	< 0.06	0.06	0.17	0.11	< 0.06	0.12
Br [mg/L]	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30
Cl [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
SO4 [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
NO2 [as N mg/L]	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Tot.Reactive P [mg/L]	< 0.03	0.04	< 0.03	< 0.03	< 0.03	< 0.03	0.03	0.03	< 0.03	< 0.03
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.670	0.797	0.690	0.696	0.625	0.654	0.548	0.628	0.461	0.782
As [mg/L]	0.0262	0.0021	0.0029	0.0140	0.0051	0.0017	0.0070	0.0095	0.0091	0.105
Ba [mg/L]	0.00239	0.00180	0.00321	0.00163	0.00090	0.00288	0.00286	0.00204	0.00090	0.00301
Be [mg/L]	0.000020	0.000023	0.000058	0.000007	< 0.000007	0.000007	0.000060	0.000010	0.000016	0.000014
B [mg/L]	0.030	0.025	0.055	0.030	0.023	0.023	0.041	0.025	0.027	0.030
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	4.61	4.72	1.68	5.18	6.02	4.43	2.08	5.39	5.43	5.29
Cd [mg/L]	< 0.000003	< 0.000003	0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	0.000109	0.000046	0.000081	0.000047	0.000046	0.000118	0.000182	0.000045	0.000052	0.000165
Cr [mg/L]	0.00008	0.00050	0.00058	< 0.00008	0.00022	0.00041	0.00056	0.00017	0.00035	0.00017
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	0.189	0.121	0.135	0.097	0.058	0.207	0.310	0.095	0.079	0.260
K [mg/L]	1.62	1.18	1.77	2.48	0.536	2.94	2.95	2.08	0.321	2.87
Li [mg/L]	0.0652	0.0052	0.0048	0.0700	0.0262	0.0565	0.0981	0.0404	0.0184	0.0721
Mg [mg/L]	0.347	0.377	0.369	0.363	0.511	0.386	0.443	0.306	0.527	0.356
Mn [mg/L]	0.00443	0.00247	0.00283	0.00226	0.00119	0.00694	0.00818	0.00218	0.00159	0.00436

OnLine LIMS

0004083273

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11023-FEB25**

Analysis	11: VIS-CV5-MS-235	12: VIS-CV5-MS-236	13: VIS-CV5-MS-237	14: VIS-CV5-MS-238	15: VIS-CV5-MS-239	16: VIS-CV5-MS-240	17: VIS-CV5-MS-241	18: VIS-CV5-MS-242	19: VIS-CV5-MS-243	20: VIS-CV5-MS-244
Mo [mg/L]	0.0008	0.0014	0.0014	< 0.0004	< 0.0004	< 0.0004	0.0005	0.0004	0.0005	< 0.0004
Na [mg/L]	5.86	6.43	6.83	5.22	4.98	4.36	5.24	4.73	5.14	5.00
Ni [mg/L]	0.0001	0.0001	0.0001	0.0002	0.0003	0.0002	0.0004	0.0001	0.0002	0.0003
P [mg/L]	0.011	0.008	0.019	0.006	0.005	< 0.003	0.004	0.005	< 0.003	0.012
Pb [mg/L]	0.00030	0.00021	0.00011	< 0.00009	< 0.00009	0.00022	0.00017	< 0.00009	< 0.00009	0.00028
Sb [mg/L]	0.0056	< 0.0009	0.0011	0.0068	0.0149	0.0011	0.0082	0.0034	0.0028	0.0032
Se [mg/L]	< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004	0.00005	< 0.00004
Si [mg/L]	1.96	2.27	2.17	2.06	2.27	2.04	1.87	2.00	2.32	2.27
Sn [mg/L]	0.00015	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	0.00021	< 0.00006	< 0.00006	0.00014
Sr [mg/L]	0.00935	0.00591	0.00382	0.00833	0.00935	0.00696	0.00458	0.0104	0.00730	0.00620
Ti [mg/L]	0.0115	0.0126	0.0086	0.0073	0.0034	0.0154	0.0231	0.0065	0.0033	0.0166
Tl [mg/L]	0.000051	0.000006	0.000012	0.000014	< 0.000005	0.000017	0.000094	0.000010	< 0.000005	0.000031
U [mg/L]	0.000092	0.000092	0.000307	0.000048	0.000007	0.000154	0.000147	0.000034	0.000041	0.000037
V [mg/L]	0.00132	0.00351	0.00339	0.00296	0.00319	0.00178	0.00144	0.00203	0.00223	0.00292
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Ce [mg/L]	0.00072	---	---	---	0.00006	---	---	---	0.00019	---
Cs [mg/L]	0.0120	---	---	---	0.0009	---	---	---	0.0016	---
Dy [mg/L]	0.00004	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Er [mg/L]	0.00002	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Eu [mg/L]	0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Ga [mg/L]	0.0006	---	---	---	0.0006	---	---	---	0.0005	---
Gd (tot) [mg/L]	0.00006	---	---	---	< 0.00001	---	---	---	0.00002	---
Ge [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Hf [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Ho [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
In [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Ir [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
La [mg/L]	0.00037	---	---	---	0.00003	---	---	---	0.00010	---
Lu [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Nb [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Nd [mg/L]	0.00034	---	---	---	0.00003	---	---	---	0.00007	---
Os [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---

OnLine LIMS

0004083273

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11023-FEB25**

Analysis	11: VIS-CV5-MS-235	12: VIS-CV5-MS-236	13: VIS-CV5-MS-237	14: VIS-CV5-MS-238	15: VIS-CV5-MS-239	16: VIS-CV5-MS-240	17: VIS-CV5-MS-241	18: VIS-CV5-MS-242	19: VIS-CV5-MS-243	20: VIS-CV5-MS-244
Pd [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Pr [mg/L]	0.00009	---	---	---	< 0.00001	---	---	---	0.00002	---
Pt [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Rh [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Rb [mg/L]	0.0237	---	---	---	0.0033	---	---	---	0.0040	---
Re [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Ru [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Sm [mg/L]	0.00005	---	---	---	< 0.00001	---	---	---	0.00002	---
Sc [mg/L]	0.0001	---	---	---	< 0.0001	---	---	---	0.0001	---
Ta [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Tb [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Te [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Th [mg/L]	0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Tm [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---

Analysis	21: VIS-CV5-MS-245	22: VIS-CV5-MS-246	23: VIS-CV5-MS-247	24: VIS-CV5-MS-248	25: VIS-CV5-MS-249	26: VIS-CV5-MS-250	27: VIS-CV5-MS-251	28: VIS-CV5-MS-252	29: VIS-CV5-MS-253	30: VIS-CV5-MS-254
Sample Date & Time	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sample weight [g]	20	21	20	21	19	20	20	20	20	20
Ext Fluid [#1 or #2]	1	1	1	1	1	1	1	1	1	1
Ext Volume [mL]	400	400	400	400	400	400	400	400	400	400
pH [No unit]	8.57	8.24	8.38	8.31	8.49	8.05	8.05	8.50	7.58	8.73
Conductivity [uS/cm]	62	56	57	63	59	62	58	63	82	59
Alkalinity [mg/L as CaCO3]	27	24	31	29	28	28	26	26	15	25
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
F [mg/L]	0.24	0.31	0.39	< 0.06	0.22	< 0.06	< 0.06	0.40	0.61	0.13
Br [mg/L]	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30
Cl [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
SO4 [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
NO2 [as N mg/L]	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0004083273

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11023-FEB25**

Analysis	21: VIS-CV5-MS-245	22: VIS-CV5-MS-246	23: VIS-CV5-MS-247	24: VIS-CV5-MS-248	25: VIS-CV5-MS-249	26: VIS-CV5-MS-250	27: VIS-CV5-MS-251	28: VIS-CV5-MS-252	29: VIS-CV5-MS-253	30: VIS-CV5-MS-254
Tot.Reactive P [mg/L]	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	0.04	< 0.03	< 0.03
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.986	0.747	0.732	0.637	0.729	0.338	0.806	0.454	0.022	0.916
As [mg/L]	0.0099	0.0123	0.0446	0.0192	0.0169	0.0033	0.0069	0.0127	0.0005	0.0706
Ba [mg/L]	0.00326	0.00286	0.00286	0.00112	0.00258	0.00029	0.00246	0.00076	0.00186	0.00417
Be [mg/L]	0.000014	0.000039	0.000023	< 0.000007	0.000016	< 0.000007	0.000016	0.000102	< 0.000007	0.000034
B [mg/L]	0.029	0.027	0.032	0.024	0.024	0.021	0.031	0.059	0.032	0.040
Bi [mg/L]	< 0.00001	0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00003	< 0.00001	< 0.00001
Ca [mg/L]	4.62	4.22	3.33	5.13	4.68	6.92	4.77	6.19	8.14	4.39
Cd [mg/L]	0.000003	0.000003	0.000008	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	0.000175	0.000095	0.000162	0.000018	0.000110	0.000013	0.000066	0.000042	0.000027	0.000246
Cr [mg/L]	0.00026	0.00021	0.00027	< 0.00008	0.00013	< 0.00008	< 0.00008	0.00014	< 0.00008	0.00112
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	0.444	0.253	0.394	0.043	0.215	0.049	0.137	0.031	0.008	0.261
K [mg/L]	3.57	1.96	2.74	2.88	2.74	0.089	1.75	0.429	1.46	3.19
Li [mg/L]	0.100	0.0771	0.180	0.110	0.163	0.0029	0.0199	0.0320	0.0455	0.0963
Mg [mg/L]	0.439	0.331	0.375	0.328	0.399	0.364	0.461	0.489	0.421	0.504
Mn [mg/L]	0.00982	0.00742	0.01535	0.00077	0.00537	0.00056	0.00354	0.00094	0.00714	0.00769
Mo [mg/L]	< 0.0004	0.0023	< 0.0004	< 0.0004	< 0.0004	0.0006	0.0011	< 0.0004	0.0005	< 0.0004
Na [mg/L]	5.23	5.35	5.61	4.89	4.94	4.74	5.11	5.93	4.26	5.16
Ni [mg/L]	0.0003	0.0002	0.0002	< 0.0001	0.0001	< 0.0001	0.0002	< 0.0001	0.0009	0.0007
P [mg/L]	0.014	0.005	0.017	0.005	0.004	0.006	0.011	0.029	< 0.003	0.005
Pb [mg/L]	0.00043	0.00058	0.00091	< 0.00009	0.00019	< 0.00009	0.00015	< 0.00009	< 0.00009	0.00014
Sb [mg/L]	0.0028	0.0036	0.0140	0.0060	0.0054	< 0.0009	0.0014	0.0070	0.0011	0.0359
Se [mg/L]	< 0.00004	< 0.00004	0.00005	< 0.00004	< 0.00004	< 0.00004	< 0.00004	0.00010	< 0.00004	0.00008
Si [mg/L]	2.48	2.12	2.11	1.83	2.03	1.69	2.23	1.45	1.08	2.88
Sn [mg/L]	< 0.00006	0.00011	0.00012	< 0.00006	< 0.00006	< 0.00006	0.00011	0.00011	< 0.00006	0.00008
Sr [mg/L]	0.00842	0.00677	0.00712	0.00751	0.0126	0.00484	0.00931	0.00875	0.00923	0.0154
Ti [mg/L]	0.0395	0.0176	0.0260	0.0031	0.0155	0.0011	0.0081	0.0024	0.0002	0.0180
Tl [mg/L]	0.000052	0.000129	0.000122	0.000007	0.000037	< 0.000005	0.000028	0.000027	< 0.000005	0.000062
U [mg/L]	0.000127	0.000149	0.000117	0.000029	0.000071	0.000053	0.000032	0.000069	0.000006	0.000103
V [mg/L]	0.00533	0.00143	0.00241	0.00146	0.00220	0.00027	0.00214	0.00242	0.00008	0.00339

OnLine LIMS

0004083273

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11023-FEB25**

Analysis	21: VIS-CV5-MS-245	22: VIS-CV5-MS-246	23: VIS-CV5-MS-247	24: VIS-CV5-MS-248	25: VIS-CV5-MS-249	26: VIS-CV5-MS-250	27: VIS-CV5-MS-251	28: VIS-CV5-MS-252	29: VIS-CV5-MS-253	30: VIS-CV5-MS-254
Zn [mg/L]	0.004	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Ce [mg/L]	---	---	0.00196	---	---	---	0.00025	---	---	---
Cs [mg/L]	---	---	0.0480	---	---	---	0.0006	---	---	---
Dy [mg/L]	---	---	0.00010	---	---	---	0.00001	---	---	---
Er [mg/L]	---	---	0.00004	---	---	---	< 0.00001	---	---	---
Eu [mg/L]	---	---	0.00002	---	---	---	< 0.00001	---	---	---
Ga [mg/L]	---	---	0.0006	---	---	---	0.0007	---	---	---
Gd (tot) [mg/L]	---	---	0.00015	---	---	---	0.00002	---	---	---
Ge [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Hf [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Ho [mg/L]	---	---	0.00001	---	---	---	< 0.00001	---	---	---
In [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Ir [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
La [mg/L]	---	---	0.00096	---	---	---	0.00012	---	---	---
Lu [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Nb [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Nd [mg/L]	---	---	0.00089	---	---	---	0.00011	---	---	---
Os [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Pd [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Pr [mg/L]	---	---	0.00024	---	---	---	0.00003	---	---	---
Pt [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Rh [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Rb [mg/L]	---	---	0.0830	---	---	---	0.0037	---	---	---
Re [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Ru [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Sm [mg/L]	---	---	0.00016	---	---	---	0.00002	---	---	---
Sc [mg/L]	---	---	0.0002	---	---	---	0.0001	---	---	---
Ta [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Tb [mg/L]	---	---	0.00002	---	---	---	< 0.00001	---	---	---
Te [mg/L]	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Th [mg/L]	---	---	0.0002	---	---	---	< 0.0001	---	---	---
Tm [mg/L]	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---

OnLine LIMS

0004083273

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11023-FEB25**

Analysis	31: VIS-CV5-MS-255	32: VIS-CV5-MS-256	33: VIS-CV5-MS-257	34: VIS-CV5-MS-258	35: VIS-CV5-PEG-2 59	36: VIS-CV5-PEG-2 60	37: VIS-CV5-PEG-2 61	38: VIS-CV5-PEG-2 62	39: VIS-CV5-PEG-2 63	40: VIS-CV5-PEG-2 64
Sample Date & Time	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sample weight [g]	20	20	21	19	20	20	20	20	19	20
Ext Fluid [#1 or #2]	1	1	1	1	1	1	1	1	1	1
Ext Volume [mL]	400	400	400	400	400	400	400	400	400	400
pH [No unit]	8.33	8.13	7.88	8.61	8.31	7.90	7.73	7.39	7.50	7.92
Conductivity [uS/cm]	61	59	46	58	58	39	40	26	24	41
Alkalinity [mg/L as CaCO3]	25	26	16	25	26	12	14	6	6	15
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
F [mg/L]	0.28	0.36	< 0.06	< 0.06	< 0.06	0.10	0.08	0.07	0.06	0.06
Br [mg/L]	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30
Cl [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
SO4 [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
NO2 [as N mg/L]	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Tot.Reactive P [mg/L]	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	0.03	< 0.03	0.03	0.04	0.05
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.895	0.953	0.920	0.577	0.785	0.471	0.310	0.207	0.145	0.428
As [mg/L]	0.0407	0.0040	0.0022	0.0396	0.0217	0.0130	0.0106	0.0514	0.0176	0.0420
Ba [mg/L]	0.00350	0.00420	0.00146	0.00359	0.00227	0.00067	0.00173	0.00079	0.00080	0.00059
Be [mg/L]	0.000015	0.000009	< 0.000007	< 0.000007	0.000128	0.000106	0.000159	0.000066	0.000075	0.000220
B [mg/L]	0.030	0.033	0.017	0.034	0.104	0.008	0.046	0.012	0.012	0.040
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00001	0.00001	0.00114	0.00013	< 0.00001	0.00005	0.00002
Ca [mg/L]	5.69	4.39	6.51	5.07	6.11	4.25	1.97	1.81	1.05	1.69
Cd [mg/L]	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	0.000003	< 0.000003	0.000005	0.000005	< 0.000003
Co [mg/L]	0.000140	0.000142	0.000024	0.000428	0.000048	0.000017	0.000068	0.000007	0.000012	0.000034
Cr [mg/L]	0.00053	0.00088	0.00018	0.00023	0.00017	0.00022	0.00008	0.00019	< 0.00008	0.00086
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	0.159	0.303	0.008	0.277	0.064	0.026	0.122	0.027	0.018	0.026
K [mg/L]	2.03	2.45	1.04	2.39	0.433	2.51	0.688	0.429	1.00	0.108
Li [mg/L]	0.0655	0.0607	0.0036	0.0105	0.0157	0.0415	0.0510	0.0284	0.0308	0.0123
Mg [mg/L]	0.361	0.438	0.110	0.405	0.349	0.290	0.440	0.050	0.092	0.074
Mn [mg/L]	0.00490	0.00547	0.00061	0.00325	0.00168	0.00636	0.00470	0.00711	0.00369	0.00266

OnLine LIMS

0004083273

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11023-FEB25**

Analysis	31: VIS-CV5-MS-255	32: VIS-CV5-MS-256	33: VIS-CV5-MS-257	34: VIS-CV5-MS-258	35: VIS-CV5-PEG-2 59	36: VIS-CV5-PEG-2 60	37: VIS-CV5-PEG-2 61	38: VIS-CV5-PEG-2 62	39: VIS-CV5-PEG-2 63	40: VIS-CV5-PEG-2 64
Mo [mg/L]	0.0006	< 0.0004	< 0.0004	< 0.0004	< 0.0004	0.0019	< 0.0004	0.0008	0.0004	0.0006
Na [mg/L]	5.03	5.73	1.27	4.65	5.40	1.20	5.38	2.46	2.19	6.70
Ni [mg/L]	0.0004	0.0003	< 0.0001	0.0004	0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
P [mg/L]	0.004	0.007	0.009	< 0.003	0.008	0.067	0.018	0.050	0.057	0.046
Pb [mg/L]	0.00010	0.00013	< 0.00009	0.00029	0.00018	0.00010	0.00015	0.00010	< 0.00009	0.00029
Sb [mg/L]	0.0152	0.0074	< 0.0009	0.0012	0.0104	0.0022	0.0025	0.0076	0.0076	0.0060
Se [mg/L]	0.00004	< 0.00004	< 0.00004	< 0.00004	0.00011	< 0.00004	< 0.00004	< 0.00004	0.00009	< 0.00004
Si [mg/L]	2.32	2.34	1.89	1.92	2.28	1.75	2.10	1.22	1.15	1.98
Sn [mg/L]	< 0.00006	0.00048	< 0.00006	< 0.00006	< 0.00006	0.00019	0.00088	0.00018	0.00051	0.00092
Sr [mg/L]	0.00833	0.00635	0.00996	0.00939	0.0102	0.00797	0.00669	0.00699	0.00490	0.00279
Ti [mg/L]	0.0124	0.0183	0.0017	0.0164	0.0044	0.0002	0.0005	0.0001	0.0002	0.0008
Tl [mg/L]	0.000018	0.000013	< 0.000005	0.000020	0.000024	0.000256	0.000118	0.000062	0.000054	0.000030
U [mg/L]	0.000128	0.000077	0.001031	0.000192	0.000452	0.000113	0.000122	0.0258	0.000381	0.0136
V [mg/L]	0.00306	0.00373	0.00270	0.00181	0.00113	0.00041	0.00045	0.00018	0.00014	0.00032
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au [mg/L]	< 0.00001	---	---	---	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00001	0.00004
Ce [mg/L]	0.00030	---	---	---	0.00052	< 0.00001	0.00004	0.00006	< 0.00001	0.00014
Cs [mg/L]	0.0030	---	---	---	0.0150	0.0107	0.0076	0.0156	0.0273	0.0028
Dy [mg/L]	0.00001	---	---	---	0.00002	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00002
Er [mg/L]	< 0.00001	---	---	---	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu [mg/L]	< 0.00001	---	---	---	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga [mg/L]	0.0007	---	---	---	0.0007	0.0013	0.0013	0.0008	0.0009	0.0007
Gd (tot) [mg/L]	0.00003	---	---	---	0.00003	< 0.00001	0.00002	< 0.00001	< 0.00001	0.00004
Ge [mg/L]	< 0.0001	---	---	---	< 0.0001	0.0001	< 0.0001	0.0001	< 0.0001	0.0001
Hf [mg/L]	< 0.0001	---	---	---	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho [mg/L]	< 0.00001	---	---	---	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In [mg/L]	< 0.00001	---	---	---	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir [mg/L]	< 0.00001	---	---	---	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La [mg/L]	0.00015	---	---	---	0.00026	< 0.00001	0.00002	0.00002	< 0.00001	0.00008
Lu [mg/L]	< 0.0001	---	---	---	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb [mg/L]	< 0.0001	---	---	---	< 0.0001	< 0.0001	0.0001	0.0003	0.0001	0.0016
Nd [mg/L]	0.00013	---	---	---	0.00017	< 0.00001	0.00005	0.00003	< 0.00001	0.00007
Os [mg/L]	< 0.0001	---	---	---	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001

OnLine LIMS

0004083273

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11023-FEB25**

Analysis	31: VIS-CV5-MS-255	32: VIS-CV5-MS-256	33: VIS-CV5-MS-257	34: VIS-CV5-MS-258	35: VIS-CV5-PEG-2 59	36: VIS-CV5-PEG-2 60	37: VIS-CV5-PEG-2 61	38: VIS-CV5-PEG-2 62	39: VIS-CV5-PEG-2 63	40: VIS-CV5-PEG-2 64
Pd [mg/L]	< 0.0001	---	---	---	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr [mg/L]	0.00003	---	---	---	0.00005	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00002
Pt [mg/L]	< 0.0001	---	---	---	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh [mg/L]	< 0.00001	---	---	---	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Rb [mg/L]	0.0189	---	---	---	0.0156	0.147	0.0295	0.0247	0.0204	0.0056
Re [mg/L]	< 0.0001	---	---	---	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ru [mg/L]	< 0.00001	---	---	---	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sm [mg/L]	0.00002	---	---	---	0.00004	< 0.00001	0.00002	< 0.00001	< 0.00001	0.00004
Sc [mg/L]	0.0002	---	---	---	0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001
Ta [mg/L]	< 0.0001	---	---	---	0.0002	< 0.0001	0.0003	0.0004	0.0010	0.0016
Tb [mg/L]	< 0.00001	---	---	---	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te [mg/L]	< 0.0001	---	---	---	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th [mg/L]	< 0.0001	---	---	---	0.0001	< 0.0001	0.0005	0.0001	< 0.0001	0.0008
Tm [mg/L]	< 0.00001	---	---	---	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Analysis	41: VIS-CV5-PEG-2 65	42: VIS-CV5-PEG-2 66	43: VIS-CV5-PEG-2 67	44: VIS-CV5-PEG-2 68	45: VIS-CV5-PEG-2 69	46: VIS-CV5-PEG-2 70	47: VIS-CV5-PEG-2 71	48: VIS-CV5-PEG-2 72	49: VIS-CV5-PEG-2 73	50: VIS-CV5-PEG-2 74
Sample Date & Time	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sample weight [g]	21	19	20	20	20	20	20	20	19	20
Ext Fluid [#1 or #2]	1	1	1	1	1	1	1	1	1	1
Ext Volume [mL]	400	400	400	400	400	400	400	400	400	400
pH [No unit]	8.21	8.55	8.26	8.47	7.84	8.78	7.71	8.24	8.23	8.92
Conductivity [uS/cm]	55	56	47	61	38	53	28	35	40	59
Alkalinity [mg/L as CaCO3]	24	23	15	22	14	24	9	12	14	26
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
F [mg/L]	< 0.06	0.11	0.18	0.06	0.10	< 0.06	0.12	0.10	< 0.06	0.13
Br [mg/L]	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30
Cl [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
SO4 [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
NO2 [as N mg/L]	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0004083273

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11023-FEB25**

Analysis	41: VIS-CV5-PEG-2 65	42: VIS-CV5-PEG-2 66	43: VIS-CV5-PEG-2 67	44: VIS-CV5-PEG-2 68	45: VIS-CV5-PEG-2 69	46: VIS-CV5-PEG-2 70	47: VIS-CV5-PEG-2 71	48: VIS-CV5-PEG-2 72	49: VIS-CV5-PEG-2 73	50: VIS-CV5-PEG-2 74
Tot.Reactive P [mg/L]	0.03	0.06	0.22	0.06	0.04	< 0.03	0.12	0.05	0.06	0.06
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.932	0.641	0.626	0.384	0.708	0.487	0.659	0.695	0.405	0.296
As [mg/L]	0.0227	0.0090	0.0094	0.0063	0.0125	0.0420	0.0303	0.0120	0.0226	0.158
Ba [mg/L]	0.00128	0.00147	0.00101	0.00086	0.00061	0.00056	0.00088	0.00097	0.00162	0.00056
Be [mg/L]	0.000167	0.00108	0.00158	0.00132	0.000216	0.000132	0.000378	0.00485	0.00121	0.000103
B [mg/L]	0.027	0.031	0.039	0.026	0.043	0.019	0.035	0.048	0.040	0.039
Bi [mg/L]	0.00002	0.00034	0.00138	0.00012	0.00012	< 0.00001	0.00001	< 0.00001	0.00016	0.00031
Ca [mg/L]	4.73	4.33	2.74	6.10	2.22	6.22	1.89	0.79	1.93	6.06
Cd [mg/L]	< 0.000003	< 0.000003	0.000004	0.000003	0.000005	0.000005	0.000011	< 0.000003	0.000013	< 0.000003
Co [mg/L]	0.000215	0.000068	0.000047	0.000039	0.000008	0.000512	0.000028	0.000042	0.000049	0.000032
Cr [mg/L]	0.00012	0.00111	0.00075	0.00040	< 0.00008	0.00011	0.00016	0.00016	0.00019	0.00012
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	0.046	0.041	0.046	0.038	0.046	0.049	0.015	0.065	0.040	0.020
K [mg/L]	0.260	1.72	1.30	0.578	0.983	0.076	1.48	0.846	1.58	0.125
Li [mg/L]	0.0205	0.0334	0.0759	0.0232	0.0336	0.0105	0.0286	0.0044	0.0096	0.0155
Mg [mg/L]	0.144	0.278	0.218	0.266	0.097	0.208	0.144	0.170	0.126	0.504
Mn [mg/L]	0.00489	0.00456	0.0253	0.00325	0.0193	0.00176	0.0103	0.00355	0.00581	0.00052
Mo [mg/L]	< 0.0004	0.0014	0.0012	0.0013	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	0.0011
Na [mg/L]	6.04	6.49	6.26	5.87	5.64	5.05	4.28	6.54	5.60	6.80
Ni [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001	< 0.0001	0.0001
P [mg/L]	0.036	0.073	0.231	0.083	0.057	0.015	0.146	0.059	0.071	0.043
Pb [mg/L]	0.00034	0.00055	0.00033	0.00015	0.00091	0.00651	0.00014	0.00011	0.00049	0.00048
Sb [mg/L]	0.0040	0.0020	0.0020	0.0015	0.0059	0.0018	0.0044	0.0028	0.0035	0.0109
Se [mg/L]	< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004	0.00004	< 0.00004	< 0.00004	0.00007	0.00005
Si [mg/L]	2.86	2.82	2.31	2.27	2.45	2.22	2.17	2.20	1.91	1.90
Sn [mg/L]	0.00091	0.00098	0.00136	0.00027	0.00084	0.00014	0.00074	0.00124	0.00235	0.00065
Sr [mg/L]	0.00684	0.00855	0.00551	0.0112	0.00563	0.00967	0.00834	0.00186	0.00323	0.0176
Ti [mg/L]	0.0006	0.0003	0.0010	0.0002	0.0009	0.0003	0.0005	0.0013	0.0015	0.0002
Tl [mg/L]	0.000039	0.000355	0.000358	0.000069	0.000269	0.000015	0.000348	0.000092	0.000284	0.000012
U [mg/L]	0.0196	0.000144	0.000100	0.000141	0.0102	0.000375	0.000866	0.000840	0.000398	0.000256
V [mg/L]	0.00012	0.00062	0.00043	0.00025	0.00017	0.00012	0.00012	0.00016	0.00053	0.00131

OnLine LIMS

0004083273

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11023-FEB25**

Analysis	41: VIS-CV5-PEG-2 65	42: VIS-CV5-PEG-2 66	43: VIS-CV5-PEG-2 67	44: VIS-CV5-PEG-2 68	45: VIS-CV5-PEG-2 69	46: VIS-CV5-PEG-2 70	47: VIS-CV5-PEG-2 71	48: VIS-CV5-PEG-2 72	49: VIS-CV5-PEG-2 73	50: VIS-CV5-PEG-2 74
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au [mg/L]	0.00003	< 0.00001	0.00002	< 0.00001	0.00004	< 0.00001	< 0.00001	0.00002	< 0.00001	< 0.00001
Ce [mg/L]	0.00009	0.00007	0.00004	0.00012	0.00031	0.00009	0.00006	0.00009	0.00017	0.00001
Cs [mg/L]	0.0059	0.0079	0.0116	0.0036	0.0143	0.0009	0.0095	0.0035	0.0052	0.0265
Dy [mg/L]	0.00002	< 0.00001	< 0.00001	0.00009	0.00012	0.00002	< 0.00001	0.00002	< 0.00001	< 0.00001
Er [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00008	0.00002	0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00009	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga [mg/L]	0.0009	0.0009	0.0015	0.0009	0.0010	0.0007	0.0009	0.0013	0.0009	0.0007
Gd (tot) [mg/L]	0.00003	< 0.00001	0.00001	0.00009	0.00018	0.00002	0.00002	0.00003	0.00002	< 0.00001
Ge [mg/L]	0.0001	0.0001	0.0001	0.0001	0.0002	< 0.0001	0.0001	0.0001	< 0.0001	< 0.0001
Hf [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00008	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La [mg/L]	0.00009	0.00004	0.00002	0.00009	0.00014	0.00005	0.00004	0.00003	0.00009	< 0.00001
Lu [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb [mg/L]	0.0017	0.0002	0.0004	0.0003	0.0029	0.0003	0.0004	0.0009	0.0005	0.0003
Nd [mg/L]	0.00006	0.00003	0.00003	0.00010	0.00018	0.00004	0.00002	0.00008	0.00007	< 0.00001
Os [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr [mg/L]	0.00001	< 0.00001	< 0.00001	0.00009	0.00005	0.00001	< 0.00001	0.00002	0.00002	< 0.00001
Pt [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Rb [mg/L]	0.0069	0.0957	0.100	0.0307	0.0762	0.0016	0.107	0.0420	0.0904	0.0049
Re [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ru [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sm [mg/L]	0.00002	< 0.00001	< 0.00001	0.00008	0.00018	0.00001	0.00001	0.00003	0.00001	< 0.00001
Sc [mg/L]	< 0.0001	0.0001	< 0.0001	0.0001	0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ta [mg/L]	0.0011	0.0002	0.0008	0.0002	0.0014	0.0003	0.0004	0.0006	0.0004	< 0.0001
Tb [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00008	0.00003	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th [mg/L]	0.0006	< 0.0001	0.0001	0.0001	0.0012	< 0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001
Tm [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00008	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

OnLine LIMS

0004083273

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11023-FEB25**

Analysis	51: VIS-CV5-PEG-275	52: VIS-CV5-PEG-276	53: VIS-CV5-MS-249	54: VIS-CV5-PEG-276	55:BLK: $SPLP1312 Blank #1
Sample Date & Time	NA	NA			
Sample weight [g]	20	20	19	20	< 0.001
Ext Fluid [#1 or #2]	1	1	1	1	1
Ext Volume [mL]	400	400	400	400	400
pH [No unit]	8.49	8.22	8.50	8.42	4.24
Conductivity [uS/cm]	44	37	61	36	33
Alkalinity [mg/L as CaCO3]	16	11	32	11	< 2
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	6
F [mg/L]	0.10	0.14	0.23	0.12	< 0.06
Br [mg/L]	< 30	< 30	< 30	< 30	< 30
Cl [mg/L]	< 20	< 20	< 20	< 20	< 20
SO4 [mg/L]	< 20	< 20	< 20	< 20	< 20
NO2 [as N mg/L]	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	< 6	< 6	< 6	< 6	< 6
Tot.Reactive P [mg/L]	0.09	0.10	< 0.03	0.10	< 0.03
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	1.19	0.717	0.700	0.811	< 0.001
As [mg/L]	0.0083	0.0495	0.0173	0.0502	< 0.0002
Ba [mg/L]	0.00132	0.00122	0.00284	0.00132	< 0.00008
Be [mg/L]	0.00253	0.000311	0.000010	0.000358	< 0.000007
B [mg/L]	0.038	0.049	0.024	0.048	< 0.002
Bi [mg/L]	0.00693	0.00006	< 0.00001	0.00008	< 0.00001
Ca [mg/L]	2.86	0.84	4.64	0.83	< 0.01
Cd [mg/L]	0.000010	0.000011	< 0.000003	0.000008	< 0.000003
Co [mg/L]	0.000076	0.000037	0.000098	0.000040	< 0.000004
Cr [mg/L]	0.00008	< 0.00008	0.00013	0.00011	0.00011
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	0.040	0.043	0.204	0.047	< 0.007
K [mg/L]	1.63	2.01	2.68	1.29	0.346
Li [mg/L]	0.0348	0.0304	0.166	0.0299	< 0.0001
Mg [mg/L]	0.177	0.108	0.385	0.112	< 0.001
Mn [mg/L]	0.0106	0.00589	0.00519	0.00629	0.00006

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	51: VIS-CV5-PEG-275	52: VIS-CV5-PEG-276	53: VIS-CV5-MS-249	54: VIS-CV5-PEG-276	55:BLK: $SPLP1312 Blank #1
Mo [mg/L]	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	6.59	6.27	4.74	6.34	< 0.01
Ni [mg/L]	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001
P [mg/L]	0.115	0.091	0.006	0.103	< 0.003
Pb [mg/L]	0.00052	0.00019	0.00045	0.00022	< 0.00009
Sb [mg/L]	0.0026	0.0066	0.0053	0.0064	< 0.0009
Se [mg/L]	< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004
Si [mg/L]	3.76	2.49	2.03	2.75	< 0.02
Sn [mg/L]	0.00146	0.00070	< 0.00006	0.00073	< 0.00006
Sr [mg/L]	0.00465	0.00353	0.0121	0.00362	< 0.00008
Ti [mg/L]	0.0008	0.0009	0.0153	0.0010	< 0.0001
Tl [mg/L]	0.000566	0.000301	0.000037	0.000329	< 0.000005
U [mg/L]	0.00207	0.000694	0.000068	0.000728	< 0.000002
V [mg/L]	0.00033	0.00033	0.00221	0.00035	< 0.00001
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au [mg/L]	0.00007	0.00003	< 0.00001	0.00002	< 0.00001
Ce [mg/L]	0.00008	0.00006	0.00041	0.00005	< 0.00001
Cs [mg/L]	0.0097	0.0065	0.0228	0.0068	< 0.0001
Dy [mg/L]	0.00002	0.00001	0.00003	0.00002	< 0.00001
Er [mg/L]	< 0.00001	< 0.00001	0.00001	< 0.00001	< 0.00001
Eu [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga [mg/L]	0.0010	0.0008	0.0005	0.0008	< 0.0001
Gd (tot) [mg/L]	0.00004	0.00003	0.00004	0.00002	< 0.00001
Ge [mg/L]	0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001
Hf [mg/L]	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La [mg/L]	0.00006	0.00002	0.00020	0.00003	< 0.00001
Lu [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb [mg/L]	0.0026	0.0004	< 0.0001	0.0005	< 0.0001
Nd [mg/L]	0.00003	0.00004	0.00019	0.00003	< 0.00001
Os [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001

OnLine LIMS

0004083273

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	51: VIS-CV5-PEG-275	52: VIS-CV5-PEG-276	53: VIS-CV5-MS-249	54: VIS-CV5-PEG-276	55:BLK: $SPLP1312 Blank #1
Pd [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr [mg/L]	< 0.00001	< 0.00001	0.00005	< 0.00001	< 0.00001
Pt [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Rb [mg/L]	0.0859	0.0699	0.0299	0.0716	< 0.0001
Re [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ru [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sm [mg/L]	0.00003	0.00002	0.00003	0.00002	< 0.00001
Sc [mg/L]	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001
Ta [mg/L]	0.0024	0.0007	< 0.0001	0.0006	< 0.0001
Tb [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th [mg/L]	0.0003	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Phos TR spike recovery is low due to sample matrix.

Method Descriptions

Parameter	Units	SGS Method Code	CALA	PALA
	#1 or #2	NA	N	N
	g	NA	N	N
	mL	NA	N	N
Acidity	mg/L as CaCO3	ME-CA-[ENV]EWL-LAK-AN-006	Y	N
Alkalinity	mg/L as CaCO3	ME-CA-[ENV]EWL-LAK-AN-006	Y	N
Anions by IC	mg/L	ME-CA-[ENV]IC-LAK-AN-001	Y	N
Anions by IC	mg/L	ME-CA-[ENV]IC-LAK-AN-001	Y	Y
Conductivity	uS/cm	ME-CA-[ENV]EWL-LAK-AN-006	Y	Y
Fluoride by Specific Ion Electrode	mg/L	ME-CA-[ENV]EWL-LAK-AN-014	Y	Y
Inorganics-General	mg/L	ME-CA-[ENV]SPE-LAK-AN-004	Y	Y
Metals in aqueous samples - ICP-MS	mg/L	ME-CA-[ENV]SPE-LAK-AN-006	Y	N
Metals in aqueous samples - ICP-MS	mg/L	ME-CA-[ENV]SPE-LAK-AN-006	Y	Y
pH	No unit	ME-CA-[ENV]EWL-LAK-AN-006	Y	Y
Reactive Phosphorus by SFA	mg/L	ME-CA-[ENV]SFA-LAK-AN-004	Y	N

OnLine LIMS

0004083273

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

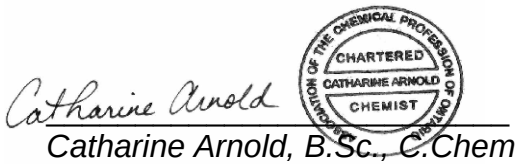
Accreditation Descriptions

CALA:

SGS Canada Industries & Environment conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation found at https://directory.cala.ca/#. Analytes and SGS Method Codes marked with a “Y” in the “CALA” column in the table denote ISO/IEC17025 accreditation

PALA:

SGS Canada Industries & Environment conforms to the requirements of ISO/IEC 17025:2005 for specific tests as listed on their scope of accreditation found at https://www.ceaeq.gouv.qc.ca/documents/publications/listes.htm#labo_accr. Analytes and SGS Method Codes marked with a “Y” in the “PALA” column in the table denote ISO/IEC17025:2005 accreditation



Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0004083273

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quality Control Report

Inorganic Analysis													
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Acidity - QCBatchID: EWL0472-MAR25													
Acidity	2	mg/L as Ca	2			ND	20	108	90	110	NA		
Acidity - QCBatchID: EWL0478-MAR25													
Acidity	2	mg/L as Ca	2			ND	20	102	90	110	NA		
Acidity - QCBatchID: EWL0544-MAR25													
Acidity	2	mg/L as Ca	2			ND	20	100	90	110	NA		
Alkalinity - QCBatchID: EWL0472-MAR25													
Alkalinity	2	mg/L as Ca	< 2			5	20	104	80	120	NA		
Alkalinity - QCBatchID: EWL0478-MAR25													
Alkalinity	2	mg/L as Ca	< 2			0	20	98	80	120	NA		
Alkalinity - QCBatchID: EWL0544-MAR25													
Alkalinity	2	mg/L as Ca	< 2			0	20	93	80	120	NA		
Anions by IC - QCBatchID: DIO0547-MAR25													
Bromide	0.3	mg/L	<0.3			ND	20	101	90	110	100	75	125
Chloride	0.2	mg/L	<0.2			ND	20	100	90	110	102	75	125
Nitrate (as N)	0.06	mg/L	<0.06			8	20	100	90	110	101	75	125
Nitrite (as N)	0.03	mg/L	<0.03			ND	20	101	90	110	103	75	125
Sulphate	0.2	mg/L	<0.2			6	20	99	90	110	96	75	125
Anions by IC - QCBatchID: DIO0548-MAR25													
Bromide	0.3	mg/L	<0.3			ND	20	101	90	110	98	75	125
Chloride	0.2	mg/L	<0.2			ND	20	103	90	110	103	75	125
Nitrate (as N)	0.06	mg/L	<0.06			ND	20	101	90	110	100	75	125
Nitrite (as N)	0.03	mg/L	<0.03			ND	20	100	90	110	100	75	125
Sulphate	0.2	mg/L	<0.2			9	20	102	90	110	96	75	125
Anions by IC - QCBatchID: DIO0609-MAR25													
Bromide	0.3	mg/L	<0.3			NV	20	102	90	110	102	75	125
Chloride	0.2	mg/L	<0.2			NV	20	101	90	110	86	75	125
Nitrate (as N)	0.06	mg/L	<0.06			NV	20	101	90	110	103	75	125
Nitrite (as N)	0.03	mg/L	<0.03			NV	20	101	90	110	103	75	125
Sulphate	0.2	mg/L	<0.2			NV	20	100	90	110	96	75	125
Anions by IC - QCBatchID: DIO0610-MAR25													
Bromide	0.3	mg/L	<0.3			NV	20	100	90	110	99	75	125
Chloride	0.2	mg/L	<0.2			NV	20	102	90	110	90	75	125
Nitrate (as N)	0.06	mg/L	<0.06			NV	20	100	90	110	100	75	125
Nitrite (as N)	0.03	mg/L	<0.03			NV	20	99	90	110	98	75	125
Sulphate	0.2	mg/L	<0.2			NV	20	101	90	110	93	75	125

OnLine LIMS

00004083273

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0)
20:1 L/S ratio, 18hr

LR Report : **CA11023-FEB25**

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material			
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)		
							%		Low	High		Low	High	
Anions by IC - QCBatchID: DIO0613-MAR25														
Bromide	0.3	mg/L	<0.3			ND	20	103	90	110	102	75	125	
Chloride	0.2	mg/L	<0.2			1	20	101	90	110	107	75	125	
Nitrate (as N)	0.06	mg/L	<0.06			4	20	101	90	110	105	75	125	
Nitrite (as N)	0.03	mg/L	<0.03			14	20	100	90	110	105	75	125	
Sulphate	0.2	mg/L	<0.2			2	20	101	90	110	97	75	125	
Anions by IC - QCBatchID: DIO0647-MAR25														
Bromide	0.3	mg/L	<0.3			13	20	101	90	110	104	75	125	
Chloride	0.2	mg/L	<0.2			ND	20	98	90	110	115	75	125	
Nitrate (as N)	0.06	mg/L	<0.06			5	20	101	90	110	104	75	125	
Nitrite (as N)	0.03	mg/L	<0.03			ND	20	101	90	110	106	75	125	
Sulphate	0.2	mg/L	<0.2			1	20	100	90	110	100	75	125	
Conductivity - QCBatchID: EWL0020-APR25														
Conductivity	2	uS/cm	1589			0	20	100	90	110	NA			
Conductivity - QCBatchID: EWL0472-MAR25														
Conductivity	2	uS/cm	< 2			2	20	99	90	110	NA			
Conductivity - QCBatchID: EWL0478-MAR25														
Conductivity	2	uS/cm	< 2			0	20	106	90	110	NA			
Conductivity - QCBatchID: EWL0544-MAR25														
Conductivity	2	uS/cm	2			8	20	100	90	110	NA			
Fluoride by Specific Ion Electrode - QCBatchID: EWL0481-MAR25														
Fluoride	0.06	mg/L	<0.06			ND	10	98	90	110	98	75	125	
Fluoride by Specific Ion Electrode - QCBatchID: EWL0530-MAR25														
Fluoride	0.06	mg/L	<0.06			1	10	98	90	110	97	75	125	
Fluoride by Specific Ion Electrode - QCBatchID: EWL0539-MAR25														
Fluoride	0.06	mg/L	<0.06			5	10	97	90	110	98	75	125	
Fluoride by Specific Ion Electrode - QCBatchID: EWL0550-MAR25														
Fluoride	0.06	mg/L	<0.06			ND	10	106	90	110	NV	75	125	
Inorganics-General - QCBatchID: EHG0053-MAR25														
Mercury	0.00001	mg/L	< 0.00001			ND	20	113	80	120	NV	70	130	
Inorganics-General - QCBatchID: EHG0058-MAR25														
Mercury	0.00001	mg/L	< 0.00001			ND	20	115	80	120	120	70	130	
Metals in aqueous samples - ICP-MS - QCBatchID: EMS0005-APR25														
Aluminum	0.001	mg/L	<0.001			ND	20	99	90	110	113	70	130	
Antimony	0.0009	mg/L	<0.0009			ND	20	110	90	110	126	70	130	
Arsenic	0.0002	mg/L	<0.0002			ND	20	100	90	110	102	70	130	
Barium	0.00008	mg/L	<0.00008			ND	20	103	90	110	110	70	130	
Beryllium	0.000007	mg/L	<0.000007			ND	20	97	90	110	100	70	130	
Bismuth	0.00001	mg/L	<0.00001			ND	20	100	90	110	109	70	130	

OnLine LIMS

0004083273

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0)
20:1 L/S ratio, 18hr

LR Report : **CA11023-FEB25**

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Boron	0.002	mg/L	<0.002			ND	20	96	90	110	99	70	130
Cadmium	0.000003	mg/L	<0.000003			ND	20	101	90	110	100	70	130
Calcium	0.01	mg/L	<0.01			ND	20	100	90	110	109	70	130
Chromium	0.00008	mg/L	<0.00008			ND	20	97	90	110	100	70	130
Cobalt	0.000004	mg/L	<0.000004			ND	20	101	90	110	101	70	130
Copper	0.001	mg/L	<0.001			ND	20	100	90	110	104	70	130
Germanium	0.0001	mg/L	<0.0001			ND	20	98	90	110	NV	70	130
Gold	0.00001	mg/L	<0.00001			ND	20	92	90	110	NV	70	130
Hafnium	0.0001	mg/L	<0.0001			ND	20	102	90	110	NV	70	130
Iridium	0.00001	mg/L	<0.00001			ND	20	105	90	110	NV	70	130
Iron	0.007	mg/L	<0.007			ND	20	101	90	110	100	70	130
Lead	0.00009	mg/L	<0.00009			ND	20	101	90	110	105	70	130
Lithium	0.0001	mg/L	<0.0001			ND	20	97	90	110	100	70	130
Magnesium	0.001	mg/L	<0.001			ND	20	99	90	110	101	70	130
Manganese	0.00001	mg/L	<0.00001			ND	20	101	90	110	102	70	130
Molybdenum	0.0004	mg/L	<0.0004			ND	20	99	90	110	86	70	130
Nickel	0.0001	mg/L	<0.0001			ND	20	101	90	110	99	70	130
Niobium	0.0001	mg/L	<0.0001			ND	20	99	90	110	NV	70	130
Osmium	0.0001	mg/L	<0.0001			ND	20	93	90	110	NV	70	130
Palladium	0.0001	mg/L	<0.0001			ND	20	101	90	110	NV	70	130
Phosphorus	0.003	mg/L	<0.003			ND	20	99	90	110	NV	70	130
Platinum	0.0001	mg/L	<0.0001			ND	20	102	90	110	NV	70	130
Potassium	0.009	mg/L	<0.009			ND	20	100	90	110	108	70	130
Rhenium	0.0001	mg/L	<0.0001			ND	20	97	90	110	NV	70	130
Rhodium	0.00001	mg/L	<0.0001			ND	20	102	90	110	NV	70	130
Ruthenium	0.00001	mg/L	<0.0001			ND	20	102	90	110	NV	70	130
Selenium	0.00004	mg/L	<0.00004			ND	20	100	90	110	103	70	130
Silicon	0.02	mg/L	<0.02			ND	20	97	90	110	NV	70	130
Silver	0.00005	mg/L	<0.00005			ND	20	98	90	110	83	70	130
Sodium	0.01	mg/L	<0.01			ND	20	105	90	110	102	70	130
Strontium	0.00008	mg/L	<0.00008			ND	20	97	90	110	100	70	130
Tantalum	0.0001	mg/L	<0.0001			ND	20	105	90	110	NV	70	130
Tellurium	0.0001	mg/L	<0.0001			ND	20	104	90	110	NV	70	130
Thallium	0.000005	mg/L	<0.000005			ND	20	97	90	110	84	70	130
Tin	0.00006	mg/L	<0.00006			ND	20	103	90	110	NV	70	130
Titanium	0.0001	mg/L	<0.0001			ND	20	97	90	110	NV	70	130
Uranium	0.000002	mg/L	<0.000002			ND	20	103	90	110	109	70	130
Vanadium	0.00001	mg/L	<0.00001			ND	20	101	90	110	101	70	130
Zinc	0.002	mg/L	<0.002			ND	20	100	90	110	110	70	130

OnLine LIMS

0004083273

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0)
20:1 L/S ratio, 18hr

LR Report : **CA11023-FEB25**

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material			
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)		
							%		Low	High		Low	High	
Metals in aqueous samples - ICP-MS - QCBatchID: EMS0021-APR25														
Aluminum	0.001	mg/L	<0.001			1	20	104	90	110	90	70	130	
Lithium	0.0001	mg/L	<0.0001			0	20	103	90	110	107	70	130	
Metals in aqueous samples - ICP-MS - QCBatchID: EMS0235-MAR25														
Aluminum	0.001	mg/L	<0.001			7	20	98	90	110	116	70	130	
Antimony	0.0009	mg/L	<0.0009			ND	20	108	90	110	126	70	130	
Arsenic	0.0002	mg/L	<0.0002			3	20	104	90	110	107	70	130	
Barium	0.00008	mg/L	<0.00008			ND	20	97	90	110	97	70	130	
Beryllium	0.000007	mg/L	<0.000007			ND	20	95	90	110	104	70	130	
Bismuth	0.00001	mg/L	<0.00001			ND	20	94	90	110	98	70	130	
Boron	0.002	mg/L	<0.002			ND	20	95	90	110	99	70	130	
Cadmium	0.000003	mg/L	<0.000003			ND	20	99	90	110	95	70	130	
Calcium	0.01	mg/L	<0.01			ND	20	94	90	110	96	70	130	
Cesium	0.0001	mg/L	<0.0001			ND	20	102	90	110	NV	70	130	
Chromium	0.00008	mg/L	<0.00008			ND	20	103	90	110	94	70	130	
Cobalt	0.000004	mg/L	<0.000004			ND	20	98	90	110	101	70	130	
Copper	0.001	mg/L	<0.001			ND	20	99	90	110	101	70	130	
Germanium	0.0001	mg/L	<0.0001			ND	20	106	90	110	NV	70	130	
Gold	0.00001	mg/L	<0.00001			ND	20	98	90	110	NV	70	130	
Hafnium	0.0001	mg/L	<0.0001			ND	20	93	90	110	NV	70	130	
Iridium	0.00001	mg/L	<0.00001			ND	20	100	90	110	NV	70	130	
Iron	0.007	mg/L	<0.007			ND	20	100	90	110	100	70	130	
Lead	0.00009	mg/L	<0.00009			ND	20	105	90	110	99	70	130	
Lithium	0.0001	mg/L	<0.0001			ND	20	98	90	110	106	70	130	
Magnesium	0.001	mg/L	<0.001			0	20	97	90	110	98	70	130	
Manganese	0.00001	mg/L	<0.00001			1	20	98	90	110	99	70	130	
Molybdenum	0.0004	mg/L	<0.0004			ND	20	106	90	110	92	70	130	
Nickel	0.0001	mg/L	<0.0001			ND	20	105	90	110	108	70	130	
Niobium	0.0001	mg/L	<0.0001			ND	20	98	90	110	NV	70	130	
Osmium	0.0001	mg/L	<0.0001			ND	20	96	90	110	NV	70	130	
Palladium	0.0001	mg/L	<0.0001			ND	20	97	90	110	NV	70	130	
Phosphorus	0.003	mg/L	<0.003			ND	20	91	90	110	NV	70	130	
Platinum	0.0001	mg/L	<0.0001			ND	20	100	90	110	NV	70	130	
Potassium	0.009	mg/L	<0.009			1	20	95	90	110	75	70	130	
Rhenium	0.0001	mg/L	<0.0001			ND	20	95	90	110	NV	70	130	
Rhodium	0.00001	mg/L	<0.0001			ND	20	94	90	110	NV	70	130	
Rubidium	0.0001	mg/L	< 0.0001			ND	20	105	90	110	NV	70	130	
Ruthenium	0.00001	mg/L	<0.0001			ND	20	101	90	110	NV	70	130	
Selenium	0.00004	mg/L	<0.00004			ND	20	97	90	110	102	70	130	

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0004083273

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - K0L 2H0
Phone: 705-652-2000 FAX: 705-652-6365

Inorganic Analysis													
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Silicon	0.02	mg/L	<0.02			ND	20	103	90	110	NV	70	130
Silver	0.00005	mg/L	<0.00005			ND	20	104	90	110	NV	70	130
Sodium	0.01	mg/L	<0.01			0	20	97	90	110	101	70	130
Strontium	0.00008	mg/L	<0.00008			8	20	97	90	110	99	70	130
Tantalum	0.0001	mg/L	<0.0001			ND	20	98	90	110	NV	70	130
Tellurium	0.0001	mg/L	<0.0001			ND	20	98	90	110	NV	70	130
Thallium	0.000005	mg/L	<0.000005			ND	20	97	90	110	100	70	130
Thorium	0.0001	mg/L	<0.0001			ND	20	93	90	110	NV	70	130
Tin	0.00006	mg/L	<0.00006			ND	20	103	90	110	NV	70	130
Titanium	0.0001	mg/L	<0.0001			ND	20	100	90	110	NV	70	130
Uranium	0.000002	mg/L	<0.000002			ND	20	101	90	110	95	70	130
Vanadium	0.00001	mg/L	<0.00001			ND	20	96	90	110	100	70	130
Zinc	0.002	mg/L	<0.002			ND	20	104	90	110	105	70	130
Metals in aqueous samples - ICP-MS - QCBatchID: EMS0261-MAR25													
Aluminum	0.001	mg/L	<0.001			1	20	98	90	110	89	70	130
Antimony	0.0009	mg/L	<0.0009			ND	20	105	90	110	120	70	130
Arsenic	0.0002	mg/L	<0.0002			ND	20	103	90	110	106	70	130
Barium	0.00008	mg/L	<0.00008			3	20	101	90	110	99	70	130
Beryllium	0.000007	mg/L	<0.000007			ND	20	93	90	110	98	70	130
Bismuth	0.00001	mg/L	<0.00001			ND	20	94	90	110	93	70	130
Boron	0.002	mg/L	<0.002			ND	20	91	90	110	97	70	130
Cadmium	0.000003	mg/L	<0.000003			ND	20	98	90	110	106	70	130
Calcium	0.01	mg/L	<0.01			1	20	109	90	110	93	70	130
Chromium	0.00008	mg/L	<0.00008			ND	20	101	90	110	98	70	130
Cobalt	0.000004	mg/L	<0.000004			ND	20	101	90	110	101	70	130
Copper	0.001	mg/L	<0.001			ND	20	99	90	110	102	70	130
Germanium	0.0001	mg/L	<0.0001			ND	20	102	90	110	NV	70	130
Gold	0.00001	mg/L	<0.00001			ND	20	93	90	110	NV	70	130
Hafnium	0.0001	mg/L	<0.0001			ND	20	95	90	110	NV	70	130
Iridium	0.00001	mg/L	<0.00001			ND	20	97	90	110	NV	70	130
Iron	0.007	mg/L	<0.007			ND	20	108	90	110	114	70	130
Lead	0.00009	mg/L	<0.00009			ND	20	96	90	110	94	70	130
Lithium	0.0001	mg/L	<0.0001			ND	20	99	90	110	93	70	130
Magnesium	0.001	mg/L	<0.001			0	20	108	90	110	99	70	130
Manganese	0.00001	mg/L	<0.00001			1	20	101	90	110	74	70	130
Molybdenum	0.0004	mg/L	<0.0004			ND	20	103	90	110	99	70	130
Nickel	0.0001	mg/L	<0.0001			ND	20	103	90	110	104	70	130
Niobium	0.0001	mg/L	<0.0001			ND	20	105	90	110	NV	70	130
Osmium	0.0001	mg/L	<0.0001			ND	20	94	90	110	NV	70	130

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0004083273

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - K0L 2H0
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0)
20:1 L/S ratio, 18hr

LR Report : **CA11023-FEB25**

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material			
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)		
							%		Low	High		Low	High	
Palladium	0.0001	mg/L	<0.0001			ND	20	97	90	110	NV	70	130	
Phosphorus	0.003	mg/L	<0.003			ND	20	105	90	110	NV	70	130	
Platinum	0.0001	mg/L	<0.0001			ND	20	93	90	110	NV	70	130	
Potassium	0.009	mg/L	<0.009			1	20	107	90	110	93	70	130	
Rhenium	0.0001	mg/L	<0.0001			ND	20	91	90	110	NV	70	130	
Rhodium	0.00001	mg/L	<0.0001			ND	20	100	90	110	NV	70	130	
Ruthenium	0.00001	mg/L	<0.0001			ND	20	104	90	110	NV	70	130	
Selenium	0.00004	mg/L	<0.00004			ND	20	100	90	110	110	70	130	
Silicon	0.02	mg/L	<0.02			1	20	102	90	110	NV	70	130	
Silver	0.00005	mg/L	<0.00005			ND	20	93	90	110	NV	70	130	
Sodium	0.01	mg/L	<0.01			2	20	108	90	110	106	70	130	
Strontium	0.00008	mg/L	<0.00008			0	20	98	90	110	97	70	130	
Tantalum	0.0001	mg/L	<0.0001			ND	20	100	90	110	NV	70	130	
Tellurium	0.0001	mg/L	<0.0001			ND	20	100	90	110	NV	70	130	
Thallium	0.000005	mg/L	<0.000005			ND	20	95	90	110	96	70	130	
Tin	0.00006	mg/L	<0.00006			ND	20	101	90	110	NV	70	130	
Titanium	0.0001	mg/L	<0.0001			ND	20	98	90	110	NV	70	130	
Uranium	0.000002	mg/L	<0.000002			2	20	93	90	110	96	70	130	
Vanadium	0.00001	mg/L	<0.00001			0	20	100	90	110	103	70	130	
Zinc	0.002	mg/L	<0.002			ND	20	103	90	110	106	70	130	
Metals in aqueous samples - ICP-MS - QCBatchID: EMS0266-MAR25														
Cerium	0.00001	mg/L	<0.00001			ND	20	106	90	110	NV	70	130	
Cesium	0.0001	mg/L	<0.0001			2	20	104	90	110	NV	70	130	
Dysprosium	0.00001	mg/L	<0.00001			ND	20	105	90	110	NV	70	130	
Erbium	0.00001	mg/L	<0.00001			ND	20	105	90	110	NV	70	130	
Europium	0.00001	mg/L	<0.00001			7	20	103	90	110	NV	70	130	
Gadolinium	0.00001	mg/L	<0.0001			ND	20	107	90	110	NV	70	130	
Gallium	0.0001	mg/L	<0.0001			ND	20	103	90	110	NV	70	130	
Holmium	0.00001	mg/L	<0.00001			ND	20	103	90	110	NV	70	130	
Indium	0.00001	mg/L	<0.00001			ND	20	105	90	110	NV	70	130	
Lanthanum	0.00001	mg/L	<0.00001			ND	20	104	90	110	NV	70	130	
Lutetium	0.0001	mg/L	<0.0001			ND	20	105	90	110	NV	70	130	
Neodymium	0.00001	mg/L	<0.00001			ND	20	106	90	110	NV	70	130	
Praseodymium	0.00001	mg/L	<0.00001			ND	20	105	90	110	NV	70	130	
Rubidium	0.0001	mg/L	<0.0001			3	20	101	90	110	NV	70	130	
Samarium	0.00001	mg/L	<0.00001			ND	20	105	90	110	NV	70	130	
Terbium	0.00001	mg/L	<0.00001			ND	20	107	90	110	NV	70	130	
Thorium	0.0001	mg/L	<0.0001			ND	20	107	90	110	NV	70	130	
Thulium	0.00001	mg/L	<0.00001			ND	20	105	90	110	NV	70	130	

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

00004083273

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0)
20:1 L/S ratio, 18hr

LR Report : **CA11023-FEB25**

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material			
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)		
							%		Low	High		Low	High	
pH - QCBatchID: EWL0472-MAR25														
pH	0.05	No unit	NA			0		100			NA			
pH - QCBatchID: EWL0478-MAR25														
pH	0.05	No unit	NA			0		100			NA			
pH - QCBatchID: EWL0544-MAR25														
pH	0.05	No unit	NA			0		100			NA			
Reactive Phosphorus by SFA - QCBatchID: SKA0220-MAR25														
Total Reactive Phosphorous (o-phosphate as P)	0.03	mg/L	<0.03			ND	10	95	90	110	78	75	125	
Reactive Phosphorus by SFA - QCBatchID: SKA0232-MAR25														
Total Reactive Phosphorous (o-phosphate as P)	0.03	mg/L	<0.03			5	10	100	90	110	100	75	125	
Reactive Phosphorus by SFA - QCBatchID: SKA0244-MAR25														
Total Reactive Phosphorous (o-phosphate as P)	0.03	mg/L	<0.03			ND	10	98	90	110	61	75	125	

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0004083273

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

TCLP1311--(Quebec Modified Version - MA. 100 -Lix.com.1.0)20:1 L/S ratio, 18hr

25-August-2025

Innova Lithium Inc.
Attn : John Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 14 August 2025
LR Report: **CA11024-AUG25**
Reference: Shakichiuwaanaan Project

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-MAG-C	6: CV5-MAG-C-DUP	7: CV5-DMS-MID	8: CV5-FLO-C	9: CV5-MAG-F	10: CV5-MID-F	11: CV5-FLO-F	12: CV5-BYP-CP
Sample Date & Time			NA	NA	NA	NA	NA	NA	NA	NA
Sample weight [g]	15-Aug-25	12:50	21	20	20	20	20	20	20	20
Ext Fluid [#1 or #2]	15-Aug-25	12:50	1	1	1	1	1	1	1	1
Ext Volume [mL]	15-Aug-25	12:50	400	400	400	400	400	400	400	400
pH [No unit]	18-Aug-25	09:38	5.08	5.12	4.93	4.91	4.98	4.92	4.91	4.96
Conductivity [uS/cm]	18-Aug-25	09:38	5260	5150	4710	4700	4920	4750	4730	4860
Alkalinity [mg/L as CaCO3]	19-Aug-25	10:46	1760	1830	1330	1390	1630	1390	1380	1550
Acidity [mg/L as CaCO3]	19-Aug-25	10:46	1040	1020	1430	1540	1350	1450	1510	1390
F [mg/L]	18-Aug-25	13:47	1.45	0.38	0.30	0.10	0.38	0.21	0.12	0.29
Br [mg/L]	18-Aug-25	12:39	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30
Cl [mg/L]	18-Aug-25	12:39	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
SO4 [mg/L]	18-Aug-25	12:39	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
NO2 [as N mg/L]	18-Aug-25	12:39	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	18-Aug-25	12:39	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
NO2+NO3 [as N mg/L]	18-Aug-25	12:39	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Tot.Reactive P [mg/L]	20-Aug-25	08:25	< 0.03	< 0.03	< 0.03	< 0.03	0.08	0.03	< 0.03	0.11
Hg [mg/L]	19-Aug-25	15:31	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

OnLine LIMS

000423174

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

TCLP1311--(Quebec Modified Version - MA. 100 -Lix.com.1.0)20:1 L/S ratio, 18hr

LR Report : **CA11024-AUG25**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-MAG-C	6: CV5-MAG-C-DUP	7: CV5-DMS-MID	8: CV5-FLO-C	9: CV5-MAG-F	10: CV5-MID-F	11: CV5-FLO-F	12: CV5-BYP-CP
Ag [mg/L]	19-Aug-25	15:31	< 0.00005	< 0.00005	< 0.00005	< 0.00005	0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	25-Aug-25	10:25	0.91	0.32	0.75	0.73	0.67	0.57	0.50	0.65
As [mg/L]	25-Aug-25	10:25	0.581	1.23	0.047	0.027	0.504	0.120	0.031	0.518
Ba [mg/L]	19-Aug-25	15:31	0.03217	0.02718	0.01627	0.01156	0.02339	0.02378	0.01191	0.06261
B [mg/L]	19-Aug-25	15:31	0.212	0.218	0.170	0.192	0.210	0.197	0.175	0.200
Be [mg/L]	19-Aug-25	15:31	0.001460	0.001190	0.002330	0.000840	0.001770	0.003110	0.001350	0.005310
Bi [mg/L]	25-Aug-25	10:23	0.0010	0.0002	0.0031	0.0035	0.0002	0.0049	0.0050	0.0299
Ca [mg/L]	25-Aug-25	10:23	151	121	17.5	4.6	65.3	21.0	14.2	55.4
Cd [mg/L]	19-Aug-25	15:30	0.000510	0.000680	0.000690	0.000060	0.000190	0.000290	0.000100	0.000440
Co [mg/L]	19-Aug-25	15:30	0.053240	0.043900	0.003020	0.000500	0.017440	0.004840	0.000770	0.011570
Cr [mg/L]	19-Aug-25	15:30	0.03102	0.03664	0.01319	0.00199	0.03687	0.01652	0.00287	0.01544
Cu [mg/L]	25-Aug-25	10:24	0.03	< 0.01	< 0.01	0.02	0.01	< 0.01	< 0.01	0.11
Fe [mg/L]	25-Aug-25	10:24	< 0.07	13.3	1.83	< 0.07	3.56	1.33	0.15	1.34
K [mg/L]	25-Aug-25	10:24	230	4.18	3.88	3.63	3.99	2.73	1.82	3.35
Li [mg/L]	19-Aug-25	15:30	0.125	0.133	0.118	0.0254	0.126	0.0811	0.0433	0.239
Mg [mg/L]	25-Aug-25	10:24	126	40.3	3.52	0.57	8.40	3.55	0.76	5.45
Mn [mg/L]	25-Aug-25	10:24	6.26	2.17	0.420	0.0902	1.05	0.485	0.270	1.82
Mo [mg/L]	19-Aug-25	15:30	< 0.0004	< 0.0004	< 0.0004	< 0.0004	0.0005	< 0.0004	< 0.0004	0.0006
Na [mg/L]	25-Aug-25	10:24	1400	1400	1280	1350	1340	1320	1300	1400
Ni [mg/L]	25-Aug-25	10:24	0.800	1.51	0.031	0.002	0.394	0.077	0.003	0.397
P [mg/L]	25-Aug-25	10:24	0.03	< 0.03	0.03	0.03	0.05	0.04	0.04	0.12
Pb [mg/L]	25-Aug-25	10:24	0.0093	0.0187	0.0208	0.0034	0.0058	0.0084	0.0072	0.0273
Sb [mg/L]	19-Aug-25	15:28	0.194	0.190	0.0106	0.0057	0.0734	0.0189	0.0077	0.0876
Se [mg/L]	19-Aug-25	15:28	0.00009	0.00006	< 0.00004	0.00005	< 0.00004	< 0.00004	< 0.00004	0.00017
Si [mg/L]	19-Aug-25	15:28	2.56	2.38	1.51	1.82	2.15	1.33	1.12	1.75
Sn [mg/L]	25-Aug-25	10:24	< 0.0006	< 0.0006	< 0.0006	< 0.0006	< 0.0006	< 0.0006	< 0.0006	< 0.0006
Sr [mg/L]	25-Aug-25	10:24	0.124	0.194	0.0302	0.0139	0.0637	0.0387	0.0220	0.0845
Ti [mg/L]	19-Aug-25	15:28	< 0.0001	0.0001	< 0.0001	< 0.0001	0.0006	0.0003	0.0001	0.0002
Tl [mg/L]	25-Aug-25	10:24	0.00144	0.00249	0.00081	0.00136	0.00167	0.00071	0.00044	0.00120
U [mg/L]	25-Aug-25	10:24	0.0346	0.0119	0.0418	0.0284	0.0436	0.0432	0.0388	0.167
V [mg/L]	19-Aug-25	15:28	0.00155	0.00135	0.00078	0.00018	0.00203	0.00100	0.00023	0.00075

OnLine LIMS

0004231746

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

TCLP1311--(Quebec Modified Version - MA. 100 -Lix.com.1.0)20:1 L/S ratio, 18hr

LR Report : **CA11024-AUG25**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-MAG-C	6: CV5-MAG-C-DUP	7: CV5-DMS-MID	8: CV5-FLO-C	9: CV5-MAG-F	10: CV5-MID-F	11: CV5-FLO-F	12: CV5-BYP-CP
Zn [mg/L]	25-Aug-25	10:24	0.22	0.64	0.39	< 0.02	< 0.02	0.03	< 0.02	0.12
Au [mg/L]	19-Aug-25	15:28	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce [mg/L]	21-Aug-25	15:48	0.00980	0.00970	0.00410	0.00080	0.00578	0.00643	0.00309	0.01213
Cs [mg/L]	21-Aug-25	15:48	0.806	1.69	0.205	0.0340	0.619	0.208	0.0461	0.661
Dy [mg/L]	21-Aug-25	15:48	0.00095	0.00144	0.00034	0.00015	0.00069	0.00051	0.00020	0.00093
Er [mg/L]	21-Aug-25	15:48	0.00064	0.00106	0.00015	0.00005	0.00032	0.00024	0.00008	0.00033
Eu [mg/L]	21-Aug-25	15:48	0.00016	0.00025	0.00006	0.00001	0.00012	0.00011	0.00004	0.00017
Ga [mg/L]	21-Aug-25	15:48	0.0002	0.0003	0.0001	0.0002	< 0.0001	0.0002	< 0.0001	0.0002
Gd (tot) [mg/L]	21-Aug-25	15:48	0.00097	0.00171	0.00064	0.00026	0.00101	0.00079	0.00041	0.00188
Ge [mg/L]	19-Aug-25	15:27	0.0006	0.0007	0.0002	0.0003	0.0003	0.0003	0.0002	0.0005
Hf [mg/L]	19-Aug-25	15:27	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho [mg/L]	21-Aug-25	15:48	0.00023	0.00035	0.00006	0.00001	0.00013	0.00008	0.00004	0.00013
In [mg/L]	21-Aug-25	15:48	< 0.00001	0.00001	< 0.00001	0.00001	0.00001	0.00001	< 0.00001	< 0.00001
Ir [mg/L]	19-Aug-25	15:27	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La [mg/L]	21-Aug-25	15:48	0.00428	0.00454	0.00204	0.00045	0.00302	0.00317	0.00090	0.00634
Lu [mg/L]	21-Aug-25	15:48	0.0002	0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb [mg/L]	19-Aug-25	15:27	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nd [mg/L]	21-Aug-25	15:48	0.00372	0.00518	0.00192	0.00059	0.00306	0.00330	0.00108	0.00596
Os [mg/L]	19-Aug-25	15:27	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd [mg/L]	19-Aug-25	15:27	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr [mg/L]	21-Aug-25	15:48	0.00092	0.00112	0.00051	0.00013	0.00075	0.00084	0.00026	0.00151
Pt [mg/L]	19-Aug-25	15:27	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh [mg/L]	19-Aug-25	15:27	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Rb [mg/L]	21-Aug-25	15:47	0.272	0.451	0.278	0.259	0.398	0.194	0.0976	0.254
Re [mg/L]	19-Aug-25	15:27	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	0.0001	< 0.0001	< 0.0001
Ru [mg/L]	19-Aug-25	15:27	< 0.00001	< 0.00001	0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sm [mg/L]	21-Aug-25	15:47	0.00089	0.00120	0.00062	0.00020	0.00085	0.00086	0.00033	0.00170
Sc [mg/L]	21-Aug-25	15:47	0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ta [mg/L]	19-Aug-25	15:27	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb [mg/L]	21-Aug-25	15:47	0.00016	0.00024	0.00010	0.00004	0.00015	0.00013	0.00006	0.00026
Te [mg/L]	19-Aug-25	15:27	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001

OnLine LIMS

0004231746

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-MAG-C	6: CV5-MAG-C-DUP	7: CV5-DMS-MID	8: CV5-FLO-C	9: CV5-MAG-F	10: CV5-MID-F	11: CV5-FLO-F	12: CV5-BYP-CP
Th [mg/L]	19-Aug-25	15:27	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	0.0001	0.0003	0.0002
Tm [mg/L]	21-Aug-25	15:47	0.00010	0.00015	0.00002	0.00001	0.00004	0.00003	0.00001	0.00005

Analysis	13: CV5-BYP-CP	14:BLK: $Reg347/TCLP1311 Blank#1
Sample Date & Time		
Sample weight [g]	20	---
Ext Fluid [#1 or #2]	1	1
Ext Volume [mL]	400	400
pH [No unit]	4.96	4.90
Conductivity [uS/cm]	4860	4680
Alkalinity [mg/L as CaCO3]	1520	1440
Acidity [mg/L as CaCO3]	1400	1500
F [mg/L]	0.33	< 0.06
Br [mg/L]	< 30	< 30
Cl [mg/L]	< 20	< 20
SO4 [mg/L]	< 20	< 20
NO2 [as N mg/L]	< 3	< 3
NO3 [as N mg/L]	< 6	< 6
NO2+NO3 [as N mg/L]	< 6	< 6
Tot.Reactive P [mg/L]	0.11	< 0.03
Hg [mg/L]	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	0.00007
Al [mg/L]	0.67	< 0.01
As [mg/L]	0.560	< 0.002
Ba [mg/L]	0.05939	0.00629
B [mg/L]	0.192	0.114
Be [mg/L]	0.005120	0.000010
Bi [mg/L]	0.0272	< 0.0001

OnLine LIMS

0004231746

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	13: CV5-BYP-CP	14:BLK: $Reg347/TCLP1311 Blank#1
Ca [mg/L]	52.8	1.0
Cd [mg/L]	0.000330	0.000100
Co [mg/L]	0.011330	0.000070
Cr [mg/L]	0.01498	0.00133
Cu [mg/L]	0.11	< 0.01
Fe [mg/L]	1.28	< 0.07
K [mg/L]	3.32	0.59
Li [mg/L]	0.222	0.0046
Mg [mg/L]	5.29	0.28
Mn [mg/L]	1.73	0.0018
Mo [mg/L]	0.0007	< 0.0004
Na [mg/L]	1400	1330
Ni [mg/L]	0.385	< 0.001
P [mg/L]	0.11	< 0.03
Pb [mg/L]	0.0230	0.0020
Sb [mg/L]	0.0890	< 0.0009
Se [mg/L]	< 0.00004	< 0.00004
Si [mg/L]	1.79	0.20
Sn [mg/L]	< 0.0006	< 0.0006
Sr [mg/L]	0.0799	0.0026
Ti [mg/L]	< 0.0001	< 0.0001
Tl [mg/L]	0.00116	< 0.00005
U [mg/L]	0.157	0.00016
V [mg/L]	0.00072	0.00029
Zn [mg/L]	0.10	< 0.02
Au [mg/L]	< 0.00001	< 0.00001
Ce [mg/L]	0.01281	0.00015
Cs [mg/L]	0.625	0.0016
Dy [mg/L]	0.00100	0.00002
Er [mg/L]	0.00037	0.00001
Eu [mg/L]	0.00021	0.00001

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0004231746

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	13: CV5-BYP-CP	14:BLK: $Reg347/TCLP1311 Blank#1
Ga [mg/L]	0.0002	< 0.0001
Gd (tot) [mg/L]	0.00196	0.00001
Ge [mg/L]	0.0004	< 0.0001
Hf [mg/L]	< 0.0001	< 0.0001
Ho [mg/L]	0.00016	0.00001
In [mg/L]	< 0.00001	< 0.00001
Ir [mg/L]	< 0.00001	< 0.00001
La [mg/L]	0.00654	0.00009
Lu [mg/L]	< 0.0001	< 0.0001
Nb [mg/L]	< 0.0001	< 0.0001
Nd [mg/L]	0.00605	0.00008
Os [mg/L]	< 0.0001	< 0.0001
Pd [mg/L]	< 0.0001	< 0.0001
Pr [mg/L]	0.00157	0.00003
Pt [mg/L]	< 0.0001	< 0.0001
Rh [mg/L]	< 0.00001	< 0.00001
Rb [mg/L]	0.246	0.0018
Re [mg/L]	0.0001	< 0.0001
Ru [mg/L]	< 0.00001	< 0.00001
Sm [mg/L]	0.00180	0.00004
Sc [mg/L]	< 0.0001	< 0.0001
Ta [mg/L]	< 0.0001	< 0.0001
Tb [mg/L]	0.00027	0.00001
Te [mg/L]	< 0.0001	< 0.0001
Th [mg/L]	0.0002	< 0.0001
Tm [mg/L]	0.00005	< 0.00001

Extraction Fluid #1 - pH 4.93 ± 0.05
5.7mLs of acetic acid plus 64.3 mLs of 1.0N NaOH bulked to 1L with deionized water.

Extraction Fluid #2 - pH 2.88 ± 0.05
5.7 mLs of acetic acid bulked to 1L with deionized water.

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

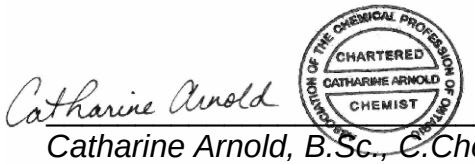
SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Method Descriptions

Parameter	Units	SGS Method Code	PALA
	#1 or #2	NA	N
	g	NA	N
	mL	NA	N
Acidity	mg/L as CaCO3	ME-CA-[ENV]EWL-LAK-AN-006	N
Alkalinity	mg/L as CaCO3	ME-CA-[ENV]EWL-LAK-AN-006	N
Anions by IC	mg/L	ME-CA-[ENV]IC-LAK-AN-001	Y
Conductivity	uS/cm	ME-CA-[ENV]EWL-LAK-AN-006	Y
Fluoride by Specific Ion Electrode	mg/L	ME-CA-[ENV]EWL-LAK-AN-014	Y
Inorganics-General	mg/L	ME-CA-[ENV]SPE-LAK-AN-004	Y
Metals in aqueous samples - ICP-MS	mg/L	ME-CA-[ENV]SPE-LAK-AN-006	N
Metals in aqueous samples - ICP-MS	mg/L	ME-CA-[ENV]SPE-LAK-AN-006	Y
pH	No unit	ME-CA-[ENV]EWL-LAK-AN-006	Y
Reactive Phosphorus by SFA	mg/L	ME-CA-[ENV]SFA-LAK-AN-004	N

Accreditation Descriptions

PALA:
SGS Canada Industries & Environment conforms to the requirements of ISO/IEC 17025:2005 for specific tests as listed on their scope of accreditation found at https://www.ceaeq.gouv.qc.ca/documents/publications/listes.htm#labo_accr. Analytes and SGS Method Codes marked with a “Y” in the “PALA” column in the table denote ISO/IEC17025:2005 accreditation



Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0004231746

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

TCLP1311--(Quebec Modified Version - MA. 100 -Lix.com.1.0)20:1 L/S ratio, 18hr

LR Report : **CA11024-AUG25**

Quality Control Report

Inorganic Analysis													
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Acidity - QCBatchID: EWL0341-AUG25													
Acidity	2	mg/L as Ca	< 2			ND	20	96	90	110	NA		
Alkalinity - QCBatchID: EWL0341-AUG25													
Alkalinity	2	mg/L as Ca	< 2			0	20	102	80	120	NA		
Anions by IC - QCBatchID: DIO0305-AUG25													
Bromide	0.3	mg/L	<0.3			ND	20	104	90	110	97	75	125
Chloride	0.2	mg/L	<0.2			2	20	98	90	110	92	75	125
Nitrate (as N)	0.06	mg/L	<0.06			ND	20	97	90	110	99	75	125
Nitrate + Nitrite (as N)	0.06	mg/L	<0.06			NA		NA			NA		
Nitrite (as N)	0.03	mg/L	<0.03			ND	20	102	90	110	106	75	125
Sulphate	0.2	mg/L	<0.2			ND	20	95	90	110	90	75	125
Conductivity - QCBatchID: EWL0301-AUG25													
Conductivity	2	uS/cm	< 2			0	10	99	90	110	NA		
Fluoride by Specific Ion Electrode - QCBatchID: EWL0326-AUG25													
Fluoride	0.06	mg/L	<0.06			ND	10	104	90	110	92	75	125
Inorganics-General - QCBatchID: EHG0021-AUG25													
Mercury	0.00001	mg/L	< 0.00001			ND	20	113	80	120	116	70	130
Metals in aqueous samples - ICP-MS - QCBatchID: EMS0145-AUG25													
Aluminum	0.001	mg/L	<0.001			4	20	95	90	110	107	70	130
Antimony	0.0009	mg/L	<0.0009			ND	20	104	90	110	104	70	130
Arsenic	0.0002	mg/L	<0.0002			ND	20	97	90	110	99	70	130
Barium	0.00008	mg/L	<0.00008			7	20	97	90	110	96	70	130
Beryllium	0.000007	mg/L	<0.000007			ND	20	95	90	110	94	70	130
Bismuth	0.00001	mg/L	<0.00001			ND	20	96	90	110	91	70	130
Boron	0.002	mg/L	<0.002			ND	20	98	90	110	96	70	130
Cadmium	0.000003	mg/L	<0.000003			0	20	95	90	110	104	70	130
Calcium	0.01	mg/L	<0.01			ND	20	98	90	110	103	70	130
Cesium	0.0001	mg/L	<0.0001			ND	20	97	90	110	NV	70	130
Chromium	0.00008	mg/L	<0.00008			ND	20	99	90	110	105	70	130
Cobalt	0.000004	mg/L	<0.000004			0	20	91	90	110	93	70	130
Copper	0.01	mg/L	<0.001			1	20	94	90	110	98	70	130
Germanium	0.0001	mg/L	<0.0001			ND	20	100	90	110	NV	70	130
Gold	0.00001	mg/L	<0.00001			ND	20	93	90	110	NV	70	130
Hafnium	0.0001	mg/L	<0.0001			ND	20	94	90	110	NV	70	130
Iridium	0.00001	mg/L	<0.00001			ND	20	106	90	110	NV	70	130
Iron	0.007	mg/L	<0.007			ND	20	101	90	110	100	70	130

OnLine LIMS

0004231746

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

TCLP1311--(Quebec Modified Version - MA. 100 -Lix.com.1.0)20:1 L/S ratio, 18hr

LR Report : **CA11024-AUG25**

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material			
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)		
							%		Low	High		Low	High	
Lead	0.00009	mg/L	<0.00009			4	20	94	90	110	92	70	130	
Lithium	0.0001	mg/L	<0.0001			3	20	99	90	110	99	70	130	
Magnesium	0.001	mg/L	<0.001			0	20	97	90	110	98	70	130	
Manganese	0.00001	mg/L	<0.00001			14	20	97	90	110	103	70	130	
Molybdenum	0.0004	mg/L	<0.0004			ND	20	99	90	110	102	70	130	
Nickel	0.0001	mg/L	<0.0001			ND	20	98	90	110	103	70	130	
Niobium	0.0001	mg/L	<0.0001			ND	20	100	90	110	NV	70	130	
Osmium	0.0001	mg/L	<0.0001			ND	20	99	90	110	NV	70	130	
Palladium	0.0001	mg/L	<0.0001			ND	20	100	90	110	NV	70	130	
Phosphorus	0.003	mg/L	<0.003			ND	20	96	90	110	NV	70	130	
Platinum	0.0001	mg/L	<0.0001			ND	20	100	90	110	NV	70	130	
Potassium	0.009	mg/L	<0.009			3	20	97	90	110	92	70	130	
Rhenium	0.0001	mg/L	<0.0001			ND	20	105	90	110	NV	70	130	
Rhodium	0.00001	mg/L	<0.0001			ND	20	102	90	110	NV	70	130	
Rubidium	0.0001	mg/L	<0.0001			ND	20	96	90	110	NV	70	130	
Ruthenium	0.00001	mg/L	<0.0001			ND	20	103	90	110	NV	70	130	
Selenium	0.00004	mg/L	<0.00004			ND	20	98	90	110	114	70	130	
Silicon	0.02	mg/L	<0.02			0	20	92	90	110	NV	70	130	
Silver	0.00005	mg/L	<0.00005			ND	20	90	90	110	NV	70	130	
Sodium	0.01	mg/L	<0.01			ND	20	94	90	110	95	70	130	
Strontium	0.00008	mg/L	<0.00008			17	20	99	90	110	97	70	130	
Tantalum	0.0001	mg/L	<0.0001			ND	20	107	90	110	NV	70	130	
Tellurium	0.0001	mg/L	<0.0001			ND	20	99	90	110	NV	70	130	
Thallium	0.000005	mg/L	<0.000005			ND	20	98	90	110	84	70	130	
Thorium	0.0001	mg/L	<0.0001			ND	20	96	90	110	NV	70	130	
Tin	0.00006	mg/L	<0.00006			ND	20	102	90	110	NV	70	130	
Titanium	0.0001	mg/L	<0.0001			ND	20	100	90	110	NV	70	130	
Uranium	0.000002	mg/L	<0.000002			0	20	97	90	110	94	70	130	
Vanadium	0.00001	mg/L	<0.00001			0	20	98	90	110	99	70	130	
Zinc	0.002	mg/L	<0.002			1	20	92	90	110	88	70	130	
Metals in aqueous samples - ICP-MS - QCBatchID: EMS0187-AUG25														
Cerium	0.00001	mg/L	<0.00001			14	20	95	90	110	NV	70	130	
Cesium	0.0001	mg/L	<0.0001			ND	20	100	90	110	NV	70	130	
Dysprosium	0.00001	mg/L	<0.00001			ND	20	96	90	110	NV	70	130	
Erbium	0.00001	mg/L	<0.00001			ND	20	97	90	110	NV	70	130	
Europium	0.00001	mg/L	<0.00001			0	20	98	90	110	NV	70	130	
Gadolinium	0.00001	mg/L	<0.0001			ND	20	98	90	110	NV	70	130	
Gallium	0.0001	mg/L	<0.0001			ND	20	94	90	110	NV	70	130	
Holmium	0.00001	mg/L	<0.00001			ND	20	97	90	110	NV	70	130	

OnLine LIMS

0004231746

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

TCLP1311--(Quebec Modified Version - MA. 100 -Lix.com.1.0)20:1 L/S ratio, 18hr

LR Report : **CA11024-AUG25**

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material			
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)		
							%		Low	High		Low	High	
Indium	0.00001	mg/L	<0.00001			ND	20	100	90	110	NV	70	130	
Lanthanum	0.00001	mg/L	<0.00001			16	20	97	90	110	NV	70	130	
Lutetium	0.0001	mg/L	<0.0001			ND	20	96	90	110	NV	70	130	
Neodymium	0.00001	mg/L	<0.00001			11	20	97	90	110	NV	70	130	
Praseodymium	0.00001	mg/L	<0.00001			ND	20	97	90	110	NV	70	130	
Rubidium	0.0001	mg/L	<0.0001			1	20	92	90	110	NV	70	130	
Samarium	0.00001	mg/L	<0.00001			20	20	98	90	110	NV	70	130	
Scandium	0.0001	mg/L	<0.0001			ND	20	93	90	110	NV	70	130	
Terbium	0.00001	mg/L	<0.00001			ND	20	96	90	110	NV	70	130	
Thulium	0.00001	mg/L	<0.00001			ND	20	95	90	110	NV	70	130	
Metals in aqueous samples - ICP-MS - QCBatchID: EMS0206-AUG25														
Aluminum	0.001	mg/L	<0.001			ND	20	98	90	110	101	70	130	
Arsenic	0.0002	mg/L	<0.0002			ND	20	96	90	110	91	70	130	
Bismuth	0.00001	mg/L	<0.00001			ND	20	93	90	110	91	70	130	
Calcium	0.01	mg/L	<0.01			ND	20	100	90	110	103	70	130	
Lead	0.00009	mg/L	<0.00009			ND	20	96	90	110	88	70	130	
Nickel	0.0001	mg/L	<0.0001			ND	20	98	90	110	100	70	130	
Phosphorus	0.003	mg/L	<0.003			ND	20	95	90	110	NV	70	130	
Sodium	0.01	mg/L	<0.01			20	20	99	90	110	99	70	130	
Strontium	0.00008	mg/L	<0.00008			ND	20	98	90	110	95	70	130	
Thallium	0.000005	mg/L	<0.000005			ND	20	95	90	110	71	70	130	
Tin	0.00006	mg/L	<0.00006			ND	20	101	90	110	NV	70	130	
Uranium	0.000002	mg/L	2e-006			ND	20	99	90	110	90	70	130	
Zinc	0.002	mg/L	<0.002			ND	20	96	90	110	108	70	130	
pH - QCBatchID: EWL0301-AUG25														
pH	0.05	No unit	NA			1		100			NA			
Reactive Phosphorus by SFA - QCBatchID: SKA0168-AUG25														
Total Reactive Phosphorous (o-phosphate as P)	0.03	mg/L	<0.03			ND	10	95	90	110	76	75	125	

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0004231746

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

28-April-2025

Innova Lithium Inc.
Attn : John Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 05 February 2025
LR Report: **CA11024-FEB25**
Reference: Shaakichiuwaanaan Project

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Sample ID	Sample Date & Time	Sample weight g	Volume D.I. Water mL	pH No unit	Conductivity uS/cm	Alkalinity mg/L as CaCO3	Acidity mg/L as CaCO3	F mg/L	Br mg/L	Cl mg/L	SO4 mg/L
1: Analysis Start Date		26-Mar-25	27-Mar-25	04-Apr-25	04-Apr-25	04-Apr-25	04-Apr-25	04-Apr-25	04-Apr-25	04-Apr-25	04-Apr-25
2: Analysis Start Time		16:39	07:16	07:49	07:49	07:49	07:49	08:37	01:49	01:49	01:49
3: Analysis Completed Date		08-Apr-25	08-Apr-25	11-Apr-25	10-Apr-25	11-Apr-25	23-Apr-25	10-Apr-25	11-Apr-25	11-Apr-25	11-Apr-25
4: Analysis Completed Time		17:05	17:05	12:02	12:20	12:02	11:47	13:25	12:19	12:19	12:19
5: VIS-CV5-MS-229	NA	100	400	8.33	443	63	< 2	0.56	< 30	< 20	69
6: VIS-CV5-MS-230	NA	100	400	8.84	309	64	< 2	1.57	< 30	< 20	41
7: VIS-CV5-MS-231	NA	99	400	8.20	413	47	< 2	2.10	< 30	< 20	75
8: VIS-CV5-MS-232	NA	100	400	9.14	238	83	< 2	2.63	< 30	< 20	< 20
9: VIS-CV5-MS-233	NA	100	400	9.09	209	89	< 2	2.48	< 30	< 20	< 20
10: VIS-CV5-MS-234	NA	100	400	9.00	241	79	< 2	1.27	< 30	< 20	23
11: VIS-CV5-MS-235	NA	100	400	9.23	230	95	< 2	2.69	< 30	< 20	< 20
12: VIS-CV5-MS-236	NA	100	400	9.10	214	85	< 2	0.87	< 30	< 20	< 20
13: VIS-CV5-MS-237	NA	100	400	8.93	206	80	< 2	0.96	< 30	< 20	< 20
14: VIS-CV5-MS-238	NA	100	400	9.12	242	99	< 2	2.79	< 30	< 20	< 20
15: VIS-CV5-MS-239	NA	100	400	8.65	227	66	< 2	0.74	< 30	< 20	22
16: VIS-CV5-MS-240	NA	100	400	8.76	220	70	< 2	1.24	< 30	< 20	< 20
17: VIS-CV5-MS-241	NA	101	400	9.04	278	90	< 2	2.87	< 30	< 20	< 20
18: VIS-CV5-MS-242	NA	101	400	9.22	250	98	< 2	2.26	< 30	< 20	< 20
19: VIS-CV5-MS-243	NA	100	400	8.92	205	75	< 2	1.91	< 30	< 20	< 20

OnLine LIMS

0004093170

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11024-FEB25**

Sample ID	Sample Date & Time	Sample weight g	Volume D.I. Water mL	pH No unit	Conductivity uS/cm	Alkalinity mg/L as CaCO3	Acidity mg/L as CaCO3	F mg/L	Br mg/L	Cl mg/L	SO4 mg/L
20: VIS-CV5-MS-244	NA	100	400	9.62	267	115	< 2	2.13	< 30	< 20	< 20
21: VIS-CV5-MS-245	NA	99	400	9.52	262	110	< 2	3.73	< 30	< 20	< 20
22: VIS-CV5-MS-246	NA	99	400	9.39	191	80	< 2	3.63	< 30	< 20	< 20
23: VIS-CV5-MS-247	NA	100	400	9.53	192	83	< 2	3.03	< 30	< 20	< 20
24: VIS-CV5-MS-248	NA	100	400	9.54	207	95	< 2	1.27	< 30	< 20	< 20
25: VIS-CV5-MS-249	NA	100	400	9.55	215	96	< 2	2.99	< 30	< 20	< 20
26: VIS-CV5-MS-250	NA	100	400	8.83	169	57	< 2	0.28	< 30	< 20	< 20
27: VIS-CV5-MS-251	NA	100	400	9.35	174	57	< 2	0.65	< 30	< 20	< 20
28: VIS-CV5-MS-252	NA	101	400	8.57	181	66	< 2	4.12	< 30	< 20	< 20
29: VIS-CV5-MS-253	NA	100	400	8.31	744	98	< 2	1.32	< 30	< 20	200
30: VIS-CV5-MS-254	NA	100	400	8.82	204	76	< 2	2.52	< 30	< 20	< 20
31: VIS-CV5-MS-255	NA	100	400	8.60	222	76	< 2	2.91	< 30	< 20	< 20
32: VIS-CV5-MS-256	NA	101	400	8.53	207	66	< 2	2.38	< 30	< 20	< 20
33: VIS-CV5-MS-257	NA	101	400	8.41	186	66	< 2	0.45	< 30	< 20	< 20
34: VIS-CV5-MS-258	NA	100	400	8.94	183	71	< 2	0.74	< 30	< 20	< 20
35: VIS-CV5-PEG-259	NA	100	400	8.99	198	67	< 2	0.85	< 30	< 20	< 20
36: VIS-CV5-PEG-260	NA	101	400	8.48	221	56	< 2	2.52	< 30	28	< 20
37: VIS-CV5-PEG-261	NA	100	400	8.49	186	59	< 2	2.63	< 30	< 20	< 20
38: VIS-CV5-PEG-262	NA	100	400	9.30	230	79	< 2	3.29	< 30	< 20	< 20
39: VIS-CV5-PEG-263	NA	100	400	9.19	217	74	< 2	3.62	< 30	21	< 20
40: VIS-CV5-PEG-264	NA	100	400	9.50	171	73	< 2	1.16	< 30	< 20	< 20
41: VIS-CV5-PEG-265	NA	100	400	9.50	211	81	< 2	0.80	< 30	< 20	< 20
42: VIS-CV5-PEG-266	NA	101	400	8.35	203	48	< 2	2.63	< 30	29	< 20
43: VIS-CV5-PEG-267	NA	100	400	8.87	242	52	< 2	4.57	< 30	40	< 20
44: VIS-CV5-PEG-268	NA	100	400	9.07	230	44	< 2	1.62	< 30	47	< 20
45: VIS-CV5-PEG-269	NA	101	400	9.41	170	74	< 2	2.18	< 30	< 20	< 20
46: VIS-CV5-PEG-270	NA	100	400	9.53	193	67	< 2	0.88	< 30	< 20	< 20
47: VIS-CV5-PEG-271	NA	100	400	9.31	180	67	< 2	1.68	< 30	< 20	< 20
48: VIS-CV5-PEG-272	NA	100	400	9.26	171	65	< 2	0.94	< 30	< 20	< 20
49: VIS-CV5-PEG-273	NA	101	400	9.25	200	68	< 2	0.87	< 30	< 20	< 20
50: VIS-CV5-PEG-274	NA	100	400	9.22	200	65	< 2	2.70	< 30	21	< 20
51: VIS-CV5-PEG-275	NA	100	400	9.57	187	72	< 2	1.50	< 30	< 20	< 20
52: VIS-CV5-PEG-276	NA	100	400	8.21	159	69	< 2	2.53	< 30	< 20	< 20

OnLine LIMS

0004093170

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11024-FEB25**

Sample ID	Sample Date & Time	Sample weight g	Volume D.I. Water mL	pH No unit	Conductivity uS/cm	Alkalinity mg/L as CaCO3	Acidity mg/L as CaCO3	F mg/L	Br mg/L	Cl mg/L	SO4 mg/L
53-DUP: VIS-CV5-MS-249		99	400	9.54	217	99	< 2	3.00	< 30	< 20	< 20
54-DUP: VIS-CV5-PEG-276		100	400	8.39	163	67	< 2	2.56	< 30	< 20	< 20
55-BLK: CTEU Blank		< 0.001	400	6.43	6	< 2	< 2	< 0.06	< 30	< 20	< 20

Sample ID	NO2 as N mg/L	NO3 as N mg/L	Tot.Reactive P mg/L	Hg mg/L	Ag mg/L	Al mg/L	As mg/L	Ba mg/L	Be mg/L	B mg/L	Bi mg/L
1: Analysis Start Date	04-Apr-25	04-Apr-25	10-Apr-25	10-Apr-25	07-Apr-25	07-Apr-25	07-Apr-25	07-Apr-25	07-Apr-25	07-Apr-25	07-Apr-25
2: Analysis Start Time	01:49	01:49	06:56	10:01	12:26	12:26	12:26	12:26	12:26	12:26	12:26
3: Analysis Completed Date	11-Apr-25	11-Apr-25	11-Apr-25	10-Apr-25	10-Apr-25	10-Apr-25	10-Apr-25	10-Apr-25	10-Apr-25	10-Apr-25	10-Apr-25
4: Analysis Completed Time	12:19	12:19	09:22	10:24	10:24	10:24	10:24	10:24	10:24	10:24	10:24
5: VIS-CV5-MS-229	< 3	< 6	< 0.03	< 0.00001	0.00026	0.125	0.0023	0.0125	< 0.000007	0.079	< 0.00001
6: VIS-CV5-MS-230	< 3	< 6	< 0.03	< 0.00001	0.00040	0.210	0.0525	0.00518	0.000026	0.286	0.00002
7: VIS-CV5-MS-231	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.338	0.0015	0.0106	0.000009	0.078	0.00002
8: VIS-CV5-MS-232	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.569	0.116	0.00326	0.000102	0.176	0.00003
9: VIS-CV5-MS-233	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.685	0.0907	0.00198	0.000087	0.160	0.00001
10: VIS-CV5-MS-234	< 3	< 6	< 0.03	< 0.00001	0.00008	2.24	0.0883	0.00737	0.000058	0.112	0.00011
11: VIS-CV5-MS-235	< 3	< 6	0.11	< 0.00001	< 0.00005	1.92	0.214	0.00475	0.000045	0.147	0.00003
12: VIS-CV5-MS-236	< 3	< 6	0.06	< 0.00001	< 0.00005	1.31	0.0102	0.00285	0.000032	0.140	0.00003
13: VIS-CV5-MS-237	< 3	< 6	0.10	< 0.00001	< 0.00005	1.71	0.0133	0.00385	0.000062	0.222	0.00002
14: VIS-CV5-MS-238	< 3	< 6	0.03	< 0.00001	< 0.00005	1.85	0.0888	0.00682	0.000040	0.176	0.00002
15: VIS-CV5-MS-239	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.505	0.0200	0.00303	< 0.000007	0.138	< 0.00001
16: VIS-CV5-MS-240	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.668	0.0090	0.00390	0.000009	0.116	0.00002
17: VIS-CV5-MS-241	< 3	< 6	0.04	< 0.00001	0.00008	2.85	0.0549	0.0205	0.000186	0.233	0.00010
18: VIS-CV5-MS-242	< 3	< 6	0.04	< 0.00001	< 0.00005	2.19	0.0544	0.00974	0.000043	0.152	0.00001
19: VIS-CV5-MS-243	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.796	0.0455	0.00286	0.000075	0.132	0.00004
20: VIS-CV5-MS-244	< 3	< 6	0.34	< 0.00001	< 0.00005	3.22	0.632	0.0163	0.000041	0.111	0.00006
21: VIS-CV5-MS-245	< 3	< 6	0.06	< 0.00001	< 0.00005	2.59	0.0412	0.00783	0.000023	0.192	0.00002
22: VIS-CV5-MS-246	< 3	< 6	0.07	< 0.00001	< 0.00005	2.63	0.204	0.0111	0.000193	0.107	0.00022
23: VIS-CV5-MS-247	< 3	< 6	0.17	< 0.00001	< 0.00005	3.83	0.305	0.0145	0.000070	0.112	0.00007
24: VIS-CV5-MS-248	< 3	< 6	0.06	< 0.00001	< 0.00005	2.41	0.234	0.00951	0.000023	0.135	0.00004
25: VIS-CV5-MS-249	< 3	< 6	0.09	< 0.00001	< 0.00005	2.40	0.160	0.00983	0.000050	0.135	0.00002
26: VIS-CV5-MS-250	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.670	0.0044	0.00092	< 0.000007	0.041	< 0.00001

OnLine LIMS

0004093170

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : CA11024-FEB25

Sample ID	NO2 as N mg/L	NO3 as N mg/L	Tot.Reactive P mg/L	Hg mg/L	Ag mg/L	Al mg/L	As mg/L	Ba mg/L	Be mg/L	B mg/L	Bi mg/L
27: VIS-CV5-MS-251	< 3	< 6	< 0.03	< 0.00001	< 0.00005	1.27	0.0217	0.00543	0.000189	0.196	0.00002
28: VIS-CV5-MS-252	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.612	0.0284	0.00214	0.000681	0.462	0.00005
29: VIS-CV5-MS-253	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.010	0.0008	0.0290	< 0.000007	0.105	< 0.00001
30: VIS-CV5-MS-254	< 3	< 6	0.15	< 0.00001	< 0.00005	2.29	0.680	0.0127	0.000293	0.225	0.00004
31: VIS-CV5-MS-255	< 3	< 6	0.08	< 0.00001	< 0.00005	2.64	0.260	0.0128	0.000073	0.140	0.00002
32: VIS-CV5-MS-256	< 3	< 6	0.04	< 0.00001	< 0.00005	2.26	0.0212	0.00842	0.000020	0.103	0.00003
33: VIS-CV5-MS-257	< 3	< 6	0.09	< 0.00001	< 0.00005	3.40	0.0252	0.0111	0.000007	0.217	< 0.00001
34: VIS-CV5-MS-258	< 3	< 6	0.07	< 0.00001	< 0.00005	1.94	0.0693	0.0101	< 0.000007	0.083	0.00003
35: VIS-CV5-PEG-259	< 3	< 6	0.06	< 0.00001	< 0.00005	1.79	0.215	0.00330	0.000289	0.870	0.00003
36: VIS-CV5-PEG-260	< 3	< 6	0.53	< 0.00001	< 0.00005	0.906	0.226	0.00169	0.000763	0.285	0.00185
37: VIS-CV5-PEG-261	< 3	< 6	0.30	< 0.00001	< 0.00005	1.74	0.708	0.00266	0.000770	0.177	0.00067
38: VIS-CV5-PEG-262	< 3	< 6	1.39	< 0.00001	< 0.00005	2.38	1.64	0.00238	0.000585	0.322	0.00013
39: VIS-CV5-PEG-263	< 3	< 6	0.93	< 0.00001	0.00008	3.09	0.561	0.00419	0.000673	0.353	0.00070
40: VIS-CV5-PEG-264	< 3	< 6	0.80	< 0.00001	< 0.00005	3.02	0.731	0.00097	0.000753	0.301	0.00023
41: VIS-CV5-PEG-265	< 3	< 6	0.68	< 0.00001	< 0.00005	2.24	0.834	0.00198	0.000313	0.190	0.00013
42: VIS-CV5-PEG-266	< 3	< 6	0.61	< 0.00001	< 0.00005	1.01	0.169	0.00187	0.00279	0.208	0.00054
43: VIS-CV5-PEG-267	< 3	< 6	1.08	< 0.00001	< 0.00005	0.960	0.156	0.00091	0.00310	0.225	0.00135
44: VIS-CV5-PEG-268	< 3	< 6	0.37	< 0.00001	< 0.00005	0.973	0.114	0.00173	0.0125	0.146	0.00046
45: VIS-CV5-PEG-269	< 3	< 6	0.82	< 0.00001	0.00006	3.53	0.379	0.00106	0.000764	0.340	0.00142
46: VIS-CV5-PEG-270	< 3	< 6	0.23	< 0.00001	< 0.00005	0.725	0.570	0.00066	0.000428	0.097	0.00005
47: VIS-CV5-PEG-271	< 3	< 6	1.50	< 0.00001	< 0.00005	2.67	1.51	0.00199	0.000738	0.322	0.00034
48: VIS-CV5-PEG-272	< 3	< 6	0.63	< 0.00001	< 0.00005	4.61	0.551	0.00187	0.00995	0.204	0.00009
49: VIS-CV5-PEG-273	< 3	< 6	1.02	< 0.00001	< 0.00005	1.74	0.929	0.00340	0.00133	0.269	0.00056
50: VIS-CV5-PEG-274	< 3	< 6	0.29	< 0.00001	< 0.00005	0.452	0.801	0.00063	0.000870	0.221	0.00009
51: VIS-CV5-PEG-275	< 3	< 6	0.80	< 0.00001	0.00009	1.34	0.250	0.00097	0.00178	0.186	0.00653
52: VIS-CV5-PEG-276	< 3	< 6	1.12	< 0.00001	0.00005	3.93	1.27	0.00358	0.000497	0.216	0.00062
53-DUP: VIS-CV5-MS-249	< 3	< 6	0.09	< 0.00001	< 0.00005	2.52	0.159	0.0103	0.000047	0.138	0.00003
54-DUP: VIS-CV5-PEG-276	< 3	< 6	1.11	< 0.00001	< 0.00005	4.34	1.35	0.00374	0.000722	0.213	0.00060
55-BLK: CTEU Blank	< 3	< 6	< 0.03	< 0.00001	< 0.00005	0.009	0.0005	0.00342	< 0.000007	< 0.002	< 0.00001

OnLine LIMS

0004093170

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

CTEU-9--(4:1 L/S ratio, 7 day on 100mesh)

LR Report : **CA11024-FEB25**

Sample ID	Ca mg/L	Cd mg/L	Co mg/L	Cr mg/L	Cu mg/L	Fe mg/L	K mg/L	Li mg/L	Mg mg/L	Mn mg/L	Mo mg/L	Na mg/L
1: Analysis Start Date	07-Apr-25	07-Apr-25	07-Apr-25	07-Apr-25	07-Apr-25	07-Apr-25	07-Apr-25	07-Apr-25	07-Apr-25	07-Apr-25	07-Apr-25	07-Apr-25
2: Analysis Start Time	12:26	12:26	12:26	12:26	12:26	12:26	12:26	12:26	12:26	12:26	12:26	12:26
3: Analysis Completed Date	10-Apr-25	10-Apr-25	10-Apr-25	10-Apr-25	10-Apr-25	10-Apr-25	10-Apr-25	10-Apr-25	10-Apr-25	10-Apr-25	10-Apr-25	10-Apr-25
4: Analysis Completed Time	10:24	10:24	10:24	10:25	10:25	10:25	10:25	10:25	10:25	10:25	10:25	10:25
5: VIS-CV5-MS-229	26.1	0.000029	0.000089	0.00054	0.002	0.017	28.2	1.43	13.6	0.00835	0.0038	20.1
6: VIS-CV5-MS-230	12.0	0.000028	0.000145	0.00173	< 0.001	0.086	10.4	0.510	5.35	0.00187	0.0393	30.8
7: VIS-CV5-MS-231	15.3	0.000006	0.000056	0.00073	0.003	0.170	54.3	0.789	8.90	0.00236	0.0083	15.1
8: VIS-CV5-MS-232	2.64	0.000016	0.000523	0.00249	< 0.001	0.499	30.4	1.98	2.97	0.0123	0.0064	16.7
9: VIS-CV5-MS-233	1.67	0.000009	0.000632	0.00122	0.001	0.653	20.8	2.23	2.35	0.0114	0.0067	20.4
10: VIS-CV5-MS-234	1.30	0.000020	0.000628	0.00288	0.002	0.977	28.3	2.59	0.721	0.0146	0.0050	16.4
11: VIS-CV5-MS-235	1.35	0.000018	0.000393	0.00030	< 0.001	0.816	25.0	3.88	0.681	0.0166	0.0070	19.1
12: VIS-CV5-MS-236	1.25	0.000005	0.000097	0.00345	< 0.001	0.245	20.2	0.0939	0.594	0.00527	0.0045	26.3
13: VIS-CV5-MS-237	0.86	0.000008	0.000097	0.00668	0.001	0.183	23.9	0.0675	0.465	0.00407	0.0086	23.2
14: VIS-CV5-MS-238	2.02	0.000010	0.000740	0.00072	< 0.001	1.28	29.6	2.80	1.10	0.0283	0.0030	16.0
15: VIS-CV5-MS-239	5.69	0.000005	0.000171	0.00276	< 0.001	0.244	9.81	2.00	3.51	0.00374	0.0037	24.7
16: VIS-CV5-MS-240	2.43	0.000010	0.000251	0.00293	0.001	0.370	31.3	1.15	0.824	0.0110	0.0059	16.3
17: VIS-CV5-MS-241	1.66	0.000024	0.00111	0.00527	0.002	2.68	36.6	3.93	1.79	0.0665	0.0068	18.8
18: VIS-CV5-MS-242	1.85	0.000013	0.000595	0.00230	0.001	1.45	35.6	2.31	0.978	0.0287	0.0071	15.5
19: VIS-CV5-MS-243	4.05	0.000005	0.000618	0.00750	0.002	0.868	6.54	1.39	3.31	0.0180	0.0071	26.3
20: VIS-CV5-MS-244	1.64	0.000016	0.00183	0.00111	0.002	2.29	41.1	3.36	1.03	0.0332	0.0057	10.5
21: VIS-CV5-MS-245	1.20	0.000009	0.000668	0.00108	0.001	1.62	40.5	3.78	0.834	0.0318	0.0031	13.3
22: VIS-CV5-MS-246	1.28	0.000043	0.000927	0.00085	0.001	1.64	23.5	2.52	0.887	0.0467	0.0230	14.2
23: VIS-CV5-MS-247	1.16	0.000042	0.000930	0.00059	0.002	2.27	28.4	3.49	0.932	0.0667	0.0044	12.3
24: VIS-CV5-MS-248	1.90	0.000015	0.00121	0.00085	0.001	1.56	29.1	3.06	0.844	0.0284	0.0046	12.4
25: VIS-CV5-MS-249	1.29	0.000019	0.000712	0.00097	0.001	1.24	29.1	3.81	0.679	0.0272	0.0086	13.1
26: VIS-CV5-MS-250	10.0	0.000003	0.000011	< 0.00008	< 0.001	0.014	0.783	0.0959	3.22	0.00159	0.0017	16.9
27: VIS-CV5-MS-251	3.48	0.000014	0.000451	0.00035	< 0.001	0.990	18.4	0.268	1.57	0.0205	0.0112	20.9
28: VIS-CV5-MS-252	6.66	0.000003	0.000378	0.00120	0.002	0.363	5.88	1.03	2.62	0.00964	0.0029	16.6
29: VIS-CV5-MS-253	85.0	0.000042	0.000186	0.00009	< 0.001	< 0.007	29.1	0.865	10.9	0.0396	0.0071	18.1
30: VIS-CV5-MS-254	2.41	0.000011	0.00163	0.00624	< 0.001	1.46	26.6	1.64	1.18	0.0378	0.0059	13.8
31: VIS-CV5-MS-255	3.16	0.000093	0.00159	0.00489	0.003	1.58	21.3	2.12	1.13	0.0405	0.0125	16.0
32: VIS-CV5-MS-256	2.52	0.000026	0.000689	0.00489	0.002	1.47	22.1	1.54	1.05	0.0204	0.0024	14.5
33: VIS-CV5-MS-257	2.64	0.000007	0.000422	0.00294	< 0.001	0.156	16.8	0.0779	0.384	0.00354	0.0055	22.0

OnLine LIMS

0004093170

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11024-FEB25**

Sample ID	Ca mg/L	Cd mg/L	Co mg/L	Cr mg/L	Cu mg/L	Fe mg/L	K mg/L	Li mg/L	Mg mg/L	Mn mg/L	Mo mg/L	Na mg/L
34: VIS-CV5-MS-258	2.01	0.000013	0.00122	0.00151	0.002	1.58	34.4	0.198	1.01	0.00941	0.0059	9.52
35: VIS-CV5-PEG-259	3.81	0.000005	0.000100	0.00075	< 0.001	0.121	7.54	0.505	0.673	0.00265	0.0015	21.3
36: VIS-CV5-PEG-260	3.93	0.000021	0.000090	0.00312	0.001	0.084	20.0	0.779	0.546	0.00875	0.0233	19.0
37: VIS-CV5-PEG-261	2.58	0.000062	0.000370	0.00086	0.018	0.523	10.1	1.53	1.26	0.0186	0.0029	22.5
38: VIS-CV5-PEG-262	1.03	0.000034	0.000062	0.00534	< 0.001	0.267	1.29	0.785	0.128	0.0199	0.0080	42.0
39: VIS-CV5-PEG-263	0.68	0.000036	0.000162	0.00150	0.003	0.172	6.56	1.14	0.278	0.0152	0.0031	35.9
40: VIS-CV5-PEG-264	0.55	0.000018	0.000097	0.00998	< 0.001	0.150	0.383	0.258	0.090	0.0124	0.0043	34.1
41: VIS-CV5-PEG-265	0.93	0.000009	0.000468	0.00413	0.002	0.194	1.01	0.385	0.191	0.0139	0.0016	40.2
42: VIS-CV5-PEG-266	2.97	0.000014	0.000110	0.00267	0.001	0.084	18.8	0.882	0.445	0.00742	0.0139	18.1
43: VIS-CV5-PEG-267	3.39	0.000021	0.000039	0.00131	< 0.001	0.051	17.4	1.55	0.403	0.0174	0.0131	19.0
44: VIS-CV5-PEG-268	5.19	0.000019	0.000204	0.00786	0.002	0.246	7.11	0.484	1.19	0.0155	0.0260	31.0
45: VIS-CV5-PEG-269	1.23	0.000036	0.000021	0.00395	< 0.001	0.136	12.4	1.31	0.109	0.0443	0.0019	22.3
46: VIS-CV5-PEG-270	2.94	0.000004	0.00164	0.00136	0.002	0.265	0.319	0.416	0.983	0.00642	0.0017	27.4
47: VIS-CV5-PEG-271	1.17	0.000041	0.000072	0.00984	0.002	0.078	18.7	0.524	0.106	0.0320	0.0149	22.2
48: VIS-CV5-PEG-272	1.16	0.000020	0.000267	0.0256	0.001	0.384	6.98	0.214	0.465	0.0203	0.0026	29.4
49: VIS-CV5-PEG-273	1.31	0.000050	0.000161	0.00768	0.003	0.158	21.9	0.160	0.197	0.0165	0.0095	23.4
50: VIS-CV5-PEG-274	5.60	0.000014	0.000350	0.00280	< 0.001	0.450	0.477	0.538	3.41	0.00791	0.0264	26.7
51: VIS-CV5-PEG-275	0.79	0.000011	0.000081	0.00525	0.002	0.063	18.9	0.528	0.124	0.0108	0.0012	22.7
52: VIS-CV5-PEG-276	0.63	0.000010	0.000074	0.00296	< 0.001	0.159	11.5	0.819	0.130	0.0227	0.0008	23.4
53-DUP: VIS-CV5-MS-249	1.33	0.000024	0.000769	0.00093	0.001	1.35	29.3	3.93	0.723	0.0290	0.0086	13.5
54-DUP: VIS-CV5-PEG-276	0.54	0.000010	0.000089	0.00263	< 0.001	0.185	11.6	0.810	0.130	0.0250	0.0008	23.6
55-BLK: CTEU Blank	0.05	0.000005	0.000013	< 0.00008	< 0.001	< 0.007	0.509	0.0005	0.008	0.00032	< 0.0004	0.50

Sample ID	Ni mg/L	P mg/L	Pb mg/L	Sb mg/L	Se mg/L	Si mg/L	Sn mg/L	Sr mg/L	Ti mg/L	Tl mg/L	U mg/L	V mg/L
1: Analysis Start Date	07-Apr-25	07-Apr-25	07-Apr-25	07-Apr-25	07-Apr-25	07-Apr-25	07-Apr-25	07-Apr-25	07-Apr-25	07-Apr-25	06-Apr-25	07-Apr-25
2: Analysis Start Time	12:26	12:26	12:26	12:26	12:26	12:26	12:26	12:26	12:26	12:26	08:53	12:26
3: Analysis Completed Date	10-Apr-25	10-Apr-25	10-Apr-25	10-Apr-25	10-Apr-25	10-Apr-25	10-Apr-25	10-Apr-25	10-Apr-25	10-Apr-25	10-Apr-25	10-Apr-25
4: Analysis Completed Time	10:25	10:25	10:25	10:31	10:31	10:31	10:31	10:32	10:32	10:32	10:32	10:32
5: VIS-CV5-MS-229	0.0005	< 0.003	< 0.00009	0.0068	0.00060	2.11	< 0.00006	0.0372	0.0005	0.000024	0.000299	0.00329
6: VIS-CV5-MS-230	0.0005	0.020	0.00016	0.157	0.00186	2.87	0.00008	0.0226	0.0019	0.000093	0.00835	0.0236
7: VIS-CV5-MS-231	0.0002	0.004	< 0.00009	< 0.0009	0.00025	1.75	0.00006	0.0174	0.0066	0.000068	0.00191	0.00290

OnLine LIMS

0004093170

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

CTEU-9--(4:1 L/S ratio, 7 day on 100mesh)

LR Report : **CA11024-FEB25**

Sample ID	Ni mg/L	P mg/L	Pb mg/L	Sb mg/L	Se mg/L	Si mg/L	Sn mg/L	Sr mg/L	Ti mg/L	Tl mg/L	U mg/L	V mg/L
8: VIS-CV5-MS-232	0.0011	0.009	0.00074	0.431	0.00056	3.11	0.00041	0.0122	0.0150	0.000089	0.000412	0.0199
9: VIS-CV5-MS-233	0.0008	0.011	< 0.00009	0.0453	0.00013	3.13	0.00006	0.00593	0.0147	0.000049	0.000112	0.0148
10: VIS-CV5-MS-234	0.0011	0.014	0.00075	0.0185	0.00073	2.52	0.00010	0.00439	0.0413	0.000112	0.00436	0.0294
11: VIS-CV5-MS-235	0.0003	0.035	0.00086	0.0918	0.00018	2.16	0.00019	0.00440	0.0438	0.000165	0.00415	0.0209
12: VIS-CV5-MS-236	0.0002	0.038	0.00030	0.0046	0.00012	2.05	< 0.00006	0.00445	0.0074	0.000042	0.00236	0.0559
13: VIS-CV5-MS-237	0.0002	0.079	0.00016	0.0040	0.00012	2.25	0.00008	0.00251	0.0056	0.000042	0.0124	0.0883
14: VIS-CV5-MS-238	0.0009	0.015	0.00071	0.133	0.00037	2.67	0.00014	0.00434	0.0727	0.000123	0.00175	0.0353
15: VIS-CV5-MS-239	0.0007	0.015	< 0.00009	0.330	0.00018	1.98	< 0.00006	0.0125	0.0115	0.000008	0.000082	0.0187
16: VIS-CV5-MS-240	0.0005	0.010	0.00043	0.0083	0.00056	2.68	< 0.00006	0.00500	0.0305	0.000038	0.000811	0.0171
17: VIS-CV5-MS-241	0.0025	0.029	0.00143	0.0756	0.00031	5.46	0.00065	0.00438	0.181	0.000482	0.00553	0.0314
18: VIS-CV5-MS-242	0.0011	0.024	0.00059	0.0430	0.00016	3.02	0.00064	0.00484	0.0828	0.000119	0.00180	0.0388
19: VIS-CV5-MS-243	0.0017	0.007	0.00022	0.0747	0.00032	3.76	0.00011	0.00833	0.0379	0.000039	0.00137	0.0241
20: VIS-CV5-MS-244	0.0026	0.090	0.00178	0.0421	0.00027	4.10	0.00011	0.00288	0.128	0.000099	0.000825	0.0862
21: VIS-CV5-MS-245	0.0008	0.043	0.00089	0.0358	0.00019	3.21	0.00015	0.00296	0.119	0.000296	0.00584	0.0746
22: VIS-CV5-MS-246	0.0009	0.035	0.00561	0.0784	0.00060	3.79	0.00040	0.00381	0.0971	0.000817	0.0108	0.0292
23: VIS-CV5-MS-247	0.0005	0.071	0.00716	0.131	0.00053	5.10	0.00054	0.00417	0.174	0.000566	0.00689	0.0393
24: VIS-CV5-MS-248	0.0012	0.029	0.00105	0.116	0.00010	3.13	0.00007	0.00496	0.0819	0.000087	0.00177	0.0256
25: VIS-CV5-MS-249	0.0006	0.042	0.00115	0.0810	0.00033	3.60	0.00017	0.00540	0.0816	0.000179	0.00311	0.0454
26: VIS-CV5-MS-250	< 0.0001	0.005	< 0.00009	0.0029	0.00020	1.49	0.00016	0.0116	0.0007	0.000007	0.00164	0.00055
27: VIS-CV5-MS-251	0.0010	0.031	0.00069	0.0173	0.00012	3.26	< 0.00006	0.0105	0.0609	0.000043	0.000628	0.0169
28: VIS-CV5-MS-252	0.0007	0.028	0.00013	0.118	0.00053	2.74	0.00049	0.00995	0.0205	0.000084	0.00185	0.0124
29: VIS-CV5-MS-253	0.0011	< 0.003	< 0.00009	0.0086	0.00035	4.64	< 0.00006	0.103	0.0001	0.000022	0.00212	0.00022
30: VIS-CV5-MS-254	0.0037	0.031	0.00062	0.343	0.00048	5.77	0.00028	0.0109	0.117	0.000349	0.00138	0.0312
31: VIS-CV5-MS-255	0.0029	0.025	0.00111	0.204	0.00026	4.78	0.00014	0.00729	0.126	0.000129	0.00287	0.0327
32: VIS-CV5-MS-256	0.0013	0.023	0.00069	0.0476	0.00025	3.91	0.00006	0.00496	0.0979	0.000026	0.000634	0.0247
33: VIS-CV5-MS-257	0.0005	0.073	0.00096	0.0017	0.00059	3.43	0.00007	0.00569	0.0298	0.000010	0.00879	0.0558
34: VIS-CV5-MS-258	0.0014	0.042	0.00055	0.0039	0.00010	4.25	0.00032	0.00422	0.105	0.000018	0.000772	0.0279
35: VIS-CV5-PEG-259	0.0002	0.018	0.00033	0.170	0.00156	2.59	0.00011	0.00713	0.0091	0.000150	0.00635	0.0140
36: VIS-CV5-PEG-260	< 0.0001	0.435	0.00055	0.0446	0.00025	6.28	0.00065	0.00842	0.0011	0.000920	0.00172	0.00446
37: VIS-CV5-PEG-261	0.0002	0.086	0.00115	0.156	0.00041	5.66	0.00273	0.00825	0.0021	0.000423	0.00507	0.00222
38: VIS-CV5-PEG-262	< 0.0001	0.777	0.00158	0.188	0.00017	9.93	0.00238	0.00320	0.0015	0.000348	0.436	0.00232
39: VIS-CV5-PEG-263	< 0.0001	0.708	0.00056	0.164	0.00139	7.26	0.00168	0.00351	0.0008	0.000222	0.0318	0.00533
40: VIS-CV5-PEG-264	< 0.0001	0.484	0.00098	0.101	0.00011	10.3	0.00220	0.00155	0.0029	0.000401	0.266	0.00315

OnLine LIMS

0004093170

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : CA11024-FEB25

Sample ID	Ni mg/L	P mg/L	Pb mg/L	Sb mg/L	Se mg/L	Si mg/L	Sn mg/L	Sr mg/L	Ti mg/L	Tl mg/L	U mg/L	V mg/L
41: VIS-CV5-PEG-265	0.0001	0.338	0.00156	0.125	0.00034	9.68	0.00160	0.00219	0.0018	0.000349	0.295	0.00218
42: VIS-CV5-PEG-266	< 0.0001	0.519	0.00324	0.0362	0.00020	6.77	0.00067	0.00703	0.0006	0.000942	0.00160	0.00605
43: VIS-CV5-PEG-267	< 0.0001	0.971	0.00027	0.0481	0.00024	5.73	0.00098	0.00578	0.0012	0.000915	0.00496	0.00255
44: VIS-CV5-PEG-268	0.0002	0.319	0.00061	0.0263	0.00014	8.59	0.00128	0.0147	0.0012	0.000463	0.00696	0.00528
45: VIS-CV5-PEG-269	< 0.0001	0.636	0.00487	0.165	0.00023	6.06	0.00167	0.00322	0.0022	0.00131	0.988	0.00102
46: VIS-CV5-PEG-270	0.0006	0.050	0.00218	0.0356	0.00021	7.32	0.00043	0.00544	0.0007	0.000042	0.0193	0.00537
47: VIS-CV5-PEG-271	0.0001	0.974	0.00090	0.167	0.00016	7.54	0.00293	0.00528	0.0014	0.00258	0.0507	0.00148
48: VIS-CV5-PEG-272	0.0003	0.391	0.00092	0.102	0.00022	6.12	0.00318	0.00326	0.0047	0.00113	0.0545	0.00387
49: VIS-CV5-PEG-273	0.0004	0.653	0.00157	0.124	0.00085	7.18	0.00135	0.00585	0.0033	0.00142	0.0146	0.00851
50: VIS-CV5-PEG-274	0.0011	0.064	0.00482	0.115	0.00028	5.11	0.00020	0.0178	0.0012	0.000070	0.00783	0.0155
51: VIS-CV5-PEG-275	0.0002	0.671	0.00065	0.0552	0.00021	7.80	0.00064	0.00194	0.0006	0.00165	0.0400	0.00315
52: VIS-CV5-PEG-276	< 0.0001	0.590	0.00087	0.143	0.00026	6.40	0.00167	0.00242	0.0021	0.00103	0.0582	0.00153
53-DUP: VIS-CV5-MS-249	0.0006	0.042	0.00120	0.0812	0.00030	3.52	0.00019	0.00564	0.0886	0.000204	0.00326	0.0471
54-DUP: VIS-CV5-PEG-276	< 0.0001	0.608	0.00086	0.145	0.00026	7.33	0.00191	0.00235	0.0026	0.00113	0.0591	0.00152
55-BLK: CTEU Blank	0.0001	0.017	< 0.00009	< 0.0009	< 0.00004	0.02	< 0.00006	0.00111	0.0001	< 0.000005	0.000005	0.00003

Sample ID	Zn mg/L	Au mg/L	Ce mg/L	Cs mg/L	Dy mg/L	Er mg/L	Eu mg/L	Ga mg/L	Gd (tot) mg/L	Ge mg/L	Hf mg/L	Ho mg/L
1: Analysis Start Date	07-Apr-25	07-Apr-25	06-Apr-25	06-Apr-25	06-Apr-25	06-Apr-25	06-Apr-25	06-Apr-25	06-Apr-25	07-Apr-25	07-Apr-25	06-Apr-25
2: Analysis Start Time	12:26	12:26	08:53	08:53	08:53	08:53	08:53	08:53	08:53	12:26	12:26	08:53
3: Analysis Completed Date	10-Apr-25	11-Apr-25	11-Apr-25	11-Apr-25	11-Apr-25	11-Apr-25	11-Apr-25	11-Apr-25	11-Apr-25	11-Apr-25	11-Apr-25	11-Apr-25
4: Analysis Completed Time	10:32	08:23	08:23	08:23	08:23	08:23	08:23	08:23	08:23	08:23	08:23	08:23
5: VIS-CV5-MS-229	< 0.002	---	---	---	---	---	---	---	---	---	---	---
6: VIS-CV5-MS-230	< 0.002	---	---	---	---	---	---	---	---	---	---	---
7: VIS-CV5-MS-231	0.002	0.00003	0.00026	0.0467	< 0.00001	< 0.00001	< 0.00001	0.0031	0.00001	< 0.0001	< 0.0001	< 0.00001
8: VIS-CV5-MS-232	0.002	---	---	---	---	---	---	---	---	---	---	---
9: VIS-CV5-MS-233	< 0.002	---	---	---	---	---	---	---	---	---	---	---
10: VIS-CV5-MS-234	0.008	---	---	---	---	---	---	---	---	---	---	---
11: VIS-CV5-MS-235	0.002	< 0.00001	0.00228	0.0885	0.00009	0.00004	0.00002	0.0164	0.00016	< 0.0001	0.0002	0.00002
12: VIS-CV5-MS-236	< 0.002	---	---	---	---	---	---	---	---	---	---	---
13: VIS-CV5-MS-237	< 0.002	---	---	---	---	---	---	---	---	---	---	---
14: VIS-CV5-MS-238	0.004	---	---	---	---	---	---	---	---	---	---	---

OnLine LIMS

0004093170

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : CA11024-FEB25

Sample ID	Zn mg/L	Au mg/L	Ce mg/L	Cs mg/L	Dy mg/L	Er mg/L	Eu mg/L	Ga mg/L	Gd (tot) mg/L	Ge mg/L	Hf mg/L	Ho mg/L
15: VIS-CV5-MS-239	< 0.002	0.00001	0.00018	0.0254	< 0.00001	< 0.00001	< 0.00001	0.0062	0.00001	< 0.0001	< 0.0001	< 0.00001
16: VIS-CV5-MS-240	< 0.002	---	---	---	---	---	---	---	---	---	---	---
17: VIS-CV5-MS-241	0.008	---	---	---	---	---	---	---	---	---	---	---
18: VIS-CV5-MS-242	0.004	---	---	---	---	---	---	---	---	---	---	---
19: VIS-CV5-MS-243	0.002	0.00002	0.00174	0.0194	0.00005	0.00002	0.00001	0.0058	0.00009	0.0001	< 0.0001	< 0.00001
20: VIS-CV5-MS-244	0.008	---	---	---	---	---	---	---	---	---	---	---
21: VIS-CV5-MS-245	0.004	---	---	---	---	---	---	---	---	---	---	---
22: VIS-CV5-MS-246	0.006	---	---	---	---	---	---	---	---	---	---	---
23: VIS-CV5-MS-247	0.006	< 0.00001	0.01806	0.270	0.00060	0.00022	0.00010	0.0115	0.00111	0.0003	0.0001	0.00010
24: VIS-CV5-MS-248	0.004	---	---	---	---	---	---	---	---	---	---	---
25: VIS-CV5-MS-249	0.003	---	---	---	---	---	---	---	---	---	---	---
26: VIS-CV5-MS-250	< 0.002	---	---	---	---	---	---	---	---	---	---	---
27: VIS-CV5-MS-251	0.003	< 0.00001	0.00143	0.0039	0.00004	0.00002	0.00002	0.0061	0.00009	< 0.0001	< 0.0001	< 0.00001
28: VIS-CV5-MS-252	0.002	---	---	---	---	---	---	---	---	---	---	---
29: VIS-CV5-MS-253	< 0.002	---	---	---	---	---	---	---	---	---	---	---
30: VIS-CV5-MS-254	0.003	---	---	---	---	---	---	---	---	---	---	---
31: VIS-CV5-MS-255	0.015	0.00001	0.00465	0.0262	0.00013	0.00005	0.00005	0.0094	0.00027	0.0001	0.0001	0.00003
32: VIS-CV5-MS-256	0.006	---	---	---	---	---	---	---	---	---	---	---
33: VIS-CV5-MS-257	0.002	---	---	---	---	---	---	---	---	---	---	---
34: VIS-CV5-MS-258	0.006	---	---	---	---	---	---	---	---	---	---	---
35: VIS-CV5-PEG-259	< 0.002	0.00001	0.00087	0.0765	0.00003	0.00001	< 0.00001	0.0168	0.00005	0.0001	< 0.0001	< 0.00001
36: VIS-CV5-PEG-260	< 0.002	< 0.00001	0.00015	0.0316	0.00002	< 0.00001	< 0.00001	0.0093	0.00003	0.0003	< 0.0001	< 0.00001
37: VIS-CV5-PEG-261	0.009	0.00004	0.00016	0.0436	0.00004	0.00002	0.00001	0.0262	0.00004	0.0003	< 0.0001	< 0.00001
38: VIS-CV5-PEG-262	0.003	0.00005	0.00103	0.0270	0.00010	0.00002	0.00003	0.0238	0.00022	0.0012	0.0004	0.00001
39: VIS-CV5-PEG-263	0.006	0.00006	0.00011	0.0419	0.00002	< 0.00001	< 0.00001	0.0544	0.00003	0.0003	0.0001	< 0.00001
40: VIS-CV5-PEG-264	0.002	0.00006	0.00041	0.0088	0.00007	< 0.00001	0.00002	0.0206	0.00013	0.0017	0.0004	< 0.00001
41: VIS-CV5-PEG-265	0.003	0.00005	0.00022	0.0079	0.00004	0.00001	0.00002	0.0273	0.00006	0.0010	0.0002	< 0.00001
42: VIS-CV5-PEG-266	0.002	0.00002	0.00022	0.0385	0.00002	< 0.00001	< 0.00001	0.0098	0.00002	0.0003	< 0.0001	< 0.00001
43: VIS-CV5-PEG-267	< 0.002	0.00003	0.00006	0.0647	< 0.00001	< 0.00001	< 0.00001	0.0186	0.00001	0.0003	< 0.0001	< 0.00001
44: VIS-CV5-PEG-268	0.002	0.00003	0.00022	0.0193	0.00004	0.00002	0.00001	0.0068	0.00005	0.0005	0.0001	< 0.00001
45: VIS-CV5-PEG-269	0.004	0.00005	0.00124	0.0705	0.00052	0.00009	< 0.00001	0.0363	0.00077	0.0011	0.0004	0.00005
46: VIS-CV5-PEG-270	< 0.002	0.00003	0.00026	0.0030	0.00011	0.00007	0.00002	0.0125	0.00010	0.0002	< 0.0001	0.00002
47: VIS-CV5-PEG-271	0.005	0.00002	0.00019	0.0559	0.00003	< 0.00001	< 0.00001	0.0293	0.00005	0.0008	0.0002	< 0.00001

OnLine LIMS

0004093170

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Sample ID	Zn mg/L	Au mg/L	Ce mg/L	Cs mg/L	Dy mg/L	Er mg/L	Eu mg/L	Ga mg/L	Gd (tot) mg/L	Ge mg/L	Hf mg/L	Ho mg/L
48: VIS-CV5-PEG-272	0.004	0.00003	0.00046	0.0148	0.00013	0.00003	0.00003	0.0477	0.00023	0.0005	0.0001	0.00002
49: VIS-CV5-PEG-273	0.011	0.00002	0.00051	0.0434	0.00003	< 0.00001	< 0.00001	0.0244	0.00006	0.0007	0.0002	< 0.00001
50: VIS-CV5-PEG-274	< 0.002	0.00001	0.00004	0.0349	0.00003	< 0.00001	< 0.00001	0.0018	0.00003	0.0001	< 0.0001	< 0.00001
51: VIS-CV5-PEG-275	0.004	0.00002	0.00044	0.0415	0.00002	< 0.00001	< 0.00001	0.0226	0.00004	0.0010	0.0001	< 0.00001
52: VIS-CV5-PEG-276	0.003	0.00002	0.00017	0.0298	0.00006	0.00001	< 0.00001	0.0379	0.00007	0.0005	< 0.0001	< 0.00001
53-DUP: VIS-CV5-MS-249	0.003	< 0.00001	0.00390	0.100	0.00017	0.00009	0.00004	0.0106	0.00026	0.0001	< 0.0001	0.00004
54-DUP: VIS-CV5-PEG-276	0.003	0.00002	0.00014	0.0325	0.00006	0.00001	< 0.00001	0.0386	0.00008	0.0006	< 0.0001	< 0.00001
55-BLK: CTEU Blank	< 0.002	< 0.00001	< 0.00001	0.0002	< 0.00001	< 0.00001	< 0.00001	< 0.0001	< 0.00001	< 0.0001	< 0.0001	< 0.00001

Sample ID	In mg/L	Ir mg/L	La mg/L	Lu mg/L	Nb mg/L	Nd mg/L	Os mg/L	Pd mg/L	Pr mg/L	Pt mg/L	Rh mg/L	Rb mg/L
1: Analysis Start Date	06-Apr-25	07-Apr-25	06-Apr-25	06-Apr-25	07-Apr-25	06-Apr-25	07-Apr-25	07-Apr-25	06-Apr-25	07-Apr-25	07-Apr-25	06-Apr-25
2: Analysis Start Time	08:53	12:26	08:53	08:53	12:26	08:53	12:26	12:26	08:53	12:26	12:26	08:53
3: Analysis Completed Date	11-Apr-25	11-Apr-25	11-Apr-25	11-Apr-25	11-Apr-25	11-Apr-25	11-Apr-25	11-Apr-25	11-Apr-25	11-Apr-25	11-Apr-25	11-Apr-25
4: Analysis Completed Time	08:23	08:23	08:23	08:23	08:23	08:23	08:23	08:23	08:23	08:23	08:23	08:23
5: VIS-CV5-MS-229	---	---	---	---	---	---	---	---	---	---	---	---
6: VIS-CV5-MS-230	---	---	---	---	---	---	---	---	---	---	---	---
7: VIS-CV5-MS-231	< 0.00001	< 0.00001	0.00014	< 0.0001	< 0.0001	0.00010	< 0.0001	< 0.0001	0.00003	< 0.0001	< 0.00001	0.592
8: VIS-CV5-MS-232	---	---	---	---	---	---	---	---	---	---	---	---
9: VIS-CV5-MS-233	---	---	---	---	---	---	---	---	---	---	---	---
10: VIS-CV5-MS-234	---	---	---	---	---	---	---	---	---	---	---	---
11: VIS-CV5-MS-235	< 0.00001	< 0.00001	0.00117	< 0.0001	0.0003	0.00095	< 0.0001	< 0.0001	0.00026	< 0.0001	< 0.00001	0.353
12: VIS-CV5-MS-236	---	---	---	---	---	---	---	---	---	---	---	---
13: VIS-CV5-MS-237	---	---	---	---	---	---	---	---	---	---	---	---
14: VIS-CV5-MS-238	---	---	---	---	---	---	---	---	---	---	---	---
15: VIS-CV5-MS-239	< 0.00001	< 0.00001	0.00010	< 0.0001	< 0.0001	0.00009	< 0.0001	< 0.0001	0.00002	< 0.0001	< 0.00001	0.0700
16: VIS-CV5-MS-240	---	---	---	---	---	---	---	---	---	---	---	---
17: VIS-CV5-MS-241	---	---	---	---	---	---	---	---	---	---	---	---
18: VIS-CV5-MS-242	---	---	---	---	---	---	---	---	---	---	---	---
19: VIS-CV5-MS-243	< 0.00001	< 0.00001	0.00093	< 0.0001	0.0001	0.00064	< 0.0001	< 0.0001	0.00019	< 0.0001	< 0.00001	0.0882
20: VIS-CV5-MS-244	---	---	---	---	---	---	---	---	---	---	---	---
21: VIS-CV5-MS-245	---	---	---	---	---	---	---	---	---	---	---	---

OnLine LIMS

0004093170

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : CA11024-FEB25

Sample ID	In mg/L	Ir mg/L	La mg/L	Lu mg/L	Nb mg/L	Nd mg/L	Os mg/L	Pd mg/L	Pr mg/L	Pt mg/L	Rh mg/L	Rb mg/L
22: VIS-CV5-MS-246	---	---	---	---	---	---	---	---	---	---	---	---
23: VIS-CV5-MS-247	< 0.00001	< 0.00001	0.00903	< 0.0001	0.0005	0.00744	< 0.0001	< 0.0001	0.00206	< 0.0001	< 0.00001	0.572
24: VIS-CV5-MS-248	---	---	---	---	---	---	---	---	---	---	---	---
25: VIS-CV5-MS-249	---	---	---	---	---	---	---	---	---	---	---	---
26: VIS-CV5-MS-250	---	---	---	---	---	---	---	---	---	---	---	---
27: VIS-CV5-MS-251	< 0.00001	< 0.00001	0.00071	< 0.0001	< 0.0001	0.00063	< 0.0001	< 0.0001	0.00016	< 0.0001	< 0.00001	0.0391
28: VIS-CV5-MS-252	---	---	---	---	---	---	---	---	---	---	---	---
29: VIS-CV5-MS-253	---	---	---	---	---	---	---	---	---	---	---	---
30: VIS-CV5-MS-254	---	---	---	---	---	---	---	---	---	---	---	---
31: VIS-CV5-MS-255	0.00001	< 0.00001	0.00240	< 0.0001	0.0002	0.00187	< 0.0001	< 0.0001	0.00051	< 0.0001	< 0.00001	0.179
32: VIS-CV5-MS-256	---	---	---	---	---	---	---	---	---	---	---	---
33: VIS-CV5-MS-257	---	---	---	---	---	---	---	---	---	---	---	---
34: VIS-CV5-MS-258	---	---	---	---	---	---	---	---	---	---	---	---
35: VIS-CV5-PEG-259	< 0.00001	< 0.00001	0.00045	< 0.0001	0.0002	0.00030	< 0.0001	< 0.0001	0.00010	< 0.0001	< 0.00001	0.249
36: VIS-CV5-PEG-260	< 0.00001	< 0.00001	0.00007	< 0.0001	0.0004	0.00008	< 0.0001	< 0.0001	0.00002	< 0.0001	< 0.00001	0.985
37: VIS-CV5-PEG-261	0.00002	< 0.00001	0.00007	< 0.0001	0.0007	0.00013	< 0.0001	< 0.0001	0.00003	< 0.0001	< 0.00001	0.556
38: VIS-CV5-PEG-262	< 0.00001	< 0.00001	0.00030	< 0.0001	0.0079	0.00059	< 0.0001	< 0.0001	0.00015	< 0.0001	< 0.00001	0.0964
39: VIS-CV5-PEG-263	< 0.00001	< 0.00001	0.00007	< 0.0001	0.0016	0.00005	< 0.0001	< 0.0001	0.00001	< 0.0001	< 0.00001	0.131
40: VIS-CV5-PEG-264	< 0.00001	< 0.00001	0.00021	< 0.0001	0.0152	0.00018	< 0.0001	< 0.0001	0.00005	< 0.0001	< 0.00001	0.0267
41: VIS-CV5-PEG-265	< 0.00001	< 0.00001	0.00019	< 0.0001	0.0123	0.00012	< 0.0001	< 0.0001	0.00003	< 0.0001	< 0.00001	0.0229
42: VIS-CV5-PEG-266	< 0.00001	< 0.00001	0.00010	< 0.0001	0.0002	0.00011	< 0.0001	< 0.0001	0.00003	< 0.0001	< 0.00001	0.980
43: VIS-CV5-PEG-267	< 0.00001	< 0.00001	0.00003	< 0.0001	0.0005	0.00004	< 0.0001	< 0.0001	< 0.00001	< 0.0001	< 0.00001	1.35
44: VIS-CV5-PEG-268	< 0.00001	< 0.00001	0.00009	< 0.0001	0.0011	0.00013	< 0.0001	< 0.0001	0.00003	< 0.0001	< 0.00001	0.393
45: VIS-CV5-PEG-269	< 0.00001	< 0.00001	0.00046	< 0.0001	0.0115	0.00066	< 0.0001	< 0.0001	0.00020	< 0.0001	< 0.00001	0.740
46: VIS-CV5-PEG-270	< 0.00001	< 0.00001	0.00011	< 0.0001	0.0011	0.00018	< 0.0001	< 0.0001	0.00004	< 0.0001	< 0.00001	0.0079
47: VIS-CV5-PEG-271	< 0.00001	< 0.00001	0.00011	< 0.0001	0.0019	0.00008	< 0.0001	< 0.0001	0.00002	< 0.0001	< 0.00001	1.20
48: VIS-CV5-PEG-272	0.00002	< 0.00001	0.00017	< 0.0001	0.0044	0.00042	< 0.0001	< 0.0001	0.00008	< 0.0001	< 0.00001	0.415
49: VIS-CV5-PEG-273	< 0.00001	< 0.00001	0.00026	< 0.0001	0.0020	0.00020	< 0.0001	< 0.0001	0.00006	< 0.0001	< 0.00001	1.20
50: VIS-CV5-PEG-274	< 0.00001	< 0.00001	0.00002	< 0.0001	0.0006	0.00004	< 0.0001	< 0.0001	< 0.00001	< 0.0001	< 0.00001	0.0190
51: VIS-CV5-PEG-275	< 0.00001	< 0.00001	0.00033	< 0.0001	0.0033	0.00012	< 0.0001	< 0.0001	0.00004	< 0.0001	< 0.00001	0.882
52: VIS-CV5-PEG-276	< 0.00001	< 0.00001	0.00007	< 0.0001	0.0020	0.00009	< 0.0001	< 0.0001	0.00002	< 0.0001	< 0.00001	0.597
53-DUP: VIS-CV5-MS-249	< 0.00001	< 0.00001	0.00194	< 0.0001	0.0002	0.00165	< 0.0001	< 0.0001	0.00046	< 0.0001	< 0.00001	0.306
54-DUP: VIS-CV5-PEG-276	< 0.00001	< 0.00001	0.00007	< 0.0001	0.0023	0.00006	< 0.0001	< 0.0001	0.00002	< 0.0001	< 0.00001	0.628

OnLine LIMS

0004093170

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11024-FEB25**

Sample ID	In mg/L	Ir mg/L	La mg/L	Lu mg/L	Nb mg/L	Nd mg/L	Os mg/L	Pd mg/L	Pr mg/L	Pt mg/L	Rh mg/L	Rb mg/L
55-BLK: CTEU Blank	< 0.00001	< 0.00001	< 0.00001	< 0.0001	0.0002	< 0.00001	< 0.0001	< 0.0001	< 0.00001	< 0.0001	< 0.00001	0.0006

Sample ID	Re mg/L	Ru mg/L	Sm mg/L	Sc mg/L	Ta mg/L	Tb mg/L	Te mg/L	Th mg/L	Tm mg/L
1: Analysis Start Date	07-Apr-25	07-Apr-25	06-Apr-25	06-Apr-25	07-Apr-25	06-Apr-25	07-Apr-25	06-Apr-25	06-Apr-25
2: Analysis Start Time	12:26	12:26	08:53	08:53	12:26	08:53	12:26	08:53	08:53
3: Analysis Completed Date	11-Apr-25	11-Apr-25	11-Apr-25	11-Apr-25	11-Apr-25	11-Apr-25	11-Apr-25	11-Apr-25	11-Apr-25
4: Analysis Completed Time	08:23	08:23	08:23	08:23	08:23	08:23	08:23	08:23	08:23
5: VIS-CV5-MS-229	---	---	---	---	---	---	---	---	---
6: VIS-CV5-MS-230	---	---	---	---	---	---	---	---	---
7: VIS-CV5-MS-231	< 0.0001	< 0.00001	0.00002	< 0.0001	< 0.0001	< 0.00001	< 0.0001	0.0001	< 0.00001
8: VIS-CV5-MS-232	---	---	---	---	---	---	---	---	---
9: VIS-CV5-MS-233	---	---	---	---	---	---	---	---	---
10: VIS-CV5-MS-234	---	---	---	---	---	---	---	---	---
11: VIS-CV5-MS-235	< 0.0001	< 0.00001	0.00017	0.0002	< 0.0001	0.00002	< 0.0001	0.0005	< 0.00001
12: VIS-CV5-MS-236	---	---	---	---	---	---	---	---	---
13: VIS-CV5-MS-237	---	---	---	---	---	---	---	---	---
14: VIS-CV5-MS-238	---	---	---	---	---	---	---	---	---
15: VIS-CV5-MS-239	< 0.0001	< 0.00001	0.00001	< 0.0001	< 0.0001	< 0.00001	< 0.0001	< 0.0001	< 0.00001
16: VIS-CV5-MS-240	---	---	---	---	---	---	---	---	---
17: VIS-CV5-MS-241	---	---	---	---	---	---	---	---	---
18: VIS-CV5-MS-242	---	---	---	---	---	---	---	---	---
19: VIS-CV5-MS-243	< 0.0001	< 0.00001	0.00010	0.0002	< 0.0001	0.00001	< 0.0001	0.0005	< 0.00001
20: VIS-CV5-MS-244	---	---	---	---	---	---	---	---	---
21: VIS-CV5-MS-245	---	---	---	---	---	---	---	---	---
22: VIS-CV5-MS-246	---	---	---	---	---	---	---	---	---
23: VIS-CV5-MS-247	< 0.0001	< 0.00001	0.00125	0.0007	< 0.0001	0.00014	< 0.0001	0.0034	0.00002
24: VIS-CV5-MS-248	---	---	---	---	---	---	---	---	---
25: VIS-CV5-MS-249	---	---	---	---	---	---	---	---	---
26: VIS-CV5-MS-250	---	---	---	---	---	---	---	---	---
27: VIS-CV5-MS-251	< 0.0001	< 0.00001	0.00009	0.0004	< 0.0001	0.00001	< 0.0001	0.0003	< 0.00001
28: VIS-CV5-MS-252	---	---	---	---	---	---	---	---	---

OnLine LIMS

0004093170

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11024-FEB25**

Sample ID	Re mg/L	Ru mg/L	Sm mg/L	Sc mg/L	Ta mg/L	Tb mg/L	Te mg/L	Th mg/L	Tm mg/L
29: VIS-CV5-MS-253	---	---	---	---	---	---	---	---	---
30: VIS-CV5-MS-254	---	---	---	---	---	---	---	---	---
31: VIS-CV5-MS-255	< 0.0001	< 0.00001	0.00030	0.0005	< 0.0001	0.00003	< 0.0001	0.0009	0.00001
32: VIS-CV5-MS-256	---	---	---	---	---	---	---	---	---
33: VIS-CV5-MS-257	---	---	---	---	---	---	---	---	---
34: VIS-CV5-MS-258	---	---	---	---	---	---	---	---	---
35: VIS-CV5-PEG-259	< 0.0001	< 0.00001	0.00005	0.0001	0.0004	< 0.00001	< 0.0001	0.0002	< 0.00001
36: VIS-CV5-PEG-260	< 0.0001	< 0.00001	0.00002	0.0003	0.0003	< 0.00001	< 0.0001	0.0005	< 0.00001
37: VIS-CV5-PEG-261	< 0.0001	< 0.00001	0.00004	0.0003	0.0008	< 0.00001	< 0.0001	0.0014	< 0.00001
38: VIS-CV5-PEG-262	< 0.0001	< 0.00001	0.00016	0.0004	0.0028	0.00003	< 0.0001	0.0041	< 0.00001
39: VIS-CV5-PEG-263	< 0.0001	< 0.00001	0.00002	0.0004	0.0022	< 0.00001	< 0.0001	0.0006	< 0.00001
40: VIS-CV5-PEG-264	< 0.0001	< 0.00001	0.00012	0.0003	0.0022	0.00002	< 0.0001	0.0041	< 0.00001
41: VIS-CV5-PEG-265	< 0.0001	< 0.00001	0.00005	0.0003	0.0022	0.00001	< 0.0001	0.0019	< 0.00001
42: VIS-CV5-PEG-266	< 0.0001	< 0.00001	0.00002	0.0002	0.0005	< 0.00001	< 0.0001	0.0003	< 0.00001
43: VIS-CV5-PEG-267	< 0.0001	< 0.00001	0.00001	0.0002	0.0005	< 0.00001	< 0.0001	0.0005	< 0.00001
44: VIS-CV5-PEG-268	< 0.0001	< 0.00001	0.00005	0.0004	0.0011	< 0.00001	< 0.0001	0.0009	< 0.00001
45: VIS-CV5-PEG-269	< 0.0001	< 0.00001	0.00079	0.0003	0.0023	0.00016	< 0.0001	0.0077	0.00001
46: VIS-CV5-PEG-270	< 0.0001	< 0.00001	0.00006	0.0003	0.0013	0.00002	< 0.0001	0.0004	< 0.00001
47: VIS-CV5-PEG-271	< 0.0001	< 0.00001	0.00005	0.0003	0.0006	< 0.00001	< 0.0001	0.0011	< 0.00001
48: VIS-CV5-PEG-272	< 0.0001	< 0.00001	0.00020	0.0003	0.0014	0.00004	< 0.0001	0.0024	< 0.00001
49: VIS-CV5-PEG-273	< 0.0001	< 0.00001	0.00005	0.0003	0.0004	< 0.00001	< 0.0001	0.0007	< 0.00001
50: VIS-CV5-PEG-274	< 0.0001	< 0.00001	0.00002	0.0002	0.0007	< 0.00001	< 0.0001	0.0002	< 0.00001
51: VIS-CV5-PEG-275	< 0.0001	< 0.00001	0.00004	0.0003	0.0007	< 0.00001	< 0.0001	0.0006	< 0.00001
52: VIS-CV5-PEG-276	< 0.0001	< 0.00001	0.00005	0.0004	0.0005	0.00002	< 0.0001	0.0005	< 0.00001
53-DUP: VIS-CV5-MS-249	< 0.0001	< 0.00001	0.00029	0.0005	< 0.0001	0.00004	< 0.0001	0.0010	0.00001
54-DUP: VIS-CV5-PEG-276	< 0.0001	< 0.00001	0.00006	0.0003	0.0006	0.00002	< 0.0001	0.0005	< 0.00001
55-BLK: CTEU Blank	< 0.0001	< 0.00001	< 0.00001	< 0.0001	< 0.0001	< 0.00001	< 0.0001	< 0.0001	< 0.00001

Method Descriptions

Parameter	Units	SGS Method Code
	g	NA
	mL	NA

OnLine LIMS

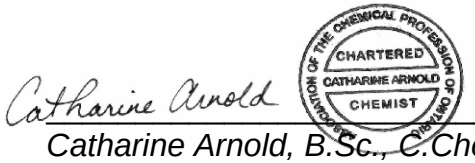
0004093170

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11024-FEB25**

Parameter	Units	SGS Method Code
Acidity	mg/L as CaCO3	ME-CA-[ENV]EWL-LAK-AN-006
Alkalinity	mg/L as CaCO3	ME-CA-[ENV]EWL-LAK-AN-006
Anions by IC	mg/L	ME-CA-[ENV]IC-LAK-AN-001
Conductivity	uS/cm	ME-CA-[ENV]EWL-LAK-AN-006
Fluoride by Specific Ion Electrode	mg/L	ME-CA-[ENV]EWL-LAK-AN-014
Inorganics-General	mg/L	ME-CA-[ENV]SPE-LAK-AN-004
Metals in aqueous samples - ICP-MS	mg/L	ME-CA-[ENV]SPE-LAK-AN-006
pH	No unit	ME-CA-[ENV]EWL-LAK-AN-006
Reactive Phosphorus by SFA	mg/L	ME-CA-[ENV]SFA-LAK-AN-004



Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0004093170

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quality Control Report

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Acidity - QCBatchID: EWL0087-APR25													
Acidity	2	mg/L as Ca	2			ND	20	102	90	110	NA		
Acidity - QCBatchID: EWL0207-APR25													
Acidity	2	mg/L as Ca	2			ND	20	100	90	110	NA		
Acidity - QCBatchID: EWL0486-APR25													
Acidity	2	mg/L as Ca	2			6	20	102	90	110	NA		
Alkalinity - QCBatchID: EWL0087-APR25													
Alkalinity	2	mg/L as Ca	< 2			3	20	102	80	120	NA		
Alkalinity - QCBatchID: EWL0207-APR25													
Alkalinity	2	mg/L as Ca	< 2			0	20	100	80	120	NA		
Alkalinity - QCBatchID: EWL0241-APR25													
Alkalinity	2	mg/L as Ca	< 2			0	20	102	80	120	NA		
Anions by IC - QCBatchID: DIO0091-APR25													
Bromide	0.3	mg/L	<0.3			ND	20	101	90	110	101	75	125
Chloride	0.2	mg/L	<0.2			14	20	104	90	110	107	75	125
Nitrate (as N)	0.06	mg/L	<0.06			ND	20	102	90	110	103	75	125
Nitrite (as N)	0.03	mg/L	<0.03			8	20	101	90	110	102	75	125
Sulphate	0.2	mg/L	<0.2			8	20	104	90	110	98	75	125
Anions by IC - QCBatchID: DIO0092-APR25													
Bromide	0.3	mg/L	<0.3			ND	20	102	90	110	96	75	125
Chloride	0.2	mg/L	<0.2			7	20	102	90	110	100	75	125
Nitrate (as N)	0.06	mg/L	<0.06			ND	20	102	90	110	102	75	125
Nitrite (as N)	0.03	mg/L	<0.03			ND	20	101	90	110	102	75	125
Sulphate	0.2	mg/L	<0.2			4	20	101	90	110	98	75	125
Anions by IC - QCBatchID: DIO0192-APR25													
Bromide	0.3	mg/L	<0.3			ND	20	102	90	110	99	75	125
Nitrate (as N)	0.06	mg/L	<0.06			ND	20	101	90	110	105	75	125
Nitrite (as N)	0.03	mg/L	<0.03			ND	20	101	90	110	102	75	125
Sulphate	0.2	mg/L	<0.2			1	20	101	90	110	100	75	125
Anions by IC - QCBatchID: DIO0193-APR25													
Bromide	0.3	mg/L	<0.3			ND	20	100	90	110	96	75	125
Nitrate (as N)	0.06	mg/L	<0.06			ND	20	101	90	110	103	75	125
Nitrite (as N)	0.03	mg/L	<0.03			ND	20	101	90	110	101	75	125
Sulphate	0.2	mg/L	<0.2			10	20	101	90	110	98	75	125
Anions by IC - QCBatchID: DIO0199-APR25													
Chloride	0.2	mg/L	<0.2			3	20	107	90	110	105	75	125

OnLine LIMS

0004093170

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material			
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)		
							%		Low	High		Low	High	
Anions by IC - QCBatchID: DIO0223-APR25														
Chloride	0.2	mg/L	<0.2			5	20	106	90	110	109	75	125	
Conductivity - QCBatchID: EWL0087-APR25														
Conductivity	2	uS/cm	2			0	20	101	90	110	NA			
Conductivity - QCBatchID: EWL0207-APR25														
Conductivity	2	uS/cm	2			0	20	108	90	110	NA			
Fluoride by Specific Ion Electrode - QCBatchID: EWL0089-APR25														
Fluoride	0.06	mg/L	<0.06			ND	10	99	90	110	97	75	125	
Fluoride by Specific Ion Electrode - QCBatchID: EWL0105-APR25														
Fluoride	0.06	mg/L	<0.06			3	10	103	90	110	103	75	125	
Fluoride by Specific Ion Electrode - QCBatchID: EWL0201-APR25														
Fluoride	0.06	mg/L	<0.06			0	10	98	90	110	89	75	125	
Fluoride by Specific Ion Electrode - QCBatchID: EWL0224-APR25														
Fluoride	0.06	mg/L	<0.06			ND	10	96	90	110	102	75	125	
Inorganics-General - QCBatchID: EHG0009-APR25														
Mercury	0.00001	mg/L	< 0.00001			ND	20	118	80	120	130	70	130	
Inorganics-General - QCBatchID: EHG0017-APR25														
Mercury	0.00001	mg/L	< 0.00001			ND	20	116	80	120	127	70	130	
Metals in aqueous samples - ICP-MS - QCBatchID: EMS0044-APR25														
Aluminum	0.001	mg/L	<0.001			2	20	100	90	110	88	70	130	
Antimony	0.0009	mg/L	<0.0009			ND	20	109	90	110	130	70	130	
Arsenic	0.0002	mg/L	<0.0002			3	20	102	90	110	102	70	130	
Barium	0.00008	mg/L	<0.00008			1	20	101	90	110	97	70	130	
Beryllium	0.000007	mg/L	<0.000007			ND	20	101	90	110	99	70	130	
Bismuth	0.00001	mg/L	<0.00001			ND	20	105	90	110	104	70	130	
Boron	0.002	mg/L	<0.002			ND	20	99	90	110	101	70	130	
Cadmium	0.000003	mg/L	<0.000003			18	20	105	90	110	109	70	130	
Calcium	0.01	mg/L	<0.01			0	20	98	90	110	103	70	130	
Cesium	0.0001	mg/L	<0.0001			ND	20	97	90	110	NV	70	130	
Chromium	0.00008	mg/L	<0.00008			ND	20	104	90	110	96	70	130	
Cobalt	0.000004	mg/L	<0.000004			0	20	101	90	110	104	70	130	
Copper	0.001	mg/L	<0.001			ND	20	101	90	110	102	70	130	
Germanium	0.0001	mg/L	<0.0001			ND	20	97	90	110	NV	70	130	
Gold	0.00001	mg/L	<0.00001			ND	20	96	90	110	NV	70	130	
Hafnium	0.0001	mg/L	<0.0001			ND	20	97	90	110	NV	70	130	
Iridium	0.00001	mg/L	<0.00001			ND	20	107	90	110	NV	70	130	
Iron	0.007	mg/L	<0.007			ND	20	102	90	110	100	70	130	
Lead	0.00009	mg/L	<0.00009			ND	20	101	90	110	104	70	130	
Lithium	0.0001	mg/L	<0.0001			6	20	104	90	110	95	70	130	

OnLine LIMS

0004093170

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Magnesium	0.001	mg/L	<0.001			13	20	99	90	110	103	70	130
Manganese	0.00001	mg/L	<0.00001			3	20	102	90	110	104	70	130
Molybdenum	0.0004	mg/L	<0.0004			ND	20	96	90	110	101	70	130
Nickel	0.0001	mg/L	<0.0001			13	20	102	90	110	124	70	130
Niobium	0.0001	mg/L	<0.0001			ND	20	103	90	110	NV	70	130
Osmium	0.0001	mg/L	<0.0001			ND	20	90	90	110	NV	70	130
Palladium	0.0001	mg/L	<0.0001			ND	20	102	90	110	NV	70	130
Phosphorus	0.003	mg/L	<0.003			0	20	99	90	110	NV	70	130
Platinum	0.0001	mg/L	<0.0001			ND	20	103	90	110	NV	70	130
Potassium	0.009	mg/L	<0.009			0	20	100	90	110	88	70	130
Rhenium	0.0001	mg/L	<0.0001			ND	20	97	90	110	NV	70	130
Rhodium	0.00001	mg/L	<0.0001			ND	20	103	90	110	NV	70	130
Rubidium	0.0001	mg/L	Error!			19	20	104	90	110	NV	70	130
Ruthenium	0.00001	mg/L	<0.0001			ND	20	106	90	110	NV	70	130
Selenium	0.00004	mg/L	<0.00004			ND	20	101	90	110	104	70	130
Silicon	0.02	mg/L	<0.02			5	20	94	90	110	NV	70	130
Silver	0.00005	mg/L	<0.00005			ND	20	100	90	110	88	70	130
Sodium	0.01	mg/L	<0.01			2	20	99	90	110	93	70	130
Strontium	0.00008	mg/L	<0.00008			1	20	100	90	110	97	70	130
Tantalum	0.0001	mg/L	<0.0001			ND	20	108	90	110	NV	70	130
Tellurium	0.0001	mg/L	<0.0001			ND	20	98	90	110	NV	70	130
Thallium	0.000005	mg/L	<0.000005			ND	20	100	90	110	99	70	130
Thorium	0.0001	mg/L	<0.0001			ND	20	98	90	110	NV	70	130
Tin	0.00006	mg/L	<0.00006			ND	20	98	90	110	NV	70	130
Titanium	0.0001	mg/L	<0.0001			18	20	95	90	110	NV	70	130
Uranium	0.000002	mg/L	<0.000002			ND	20	105	90	110	111	70	130
Vanadium	0.00001	mg/L	<0.00001			14	20	103	90	110	105	70	130
Zinc	0.002	mg/L	<0.002			ND	20	100	90	110	108	70	130
Metals in aqueous samples - ICP-MS - QCBatchID: EMS0060-APR25													
Cerium	0.00001	mg/L	<0.00001			ND	20	98	90	110	NV	70	130
Cesium	0.0001	mg/L	<0.0001			5	20	100	90	110	NV	70	130
Dysprosium	0.00001	mg/L	<0.00001			ND	20	98	90	110	NV	70	130
Erbium	0.00001	mg/L	<0.00001			ND	20	98	90	110	NV	70	130
Europium	0.00001	mg/L	<0.00001			ND	20	96	90	110	NV	70	130
Gadolinium	0.00001	mg/L	<0.0001			ND	20	98	90	110	NV	70	130
Gallium	0.0001	mg/L	<0.0001			ND	20	97	90	110	NV	70	130
Holmium	0.00001	mg/L	<0.00001			ND	20	98	90	110	NV	70	130
Indium	0.00001	mg/L	<0.00001			ND	20	102	90	110	NV	70	130
Lanthanum	0.00001	mg/L	<0.00001			ND	20	97	90	110	NV	70	130

OnLine LIMS

0004093170

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - K0L 2H0
Phone: 705-652-2000 FAX: 705-652-6365

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material			
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)		
							%		Low	High		Low	High	
Lutetium	0.0001	mg/L	<0.0001			ND	20	97	90	110	NV	70	130	
Neodymium	0.00001	mg/L	<0.00001			ND	20	98	90	110	NV	70	130	
Praseodymium	0.00001	mg/L	<0.00001			ND	20	98	90	110	NV	70	130	
Rubidium	0.0001	mg/L	<0.0001			4	20	98	90	110	NV	70	130	
Samarium	0.00001	mg/L	<0.00001			ND	20	98	90	110	NV	70	130	
Scandium	0.0001	mg/L	<0.0001			ND	20	101	90	110	NV	70	130	
Terbium	0.00001	mg/L	<0.00001			ND	20	99	90	110	NV	70	130	
Thorium	0.0001	mg/L	<0.0001			ND	20	98	90	110	NV	70	130	
Thulium	0.00001	mg/L	<0.00001			ND	20	98	90	110	NV	70	130	
Uranium	0.000002	mg/L	<0.000002			ND	20	98	90	110	NV	70	130	
Metals in aqueous samples - ICP-MS - QCBatchID: EMS0071-APR25														
Antimony	0.0009	mg/L	<0.0009			ND	20	101	90	110	91	70	130	
Metals in aqueous samples - ICP-MS - QCBatchID: EMS0088-APR25														
Aluminum	0.001	mg/L	<0.001			0	20	103	90	110	78	70	130	
Antimony	0.0009	mg/L	<0.0009			ND	20	104	90	110	84	70	130	
Arsenic	0.0002	mg/L	<0.0002			ND	20	103	90	110	107	70	130	
Barium	0.00008	mg/L	<0.00008			2	20	98	90	110	95	70	130	
Beryllium	0.000007	mg/L	<0.000007			ND	20	97	90	110	93	70	130	
Bismuth	0.00001	mg/L	<0.00001			ND	20	101	90	110	93	70	130	
Boron	0.002	mg/L	<0.002			0	20	97	90	110	101	70	130	
Cadmium	0.000003	mg/L	<0.000003			5	20	102	90	110	103	70	130	
Calcium	0.01	mg/L	<0.01			4	20	97	90	110	98	70	130	
Cesium	0.0001	mg/L	<0.0001			ND	20	98	90	110	NV	70	130	
Chromium	0.00008	mg/L	<0.00008			2	20	106	90	110	118	70	130	
Cobalt	0.000004	mg/L	<0.000004			1	20	100	90	110	106	70	130	
Copper	0.001	mg/L	<0.001			0	20	101	90	110	102	70	130	
Germanium	0.0001	mg/L	<0.0001			ND	20	99	90	110	NV	70	130	
Gold	0.00001	mg/L	<0.00001			ND	20	99	90	110	NV	70	130	
Hafnium	0.0001	mg/L	<0.0001			ND	20	95	90	110	NV	70	130	
Iridium	0.00001	mg/L	<0.00001			ND	20	103	90	110	NV	70	130	
Iron	0.007	mg/L	<0.007			ND	20	100	90	110	100	70	130	
Lead	0.00009	mg/L	<0.00009			2	20	99	90	110	98	70	130	
Lithium	0.0001	mg/L	<0.0001			5	20	98	90	110	85	70	130	
Magnesium	0.001	mg/L	<0.001			1	20	95	90	110	88	70	130	
Manganese	0.00001	mg/L	<0.00001			1	20	101	90	110	85	70	130	
Molybdenum	0.0004	mg/L	<0.0004			13	20	98	90	110	83	70	130	
Nickel	0.0001	mg/L	<0.0001			2	20	102	90	110	100	70	130	
Niobium	0.0001	mg/L	<0.0001			ND	20	101	90	110	NV	70	130	
Osmium	0.0001	mg/L	<0.0001			ND	20	99	90	110	NV	70	130	

OnLine LIMS

0004093170

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - K0L 2H0
Phone: 705-652-2000 FAX: 705-652-6365

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Palladium	0.0001	mg/L	<0.0001			ND	20	100	90	110	NV	70	130
Phosphorus	0.003	mg/L	<0.003			ND	20	96	90	110	NV	70	130
Platinum	0.0001	mg/L	<0.0001			ND	20	100	90	110	NV	70	130
Potassium	0.009	mg/L	<0.009			0	20	102	90	110	93	70	130
Rhenium	0.0001	mg/L	<0.0001			ND	20	96	90	110	NV	70	130
Rhodium	0.00001	mg/L	<0.0001			ND	20	102	90	110	NV	70	130
Rubidium	0.0001	mg/L	Error!			5	20	100	90	110	NV	70	130
Ruthenium	0.00001	mg/L	<0.0001			ND	20	105	90	110	NV	70	130
Selenium	0.00004	mg/L	<0.00004			13	20	97	90	110	98	70	130
Silicon	0.02	mg/L	<0.02			2	20	101	90	110	NV	70	130
Silver	0.00005	mg/L	<0.00005			ND	20	101	90	110	71	70	130
Sodium	0.01	mg/L	<0.01			3	20	92	90	110	88	70	130
Strontium	0.00008	mg/L	<0.00008			1	20	101	90	110	98	70	130
Tantalum	0.0001	mg/L	<0.0001			ND	20	95	90	110	NV	70	130
Tellurium	0.0001	mg/L	<0.0001			ND	20	95	90	110	NV	70	130
Thallium	0.000005	mg/L	<0.000005			0	20	101	90	110	99	70	130
Thorium	0.0001	mg/L	<0.0001			ND	20	99	90	110	NV	70	130
Tin	0.00006	mg/L	<0.00006			ND	20	96	90	110	NV	70	130
Titanium	0.0001	mg/L	<0.0001			6	20	96	90	110	NV	70	130
Uranium	0.000002	mg/L	<0.000002			ND	20	101	90	110	99	70	130
Vanadium	0.00001	mg/L	<0.00001			2	20	103	90	110	81	70	130
Zinc	0.002	mg/L	<0.002			1	20	98	90	110	105	70	130
Metals in aqueous samples - ICP-MS - QCBatchID: EMS0122-APR25													
Cerium	0.00001	mg/L	<0.00001			1	20	95	90	110	NV	70	130
Dysprosium	0.00001	mg/L	<0.00001			0	20	93	90	110	NV	70	130
Erbium	0.00001	mg/L	<0.00001			ND	20	95	90	110	NV	70	130
Europium	0.00001	mg/L	<0.00001			ND	20	94	90	110	NV	70	130
Gadolinium	0.00001	mg/L	<0.0001			6	20	94	90	110	NV	70	130
Gallium	0.0001	mg/L	<0.0001			2	20	102	90	110	NV	70	130
Holmium	0.00001	mg/L	<0.00001			ND	20	94	90	110	NV	70	130
Indium	0.00001	mg/L	<0.00001			ND	20	103	90	110	NV	70	130
Lanthanum	0.00001	mg/L	<0.00001			0	20	94	90	110	NV	70	130
Lutetium	0.0001	mg/L	<0.0001			ND	20	93	90	110	NV	70	130
Neodymium	0.00001	mg/L	<0.00001			3	20	94	90	110	NV	70	130
Praseodymium	0.00001	mg/L	<0.00001			0	20	94	90	110	NV	70	130
Samarium	0.00001	mg/L	<0.00001			0	20	96	90	110	NV	70	130
Scandium	0.0001	mg/L	<0.0001			6	20	96	90	110	NV	70	130
Terbium	0.00001	mg/L	<0.00001			ND	20	95	90	110	NV	70	130
Thulium	0.00001	mg/L	<0.00001			ND	20	94	90	110	NV	70	130

OnLine LIMS

0004093170

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material			
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
pH - QCBatchID: EWL0087-APR25													
pH	0.05	No unit	NA			0		100			NA		
pH - QCBatchID: EWL0207-APR25													
pH	0.05	No unit	NA			0		100			NA		
Reactive Phosphorus by SFA - QCBatchID: SKA0099-APR25													
Total Reactive Phosphorous (o-phosphate as P)	0.03	mg/L	<0.03			0	10	95	90	110	NV	75	125
Reactive Phosphorus by SFA - QCBatchID: SKA0109-APR25													
Total Reactive Phosphorous (o-phosphate as P)	0.03	mg/L	<0.03			2	10	100	90	110	93	75	125

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0004093170

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

ABA - Modified Sobek

Innova Lithium Inc.
Attn : John Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

03-March-2025

Date Rec. : 05 February 2025
LR Report: **CA11025-FEB25**
Reference: Shaakichiuwaanaan Project

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: VIS-CV5-PEG-277	6: VIS-CV5-PEG-278	12: VIS-CV5-SP-327	13: VIS-CV5-SP-328	14: VIS-CV5-SP-329	15: VIS-CV5-SP-330
Sample Date & Time					NA	NA	NA	NA	NA	NA
Paste pH [no unit]	28-Feb-25	14:04	28-Feb-25	15:52	10.02	9.68	9.87	9.85	10.30	9.96
Fizz Rate [rating]	26-Feb-25	14:49	28-Feb-25	15:52	2	2	2	2	2	2
Sample weight [g]	26-Feb-25	21:03	28-Feb-25	15:52	1.99	2.00	2.00	2.02	2.00	2.03
HCl_add [mL]	27-Feb-25	15:27	28-Feb-25	15:52	20.00	20.00	20.00	20.00	20.00	20.00
HCl [Normality]	26-Feb-25	15:22	28-Feb-25	15:52	0.10	0.10	0.10	0.10	0.10	0.10
NaOH [Normality]	26-Feb-25	15:29	28-Feb-25	15:52	0.10	0.10	0.10	0.10	0.10	0.10
Vol NaOH to pH=8.3 [mL]	27-Feb-25	15:43	28-Feb-25	15:52	17.75	17.47	18.59	19.07	18.92	18.95
Final pH [no unit]	27-Feb-25	15:28	28-Feb-25	15:52	1.13	1.06	1.04	0.95	1.05	1.11
NP [t CaCO3/1000 t]	27-Feb-25	20:43	28-Feb-25	15:52	5.7	6.3	3.5	2.3	2.7	2.6
AP [t CaCO3/1000 t]	27-Feb-25	20:43	28-Feb-25	15:53	0.31	0.31	0.31	0.31	0.31	0.31
Net NP [t CaCO3/1000 t]	27-Feb-25	20:43	28-Feb-25	15:53	5.39	5.99	3.19	1.99	2.39	2.29
NP/AP [ratio]	27-Feb-25	20:43	28-Feb-25	15:53	18.2	20.2	11.2	7.36	8.64	8.32
S [%]	26-Feb-25	09:21	27-Feb-25	09:27	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Acid Leachable SO4-S [%]	27-Feb-25	09:27	27-Feb-25	09:27	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Sulphide [%]	27-Feb-25	08:48	27-Feb-25	09:27	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
C [%]	26-Feb-25	09:21	27-Feb-25	09:27	0.024	0.020	0.020	0.022	0.013	0.014
CO3 (HCl) as %CO3 [%]	27-Feb-25	11:36	27-Feb-25	11:45	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0004033549

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	16: VIS-CV5-SP-331	17: VIS-CV5-SP-332	18: VIS-CV5-SP-333	19: VIS-CV5-SP-334	20: VIS-CV5-SP-335	21: VIS-CV5-SP-336	22: VIS-CV5-SP-337	23: VIS-CV5-SP-338	24: VIS-CV5-SP-339
Sample Date & Time	NA	NA	NA	NA	NA	NA	NA	NA	NA
Paste pH [no unit]	10.24	10.10	10.02	9.76	9.23	9.49	10.02	9.91	10.06
Fizz Rate [rating]	2	2	2	2	2	2	2	2	2
Sample weight [g]	2.03	2.00	2.02	2.02	2.00	2.01	2.04	2.02	2.04
HCl_add [mL]	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
HCl [Normality]	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
NaOH [Normality]	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Vol NaOH to pH=8.3 [mL]	18.84	18.83	18.87	19.44	19.00	19.12	19.04	19.15	19.02
Final pH [no unit]	1.14	1.05	1.13	1.10	1.18	1.16	1.12	1.04	1.03
NP [t CaCO3/1000 t]	2.9	2.9	2.8	1.4	2.5	2.2	2.4	2.1	2.4
AP [t CaCO3/1000 t]	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31
Net NP [t CaCO3/1000 t]	2.59	2.59	2.49	1.09	2.19	1.89	2.09	1.79	2.09
NP/AP [ratio]	9.28	9.28	8.96	4.48	8.00	7.04	7.68	6.72	7.68
S [%]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Acid Leachable SO4-S [%]	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Sulphide [%]	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
C [%]	0.021	0.017	0.013	0.017	0.018	0.019	0.011	0.019	0.018
CO3 (HCl) as %CO3 [%]	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04

Analysis	25: VIS-CV5-SP-340	26: VIS-CV5-SP-341	27: VIS-CV5-SP-342	28: VIS-CV5-UM-279	29: VIS-CV5-UM-280	30: VIS-CV5-UM-281	31: VIS-CV5-UM-282	32: VIS-CV5-UM-283	33: VIS-CV5-UM-284	34: VIS-CV5-UM-285
Sample Date & Time	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Paste pH [no unit]	9.93	9.85	9.26	9.50	9.48	9.92	9.30	9.54	9.58	9.30
Fizz Rate [rating]	2	2	2	4	3	3	3	4	4	3
Sample weight [g]	2.02	2.00	2.03	2.03	2.03	2.01	2.00	2.02	2.02	2.02
HCl_add [mL]	20.00	20.00	20.00	130.50	32.00	20.00	20.00	140.00	100.00	20.00
HCl [Normality]	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
NaOH [Normality]	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Vol NaOH to pH=8.3 [mL]	19.00	19.01	18.97	50.20	13.43	14.28	14.14	52.00	29.50	14.77
Final pH [no unit]	1.15	1.14	1.23	1.52	1.65	1.37	1.49	1.51	1.68	1.45
NP [t CaCO3/1000 t]	2.5	2.5	2.5	198	45.7	14.2	14.6	218	174	12.9

OnLine LIMS

0004033549

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11025-FEB25**

Analysis	25: VIS-CV5-SP-340	26: VIS-CV5-SP-341	27: VIS-CV5-SP-342	28: VIS-CV5-UM-279	29: VIS-CV5-UM-280	30: VIS-CV5-UM-281	31: VIS-CV5-UM-282	32: VIS-CV5-UM-283	33: VIS-CV5-UM-284	34: VIS-CV5-UM-285
AP [t CaCO3/1000 t]	0.31	0.31	0.31	10.3	0.41	6.25	0.72	5.62	1.94	0.59
Net NP [t CaCO3/1000 t]	2.19	2.19	2.19	188	45.3	7.95	13.9	212	173	12.3
NP/AP [ratio]	8.00	8.00	8.00	19.2	112	2.27	20.3	38.7	90.1	21.7
S [%]	< 0.005	< 0.005	< 0.005	0.568	0.024	0.309	0.035	0.232	0.088	0.049
Acid Leachable SO4-S [%]	<0.04	<0.04	<0.04	0.24	< 0.04	0.11	< 0.04	0.05	< 0.04	< 0.04
Sulphide [%]	< 0.01	< 0.01	< 0.01	0.33	0.01	0.20	0.02	0.18	0.06	0.02
C [%]	0.041	0.041	0.026	2.56	0.448	0.090	0.039	2.71	2.13	0.055
CO3 (HCl) as %CO3 [%]	< 0.04	< 0.04	< 0.04	12.5	1.96	0.22	< 0.04	13.2	10.4	0.07

Analysis	35: VIS-CV5-UM-286	36: VIS-CV5-UM-287	37: VIS-CV5-UM-288	38: VIS-CV5-UM-289	39: VIS-CV5-UM-290	40: VIS-CV5-UM-291	41: VIS-CV5-UM-292	42: VIS-CV5-UM-293	43: VIS-CV5-UM-294	44: VIS-CV5-UM-295
Sample Date & Time	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Paste pH [no unit]	9.56	9.34	9.68	9.56	9.64	9.50	9.60	9.54	9.38	9.79
Fizz Rate [rating]	3	3	3	3	3	4	3	3	4	3
Sample weight [g]	2.02	2.04	2.02	2.04	2.01	2.02	2.03	2.02	2.03	2.02
HCl_add [mL]	20.00	25.50	20.00	20.00	20.00	48.40	20.00	20.00	40.00	20.00
HCl [Normality]	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
NaOH [Normality]	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Vol NaOH to pH=8.3 [mL]	14.26	10.47	15.41	14.41	8.02	20.15	7.99	12.37	23.25	14.75
Final pH [no unit]	1.30	1.82	1.33	1.46	1.62	1.63	1.87	1.19	1.53	1.29
NP [t CaCO3/1000 t]	14.2	36.8	11.4	13.7	29.8	69.9	29.6	18.9	41.3	13.0
AP [t CaCO3/1000 t]	0.31	3.28	0.31	0.31	10.0	1.84	0.31	2.34	1.09	0.31
Net NP [t CaCO3/1000 t]	13.9	33.5	11.1	13.4	19.8	68.1	29.3	16.6	40.2	12.7
NP/AP [ratio]	45.4	11.2	36.5	43.8	2.97	37.9	94.7	8.06	37.8	41.6
S [%]	0.041	0.150	0.025	0.026	0.545	0.138	0.064	0.169	0.081	0.040
Acid Leachable SO4-S [%]	0.04	0.04	<0.04	<0.04	0.22	0.08	0.06	0.09	0.05	0.04
Sulphide [%]	< 0.01	0.10	< 0.01	< 0.01	0.32	0.06	< 0.01	0.08	0.04	< 0.01
C [%]	0.141	0.306	0.039	0.048	0.266	0.750	0.363	0.107	0.311	0.072
CO3 (HCl) as %CO3 [%]	0.46	1.35	< 0.04	< 0.04	1.10	3.56	1.59	0.32	1.36	0.20

OnLine LIMS

0004033549

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

ABA - Modified Sobek

LR Report : **CA11025-FEB25**

Analysis	45: VIS-CV5-UM-296	46: VIS-CV5-UM-297	47: VIS-CV5-UM-298	48: VIS-CV5-UM-299	49: VIS-CV5-UM-300	50: VIS-CV5-UM-301	51: VIS-CV5-UM-302	52: VIS-CV5-UM-303
Sample Date & Time	NA	NA	NA	NA	NA	NA	NA	NA
Paste pH [no unit]	9.77	9.56	9.65	9.46	9.54	9.78	9.98	9.57
Fizz Rate [rating]	3	3	3	4	2	2	2	2
Sample weight [g]	2.00	2.02	2.05	2.02	2.04	2.03	2.01	2.02
HCl_add [mL]	20.00	20.00	20.00	40.00	20.00	20.00	20.00	20.00
HCl [Normality]	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
NaOH [Normality]	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Vol NaOH to pH=8.3 [mL]	13.38	13.30	14.98	20.71	9.08	15.81	9.74	13.31
Final pH [no unit]	1.38	1.09	1.31	1.59	1.81	1.40	1.70	1.65
NP [t CaCO3/1000 t]	16.6	16.6	12.2	47.5	26.8	10.3	25.5	16.6
AP [t CaCO3/1000 t]	0.69	3.16	1.22	3.06	1.38	2.88	8.44	4.56
Net NP [t CaCO3/1000 t]	15.9	13.4	11.0	44.4	25.4	7.42	17.1	12.0
NP/AP [ratio]	24.1	5.26	10.0	15.5	19.5	3.58	3.02	3.64
S [%]	0.018	0.169	0.040	0.093	0.040	0.095	0.332	0.194
Acid Leachable SO4-S [%]	< 0.04	0.07	< 0.04	< 0.04	< 0.04	< 0.04	0.06	0.05
Sulphide [%]	0.02	0.10	0.04	0.10	0.04	0.09	0.27	0.15
C [%]	0.111	0.073	0.041	0.466	0.160	0.051	0.245	0.094
CO3 (HCl) as %CO3 [%]	0.37	0.20	0.14	2.23	0.70	0.21	1.14	0.36

Method Descriptions

Parameter	SGS Method Code	CALA	PALA
		N	N
	ME-CA-[ENV]ARD-LAK-AN-001/003	N	N
	NA	N	N
Acid Potential	ME-CA-[ENV]ARD-LAK-AN-001/003	Y	Y
Carbon/Sulphur	ME-CA-[ENV]ARD-LAK-AN-019	Y	N
Carbon/Sulphur	ME-CA-[ENV]ARD-LAK-AN-019	Y	Y
Carbon/Sulphur	ME-CA-[ENV]ARD-LAK-AN-020	Y	N
Neutralization Potential	ME-CA-[ENV]ARD-LAK-AN-001/003	N	Y
Paste pH	ME-CA-[ENV]ARD-LAK-AN-005	Y	N

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0004033549

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

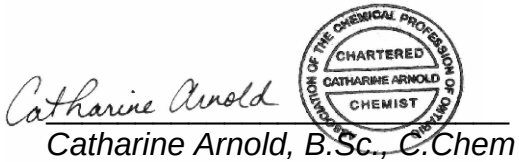
Accreditation Descriptions

CALA:

SGS Canada Industries & Environment conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation found at https://directory.cala.ca/#. Analytes and SGS Method Codes marked with a “Y” in the “CALA” column in the table denote ISO/IEC17025 accreditation

PALA:

SGS Canada Industries & Environment conforms to the requirements of ISO/IEC 17025:2005 for specific tests as listed on their scope of accreditation found at https://www.ceaeq.gouv.qc.ca/documents/publications/listes.htm#labo_accr. Analytes and SGS Method Codes marked with a “Y” in the “PALA” column in the table denote ISO/IEC17025:2005 accreditation



Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0004033549

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quality Control Report

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material			
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)		
							%		Low	High		Low	High	
Carbon/Sulphur - QCBatchID: ECS0084-FEB25														
Carbon (total)	0.005	%	<0.005			17	20				100	70	130	
Sulphur (total)	0.005	%	<0.005			ND	20				104	70	130	
Carbon/Sulphur - QCBatchID: ECS0086-FEB25														
Carbon (total)	0.005	%	<0.005			6	20				99	70	130	
Sulphur (total)	0.005	%	<0.005			ND	20				102	70	130	
Carbon/Sulphur - QCBatchID: ECS0093-FEB25														
Sulphide	0.01	%	< 0.01			7	20	112	80	120				
Carbon/Sulphur - QCBatchID: ECS0095-FEB25														
Carbonate (HCl) as %CO3	0.04	%	<0.04			7	20	6	80	120				

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0004033549

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

12-March-2025

Innova Lithium Inc.
Attn : John Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 05 February 2025
LR Report: **CA11026-FEB25**
Reference: Shaakichiuwaanaan Project

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: VIS-CV5-PEG-277	6: VIS-CV5-PEG-278	12: VIS-CV5-SP-327	13: VIS-CV5-SP-328	14: VIS-CV5-SP-329	15: VIS-CV5-SP-330
Sample Date & Time					NA	NA	NA	NA	NA	NA
Hg [ug/g]	26-Feb-25	09:59	26-Feb-25	10:01	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Ag [µg/g]	26-Feb-25	22:35	04-Mar-25	10:46	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Al [µg/g]	26-Feb-25	22:35	27-Feb-25	13:13	2800	3600	2600	2800	3100	3100
As [µg/g]	26-Feb-25	22:35	27-Feb-25	13:13	6.5	2.9	25	12	30	23
B [µg/g]	26-Feb-25	22:35	27-Feb-25	13:13	40	31	110	290	350	230
Ba [µg/g]	26-Feb-25	22:35	27-Feb-25	13:13	2.4	3.4	1.8	0.55	1.5	1.6
Be [µg/g]	26-Feb-25	22:35	27-Feb-25	13:13	0.88	5.7	10.2	1.7	1.4	0.89
Bi [µg/g]	26-Feb-25	22:35	27-Feb-25	13:13	3.2	0.17	7.6	0.62	0.50	62
Ca [µg/g]	26-Feb-25	22:35	27-Feb-25	13:13	980	3500	2300	1100	690	1400
Cd [µg/g]	26-Feb-25	22:35	27-Feb-25	13:13	0.04	0.19	0.24	0.09	0.04	0.18
Co [µg/g]	26-Feb-25	22:35	27-Feb-25	13:13	0.24	0.52	0.34	0.39	0.37	0.33
Cr [µg/g]	26-Feb-25	22:35	27-Feb-25	13:13	25	17	76	120	96	91
Cu [µg/g]	26-Feb-25	22:35	27-Feb-25	13:13	1.2	4.6	1.1	1.2	0.9	1.0
Fe [µg/g]	26-Feb-25	22:35	27-Feb-25	13:13	570	1800	1300	1700	1500	1700
K [µg/g]	26-Feb-25	22:35	27-Feb-25	13:13	2600	1100	920	920	670	980
Li [µg/g]	26-Feb-25	22:35	27-Feb-25	13:13	4	3	12	5	7	6

OnLine LIMS

0004042723

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quebec MA200-Met 1.2 Digest

LR Report : **CA11026-FEB25**

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: VIS-CV5-PEG-277	6: VIS-CV5-PEG-278	12: VIS-CV5-SP-327	13: VIS-CV5-SP-328	14: VIS-CV5-SP-329	15: VIS-CV5-SP-330
Mg [µg/g]	26-Feb-25	22:35	27-Feb-25	13:13	170	640	310	84	140	280
Mn [µg/g]	26-Feb-25	22:35	27-Feb-25	13:13	51	200	250	370	240	200
Mo [µg/g]	26-Feb-25	22:35	27-Feb-25	13:13	0.8	0.4	2.5	4.2	3.4	3.5
Na [µg/g]	26-Feb-25	22:35	27-Feb-25	13:13	430	1100	940	450	870	740
Ni [µg/g]	26-Feb-25	22:35	27-Feb-25	13:13	0.9	0.7	1.9	2.6	2.8	2.1
P [µg/g]	26-Feb-25	22:35	27-Feb-25	13:13	310	1600	870	530	390	590
Pb [µg/g]	26-Feb-25	22:35	27-Feb-25	13:13	2.0	1.5	2.6	0.99	2.7	1.2
Sb [µg/g]	26-Feb-25	22:35	27-Feb-25	13:13	1.5	1.4	3.5	6.8	10	8.4
Se [µg/g]	26-Feb-25	22:35	27-Feb-25	13:13	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Sn [µg/g]	26-Feb-25	22:35	27-Feb-25	13:13	< 5	9	< 5	< 5	< 5	< 5
Sr [µg/g]	26-Feb-25	22:35	27-Feb-25	13:13	4.1	6.1	3.3	4.1	4.1	3.3
Ti [µg/g]	26-Feb-25	22:35	27-Feb-25	13:13	2.1	5.3	4.0	3.6	2.9	4.8
Tl [µg/g]	26-Feb-25	22:35	27-Feb-25	13:13	2.0	1.0	0.91	1.6	1.3	1.2
U [µg/g]	26-Feb-25	22:35	27-Feb-25	13:13	0.42	3.6	5.8	1.5	3.6	1.4
V [µg/g]	26-Feb-25	22:35	27-Feb-25	13:13	< 1	< 1	< 1	< 1	< 1	< 1
Zn [µg/g]	26-Feb-25	22:35	27-Feb-25	13:13	2.7	7.5	7.9	5.9	4.9	11
Au [µg/g]	26-Feb-25	22:35	27-Feb-25	13:13	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Ce [µg/g]	26-Feb-25	22:35	27-Feb-25	13:13	0.53	1.13	1.02	0.16	0.067	0.46
Cs [µg/g]	26-Feb-25	22:35	27-Feb-25	13:13	56	33	74	810	1600	320
Dy [µg/g]	26-Feb-25	22:35	27-Feb-25	13:13	0.067	0.28	0.66	0.077	0.016	0.37
Er [µg/g]	26-Feb-25	22:35	27-Feb-25	13:13	0.016	0.049	0.074	0.010	0.003	0.048
Eu [µg/g]	26-Feb-25	22:35	27-Feb-25	13:13	0.030	0.077	0.018	0.003	0.002	0.011
Ga [µg/g]	26-Feb-25	17:39	27-Feb-25	15:48	2	4	2	3	3	3
Gd [µg/g]	26-Feb-25	22:35	27-Feb-25	13:13	0.10	0.44	0.89	0.080	0.022	0.42
Ge [µg/g]	26-Feb-25	22:35	27-Feb-25	13:13	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Hf [µg/g]	26-Feb-25	22:35	27-Feb-25	13:13	0.2	0.7	0.4	< 0.1	< 0.1	0.2
Ho [µg/g]	26-Feb-25	22:35	27-Feb-25	13:13	0.007	0.026	0.045	0.005	0.001	0.026
In [µg/g]	26-Feb-25	17:39	27-Feb-25	15:48	< 0.01	0.03	< 0.01	0.01	0.01	0.01
Ir [µg/g]	26-Feb-25	22:35	27-Feb-25	13:13	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
La [µg/g]	26-Feb-25	22:35	27-Feb-25	13:13	0.23	0.55	0.47	0.094	0.044	0.20
Lu [µg/g]	26-Feb-25	22:35	27-Feb-25	13:13	0.004	0.007	0.006	0.003	0.004	0.002

OnLine LIMS

0000404723

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: VIS-CV5-PEG-277	6: VIS-CV5-PEG-278	12: VIS-CV5-SP-327	13: VIS-CV5-SP-328	14: VIS-CV5-SP-329	15: VIS-CV5-SP-330
Nb [µg/g]	26-Feb-25	22:35	27-Feb-25	13:13	0.2	1.2	0.9	0.3	0.2	0.4
Nd [µg/g]	26-Feb-25	22:35	27-Feb-25	13:13	0.28	1.1	0.51	0.059	0.021	0.23
Os [µg/g]	26-Feb-25	22:35	27-Feb-25	13:13	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pd [µg/g]	26-Feb-25	22:35	27-Feb-25	13:13	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Pr [µg/g]	26-Feb-25	22:35	27-Feb-25	13:13	0.066	0.19	0.13	0.017	0.006	0.061
Pt [µg/g]	26-Feb-25	22:35	27-Feb-25	13:13	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Rh [µg/g]	26-Feb-25	22:35	27-Feb-25	13:13	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Rb [µg/g]	26-Feb-25	22:35	27-Feb-25	13:13	310	197	158	290	222	222
Re [µg/g]	26-Feb-25	22:35	27-Feb-25	13:13	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Ru [µg/g]	26-Feb-25	22:35	27-Feb-25	13:13	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Sm [µg/g]	26-Feb-25	22:35	27-Feb-25	13:13	0.088	0.39	0.63	0.053	0.016	0.26
Sc [µg/g]	26-Feb-25	17:39	27-Feb-25	15:48	0.09	0.15	0.13	0.12	0.12	0.15
Ta [µg/g]	26-Feb-25	22:35	27-Feb-25	13:13	< 0.01	0.08	< 0.01	0.01	0.01	0.01
Tb [µg/g]	26-Feb-25	17:39	27-Feb-25	15:48	0.018	0.081	0.23	0.021	0.005	0.12
Te [µg/g]	26-Feb-25	22:35	27-Feb-25	13:13	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Th [µg/g]	26-Feb-25	22:35	27-Feb-25	13:13	1.9	7.2	3.8	3.5	4.9	1.2
Tm [µg/g]	26-Feb-25	17:39	27-Feb-25	15:48	0.002	0.006	0.011	0.001	0.001	0.007

Analysis	16: VIS-CV5-SP-331	17: VIS-CV5-SP-332	18: VIS-CV5-SP-333	19: VIS-CV5-SP-334	20: VIS-CV5-SP-335	21: VIS-CV5-SP-336	22: VIS-CV5-SP-337	23: VIS-CV5-SP-338	24: VIS-CV5-SP-339	25: VIS-CV5-SP-340
Sample Date & Time	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hg [ug/g]	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Ag [µg/g]	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Al [µg/g]	3300	3000	4300	3000	6600	3700	2400	2100	2900	2500
As [µg/g]	35	21	30	12	3.6	31	15	6.6	64	5.0
B [µg/g]	390	220	310	240	170	270	170	82	200	86
Ba [µg/g]	1.9	3.7	1.8	4.0	6.4	2.3	1.2	0.61	1.4	0.92
Be [µg/g]	0.92	0.91	0.86	1.1	7.7	0.78	1.3	0.95	1.1	1.7
Bi [µg/g]	0.23	2.5	0.52	0.11	3.0	4.0	1.2	19	1.1	8.1

OnLine LIMS

000404272

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quebec MA200-Met 1.2 Digest

LR Report : **CA11026-FEB25**

Analysis	16: VIS-CV5-SP-331	17: VIS-CV5-SP-332	18: VIS-CV5-SP-333	19: VIS-CV5-SP-334	20: VIS-CV5-SP-335	21: VIS-CV5-SP-336	22: VIS-CV5-SP-337	23: VIS-CV5-SP-338	24: VIS-CV5-SP-339	25: VIS-CV5-SP-340
Ca [µg/g]	1100	890	940	980	2300	1200	2000	590	1100	2000
Cd [µg/g]	0.10	0.08	0.05	0.10	0.16	0.10	0.25	0.05	0.11	0.17
Co [µg/g]	0.36	0.30	0.25	0.35	0.68	0.31	0.28	0.23	0.21	0.25
Cr [µg/g]	89	94	69	98	60	91	87	84	82	79
Cu [µg/g]	1.2	0.9	0.6	0.8	0.7	0.8	0.7	0.5	0.5	0.6
Fe [µg/g]	1500	1600	1100	1800	3600	1400	1400	1200	1400	1300
K [µg/g]	830	770	810	980	2000	1600	540	1400	670	970
Li [µg/g]	10	7	11	5	7	6	10	4	10	6
Mg [µg/g]	300	320	200	650	4100	180	60	60	92	150
Mn [µg/g]	360	210	160	290	240	230	360	62	180	170
Mo [µg/g]	3.4	3.4	2.5	3.7	0.7	3.2	0.6	2.3	0.3	2.1
Na [µg/g]	640	750	1400	420	380	500	960	700	1000	890
Ni [µg/g]	2.6	2.2	1.6	2.6	2.1	2.0	2.0	1.9	2.0	1.8
P [µg/g]	450	310	350	420	890	530	940	230	400	610
Pb [µg/g]	2.7	1.2	1.3	1.1	1.1	1.3	2.8	2.3	2.8	1.9
Sb [µg/g]	44	5.0	12	1.3	1.0	5.1	3.4	3.1	8.3	1.7
Se [µg/g]	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Sn [µg/g]	< 5	< 5	< 5	< 5	6	< 5	< 5	< 5	< 5	< 5
Sr [µg/g]	5.3	3.1	5.7	4.3	6.3	3.6	2.6	2.1	1.8	3.8
Ti [µg/g]	2.6	2.6	3.0	2.5	1.4	3.3	2.8	1.5	4.4	2.4
Tl [µg/g]	1.5	1.1	1.7	1.0	1.1	2.3	0.76	1.6	0.86	0.77
U [µg/g]	2.3	3.6	4.4	1.7	2.6	0.58	3.7	0.92	9.9	5.1
V [µg/g]	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Zn [µg/g]	7.6	6.0	9.7	6.0	2.6	5.0	5.2	1.6	5.7	5.3
Au [µg/g]	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Ce [µg/g]	0.13	0.41	0.089	0.24	1.48	0.46	1.10	0.32	0.54	0.69
Cs [µg/g]	530	620	2600	130	100	870	970	250	1100	130
Dy [µg/g]	0.044	0.15	0.036	0.054	0.80	0.13	0.61	0.12	0.26	0.78
Er [µg/g]	0.008	0.022	0.005	0.012	0.14	0.018	0.058	0.011	0.034	0.063
Eu [µg/g]	0.005	0.007	0.001	0.014	0.10	0.007	0.009	0.005	0.006	0.007
Ga [µg/g]	3	3	3	3	7	4	2	1	3	2

OnLine LIMS

000404272 3

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	16: VIS-CV5-SP-331	17: VIS-CV5-SP-332	18: VIS-CV5-SP-333	19: VIS-CV5-SP-334	20: VIS-CV5-SP-335	21: VIS-CV5-SP-336	22: VIS-CV5-SP-337	23: VIS-CV5-SP-338	24: VIS-CV5-SP-339	25: VIS-CV5-SP-340
Gd [µg/g]	0.048	0.22	0.051	0.066	0.96	0.14	0.93	0.22	0.36	1.03
Ge [µg/g]	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Hf [µg/g]	0.1	0.4	0.2	< 0.1	< 0.1	< 0.1	0.3	0.2	0.4	0.3
Ho [µg/g]	0.004	0.012	0.002	0.005	0.068	0.010	0.040	0.007	0.018	0.046
In [µg/g]	0.01	0.01	0.01	0.02	0.02	0.02	< 0.01	< 0.01	0.01	< 0.01
Ir [µg/g]	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
La [µg/g]	0.076	0.18	0.085	0.14	0.55	0.20	0.43	0.13	0.23	0.28
Lu [µg/g]	< 0.001	0.002	0.004	< 0.001	0.012	< 0.001	0.008	0.002	0.002	0.007
Nb [µg/g]	0.2	0.2	0.3	0.1	0.3	0.3	0.4	0.3	0.5	1.4
Nd [µg/g]	0.053	0.19	0.039	0.099	0.98	0.18	0.53	0.16	0.26	0.36
Os [µg/g]	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pd [µg/g]	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Pr [µg/g]	0.014	0.051	0.011	0.027	0.21	0.052	0.14	0.044	0.067	0.090
Pt [µg/g]	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Rh [µg/g]	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Rb [µg/g]	236	156	280	178	177	423	118	235	149	135
Re [µg/g]	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Ru [µg/g]	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Sm [µg/g]	0.040	0.18	0.034	0.046	0.67	0.098	0.73	0.19	0.29	0.63
Sc [µg/g]	0.13	0.16	0.13	0.15	0.38	0.13	0.12	0.08	0.14	0.12
Ta [µg/g]	0.01	< 0.01	0.01	< 0.01	0.01	< 0.01	< 0.01	< 0.01	0.01	< 0.01
Tb [µg/g]	0.014	0.053	0.012	0.016	0.25	0.040	0.23	0.048	0.089	0.27
Te [µg/g]	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Th [µg/g]	0.96	1.6	2.0	2.1	7.9	3.6	4.5	1.8	3.2	2.4
Tm [µg/g]	0.002	0.004	0.001	0.002	0.020	0.003	0.008	0.002	0.005	0.008

Analysis	26: VIS-CV5-SP-341	27: VIS-CV5-SP-342	28: VIS-CV5-UM-279	29: VIS-CV5-UM-280	30: VIS-CV5-UM-281	31: VIS-CV5-UM-282	32: VIS-CV5-UM-283	33: VIS-CV5-UM-284	34: VIS-CV5-UM-285	35: VIS-CV5-UM-286	36: VIS-CV5-UM-287
Sample Date & Time	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

OnLine LIMS

0004042723

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quebec MA200-Met 1.2 Digest

LR Report : **CA11026-FEB25**

Analysis	26: VIS-CV5-SP-341	27: VIS-CV5-SP-342	28: VIS-CV5-UM-279	29: VIS-CV5-UM-280	30: VIS-CV5-UM-281	31: VIS-CV5-UM-282	32: VIS-CV5-UM-283	33: VIS-CV5-UM-284	34: VIS-CV5-UM-285	35: VIS-CV5-UM-286	36: VIS-CV5-UM-287
Hg [ug/g]	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Ag [µg/g]	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Al [µg/g]	3300	4200	6300	9900	19000	12000	10000	16000	10000	6700	15000
As [µg/g]	14	21	96	790	2600	560	884	490	110	1100	698
B [µg/g]	140	150	2	2	5	< 1	110	6	< 1	8	260
Ba [µg/g]	4.0	6.5	0.11	0.29	48	2.0	40	75	4.1	8.3	10.0
Be [µg/g]	3.4	2.3	< 0.02	0.32	4.7	0.19	2.7	2.3	0.66	1.8	2.0
Bi [µg/g]	3.6	4.1	0.20	0.18	1.5	0.31	0.41	0.45	0.18	0.51	6.5
Ca [µg/g]	1900	1300	43000	12000	4300	1100	71000	63000	3100	3000	12000
Cd [µg/g]	0.08	0.06	0.04	< 0.02	0.20	< 0.02	< 0.02	0.02	< 0.02	0.04	0.23
Co [µg/g]	0.39	0.35	67	53	50	49	42	44	38	68	35
Cr [µg/g]	74	130	730	650	500	640	750	600	350	830	490
Cu [µg/g]	1.1	7.3	44	8.2	35	0.4	11	22	78	3.7	25
Fe [µg/g]	1600	2100	22000	12000	27000	11000	23000	27000	16000	16000	24000
K [µg/g]	1200	1700	10	29	14000	140	1600	2700	270	2600	700
Li [µg/g]	5	8	5	12	860	18	10	267	172	44	4
Mg [µg/g]	320	600	33000	25000	28000	24000	33000	29000	14000	26000	22000
Mn [µg/g]	200	150	510	160	380	50	430	580	190	170	490
Mo [µg/g]	0.4	0.5	< 0.1	0.1	0.3	0.4	0.2	0.2	< 0.1	< 0.1	0.4
Na [µg/g]	860	520	10	25	150	33	47	110	190	31	180
Ni [µg/g]	2.0	2.7	690	660	530	490	730	630	220	890	400
P [µg/g]	480	300	100	31	240	120	340	280	140	140	650
Pb [µg/g]	2.5	4.6	0.26	1.9	3.9	0.11	1.1	0.42	0.97	0.33	2.7
Sb [µg/g]	1.3	1.8	< 0.8	55	40	117	83	71	18	92	43
Se [µg/g]	< 0.1	< 0.1	0.4	< 0.1	0.4	< 0.1	< 0.1	< 0.1	0.1	< 0.1	0.6
Sn [µg/g]	< 5	5	< 5	< 5	29	< 5	5	< 5	< 5	< 5	< 5
Sr [µg/g]	5.7	3.9	38	13	1.6	0.92	31	19	3.1	1.3	4.7
Ti [µg/g]	10	2.8	39	24	753	46	233	330	260	49	333
Tl [µg/g]	1.4	1.1	0.04	0.04	39	0.13	3.1	4.8	0.40	2.9	0.66
U [µg/g]	2.0	0.86	0.026	0.021	0.53	0.11	0.23	0.34	0.15	0.026	3.3
V [µg/g]	1	< 1	17	23	49	25	22	36	22	21	34

OnLine LIMS

000404272 3

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	26: VIS-CV5-SP-341	27: VIS-CV5-SP-342	28: VIS-CV5-UM-279	29: VIS-CV5-UM-280	30: VIS-CV5-UM-281	31: VIS-CV5-UM-282	32: VIS-CV5-UM-283	33: VIS-CV5-UM-284	34: VIS-CV5-UM-285	35: VIS-CV5-UM-286	36: VIS-CV5-UM-287
Zn [µg/g]	6.5	10	10	13	46	14	13	18	13	15	39
Au [µg/g]	< 0.02	< 0.02	< 0.02	---	---	---	< 0.02	---	---	---	< 0.02
Ce [µg/g]	0.43	0.31	2.46	---	---	---	12.4	---	---	---	5.99
Cs [µg/g]	600	75	3	---	---	---	360	---	---	---	150
Dy [µg/g]	0.14	0.13	0.19	---	---	---	0.95	---	---	---	0.38
Er [µg/g]	0.021	0.018	0.11	---	---	---	0.49	---	---	---	0.20
Eu [µg/g]	0.010	0.018	0.099	---	---	---	0.22	---	---	---	0.11
Ga [µg/g]	3	5	1	---	---	---	4	---	---	---	7
Gd [µg/g]	0.20	0.16	0.25	---	---	---	1.15	---	---	---	0.50
Ge [µg/g]	< 0.3	< 0.3	0.7	---	---	---	1.0	---	---	---	0.7
Hf [µg/g]	0.4	0.1	< 0.1	---	---	---	< 0.1	---	---	---	0.1
Ho [µg/g]	0.012	0.010	0.039	---	---	---	0.18	---	---	---	0.070
In [µg/g]	0.02	0.02	< 0.01	---	---	---	0.03	---	---	---	0.03
Ir [µg/g]	< 0.01	< 0.01	< 0.01	---	---	---	< 0.01	---	---	---	< 0.01
La [µg/g]	0.22	0.14	1.41	---	---	---	6.76	---	---	---	2.93
Lu [µg/g]	< 0.001	< 0.001	0.025	---	---	---	0.061	---	---	---	0.033
Nb [µg/g]	0.4	0.3	< 0.1	---	---	---	< 0.1	---	---	---	< 0.1
Nd [µg/g]	0.21	0.16	1.2	---	---	---	5.2	---	---	---	2.4
Os [µg/g]	< 0.1	< 0.1	< 0.1	---	---	---	< 0.1	---	---	---	< 0.1
Pd [µg/g]	< 0.2	< 0.2	< 0.2	---	---	---	< 0.2	---	---	---	< 0.2
Pr [µg/g]	0.053	0.037	0.27	---	---	---	1.31	---	---	---	0.64
Pt [µg/g]	< 0.1	< 0.1	< 0.1	---	---	---	< 0.1	---	---	---	< 0.1
Rh [µg/g]	< 0.01	< 0.01	< 0.01	---	---	---	< 0.01	---	---	---	< 0.01
Rb [µg/g]	229	205	0.44	---	---	---	299	---	---	---	57.0
Re [µg/g]	< 0.05	< 0.05	< 0.05	---	---	---	< 0.05	---	---	---	< 0.05
Ru [µg/g]	< 0.01	< 0.01	< 0.01	---	---	---	< 0.01	---	---	---	< 0.01
Sm [µg/g]	0.16	0.11	0.23	---	---	---	1.11	---	---	---	0.47
Sc [µg/g]	0.23	0.15	2	---	---	---	5	---	---	---	4
Ta [µg/g]	0.02	0.01	< 0.01	---	---	---	< 0.01	---	---	---	0.02
Tb [µg/g]	0.050	0.038	0.037	---	---	---	0.19	---	---	---	0.080
Te [µg/g]	< 0.1	< 0.1	< 0.1	---	---	---	< 0.1	---	---	---	< 0.1

OnLine LIMS

0000042723

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	26: VIS-CV5-SP-341	27: VIS-CV5-SP-342	28: VIS-CV5-UM-279	29: VIS-CV5-UM-280	30: VIS-CV5-UM-281	31: VIS-CV5-UM-282	32: VIS-CV5-UM-283	33: VIS-CV5-UM-284	34: VIS-CV5-UM-285	35: VIS-CV5-UM-286	36: VIS-CV5-UM-287
Th [µg/g]	4.7	0.84	0.11	---	---	---	1.1	---	---	---	1.5
Tm [µg/g]	0.004	0.003	0.016	---	---	---	0.074	---	---	---	0.033

Analysis	37: VIS-CV5-UM-288	38: VIS-CV5-UM-289	39: VIS-CV5-UM-290	40: VIS-CV5-UM-291	41: VIS-CV5-UM-292	42: VIS-CV5-UM-293	43: VIS-CV5-UM-294	44: VIS-CV5-UM-295	45: VIS-CV5-UM-296	46: VIS-CV5-UM-297	47: VIS-CV5-UM-298
Sample Date & Time	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hg [ug/g]	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Ag [µg/g]	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Al [µg/g]	24000	21000	9200	14000	9600	11000	12000	7800	7500	7100	19000
As [µg/g]	490	390	520	355	820	150	40	16	39	850	930
B [µg/g]	3	2	< 1	67	< 1	< 1	< 1	130	3	< 1	3
Ba [µg/g]	31	15	1.4	11	1.3	4.8	2.5	6.8	4.8	0.25	57
Be [µg/g]	2.0	0.49	0.24	0.20	0.34	0.38	0.38	0.23	0.81	0.42	4.9
Bi [µg/g]	0.25	0.14	0.91	0.13	0.26	0.28	0.59	< 0.09	0.28	0.26	1.6
Ca [µg/g]	2100	2100	8300	18000	9900	2700	12000	9300	10000	1800	3100
Cd [µg/g]	< 0.02	< 0.02	0.02	0.06	< 0.02	0.10	< 0.02	0.03	0.03	0.05	0.03
Co [µg/g]	47	47	69	36	63	37	23	10	10	60	45
Cr [µg/g]	820	830	620	690	680	690	390	120	120	500	680
Cu [µg/g]	3.6	0.6	102	38	7.1	60	59	78	97	19	54
Fe [µg/g]	30000	24000	18000	14000	12000	14000	18000	8200	8500	9900	23000
K [µg/g]	12000	7000	110	1800	470	330	100	430	370	19	9500
Li [µg/g]	471	402	12	< 2	20	18	157	3	150	14	584
Mg [µg/g]	42000	34000	22000	28000	23000	25000	16000	5800	6700	18000	30000
Mn [µg/g]	220	160	160	300	170	110	220	150	230	69	280
Mo [µg/g]	0.8	0.3	0.1	< 0.1	< 0.1	0.2	0.1	< 0.1	< 0.1	< 0.1	0.6
Na [µg/g]	46	37	18	58	46	24	210	470	330	22	210
Ni [µg/g]	410	450	750	480	620	550	210	54	47	590	390
P [µg/g]	480	260	45	110	72	28	280	160	180	34	210
Pb [µg/g]	0.28	0.24	0.28	1.0	0.22	0.87	0.16	0.20	0.15	0.23	0.72

OnLine LIMS

000404272 3

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	37: VIS-CV5-UM-288	38: VIS-CV5-UM-289	39: VIS-CV5-UM-290	40: VIS-CV5-UM-291	41: VIS-CV5-UM-292	42: VIS-CV5-UM-293	43: VIS-CV5-UM-294	44: VIS-CV5-UM-295	45: VIS-CV5-UM-296	46: VIS-CV5-UM-297	47: VIS-CV5-UM-298
Sb [µg/g]	20	26	54	16	21	28	3.4	1.2	2.1	18	6.8
Se [µg/g]	< 0.1	< 0.1	0.5	0.2	< 0.1	0.2	0.2	< 0.1	< 0.1	0.3	0.2
Sn [µg/g]	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	6
Sr [µg/g]	4.2	3.3	4.3	26	16	2.7	11	8.0	8.8	1.2	3.0
Ti [µg/g]	660	450	28	91	31	34	240	547	500	77	770
Tl [µg/g]	18	9.9	0.32	1.6	0.49	0.48	0.15	0.19	0.13	0.04	11
U [µg/g]	0.21	0.23	0.056	0.14	0.13	0.032	0.18	0.032	0.040	0.023	0.29
V [µg/g]	43	37	24	26	26	28	26	19	20	18	39
Zn [µg/g]	36	30	15	22	12	18	15	8.7	11	26	33
Au [µg/g]	---	---	---	< 0.02	---	---	---	< 0.02	---	---	---
Ce [µg/g]	---	---	---	4.25	---	---	---	1.81	---	---	---
Cs [µg/g]	---	---	---	250	---	---	---	16	---	---	---
Dy [µg/g]	---	---	---	0.15	---	---	---	0.32	---	---	---
Er [µg/g]	---	---	---	0.081	---	---	---	0.21	---	---	---
Eu [µg/g]	---	---	---	0.055	---	---	---	0.080	---	---	---
Ga [µg/g]	---	---	---	3	---	---	---	2	---	---	---
Gd [µg/g]	---	---	---	0.26	---	---	---	0.31	---	---	---
Ge [µg/g]	---	---	---	0.3	---	---	---	< 0.3	---	---	---
Hf [µg/g]	---	---	---	< 0.1	---	---	---	< 0.1	---	---	---
Ho [µg/g]	---	---	---	0.029	---	---	---	0.068	---	---	---
In [µg/g]	---	---	---	< 0.01	---	---	---	< 0.01	---	---	---
Ir [µg/g]	---	---	---	< 0.01	---	---	---	< 0.01	---	---	---
La [µg/g]	---	---	---	2.32	---	---	---	0.92	---	---	---
Lu [µg/g]	---	---	---	0.019	---	---	---	0.033	---	---	---
Nb [µg/g]	---	---	---	< 0.1	---	---	---	< 0.1	---	---	---
Nd [µg/g]	---	---	---	1.7	---	---	---	0.93	---	---	---
Os [µg/g]	---	---	---	< 0.1	---	---	---	< 0.1	---	---	---
Pd [µg/g]	---	---	---	< 0.2	---	---	---	< 0.2	---	---	---
Pr [µg/g]	---	---	---	0.44	---	---	---	0.21	---	---	---
Pt [µg/g]	---	---	---	< 0.1	---	---	---	< 0.1	---	---	---
Rh [µg/g]	---	---	---	< 0.01	---	---	---	< 0.01	---	---	---

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

000404272 3

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	37: VIS-CV5-UM-288	38: VIS-CV5-UM-289	39: VIS-CV5-UM-290	40: VIS-CV5-UM-291	41: VIS-CV5-UM-292	42: VIS-CV5-UM-293	43: VIS-CV5-UM-294	44: VIS-CV5-UM-295	45: VIS-CV5-UM-296	46: VIS-CV5-UM-297	47: VIS-CV5-UM-298
Rb [µg/g]	---	---	---	160	---	---	---	25.9	---	---	---
Re [µg/g]	---	---	---	< 0.05	---	---	---	< 0.05	---	---	---
Ru [µg/g]	---	---	---	< 0.01	---	---	---	< 0.01	---	---	---
Sm [µg/g]	---	---	---	0.28	---	---	---	0.25	---	---	---
Sc [µg/g]	---	---	---	3	---	---	---	2	---	---	---
Ta [µg/g]	---	---	---	< 0.01	---	---	---	< 0.01	---	---	---
Tb [µg/g]	---	---	---	0.034	---	---	---	0.056	---	---	---
Te [µg/g]	---	---	---	< 0.1	---	---	---	< 0.1	---	---	---
Th [µg/g]	---	---	---	0.50	---	---	---	0.12	---	---	---
Tm [µg/g]	---	---	---	0.015	---	---	---	0.030	---	---	---

Analysis	48: VIS-CV5-UM-299	49: VIS-CV5-UM-300	50: VIS-CV5-UM-301	51: VIS-CV5-UM-302	52: VIS-CV5-UM-303
Sample Date & Time	NA	NA	NA	NA	NA
Hg [ug/g]	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Ag [µg/g]	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Al [µg/g]	16000	12000	7400	6000	9700
As [µg/g]	65	200	130	170	60
B [µg/g]	310	2	3	8	3
Ba [µg/g]	3.9	4.1	12	35	3.4
Be [µg/g]	1.0	0.34	0.34	0.09	2.2
Bi [µg/g]	0.38	0.12	0.12	0.45	0.17
Ca [µg/g]	16000	8600	5900	11000	6100
Cd [µg/g]	0.20	0.15	0.06	0.02	0.05
Co [µg/g]	15	36	23	31	16
Cr [µg/g]	210	400	180	110	81
Cu [µg/g]	52	40	130	179	66
Fe [µg/g]	18000	14000	11000	11000	19000
K [µg/g]	230	240	500	1700	600

OnLine LIMS

000404723

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	48: VIS-CV5-UM-299	49: VIS-CV5-UM-300	50: VIS-CV5-UM-301	51: VIS-CV5-UM-302	52: VIS-CV5-UM-303
Li [µg/g]	3	135	142	123	219
Mg [µg/g]	19000	14000	7900	5900	11000
Mn [µg/g]	630	180	160	130	240
Mo [µg/g]	0.1	< 0.1	8.3	0.4	0.4
Na [µg/g]	200	160	330	390	510
Ni [µg/g]	81	180	130	200	120
P [µg/g]	240	140	150	120	770
Pb [µg/g]	1.7	2.5	1.2	0.43	7.0
Sb [µg/g]	6.5	5.8	14	1.8	11
Se [µg/g]	0.1	0.2	0.2	0.7	0.2
Sn [µg/g]	8	< 5	< 5	< 5	< 5
Sr [µg/g]	7.5	4.7	4.7	6.4	6.7
Ti [µg/g]	365	270	430	320	390
Tl [µg/g]	0.15	0.13	0.25	0.28	0.62
U [µg/g]	0.23	0.15	0.28	0.13	1.0
V [µg/g]	46	23	19	12	35
Zn [µg/g]	27	53	18	15	22
Au [µg/g]	< 0.02	---	---	---	---
Ce [µg/g]	2.63	---	---	---	---
Cs [µg/g]	16	---	---	---	---
Dy [µg/g]	0.69	---	---	---	---
Er [µg/g]	0.41	---	---	---	---
Eu [µg/g]	0.12	---	---	---	---
Ga [µg/g]	25	---	---	---	---
Gd [µg/g]	0.62	---	---	---	---
Ge [µg/g]	0.5	---	---	---	---
Hf [µg/g]	< 0.1	---	---	---	---
Ho [µg/g]	0.15	---	---	---	---
In [µg/g]	0.05	---	---	---	---
Ir [µg/g]	< 0.01	---	---	---	---
La [µg/g]	1.31	---	---	---	---

OnLine LIMS

0000042723

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	48: VIS-CV5-UM-299	49: VIS-CV5-UM-300	50: VIS-CV5-UM-301	51: VIS-CV5-UM-302	52: VIS-CV5-UM-303
Lu [µg/g]	0.067	---	---	---	---
Nb [µg/g]	< 0.1	---	---	---	---
Nd [µg/g]	1.4	---	---	---	---
Os [µg/g]	< 0.1	---	---	---	---
Pd [µg/g]	< 0.2	---	---	---	---
Pr [µg/g]	0.33	---	---	---	---
Pt [µg/g]	< 0.1	---	---	---	---
Rh [µg/g]	< 0.01	---	---	---	---
Rb [µg/g]	11.2	---	---	---	---
Re [µg/g]	< 0.05	---	---	---	---
Ru [µg/g]	< 0.01	---	---	---	---
Sm [µg/g]	0.46	---	---	---	---
Sc [µg/g]	7	---	---	---	---
Ta [µg/g]	< 0.01	---	---	---	---
Tb [µg/g]	0.12	---	---	---	---
Te [µg/g]	< 0.1	---	---	---	---
Th [µg/g]	0.22	---	---	---	---
Tm [µg/g]	0.067	---	---	---	---

Method Descriptions

Parameter	Units	SGS Method Code	CALA	PALA
Mercury by CVAAS	ug/g	ME-CA-[ENV]SPE-LAK-AN-004	Y	Y
Metals - Microwave/ICP-MS	µg/g	ME-CA-[ENV]SPE-LAK-AN-007	Y	N
Metals, ICP-MS	µg/g	ME-CA-[ENV]SPE-LAK-AN-005	Y	N
Metals, ICP-MS	µg/g	ME-CA-[ENV]SPE-LAK-AN-005	Y	Y

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Accreditation Descriptions

CALA:

SGS Canada Industries & Environment conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation found at https://directory.cala.ca/#. Analytes and SGS Method Codes marked with a “Y” in the “CALA” column in the table denote ISO/IEC17025 accreditation

PALA:

SGS Canada Industries & Environment conforms to the requirements of ISO/IEC 17025:2005 for specific tests as listed on their scope of accreditation found at https://www.ceaeq.gouv.qc.ca/documents/publications/listes.htm#labo_accr. Analytes and SGS Method Codes marked with a “Y” in the “PALA” column in the table denote ISO/IEC17025:2005 accreditation

Catharine Arnold

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

000404272 3

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quality Control Report

Inorganic Analysis													
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Mercury by CVAAS - QCBatchID: EHG0033-FEB25													
Mercury	0.05	ug/g	<0.05			ND	20	91	80	120	106	70	130
Metals - Microwave/ICP-MS - QCBatchID: EMS0203-FEB25													
Cerium	0.001	µg/g	<0.01			7	20	101	70	130	NV	70	130
Cesium	0.01	µg/g	<0.01			3	20	102	70	130	NV	70	130
Dysprosium	0.001	µg/g	<0.01			12	20	102	70	130	NV	70	130
Erbium	0.001	µg/g	<0.01			5	20	101	70	130	NV	70	130
Europium	0.001	µg/g	<0.01			9	20	99	70	130	NV	70	130
Gadolinium	0.001	µg/g	<0.01			3	20	100	70	130	NV	70	130
Germanium	0.3	µg/g	<0.0001			ND	20	104	70	130	NV	70	130
Gold	0.02	µg/g	<0.0001			ND	20	95	70	130	NV	70	130
Hafnium	0.1	µg/g	<0.0001			5	20	105	70	130	NV	70	130
Holmium	0.001	µg/g	<0.01			ND	20	102	70	130	NV	70	130
Iridium	0.01	µg/g	<0.0001			ND	20	92	70	130	NV	70	130
Lanthanum	0.001	µg/g	<0.01			10	20	98	70	130	NV	70	130
Lutetium	0.001	µg/g	<0.01			ND	20	100	70	130	NV	70	130
Neodymium	0.006	µg/g	<0.01			13	20	102	70	130	NV	70	130
Niobium	0.1	µg/g	<0.01			6	20	106	70	130	NV	70	130
Osmium	0.1	µg/g	<0.0001			ND	20	94	70	130	NV	70	130
Palladium	0.2	µg/g	<0.0001			ND	20	93	70	130	NV	70	130
Platinum	0.1	µg/g	<0.0001			ND	20	95	70	130	NV	70	130
Praseodymium	0.001	µg/g	<0.01			10	20	104	70	130	NV	70	130
Rhenium	0.05	µg/g	<0.0001			ND	20	94	70	130	NV	70	130
Rhodium	0.01	µg/g	<0.0001			ND	20	95	70	130	NV	70	130
Rubidium	0.004	µg/g	<0.0001			ND	20	103	70	130	NV	70	130
Ruthenium	0.01	µg/g	<0.0001			ND	20	92	70	130	NV	70	130
Samarium	0.001	µg/g	<0.01			14	20	102	70	130	NV	70	130
Tantalum	0.01	µg/g	<0.0001			1	20	107	70	130	NV	70	130
Tellurium	0.1	µg/g	<0.01			ND	20	104	70	130	NV	70	130
Metals - Microwave/ICP-MS - QCBatchID: EMS0238-FEB25													
Gallium	0.03	µg/g	< 0.03			7	20	93	70	130			
Indium	0.01	µg/g	< 0.01			ND	20	100	70	130			
Metals, ICP-MS - QCBatchID: EMS0001-MAR25													
Aluminum	3	µg/g	<3			1	20	95	70	130	91	70	130
Antimony	0.8	µg/g	<0.8			2	20	99	70	130	NV	70	130
Arsenic	0.5	µg/g	<0.5			0	20	91	70	130	99	70	130

OnLine LIMS

0004042723

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quebec MA200-Met 1.2 Digest

LR Report : **CA11026-FEB25**

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Barium	0.01	µg/g	<0.01			13	20	94	70	130	88	70	130
Beryllium	0.02	µg/g	<0.02			4	20	92	70	130	110	70	130
Bismuth	0.09	µg/g	<0.09			2	20	96	70	130	NV	70	130
Boron	1	µg/g	<1			2	20	100	70	130	NV	70	130
Cadmium	0.02	µg/g	<0.02			ND	20	96	70	130	92	70	130
Calcium	3	µg/g	<3			2	20	103	70	130	99	70	130
Chromium	0.5	µg/g	<0.5			1	20	94	70	130	97	70	130
Cobalt	0.01	µg/g	<0.01			1	20	93	70	130	89	70	130
Copper	0.1	µg/g	<0.1			ND	20	94	70	130	85	70	130
Iron	3	µg/g	<3			0	20	105	70	130	118	70	130
Lead	0.05	µg/g	<0.05			5	20	91	70	130	99	70	130
Lithium	2	µg/g	<2			16	20	98	70	130	112	70	130
Magnesium	3	µg/g	<1			2	20	105	70	130	106	70	130
Manganese	0.1	µg/g	<0.1			2	20	94	70	130	93	70	130
Molybdenum	0.1	µg/g	<0.1			10	20	91	70	130	113	70	130
Nickel	0.1	µg/g	<0.1			0	20	97	70	130	95	70	130
Phosphorus	3	µg/g	<3			17	20	100	70	130	NV	70	130
Potassium	3	µg/g	<3			6	20	101	70	130	88	70	130
Selenium	0.1	µg/g	<0.1			ND	20	93	70	130	NV	70	130
Silver	0.5	µg/g	<0.5			ND	20	100	70	130	96	70	130
Sodium	3	µg/g	<3			2	20	105	70	130	97	70	130
Strontium	0.02	µg/g	<0.02			1	20	92	70	130	89	70	130
Thallium	0.02	µg/g	<0.02			9	20	NV	70	130	131	70	130
Tin	5	µg/g	<5			ND	20	102	70	130	113	70	130
Titanium	0.1	µg/g	<0.1			3	20	97	70	130	NV	70	130
Uranium	0.002	µg/g	<0.002			9	20	92	70	130	90	70	130
Vanadium	1	µg/g	<1			0	20	92	70	130	98	70	130
Zinc	0.7	µg/g	<0.7			1	20	97	70	130	96	70	130
Metals, ICP-MS - QCBatchID: EMS0203-FEB25													
Aluminum	3	µg/g	<3			3	20	99	70	130	99	70	130
Antimony	0.8	µg/g	<0.8			2	20	103	70	130	NV	70	130
Arsenic	0.5	µg/g	<0.5			6	20	94	70	130	110	70	130
Barium	0.01	µg/g	<0.01			11	20	95	70	130	88	70	130
Beryllium	0.02	µg/g	<0.02			3	20	92	70	130	100	70	130
Bismuth	0.09	µg/g	<0.09			5	20	92	70	130	NV	70	130
Boron	1	µg/g	<1			1	20	97	70	130	NV	70	130
Cadmium	0.02	µg/g	<0.02			2	20	95	70	130	114	70	130
Calcium	3	µg/g	<3			2	20	105	70	130	100	70	130
Chromium	0.5	µg/g	<0.5			4	20	97	70	130	102	70	130

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0004042723

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quebec MA200-Met 1.2 Digest

LR Report : **CA11026-FEB25**

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Cobalt	0.01	µg/g	<0.01			5	20	92	70	130	85	70	130
Copper	0.1	µg/g	<0.1			4	20	95	70	130	81	70	130
Iron	3	µg/g	<3			2	20	106	70	130	114	70	130
Lead	0.05	µg/g	<0.05			10	20	92	70	130	90	70	130
Lithium	2	µg/g	<2			1	20	97	70	130	73	70	130
Magnesium	3	µg/g	<1			5	20	107	70	130	102	70	130
Manganese	0.1	µg/g	<0.1			5	20	97	70	130	95	70	130
Molybdenum	0.1	µg/g	<0.1			3	20	104	70	130	110	70	130
Nickel	0.1	µg/g	<0.1			12	20	97	70	130	90	70	130
Phosphorus	3	µg/g	<3			6	20	106	70	130	NV	70	130
Potassium	3	µg/g	<3			6	20	104	70	130	92	70	130
Selenium	0.1	µg/g	<0.1			ND	20	93	70	130	NV	70	130
Silver	0.5	µg/g	<0.5			ND	20	93	70	130	83	70	130
Sodium	3	µg/g	<3			9	20	102	70	130	103	70	130
Strontium	0.02	µg/g	<0.02			4	20	97	70	130	93	70	130
Thallium	0.02	µg/g	<0.02			3	20	96	70	130	111	70	130
Thorium	0.01	µg/g	<0.5			2	20	96	70	130	NV	70	130
Tin	5	µg/g	<5			ND	20	105	70	130	101	70	130
Titanium	0.1	µg/g	<0.1			18	20	104	70	130	NV	70	130
Uranium	0.002	µg/g	<0.002			4	20	94	70	130	81	70	130
Vanadium	1	µg/g	<1			ND	20	97	70	130	105	70	130
Zinc	0.7	µg/g	<0.7			4	20	98	70	130	93	70	130

OnLine LIMS

0004042723

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

Innova Lithium Inc.
Attn : John Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

03-March-2025

Date Rec. : 05 February 2025
LR Report: **CA11027-FEB25**
Reference: Shaakichiuwaanaan Project

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: VIS-CV5-PEG-277	6: VIS-CV5-PEG-278	12: VIS-CV5-SP-327	13: VIS-CV5-SP-328	14: VIS-CV5-SP-329	15: VIS-CV5-SP-330	16: VIS-CV5-SP-331	17: VIS-CV5-SP-332
Sample Date & Time					NA	NA	NA	NA	NA	NA	NA	NA
Sample weight [g]	22-Feb-25	14:50	24-Feb-25	10:17	20	20	20	20	20	20	20	20
Ext Fluid [#1 or #2]	22-Feb-25	12:46	24-Feb-25	10:17	1	1	1	1	1	1	1	1
Ext Volume [mL]	22-Feb-25	12:46	24-Feb-25	10:17	400	400	400	400	400	400	400	400
pH [No unit]	24-Feb-25	07:05	26-Feb-25	12:28	8.43	8.22	7.75	6.96	7.09	7.20	7.23	7.19
Conductivity [uS/cm]	24-Feb-25	07:05	27-Feb-25	12:42	51	33	38	24	16	19	23	22
Alkalinity [mg/L as CaCO3]	24-Feb-25	07:05	25-Feb-25	14:14	21	11	14	7	4	5	6	6
Acidity [mg/L as CaCO3]	24-Feb-25	07:05	25-Feb-25	14:14	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
F [mg/L]	24-Feb-25	08:38	26-Feb-25	09:32	0.11	0.14	0.15	0.18	0.22	0.19	0.18	0.13
Br [mg/L]	24-Feb-25	21:29	25-Feb-25	14:14	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30
Cl [mg/L]	24-Feb-25	21:29	25-Feb-25	14:14	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
SO4 [mg/L]	24-Feb-25	21:29	25-Feb-25	14:14	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
NO2 [as N mg/L]	24-Feb-25	21:29	25-Feb-25	14:14	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	24-Feb-25	21:29	25-Feb-25	14:14	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Tot.Reactive P [mg/L]	25-Feb-25	11:33	26-Feb-25	07:39	0.09	0.14	0.13	0.17	0.18	0.09	0.11	0.05
Hg [mg/L]	25-Feb-25	15:02	26-Feb-25	12:43	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	25-Feb-25	16:25	27-Feb-25	08:11	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	25-Feb-25	16:25	27-Feb-25	08:11	0.846	0.638	0.671	0.137	0.091	0.098	0.195	0.120
As [mg/L]	25-Feb-25	16:25	27-Feb-25	08:11	0.0270	0.0062	0.0524	0.0363	0.118	0.0944	0.153	0.0534
Ba [mg/L]	25-Feb-25	16:25	27-Feb-25	08:11	0.00137	0.00121	0.00109	0.00018	0.00025	0.00024	0.00030	0.00024
Be [mg/L]	25-Feb-25	16:25	27-Feb-25	08:11	0.000276	0.001045	0.00273	0.000047	0.000063	0.000028	0.000027	0.000029
B [mg/L]	25-Feb-25	16:25	27-Feb-25	08:11	0.041	0.054	0.059	0.004	0.011	0.009	0.012	0.009

OnLine LIMS

0004033536

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11027-FEB25**

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: VIS-CV5-PEG-277	6: VIS-CV5-PEG-278	12: VIS-CV5-SP-327	13: VIS-CV5-SP-328	14: VIS-CV5-SP-329	15: VIS-CV5-SP-330	16: VIS-CV5-SP-331	17: VIS-CV5-SP-332
Bi [mg/L]	25-Feb-25	16:25	27-Feb-25	08:11	0.00154	0.00002	0.00044	< 0.00001	< 0.00001	0.00052	< 0.00001	0.00001
Ca [mg/L]	25-Feb-25	16:25	27-Feb-25	08:11	2.87	0.65	2.20	2.21	0.38	0.90	1.79	1.83
Cd [mg/L]	25-Feb-25	16:25	27-Feb-25	08:11	0.000004	< 0.000003	0.000003	0.000003	0.000003	0.000006	< 0.000003	0.000003
Co [mg/L]	25-Feb-25	16:25	27-Feb-25	08:11	0.000053	0.000070	0.000040	0.000032	0.000016	0.000011	0.000021	0.000013
Cr [mg/L]	25-Feb-25	16:25	27-Feb-25	08:11	0.00017	0.00014	0.00037	< 0.00008	0.00010	< 0.00008	< 0.00008	< 0.00008
Cu [mg/L]	25-Feb-25	16:25	27-Feb-25	08:11	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	25-Feb-25	16:25	27-Feb-25	08:11	0.019	0.098	0.038	< 0.007	< 0.007	< 0.007	< 0.007	0.008
K [mg/L]	25-Feb-25	16:25	27-Feb-25	08:11	2.63	1.04	0.648	0.562	0.463	0.850	0.495	0.641
Li [mg/L]	25-Feb-25	16:25	27-Feb-25	08:11	0.0269	0.0040	0.0855	0.304	0.475	0.187	0.420	0.237
Mg [mg/L]	25-Feb-25	16:25	27-Feb-25	08:11	0.154	0.121	0.198	0.039	0.045	0.066	0.059	0.080
Mn [mg/L]	25-Feb-25	16:25	27-Feb-25	08:11	0.00501	0.00819	0.0147	0.145	0.0411	0.0198	0.0644	0.0226
Mo [mg/L]	25-Feb-25	16:25	27-Feb-25	08:11	< 0.0004	< 0.0004	0.0007	0.0012	0.0006	0.0008	0.0007	0.0007
Na [mg/L]	25-Feb-25	16:25	27-Feb-25	08:11	6.36	5.82	5.24	0.72	1.06	1.43	0.85	1.11
Ni [mg/L]	25-Feb-25	16:25	27-Feb-25	08:11	< 0.0001	< 0.0001	0.0002	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
P [mg/L]	25-Feb-25	16:25	27-Feb-25	08:11	0.088	0.133	0.128	0.176	0.156	0.085	0.113	0.048
Pb [mg/L]	25-Feb-25	16:25	27-Feb-25	08:11	0.00038	0.00015	0.00019	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	25-Feb-25	16:25	27-Feb-25	08:11	0.0029	0.0010	0.0104	0.0139	0.0749	0.0299	0.282	0.0133
Se [mg/L]	25-Feb-25	16:25	27-Feb-25	08:11	< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004
Si [mg/L]	25-Feb-25	16:25	27-Feb-25	08:11	2.98	1.86	2.27	0.85	0.96	1.02	1.02	0.89
Sn [mg/L]	25-Feb-25	16:25	27-Feb-25	08:11	0.00055	0.00194	0.00062	0.00011	0.00007	0.00008	0.00018	0.00009
Sr [mg/L]	25-Feb-25	16:25	27-Feb-25	08:11	0.00490	0.00176	0.00517	0.00375	0.00153	0.00370	0.00497	0.00615
Ti [mg/L]	25-Feb-25	16:25	27-Feb-25	08:11	0.0003	0.0023	0.0007	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001
Tl [mg/L]	25-Feb-25	16:25	27-Feb-25	08:11	0.000460	0.000218	0.000140	0.000166	0.000116	0.000118	0.000106	0.000110
U [mg/L]	25-Feb-25	16:25	27-Feb-25	08:11	0.000231	0.000530	0.00117	0.000256	0.000636	0.000127	0.000056	0.000206
V [mg/L]	25-Feb-25	16:25	27-Feb-25	08:11	0.00023	0.00055	0.00015	0.00007	0.00008	0.00012	0.00005	0.00007
Zn [mg/L]	25-Feb-25	16:25	27-Feb-25	08:07	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au [mg/L]	25-Feb-25	16:25	27-Feb-25	08:07	0.00002	0.00008	0.00003	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce [mg/L]	26-Feb-25	12:11	27-Feb-25	08:07	0.00008	0.00011	0.00007	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Cs [mg/L]	25-Feb-25	16:25	27-Feb-25	08:07	0.0167	0.0079	0.0116	0.0365	0.0661	0.0291	0.0241	0.0372
Dy [mg/L]	26-Feb-25	12:11	27-Feb-25	08:07	< 0.00001	0.00001	0.00002	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er [mg/L]	26-Feb-25	12:11	27-Feb-25	08:07	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu [mg/L]	26-Feb-25	12:11	27-Feb-25	08:07	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga [mg/L]	26-Feb-25	12:11	27-Feb-25	08:07	0.0009	0.0012	0.0011	0.0008	0.0006	0.0008	0.0010	0.0008
Gd (tot) [mg/L]	26-Feb-25	12:11	27-Feb-25	08:07	0.00001	0.00003	0.00003	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge [mg/L]	25-Feb-25	16:25	27-Feb-25	08:07	0.0001	0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001	0.0001	< 0.0001
Hf [mg/L]	25-Feb-25	16:25	27-Feb-25	08:07	< 0.0001	0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho [mg/L]	26-Feb-25	12:11	27-Feb-25	08:07	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In [mg/L]	26-Feb-25	12:11	27-Feb-25	08:07	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

OnLine LIMS

0004033536

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11027-FEB25**

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: VIS-CV5-PEG-277	6: VIS-CV5-PEG-278	12: VIS-CV5-SP-327	13: VIS-CV5-SP-328	14: VIS-CV5-SP-329	15: VIS-CV5-SP-330	16: VIS-CV5-SP-331	17: VIS-CV5-SP-332
Ir (tot) [mg/L]	26-Feb-25	15:46	27-Feb-25	08:07	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La [mg/L]	26-Feb-25	12:11	27-Feb-25	08:07	0.00004	0.00005	0.00004	< 0.00001	< 0.00001	< 0.00001	0.00001	< 0.00001
Lu [mg/L]	26-Feb-25	12:11	27-Feb-25	08:07	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb [mg/L]	25-Feb-25	16:25	27-Feb-25	08:07	0.0003	0.0011	0.0008	< 0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001
Nd [mg/L]	26-Feb-25	12:11	27-Feb-25	08:07	0.00004	0.00010	0.00003	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Os (tot) [mg/L]	25-Feb-25	16:25	27-Feb-25	08:07	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd [mg/L]	25-Feb-25	16:25	27-Feb-25	08:07	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr [mg/L]	26-Feb-25	12:11	27-Feb-25	08:07	< 0.00001	0.00002	0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt [mg/L]	25-Feb-25	16:25	27-Feb-25	08:07	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh [mg/L]	25-Feb-25	16:25	27-Feb-25	08:07	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Rb [mg/L]	25-Feb-25	16:25	27-Feb-25	08:07	0.155	0.102	0.0406	0.0956	0.0636	0.0660	0.0479	0.0428
Re [mg/L]	25-Feb-25	16:25	27-Feb-25	08:07	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ru [mg/L]	25-Feb-25	16:25	27-Feb-25	08:07	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sm [mg/L]	26-Feb-25	12:11	27-Feb-25	08:07	< 0.00001	0.00003	0.00002	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc [mg/L]	26-Feb-25	12:11	27-Feb-25	08:07	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ta [mg/L]	25-Feb-25	16:25	27-Feb-25	08:07	0.0006	0.0022	0.0012	0.0002	< 0.0001	< 0.0001	0.0002	< 0.0001
Tb [mg/L]	26-Feb-25	12:11	27-Feb-25	08:07	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te [mg/L]	25-Feb-25	16:25	27-Feb-25	08:07	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th [mg/L]	25-Feb-25	16:25	27-Feb-25	08:07	0.0002	0.0004	0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm [mg/L]	26-Feb-25	12:11	27-Feb-25	08:07	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Analysis	18: VIS-CV5-SP-333	19: VIS-CV5-SP-334	20: VIS-CV5-SP-335	21: VIS-CV5-SP-336	22: VIS-CV5-SP-337	23: VIS-CV5-SP-338	24: VIS-CV5-SP-339	25: VIS-CV5-SP-340	26: VIS-CV5-SP-341	27: VIS-CV5-SP-342	28: VIS-CV5-UM-279
Sample Date & Time	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sample weight [g]	20	21	20	19	20	20	21	20	20	20	21
Ext Fluid [#1 or #2]	1	1	1	1	1	1	1	1	1	1	1
Ext Volume [mL]	400	400	400	400	400	400	400	400	400	400	400
pH [No unit]	7.31	7.34	7.90	7.15	6.95	6.98	7.24	7.64	7.63	7.91	7.90
Conductivity [uS/cm]	20	27	47	20	16	24	18	38	30	45	51
Alkalinity [mg/L as CaCO3]	5	7	20	5	3	7	5	14	10	17	28
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
F [mg/L]	0.26	0.09	0.16	0.22	0.12	0.17	0.12	< 0.06	0.09	< 0.06	< 0.06
Br [mg/L]	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30
Cl [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
SO4 [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
NO2 [as N mg/L]	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3

OnLine LIMS

0004033536

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11027-FEB25**

Analysis	18: VIS-CV5-SP-333	19: VIS-CV5-SP-334	20: VIS-CV5-SP-335	21: VIS-CV5-SP-336	22: VIS-CV5-SP-337	23: VIS-CV5-SP-338	24: VIS-CV5-SP-339	25: VIS-CV5-SP-340	26: VIS-CV5-SP-341	27: VIS-CV5-SP-342	28: VIS-CV5-UM-279
NO3 [as N mg/L]	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Tot.Reactive P [mg/L]	0.10	0.07	0.06	0.10	0.17	0.12	0.06	0.04	0.04	0.03	< 0.03
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.119	0.254	1.21	0.090	0.098	0.132	0.094	0.556	0.476	0.632	0.026
As [mg/L]	0.139	0.0188	0.0105	0.0683	0.0859	0.0420	0.0753	0.0132	0.0076	0.0121	0.0369
Ba [mg/L]	0.00017	0.00028	0.00296	0.00034	0.00029	0.00031	0.00023	0.00034	0.00026	0.00037	0.00010
Be [mg/L]	0.000031	0.000027	0.001803	0.000011	0.000067	0.000040	0.000038	0.000071	0.000076	0.000044	< 0.000007
B [mg/L]	0.018	0.007	0.060	0.006	0.015	0.006	0.010	0.005	0.006	0.006	0.004
Bi [mg/L]	< 0.00001	< 0.00001	0.00018	0.00001	0.00002	0.00052	< 0.00001	0.00046	0.00015	0.00005	< 0.00001
Ca [mg/L]	0.80	2.28	1.62	1.58	0.95	1.86	1.49	4.52	2.43	5.91	6.31
Cd [mg/L]	< 0.000003	0.000003	< 0.000003	< 0.000003	0.000007	0.000009	< 0.000003	< 0.000003	0.000004	< 0.000003	0.000003
Co [mg/L]	0.000005	0.000014	0.000055	0.000019	0.000123	0.000013	0.000014	0.000007	0.000007	< 0.000004	0.000013
Cr [mg/L]	< 0.00008	< 0.00008	0.00010	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008	0.00096
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	< 0.007	0.007	0.122	< 0.007	0.007	< 0.007	< 0.007	< 0.007	0.008	< 0.007	< 0.007
K [mg/L]	0.599	0.724	1.70	1.35	0.371	1.77	0.406	0.705	1.33	1.09	0.037
Li [mg/L]	0.330	0.334	0.0867	0.229	0.215	0.110	0.169	0.113	0.229	0.0967	0.0005
Mg [mg/L]	0.035	0.217	0.411	0.044	0.047	0.071	0.041	0.094	0.131	0.212	3.57
Mn [mg/L]	0.0135	0.0552	0.00695	0.0528	0.0932	0.0358	0.0405	0.0315	0.0292	0.00430	0.00033
Mo [mg/L]	0.0005	0.0008	< 0.0004	< 0.0004	0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	1.59	1.08	7.23	0.60	1.19	0.63	1.09	1.31	1.31	0.84	0.10
Ni [mg/L]	< 0.0001	< 0.0001	< 0.0001	0.0004	0.0002	0.0005	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0002
P [mg/L]	0.087	0.088	0.063	0.104	0.166	0.125	0.063	0.068	0.056	0.048	0.005
Pb [mg/L]	< 0.00009	< 0.00009	0.00020	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.105	0.0055	0.0033	0.0274	0.0156	0.0082	0.0312	0.0061	0.0022	0.0023	< 0.0009
Se [mg/L]	< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004
Si [mg/L]	1.09	1.04	3.28	0.83	0.82	0.86	0.75	1.55	1.31	1.58	2.35
Sn [mg/L]	0.00010	0.00013	0.00133	0.00013	0.00012	0.00015	0.00012	0.00013	0.00014	0.00015	< 0.00006
Sr [mg/L]	0.00351	0.00890	0.00738	0.00385	0.00296	0.00215	0.00215	0.00741	0.00298	0.0150	0.00779
Ti [mg/L]	< 0.0001	< 0.0001	0.0006	0.0001	0.0001	0.0002	0.0002	< 0.0001	0.0002	< 0.0001	< 0.0001
Tl [mg/L]	0.000153	0.000070	0.000192	0.000332	0.000095	0.000403	0.000096	0.000085	0.000197	0.000078	< 0.000005
U [mg/L]	0.000209	0.000101	0.000423	0.000024	0.00169	0.000065	0.00151	0.00374	0.000059	0.000181	0.000005
V [mg/L]	0.00005	0.00008	0.00022	0.00007	0.00008	0.00011	0.00007	0.00013	0.00024	0.00006	0.00100
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au [mg/L]	< 0.00001	< 0.00001	0.00002	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ce [mg/L]	< 0.00001	< 0.00001	0.00009	0.00002	0.00002	< 0.00001	0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Cs [mg/L]	0.0698	0.0137	0.0228	0.0577	0.0551	0.0316	0.0447	0.0167	0.0238	0.0064	0.0066

OnLine LIMS

0004033536

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11027-FEB25**

Analysis	18: VIS-CV5-SP-333	19: VIS-CV5-SP-334	20: VIS-CV5-SP-335	21: VIS-CV5-SP-336	22: VIS-CV5-SP-337	23: VIS-CV5-SP-338	24: VIS-CV5-SP-339	25: VIS-CV5-SP-340	26: VIS-CV5-SP-341	27: VIS-CV5-SP-342	28: VIS-CV5-UM-279
Dy [mg/L]	< 0.00001	< 0.00001	0.00003	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga [mg/L]	0.0008	0.0011	0.0013	0.0008	0.0005	0.0009	0.0006	0.0012	0.0017	0.0016	< 0.0001
Gd (tot) [mg/L]	< 0.00001	< 0.00001	0.00004	< 0.00001	0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ge [mg/L]	0.0002	< 0.0001	< 0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	< 0.0001	< 0.0001
Hf [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir (tot) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La [mg/L]	< 0.00001	< 0.00001	0.00003	< 0.00001	0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Lu [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb [mg/L]	< 0.0001	< 0.0001	0.0006	< 0.0001	0.0001	< 0.0001	< 0.0001	0.0004	0.0001	0.0001	< 0.0001
Nd [mg/L]	< 0.00001	< 0.00001	0.00007	< 0.00001	0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Os (tot) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr [mg/L]	< 0.00001	< 0.00001	0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Rb [mg/L]	0.0817	0.0310	0.0405	0.191	0.0449	0.187	0.0520	0.0540	0.126	0.0376	0.0006
Re [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ru [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sm [mg/L]	< 0.00001	< 0.00001	0.00002	< 0.00001	0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ta [mg/L]	0.0002	0.0001	0.0010	0.0001	0.0002	0.0001	0.0002	0.0001	< 0.0001	< 0.0001	< 0.0001
Tb [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th [mg/L]	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Analysis	29: VIS-CV5-UM-280	30: VIS-CV5-UM-281	31: VIS-CV5-UM-282	32: VIS-CV5-UM-283	33: VIS-CV5-UM-284	34: VIS-CV5-UM-285	35: VIS-CV5-UM-286	36: VIS-CV5-UM-287	37: VIS-CV5-UM-288	38: VIS-CV5-UM-289	39: VIS-CV5-UM-290
Sample Date & Time	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sample weight [g]	20	21	20	20	20	20	20	20	20	21	20
Ext Fluid [#1 or #2]	1	1	1	1	1	1	1	1	1	1	1
Ext Volume [mL]	400	400	400	400	400	400	400	400	400	400	400

OnLine LIMS

0004033536

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11027-FEB25**

Analysis	29: VIS-CV5-UM-280	30: VIS-CV5-UM-281	31: VIS-CV5-UM-282	32: VIS-CV5-UM-283	33: VIS-CV5-UM-284	34: VIS-CV5-UM-285	35: VIS-CV5-UM-286	36: VIS-CV5-UM-287	37: VIS-CV5-UM-288	38: VIS-CV5-UM-289	39: VIS-CV5-UM-290
pH [No unit]	7.74	7.75	7.87	8.30	8.04	7.79	7.77	7.74	7.69	8.16	7.92
Conductivity [uS/cm]	52	56	41	50	51	50	50	63	49	50	45
Alkalinity [mg/L as CaCO3]	23	20	16	22	23	17	22	22	22	21	23
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
F [mg/L]	< 0.06	0.74	< 0.06	0.15	0.47	< 0.06	0.12	0.11	0.10	< 0.06	< 0.06
Br [mg/L]	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30
Cl [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
SO4 [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
NO2 [as N mg/L]	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Tot.Reactive P [mg/L]	0.03	0.21	0.14	0.12	0.06	0.06	0.88	0.19	0.23	0.16	0.04
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.038	0.243	0.071	0.057	0.211	0.199	0.014	0.179	0.107	0.096	0.060
As [mg/L]	0.136	0.645	0.439	0.384	0.194	0.206	2.75	0.602	0.644	0.453	0.132
Ba [mg/L]	0.00016	0.00092	0.00048	0.00128	0.00133	0.00061	0.00076	0.00050	0.00050	0.00034	0.00035
Be [mg/L]	< 0.000007	0.000011	< 0.000007	< 0.000007	< 0.000007	0.000007	< 0.000007	0.000013	0.000017	< 0.000007	< 0.000007
B [mg/L]	0.005	0.007	< 0.002	0.014	0.009	< 0.002	0.007	0.005	0.009	0.008	< 0.002
Bi [mg/L]	0.00002	0.00003	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00001	< 0.00001	< 0.00001	0.00001
Ca [mg/L]	6.45	6.36	6.03	6.97	6.71	6.81	6.01	8.66	5.14	5.46	6.60
Cd [mg/L]	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	0.000013	0.000022	0.000019	0.000010	0.000007	0.000107	0.000074	0.000024	0.000132	0.000023	0.000006
Cr [mg/L]	0.00151	0.00105	0.00122	0.00158	0.00074	0.00086	0.00193	0.00035	0.00267	0.00165	0.00050
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	< 0.007	0.023	0.007	< 0.007	< 0.007	0.032	0.039	0.008	0.074	0.011	< 0.007
K [mg/L]	0.042	3.38	0.111	0.697	1.50	0.392	0.616	0.641	3.27	2.06	0.086
Li [mg/L]	0.0005	0.127	0.0005	0.0102	0.0426	0.0199	0.0035	0.0250	0.0596	0.0380	0.0006
Mg [mg/L]	1.92	0.923	1.37	1.56	1.38	1.49	2.39	1.38	1.42	1.67	1.50
Mn [mg/L]	0.00063	0.00125	0.00213	0.00103	0.00053	0.00092	0.00149	0.00073	0.00228	0.00156	0.00189
Mo [mg/L]	< 0.0004	< 0.0004	< 0.0004	0.0011	0.0004	< 0.0004	< 0.0004	0.0006	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	0.16	0.24	0.12	0.19	0.34	0.30	0.20	0.92	0.49	0.27	0.16
Ni [mg/L]	0.0002	0.0004	0.0004	0.0003	0.0002	0.0008	0.0049	0.0007	0.0017	0.0004	0.0002
P [mg/L]	0.006	0.005	0.005	< 0.003	< 0.003	0.003	0.003	0.006	0.006	0.007	0.003
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.0205	0.0900	0.238	0.106	0.0955	0.134	0.235	0.0873	0.112	0.0788	0.0664
Se [mg/L]	< 0.00004	0.00013	< 0.00004	< 0.00004	< 0.00004	0.00028	0.00005	0.00121	< 0.00004	< 0.00004	< 0.00004
Si [mg/L]	1.99	1.65	1.54	2.02	1.83	1.82	3.15	1.90	2.46	2.42	1.94
Sn [mg/L]	< 0.00006	0.00010	< 0.00006	< 0.00006	< 0.00006	< 0.00006	0.00007	0.00007	0.00006	< 0.00006	< 0.00006

OnLine LIMS

0004033536

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11027-FEB25**

Analysis	29: VIS-CV5-UM-280	30: VIS-CV5-UM-281	31: VIS-CV5-UM-282	32: VIS-CV5-UM-283	33: VIS-CV5-UM-284	34: VIS-CV5-UM-285	35: VIS-CV5-UM-286	36: VIS-CV5-UM-287	37: VIS-CV5-UM-288	38: VIS-CV5-UM-289	39: VIS-CV5-UM-290
Sr [mg/L]	0.0132	0.00509	0.00449	0.0150	0.0121	0.0113	0.00440	0.0150	0.0247	0.0201	0.00739
Ti [mg/L]	< 0.0001	0.0007	< 0.0001	< 0.0001	< 0.0001	0.0008	0.0001	0.0002	0.0016	0.0002	< 0.0001
Tl [mg/L]	0.000006	0.00114	0.000014	0.000150	0.000213	0.000208	0.000064	0.000080	0.000796	0.000550	0.000020
U [mg/L]	0.000011	0.000013	0.000018	0.000078	0.000004	0.000021	0.000007	0.000081	0.000165	0.000007	0.000050
V [mg/L]	0.00175	0.00282	0.00277	0.00298	0.00419	0.00397	0.00333	0.00622	0.00501	0.00378	0.00208
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au [mg/L]	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Ce [mg/L]	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Cs [mg/L]	---	---	---	0.0485	---	---	---	0.0813	---	---	---
Dy [mg/L]	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Er [mg/L]	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Eu [mg/L]	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Ga [mg/L]	---	---	---	0.0003	---	---	---	0.0004	---	---	---
Gd (tot) [mg/L]	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Ge [mg/L]	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Hf [mg/L]	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Ho [mg/L]	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
In [mg/L]	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Ir (tot) [mg/L]	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
La [mg/L]	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Lu [mg/L]	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Nb [mg/L]	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Nd [mg/L]	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Os (tot) [mg/L]	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Pd [mg/L]	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Pr [mg/L]	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Pt [mg/L]	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Rh [mg/L]	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Rb [mg/L]	---	---	---	0.0840	---	---	---	0.0272	---	---	---
Re [mg/L]	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Ru [mg/L]	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Sm [mg/L]	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Sc [mg/L]	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Ta [mg/L]	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Tb [mg/L]	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Te [mg/L]	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Th [mg/L]	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Tm [mg/L]	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0004033536

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11027-FEB25**

Analysis	40: VIS-CV5-UM-291	41: VIS-CV5-UM-292	42: VIS-CV5-UM-293	43: VIS-CV5-UM-294	44: VIS-CV5-UM-295	45: VIS-CV5-UM-296	46: VIS-CV5-UM-297	47: VIS-CV5-UM-298	48: VIS-CV5-UM-299	49: VIS-CV5-UM-300	50: VIS-CV5-UM-301
Sample Date & Time	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sample weight [g]	20	20	21	20	20	20	20	19	20	20	20
Ext Fluid [#1 or #2]	1	1	1	1	1	1	1	1	1	1	1
Ext Volume [mL]	400	400	400	400	400	400	400	400	400	400	400
pH [No unit]	8.37	7.87	7.89	7.87	8.16	8.04	7.80	7.76	7.80	7.86	7.94
Conductivity [uS/cm]	71	49	45	51	46	51	50	46	52	56	51
Alkalinity [mg/L as CaCO3]	29	21	21	21	22	22	20	16	21	22	22
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
F [mg/L]	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	0.12	0.08	0.21	< 0.06	< 0.06	< 0.06
Br [mg/L]	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30
Cl [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
SO4 [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
NO2 [as N mg/L]	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Tot.Reactive P [mg/L]	0.51	0.36	< 0.03	< 0.03	< 0.03	0.04	0.29	0.38	0.04	0.07	0.05
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.037	0.039	0.050	0.250	0.457	0.370	0.028	0.215	0.306	0.243	0.379
As [mg/L]	1.52	1.05	0.0401	0.0494	0.0257	0.121	0.812	1.04	0.125	0.213	0.145
Ba [mg/L]	0.00087	0.00026	0.00026	0.00041	0.00033	0.00034	0.00051	0.00072	0.00036	0.00037	0.00043
Be [mg/L]	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	0.000018	0.000008	< 0.000007	< 0.000007
B [mg/L]	0.030	< 0.002	< 0.002	< 0.002	0.003	< 0.002	< 0.002	0.009	< 0.002	< 0.002	0.007
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00001	0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	6.93	6.86	6.10	7.10	6.63	7.44	5.76	3.98	6.97	7.44	6.41
Cd [mg/L]	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	0.000016	0.000017	0.000004	0.000007	0.000054	0.000089	0.000019	0.000072	0.000012	0.000026	0.000041
Cr [mg/L]	0.00044	0.00072	0.00050	0.00036	0.00094	0.00096	0.00299	0.00249	0.00021	0.00058	0.00068
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007	0.064	0.046	0.013	0.040	< 0.007	0.013	0.040
K [mg/L]	0.808	0.220	0.102	0.179	0.440	0.452	0.116	4.02	0.549	0.425	0.477
Li [mg/L]	0.0095	0.0007	0.0004	0.0125	0.0231	0.0198	0.0006	0.138	0.0270	0.0117	0.0170
Mg [mg/L]	1.54	1.62	1.53	1.34	1.18	1.28	2.22	1.06	0.959	1.47	1.18
Mn [mg/L]	0.00019	0.00047	0.00019	0.00125	0.00338	0.00154	0.00059	0.00083	0.00048	0.00039	0.00106
Mo [mg/L]	0.0004	< 0.0004	< 0.0004	0.0008	< 0.0004	< 0.0004	0.0005	< 0.0004	0.0012	< 0.0004	< 0.0004
Na [mg/L]	4.57	0.12	0.14	0.26	0.54	0.51	0.23	0.28	0.58	0.38	0.47
Ni [mg/L]	0.0010	0.0009	< 0.0001	0.0001	0.0003	0.0004	0.0006	0.0009	0.0002	0.0003	0.0004
P [mg/L]	0.004	0.003	< 0.003	< 0.003	0.004	0.003	0.003	0.006	< 0.003	0.003	0.004
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009

OnLine LIMS

0004033536

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11027-FEB25**

Analysis	40: VIS-CV5-UM-291	41: VIS-CV5-UM-292	42: VIS-CV5-UM-293	43: VIS-CV5-UM-294	44: VIS-CV5-UM-295	45: VIS-CV5-UM-296	46: VIS-CV5-UM-297	47: VIS-CV5-UM-298	48: VIS-CV5-UM-299	49: VIS-CV5-UM-300	50: VIS-CV5-UM-301
Sb [mg/L]	0.166	0.0636	0.0070	0.0084	0.0051	0.0083	0.0458	0.0207	0.0234	0.0295	0.0446
Se [mg/L]	< 0.00004	< 0.00004	< 0.00004	0.00024	0.00006	0.00010	0.00008	0.00009	0.00012	0.00019	0.00012
Si [mg/L]	2.31	2.18	2.18	1.76	2.43	2.79	4.18	2.65	1.92	2.74	2.50
Sn [mg/L]	0.00008	0.00008	< 0.00006	< 0.00006	< 0.00006	< 0.00006	0.00008	0.00016	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.0133	0.00913	0.00939	0.0114	0.0115	0.0150	0.0121	0.00879	0.0163	0.00924	0.00855
Ti [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0017	0.0006	0.0001	0.0011	0.0002	0.0002	0.0010
Tl [mg/L]	0.000014	0.000028	0.000036	0.000099	0.000025	0.000017	0.000007	0.000532	0.000078	0.000068	0.000031
U [mg/L]	0.000017	0.000021	< 0.000002	0.000007	0.000231	0.000021	0.000005	0.000015	0.000002	0.000012	0.000008
V [mg/L]	0.00247	0.00289	0.00163	0.00379	0.00406	0.00591	0.00472	0.00586	0.00462	0.00462	0.00439
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---
Ce [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---
Cs [mg/L]	0.0296	---	---	---	0.0031	---	---	---	0.0246	---	---
Dy [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---
Er [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---
Eu [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---
Ga [mg/L]	< 0.0001	---	---	---	0.0003	---	---	---	0.0016	---	---
Gd (tot) [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---
Ge [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---
Hf [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---
Ho [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---
In [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---
Ir (tot) [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---
La [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---
Lu [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---
Nb [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---
Nd [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---
Os (tot) [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---
Pd [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---
Pr [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---
Pt [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---
Rh [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---
Rb [mg/L]	0.0253	---	---	---	0.0102	---	---	---	0.0101	---	---
Re [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---
Ru [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---
Sm [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---
Sc [mg/L]	< 0.0001	---	---	---	0.0001	---	---	---	< 0.0001	---	---
Ta [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0004033536

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11027-FEB25**

Analysis	40: VIS-CV5-UM-291	41: VIS-CV5-UM-292	42: VIS-CV5-UM-293	43: VIS-CV5-UM-294	44: VIS-CV5-UM-295	45: VIS-CV5-UM-296	46: VIS-CV5-UM-297	47: VIS-CV5-UM-298	48: VIS-CV5-UM-299	49: VIS-CV5-UM-300	50: VIS-CV5-UM-301
Tb [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---
Te [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---
Th [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---
Tm [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---

Analysis	51: VIS-CV5-UM-302	52: VIS-CV5-UM-303	53: VIS-CV5-SP-335	54: VIS-CV5-UM-291	55: VIS-CV5-UM-303	56:BLK: $SPLP1312 Blank #1
Sample Date & Time	NA	NA				
Sample weight [g]	20	20	20	20	20	< 0.001
Ext Fluid [#1 or #2]	1	1	1	1	1	1
Ext Volume [mL]	400	400	400	400	400	400
pH [No unit]	7.86	7.93	7.89	8.61	8.91	4.67
Conductivity [uS/cm]	51	63	51	72	59	16
Alkalinity [mg/L as CaCO3]	20	27	21	29	29	< 2
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	3
F [mg/L]	< 0.06	0.12	0.16	< 0.06	0.12	< 0.06
Br [mg/L]	< 30	< 30	< 30	< 30	< 30	< 30
Cl [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20
SO4 [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20
NO2 [as N mg/L]	< 3	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	< 6	< 6	< 6	< 6	< 6	< 6
Tot.Reactive P [mg/L]	< 0.03	< 0.03	0.06	0.51	< 0.03	< 0.03
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.347	0.493	0.976	0.036	0.480	0.001
As [mg/L]	0.0832	0.0475	0.0125	1.57	0.0482	0.0008
Ba [mg/L]	0.00155	0.00078	0.00263	0.00079	0.00072	0.00027
Be [mg/L]	< 0.000007	0.000053	0.00134	< 0.000007	0.000056	< 0.000007
B [mg/L]	0.008	0.030	0.063	0.029	0.030	< 0.002
Bi [mg/L]	< 0.00001	< 0.00001	0.00018	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	6.82	5.80	1.63	7.15	5.78	0.06
Cd [mg/L]	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	0.000017	0.000113	0.000059	0.000017	0.000116	0.000021
Cr [mg/L]	0.00036	0.00111	0.00013	0.00048	0.00116	< 0.00008
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	0.014	0.180	0.101	< 0.007	0.181	< 0.007

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0004033536

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11027-FEB25**

Analysis	51: VIS-CV5-UM-302	52: VIS-CV5-UM-303	53: VIS-CV5-SP-335	54: VIS-CV5-UM-291	55: VIS-CV5-UM-303	56:BLK: $SPLP1312 Blank #1
K [mg/L]	1.28	0.580	1.59	0.541	0.612	0.055
Li [mg/L]	0.0327	0.0393	0.0882	0.0092	0.0371	< 0.0001
Mg [mg/L]	0.826	0.612	0.375	1.58	0.624	0.005
Mn [mg/L]	0.00046	0.00358	0.00615	0.00018	0.00341	0.00050
Mo [mg/L]	< 0.0004	< 0.0004	< 0.0004	< 0.0004	0.0005	< 0.0004
Na [mg/L]	0.37	5.87	7.26	4.65	5.91	0.02
Ni [mg/L]	0.0002	0.0009	0.0001	0.0011	0.0009	0.0002
P [mg/L]	< 0.003	0.013	0.062	0.003	0.012	< 0.003
Pb [mg/L]	< 0.00009	0.00014	0.00019	< 0.00009	0.00015	< 0.00009
Sb [mg/L]	0.0017	0.0433	0.0029	0.163	0.0434	< 0.0009
Se [mg/L]	0.00012	0.00013	< 0.00004	0.00005	0.00014	< 0.00004
Si [mg/L]	2.38	2.30	2.90	2.32	2.15	< 0.02
Sn [mg/L]	< 0.00006	0.00027	0.00106	0.00008	0.00058	< 0.00006
Sr [mg/L]	0.00446	0.0117	0.00751	0.0132	0.0117	0.00048
Ti [mg/L]	0.0004	0.0083	0.0005	< 0.0001	0.0075	< 0.0001
Tl [mg/L]	0.000017	0.000027	0.000158	0.000014	0.000026	< 0.000005
U [mg/L]	0.000002	0.000084	0.000368	0.000016	0.000080	< 0.000002
V [mg/L]	0.00247	0.00532	0.00024	0.00252	0.00539	0.00001
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au [mg/L]	---	< 0.00001	0.00002	< 0.00001	< 0.00001	< 0.00001
Ce [mg/L]	---	0.00012	0.00009	< 0.00001	0.00011	< 0.00001
Cs [mg/L]	---	0.0035	0.0198	0.0282	0.0036	< 0.0001
Dy [mg/L]	---	0.00001	0.00003	< 0.00001	0.00001	< 0.00001
Er [mg/L]	---	< 0.00001	0.00001	< 0.00001	< 0.00001	< 0.00001
Eu [mg/L]	---	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga [mg/L]	---	0.0012	0.0013	< 0.0001	0.0012	< 0.0001
Gd (tot) [mg/L]	---	0.00002	0.00003	< 0.00001	0.00002	< 0.00001
Ge [mg/L]	---	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf [mg/L]	---	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho [mg/L]	---	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In [mg/L]	---	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir (tot) [mg/L]	---	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La [mg/L]	---	0.00006	0.00003	< 0.00001	0.00005	< 0.00001
Lu [mg/L]	---	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb [mg/L]	---	0.0002	0.0005	< 0.0001	0.0002	< 0.0001
Nd [mg/L]	---	0.00007	0.00007	< 0.00001	0.00008	< 0.00001
Os (tot) [mg/L]	---	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd [mg/L]	---	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	51: VIS-CV5-UM-302	52: VIS-CV5-UM-303	53: VIS-CV5-SP-335	54: VIS-CV5-UM-291	55: VIS-CV5-UM-303	56:BLK: $SPLP1312 Blank #1
Pr [mg/L]	---	0.00002	0.00001	< 0.00001	0.00002	< 0.00001
Pt [mg/L]	---	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh [mg/L]	---	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Rb [mg/L]	---	0.0252	0.0338	0.0254	0.0250	< 0.0001
Re [mg/L]	---	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ru [mg/L]	---	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sm [mg/L]	---	0.00002	0.00003	< 0.00001	0.00001	< 0.00001
Sc [mg/L]	---	0.0001	< 0.0001	0.0001	0.0001	< 0.0001
Ta [mg/L]	---	0.0002	0.0005	< 0.0001	0.0002	< 0.0001
Tb [mg/L]	---	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te [mg/L]	---	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th [mg/L]	---	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001
Tm [mg/L]	---	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Method Descriptions

Parameter	SGS Method Code	CALA	PALA
	NA	N	N
Acidity	ME-CA-[ENV]EWL-LAK-AN-006	Y	N
Alkalinity	ME-CA-[ENV]EWL-LAK-AN-006	Y	N
Anions by IC	ME-CA-[ENV]IC-LAK-AN-001	Y	N
Anions by IC	ME-CA-[ENV]IC-LAK-AN-001	Y	Y
Conductivity	ME-CA-[ENV]EWL-LAK-AN-006	Y	Y
Fluoride by Specific Ion Electrode	ME-CA-[ENV]EWL-LAK-AN-014	Y	Y
Inorganics-General	ME-CA-[ENV]SPE-LAK-AN-004	Y	Y
Metals in aqueous samples - ICP-MS	ME-CA-[ENV]SPE-LAK-AN-006	Y	N
Metals in aqueous samples - ICP-MS	ME-CA-[ENV]SPE-LAK-AN-006	Y	Y
pH	ME-CA-[ENV]EWL-LAK-AN-006	Y	Y
Reactive Phosphorus by SFA	ME-CA-[ENV]SFA-LAK-AN-004	Y	N

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

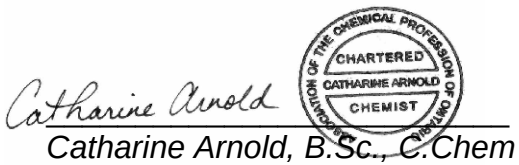
Accreditation Descriptions

CALA:

SGS Canada Industries & Environment conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation found at https://directory.cala.ca/#. Analytes and SGS Method Codes marked with a “Y” in the “CALA” column in the table denote ISO/IEC17025 accreditation

PALA:

SGS Canada Industries & Environment conforms to the requirements of ISO/IEC 17025:2005 for specific tests as listed on their scope of accreditation found at https://www.ceaeq.gouv.qc.ca/documents/publications/listes.htm#labo_accr. Analytes and SGS Method Codes marked with a “Y” in the “PALA” column in the table denote ISO/IEC17025:2005 accreditation



Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0004033536

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quality Control Report

Inorganic Analysis													
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Acidity - QCBatchID: EWL0329-FEB25													
Acidity	2	mg/L as Ca	< 2			ND	20	92	90	110	NA		
Acidity - QCBatchID: EWL0330-FEB25													
Acidity	2	mg/L as Ca	2			ND	20	102	90	110	NA		
Alkalinity - QCBatchID: EWL0329-FEB25													
Alkalinity	2	mg/L as Ca	< 2			10	20	106	80	120	NA		
Alkalinity - QCBatchID: EWL0330-FEB25													
Alkalinity	2	mg/L as Ca	< 2			0	20	117	80	120	NA		
Anions by IC - QCBatchID: DIO0428-FEB25													
Bromide	0.3	mg/L	<0.3			ND	20	103	90	110	NV	75	125
Chloride	0.2	mg/L	<0.2			ND	20	99	90	110	NV	75	125
Nitrate (as N)	0.06	mg/L	<0.06			11	20	102	90	110	NV	75	125
Nitrite (as N)	0.03	mg/L	<0.03			6	20	101	90	110	101	75	125
Sulphate	0.2	mg/L	<0.2			ND	20	100	90	110	NV	75	125
Anions by IC - QCBatchID: DIO0429-FEB25													
Bromide	0.3	mg/L	<0.3			ND	20	98	90	110	NV	75	125
Chloride	0.2	mg/L	<0.2			16	20	99	90	110	NV	75	125
Nitrate (as N)	0.06	mg/L	<0.06			8	20	101	90	110	NV	75	125
Nitrite (as N)	0.03	mg/L	<0.03			ND	20	101	90	110	101	75	125
Sulphate	0.2	mg/L	<0.2			12	20	101	90	110	NV	75	125
Anions by IC - QCBatchID: DIO0430-FEB25													
Bromide	0.3	mg/L	<0.3			ND	20	101	90	110	NV	75	125
Chloride	0.2	mg/L	<0.2			4	20	99	90	110	NV	75	125
Nitrate (as N)	0.06	mg/L	<0.06			ND	20	101	90	110	NV	75	125
Nitrite (as N)	0.03	mg/L	<0.03			ND	20	101	90	110	101	75	125
Sulphate	0.2	mg/L	<0.2			8	20	100	90	110	NV	75	125
Conductivity - QCBatchID: EWL0329-FEB25													
Conductivity	2	uS/cm	2			0	20	101	90	110	NA		
Conductivity - QCBatchID: EWL0330-FEB25													
Conductivity	2	uS/cm	< 2			2	20	99	90	110	NA		
Fluoride by Specific Ion Electrode - QCBatchID: EWL0336-FEB25													
Fluoride	0.06	mg/L	<0.06			0	10	102	90	110	100	75	125
Fluoride by Specific Ion Electrode - QCBatchID: EWL0359-FEB25													
Fluoride	0.06	mg/L	<0.06			ND	10	102	90	110	96	75	125
Inorganics-General - QCBatchID: EHG0034-FEB25													
Mercury	0.00001	mg/L	< 0.00001			ND	20	106	80	120	104	70	130

OnLine LIMS

0004033536

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0)
20:1 L/S ratio, 18hr

LR Report : **CA11027-FEB25**

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material			
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)		
							%		Low	High		Low	High	
Metals in aqueous samples - ICP-MS - QCBatchID: EMS0181-FEB25														
Aluminum	0.001	mg/L	<0.001			1	20	101	90	110	95	70	130	
Antimony	0.0009	mg/L	<0.0009			2	20	100	90	110	127	70	130	
Arsenic	0.0002	mg/L	<0.0002			1	20	98	90	110	110	70	130	
Barium	0.00008	mg/L	<0.00008			1	20	103	90	110	100	70	130	
Beryllium	0.000007	mg/L	<0.000007			ND	20	102	90	110	97	70	130	
Bismuth	0.00001	mg/L	<0.00001			ND	20	103	90	110	111	70	130	
Boron	0.002	mg/L	<0.002			1	20	101	90	110	96	70	130	
Cadmium	0.000003	mg/L	<0.000003			ND	20	101	90	110	107	70	130	
Calcium	0.01	mg/L	<0.01			0	20	104	90	110	97	70	130	
Chromium	0.00008	mg/L	<0.00008			ND	20	107	90	110	91	70	130	
Cobalt	0.000004	mg/L	<0.000004			1	20	99	90	110	79	70	130	
Copper	0.001	mg/L	<0.001			ND	20	103	90	110	111	70	130	
Germanium	0.0001	mg/L	<0.0001			ND	20	102	90	110	NV	70	130	
Gold	0.00001	mg/L	<0.00001			ND	20	100	90	110	NV	70	130	
Hafnium	0.0001	mg/L	<0.0001			ND	20	95	90	110	NV	70	130	
Iridium (total)	0.00001	mg/L	<0.00001			ND	20	106	90	110	NV	70	130	
Iron	0.007	mg/L	<0.007			ND	20	108	90	110	100	70	130	
Lead	0.00009	mg/L	<0.00009			ND	20	106	90	110	104	70	130	
Lithium	0.0001	mg/L	<0.0001			3	20	102	90	110	112	70	130	
Magnesium	0.001	mg/L	<0.001			0	20	108	90	110	100	70	130	
Manganese	0.00001	mg/L	<0.00001			1	20	101	90	110	115	70	130	
Molybdenum	0.0004	mg/L	<0.0004			2	20	103	90	110	100	70	130	
Nickel	0.0001	mg/L	<0.0001			2	20	104	90	110	92	70	130	
Niobium	0.0001	mg/L	<0.0001			ND	20	105	90	110	NV	70	130	
Osmium (total)	0.0001	mg/L	<0.0001			ND	20	94	90	110	NV	70	130	
Palladium	0.0001	mg/L	<0.0001			ND	20	102	90	110	NV	70	130	
Phosphorus	0.003	mg/L	<0.003			ND	20	100	90	110	NV	70	130	
Platinum	0.0001	mg/L	<0.0001			ND	20	103	90	110	NV	70	130	
Potassium	0.009	mg/L	<0.009			3	20	104	90	110	93	70	130	
Rhenium	0.0001	mg/L	<0.0001			ND	20	103	90	110	NV	70	130	
Rhodium	0.00001	mg/L	<0.0001			ND	20	100	90	110	NV	70	130	
Ruthenium	0.00001	mg/L	<0.0001			ND	20	104	90	110	NV	70	130	
Selenium	0.00004	mg/L	<0.00004			12	20	102	90	110	97	70	130	
Silicon	0.02	mg/L	<0.02			2	20	96	90	110	NV	70	130	
Silver	0.00005	mg/L	<0.00005			ND	20	98	90	110	70	70	130	
Sodium	0.01	mg/L	<0.01			1	20	106	90	110	104	70	130	
Strontium	0.00008	mg/L	<0.00008			0	20	101	90	110	88	70	130	
Tantalum	0.0001	mg/L	<0.0001			ND	20	104	90	110	NV	70	130	

OnLine LIMS

0004033536

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0)
20:1 L/S ratio, 18hr

LR Report : **CA11027-FEB25**

Inorganic Analysis													
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Tellurium	0.0001	mg/L	<0.0001			ND	20	101	90	110	NV	70	130
Thallium	0.000005	mg/L	<0.000005			0	20	104	90	110	104	70	130
Tin	0.00006	mg/L	<0.00006			9	20	102	90	110	NV	70	130
Titanium	0.0001	mg/L	<0.0001			ND	20	99	90	110	NV	70	130
Vanadium	0.00001	mg/L	<0.00001			4	20	100	90	110	106	70	130
Zinc	0.002	mg/L	<0.002			ND	20	102	90	110	118	70	130
Metals in aqueous samples - ICP-MS - QCBatchID: EMS0195-FEB25													
Aluminum	0.001	mg/L	<0.001			1	20	100	90	110	83	70	130
Antimony	0.0009	mg/L	<0.0009			2	20	100	90	110	127	70	130
Arsenic	0.0002	mg/L	<0.0002			0	20	97	90	110	109	70	130
Barium	0.00008	mg/L	<0.00008			1	20	103	90	110	104	70	130
Beryllium	0.000007	mg/L	<0.000007			ND	20	102	90	110	98	70	130
Bismuth	0.00001	mg/L	<0.00001			ND	20	103	90	110	118	70	130
Boron	0.002	mg/L	<0.002			4	20	101	90	110	96	70	130
Cadmium	0.000003	mg/L	<0.000003			ND	20	101	90	110	114	70	130
Calcium	0.01	mg/L	<0.01			1	20	104	90	110	85	70	130
Cesium	0.0001	mg/L	<0.0001			ND	20	98	90	110	NV	70	130
Chromium	0.00008	mg/L	<0.00008			8	20	107	90	110	112	70	130
Cobalt	0.000004	mg/L	<0.000004			0	20	99	90	110	108	70	130
Copper	0.001	mg/L	<0.001			ND	20	103	90	110	112	70	130
Germanium	0.0001	mg/L	<0.0001			ND	20	102	90	110	NV	70	130
Gold	0.00001	mg/L	<0.00001			ND	20	100	90	110	NV	70	130
Hafnium	0.0001	mg/L	<0.0001			ND	20	95	90	110	NV	70	130
Iridium (total)	0.00001	mg/L	<0.00001			ND	20	106	90	110	NV	70	130
Iron	0.007	mg/L	<0.007			0	20	108	90	110	125	70	130
Lead	0.00009	mg/L	<0.00009			ND	20	102	90	110	103	70	130
Lithium	0.0001	mg/L	<0.0001			2	20	102	90	110	112	70	130
Magnesium	0.001	mg/L	<0.001			1	20	108	90	110	100	70	130
Manganese	0.00001	mg/L	<0.00001			5	20	101	90	110	108	70	130
Molybdenum	0.0004	mg/L	<0.0004			ND	20	103	90	110	101	70	130
Nickel	0.0001	mg/L	<0.0001			5	20	104	90	110	102	70	130
Niobium	0.0001	mg/L	<0.0001			ND	20	103	90	110	NV	70	130
Palladium	0.0001	mg/L	<0.0001			ND	20	102	90	110	NV	70	130
Phosphorus	0.003	mg/L	<0.003			ND	20	100	90	110	NV	70	130
Platinum	0.0001	mg/L	<0.0001			ND	20	103	90	110	NV	70	130
Potassium	0.009	mg/L	<0.009			1	20	101	90	110	112	70	130
Rhenium	0.0001	mg/L	<0.0001			ND	20	103	90	110	NV	70	130
Rhodium	0.00001	mg/L	<0.0001			ND	20	100	90	110	NV	70	130
Rubidium	0.0001	mg/L	< 0.0001			7	20	95	90	110	NV	70	130

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0004033536

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0)
20:1 L/S ratio, 18hr

LR Report : **CA11027-FEB25**

Inorganic Analysis													
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Ruthenium	0.00001	mg/L	<0.0001			ND	20	104	90	110	NV	70	130
Selenium	0.00004	mg/L	<0.00004			ND	20	102	90	110	107	70	130
Silicon	0.02	mg/L	<0.02			1	20	96	90	110	NV	70	130
Silver	0.00005	mg/L	<0.00005			ND	20	98	90	110	79	70	130
Sodium	0.01	mg/L	<0.01			2	20	106	90	110	115	70	130
Strontium	0.00008	mg/L	<0.00008			1	20	101	90	110	92	70	130
Tantalum	0.0001	mg/L	<0.0001			ND	20	104	90	110	NV	70	130
Tellurium	0.0001	mg/L	<0.0001			ND	20	101	90	110	NV	70	130
Thallium	0.000005	mg/L	<0.000005			ND	20	103	90	110	104	70	130
Thorium	0.0001	mg/L	<0.0001			ND	20	97	90	110	NV	70	130
Tin	0.00006	mg/L	<0.00006			11	20	102	90	110	NV	70	130
Titanium	0.0001	mg/L	<0.0001			11	20	99	90	110	NV	70	130
Uranium	0.000002	mg/L	<0.000002			0	20	100	90	110	108	70	130
Vanadium	0.00001	mg/L	<0.00001			2	20	100	90	110	92	70	130
Zinc	0.002	mg/L	<0.002			ND	20	102	90	110	116	70	130
Metals in aqueous samples - ICP-MS - QCBatchID: EMS0220-FEB25													
Cerium	0.00001	mg/L	<0.00001			5	20	95	90	110	NV	70	130
Cesium	0.0001	mg/L	<0.0001			ND	20	99	90	110	NV	70	130
Dysprosium	0.00001	mg/L	<0.00001			0	20	95	90	110	NV	70	130
Erbium	0.00001	mg/L	<0.00001			ND	20	93	90	110	NV	70	130
Europium	0.00001	mg/L	<0.00001			ND	20	94	90	110	NV	70	130
Gadolinium	0.00001	mg/L	<0.0001			ND	20	95	90	110	NV	70	130
Gallium	0.0001	mg/L	<0.0001			2	20	104	90	110	NV	70	130
Holmium	0.00001	mg/L	<0.00001			ND	20	95	90	110	NV	70	130
Indium	0.00001	mg/L	<0.00001			ND	20	101	90	110	NV	70	130
Lanthanum	0.00001	mg/L	<0.00001			4	20	94	90	110	NV	70	130
Lutetium	0.0001	mg/L	<0.0001			ND	20	94	90	110	NV	70	130
Neodymium	0.00001	mg/L	<0.00001			6	20	95	90	110	NV	70	130
Praseodymium	0.00001	mg/L	<0.00001			6	20	97	90	110	NV	70	130
Rubidium	0.0001	mg/L	<0.0001			0	20	104	90	110	NV	70	130
Samarium	0.00001	mg/L	<0.00001			6	20	92	90	110	NV	70	130
Scandium	0.0001	mg/L	<0.0001			3	20	98	90	110	NV	70	130
Terbium	0.00001	mg/L	<0.00001			ND	20	95	90	110	NV	70	130
Thorium	0.0001	mg/L	<0.0001			ND	20	91	90	110	NV	70	130
Thulium	0.00001	mg/L	<0.00001			ND	20	93	90	110	NV	70	130
Uranium	0.000002	mg/L	<0.000002			1	20	94	90	110	NV	70	130
Metals in aqueous samples - ICP-MS - QCBatchID: EMS0225-FEB25													
Arsenic	0.0002	mg/L	<0.0002			ND	20	97	90	110	104	70	130
Iridium (total)	0.00001	mg/L	<0.00001			ND	20	105	90	110	NV	70	130

OnLine LIMS

0004033536

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0)
20:1 L/S ratio, 18hr

LR Report : **CA11027-FEB25**

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material			
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)		
							%		Low	High		Low	High	
pH - QCBatchID: EWL0329-FEB25														
pH	0.05	No unit	NA			0		100			NA			
pH - QCBatchID: EWL0330-FEB25														
pH	0.05	No unit	NA			1		100			NA			
Reactive Phosphorus by SFA - QCBatchID: SKA0175-FEB25														
Total Reactive Phosphorous (o-phosphate as P)	0.03	mg/L	<0.03			2	10	99	90	110	98	75	125	

OnLine LIMS

0004033536

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

26-February-2025

Innova Lithium Inc.
Attn : John Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 05 February 2025
LR Report: **CA11029-FEB25**
Reference: Shaakichiuwaanaan Project

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: VIS-CV5-UM-304	6: VIS-CV5-UM-305	7: VIS-CV5-UM-306	8: VIS-CV5-UM-307	9: VIS-CV5-UM-308	10: VIS-CV5-UM-309
Paste pH [no unit]	21-Feb-25	12:31	21-Feb-25	16:35	9.70	9.95	9.72	9.75	9.72	9.74
Fizz Rate [rating]	20-Feb-25	08:16	21-Feb-25	16:35	3	3	3	3	3	3
Sample weight [g]	20-Feb-25	07:22	21-Feb-25	16:35	1.99	1.98	2.00	2.02	2.01	2.01
HCl Added [mL]	21-Feb-25	06:33	21-Feb-25	16:35	20.00	25.80	20.00	20.00	20.00	29.90
HCl [Normality]	20-Feb-25	08:38	21-Feb-25	16:35	0.10	0.10	0.10	0.10	0.10	0.10
NaOH [Normality]	20-Feb-25	08:38	21-Feb-25	16:35	0.10	0.10	0.10	0.10	0.10	0.10
NaOH to pH=8.3 [mL]	21-Feb-25	12:44	21-Feb-25	16:35	12.84	12.88	14.58	15.55	14.00	13.11
Final pH [no unit]	21-Feb-25	08:41	21-Feb-25	16:35	1.50	1.52	1.37	1.45	1.30	1.58
NP [t CaCO3/1000 t]	21-Feb-25	12:44	21-Feb-25	16:35	18.0	32.6	13.5	11.0	14.9	41.8
AP [t CaCO3/1000 t]	21-Feb-25	16:00	21-Feb-25	16:00	1.66	1.47	2.94	8.91	2.75	1.00
Net NP [t CaCO3/1000 t]	21-Feb-25	16:00	21-Feb-25	16:00	16.3	31.1	10.6	2.09	12.2	40.8
NP/AP [ratio]	21-Feb-25	16:00	21-Feb-25	16:00	10.9	22.2	4.60	1.24	5.42	41.8
Sulphur (total) [%]	21-Feb-25	12:42	21-Feb-25	16:00	0.069	0.062	0.127	0.389	0.119	0.041
Acid Leachable SO4-S [%]	21-Feb-25	16:00	21-Feb-25	16:00	< 0.04	< 0.04	< 0.04	0.10	< 0.04	< 0.04
Sulphide [%]	21-Feb-25	15:50	21-Feb-25	16:00	0.05	0.05	0.09	0.28	0.09	0.03
Carbon (total) [%]	21-Feb-25	12:42	21-Feb-25	16:00	0.171	0.339	0.105	0.049	0.092	0.437
Carbonate (HCl) as %CO3 [%]	21-Feb-25	18:21	24-Feb-25	10:02	0.77	1.65	0.45	0.19	0.35	2.19

OnLine LIMS

0004028472

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

ABA - Modified Sobek

LR Report : **CA11029-FEB25**

Analysis	11: VIS-CV5-UM-310	12: VIS-CV5-UM-311	13: VIS-CV5-UM-312	14: VIS-CV5-UM-313	15: VIS-CV5-UM-314	16: VIS-CV5-UM-315	17: VIS-CV5-UM-316	18: VIS-CV5-UM-317	19: VIS-CV5-UM-318
Paste pH [no unit]	10.05	9.69	9.75	9.62	10.07	9.80	9.59	9.72	9.77
Fizz Rate [rating]	3	3	3	3	3	3	3	3	3
Sample weight [g]	2.00	1.99	1.99	2.03	2.03	2.01	2.03	2.01	1.99
HCl Added [mL]	28.90	29.80	20.00	29.50	20.00	20.00	82.10	20.00	20.00
HCl [Normality]	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
NaOH [Normality]	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
NaOH to pH=8.3 [mL]	15.09	10.55	15.03	9.69	10.68	12.83	25.94	12.74	12.70
Final pH [no unit]	1.53	1.51	1.25	1.56	1.50	1.60	1.55	1.56	1.55
NP [t CaCO3/1000 t]	34.5	48.4	12.5	48.8	22.9	17.8	138	18.1	18.3
AP [t CaCO3/1000 t]	0.78	1.91	0.31	2.34	1.56	2.38	3.66	2.06	0.81
Net NP [t CaCO3/1000 t]	33.7	46.5	12.2	46.5	21.3	15.4	135	16.0	17.5
NP/AP [ratio]	44.2	25.4	40.3	20.8	14.7	7.49	37.8	8.78	22.5
Sulphur (total) [%]	0.032	0.093	0.019	0.115	0.057	0.083	0.263	0.086	0.041
Acid Leachable SO4-S [%]	< 0.04	< 0.04	<0.04	0.04	< 0.04	< 0.04	0.15	< 0.04	< 0.04
Sulphide [%]	0.02	0.06	< 0.01	0.08	0.05	0.08	0.12	0.07	0.03
Carbon (total) [%]	0.344	0.550	0.045	0.625	0.213	0.114	2.84	0.151	0.139
Carbonate (HCl) as %CO3 [%]	1.73	2.68	0.18	3.12	1.05	0.48	13.7	0.74	0.60

Analysis	20: VIS-CV5-UM-319	21: VIS-CV5-UM-320	22: VIS-CV5-UM-321	23: VIS-CV5-UM-322	24: VIS-CV5-UM-323	25: VIS-CV5-UM-324	26: VIS-CV5-UM-325	27: VIS-CV5-UM-326	28: VIS-CV5-SP-343
Paste pH [no unit]	9.51	10.11	10.13	9.54	9.83	9.90	9.65	8.68	9.81
Fizz Rate [rating]	3	3	3	3	3	3	3	3	3
Sample weight [g]	2.02	2.03	1.99	2.02	2.00	1.99	2.02	2.01	2.03
HCl Added [mL]	58.90	20.00	20.00	28.20	29.80	20.00	20.00	20.00	20.00
HCl [Normality]	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
NaOH [Normality]	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
NaOH to pH=8.3 [mL]	16.32	12.49	8.63	17.18	12.50	9.44	12.73	15.82	15.53
Final pH [no unit]	1.55	1.42	1.69	1.50	1.59	1.81	1.50	1.72	1.66
NP [t CaCO3/1000 t]	105	18.5	28.6	27.3	43.2	26.5	18.0	10.4	11.0
AP [t CaCO3/1000 t]	2.97	0.38	0.31	1.91	1.12	0.78	0.31	8.50	0.34
Net NP [t CaCO3/1000 t]	102	18.1	28.3	25.4	42.1	25.7	17.7	1.90	10.7

OnLine LIMS

0004028472

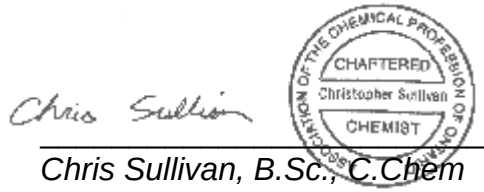
Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	20: VIS-CV5-UM-319	21: VIS-CV5-UM-320	22: VIS-CV5-UM-321	23: VIS-CV5-UM-322	24: VIS-CV5-UM-323	25: VIS-CV5-UM-324	26: VIS-CV5-UM-325	27: VIS-CV5-UM-326	28: VIS-CV5-SP-343
NP/AP [ratio]	35.5	49.3	92.3	14.3	38.4	33.9	58.1	1.22	32.0
Sulphur (total) [%]	0.188	0.017	0.017	0.080	0.043	0.039	< 0.005	0.381	< 0.005
Acid Leachable SO4-S [%]	0.09	< 0.04	<0.04	< 0.04	< 0.04	< 0.04	<0.04	0.11	<0.04
Sulphide [%]	0.10	0.01	< 0.01	0.06	0.04	0.02	< 0.01	0.27	0.01
Carbon (total) [%]	2.36	0.143	0.320	0.266	0.442	0.259	0.102	0.066	0.089
Carbonate (HCl) as %CO3 [%]	11.4	0.65	1.62	1.32	2.23	1.21	0.45	0.25	0.39

Method Descriptions

Parameter	SGS Method Code	Reference Method Code
Acid Potential	ME-CA-[ENV]ARD-LAK-AN-001/003	MEND PROJECT 1.16.1B
Carbon/Sulphur	ME-CA-[ENV]ARD-LAK-AN-019	ASTM E1915-07A
Carbon/Sulphur	ME-CA-[ENV]ARD-LAK-AN-020	ASTM E1915-07A
Neutralization Potential	ME-CA-[ENV]ARD-LAK-AN-001/003	MEND PROJECT 1.16.1B
Paste pH	ME-CA-[ENV]ARD-LAK-AN-005	ARD Predicition Manual 2009



Chris Sullivan, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0004028472

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quality Control Report

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material			
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)		
							%		Low	High		Low	High	
Carbon/Sulphur - QCBatchID: ECS0072-FEB25														
Carbon (total)	0.005	%	<0.005			2	20				100	70	130	
Sulphur (total)	0.005	%	<0.005			4	20				106	70	130	
Carbon/Sulphur - QCBatchID: ECS0073-FEB25														
Sulphide	0.01	%	< 0.01			2	20	106	80	120				
Carbon/Sulphur - QCBatchID: ECS0074-FEB25														
Carbonate (HCl) as %CO3	0.04	%	<0.04			4	20	98	80	120				

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

00040284 72

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quebec MA200-Met 1.2 Digest

26-February-2025

Innova Lithium Inc.
Attn : John Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 05 February 2025
LR Report: **CA11030-FEB25**
Reference: Shaakichiuwaanaan Project

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: VIS-CV5-UM-304	6: VIS-CV5-UM-305	7: VIS-CV5-UM-306	8: VIS-CV5-UM-307	9: VIS-CV5-UM-308	10: VIS-CV5-UM-309	11: VIS-CV5-UM-310	12: VIS-CV5-UM-311
Mercury [ug/g]	20-Feb-25	15:25	20-Feb-25	15:26	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Silver [µg/g]	13-Feb-25	13:04	14-Feb-25	11:03	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Aluminum [µg/g]	13-Feb-25	13:04	14-Feb-25	11:03	9500	9300	7500	9300	21000	10000	13000	14000
Arsenic [µg/g]	13-Feb-25	13:04	14-Feb-25	11:03	220	130	22	900	1500	38	440	550
Boron [µg/g]	13-Feb-25	13:04	14-Feb-25	11:03	3	9	9	10	2	3	3	12
Barium [µg/g]	13-Feb-25	13:04	14-Feb-25	11:03	6.4	11	5.9	72	36	5.4	32	51
Beryllium [µg/g]	13-Feb-25	13:04	14-Feb-25	11:03	0.17	0.41	0.10	0.65	3.1	1.1	0.19	1.3
Bismuth [µg/g]	13-Feb-25	13:04	14-Feb-25	11:03	< 0.09	< 0.09	< 0.09	0.63	0.37	0.48	0.14	0.67
Calcium [µg/g]	13-Feb-25	13:04	14-Feb-25	11:03	9400	17000	7400	5600	3100	16000	16000	13000
Cadmium [µg/g]	13-Feb-25	13:04	14-Feb-25	11:03	0.03	0.19	0.04	0.07	0.04	0.02	0.03	0.09
Cobalt [µg/g]	13-Feb-25	13:04	14-Feb-25	11:03	38	30	21	48	56	18	43	49
Chromium [µg/g]	13-Feb-25	13:04	14-Feb-25	11:03	240	140	240	200	870	200	230	460
Copper [µg/g]	13-Feb-25	13:04	14-Feb-25	11:03	81	120	110	170	33	94	7.5	93
Iron [µg/g]	13-Feb-25	13:04	14-Feb-25	11:02	11000	9800	10000	19000	23000	11000	13000	25000
Potassium [µg/g]	13-Feb-25	13:04	14-Feb-25	11:02	590	520	290	3200	7700	390	3200	4800
Lithium [µg/g]	13-Feb-25	13:04	14-Feb-25	11:02	130	80	85	230	330	150	240	240
Magnesium [µg/g]	13-Feb-25	13:04	14-Feb-25	11:02	8400	7500	8400	12000	37000	11000	14000	28000
Manganese [µg/g]	13-Feb-25	13:04	14-Feb-25	11:02	220	230	150	190	280	290	330	520
Molybdenum [µg/g]	13-Feb-25	13:04	14-Feb-25	11:02	0.3	0.1	3.4	0.6	0.1	0.2	0.3	0.4
Sodium [µg/g]	13-Feb-25	13:04	14-Feb-25	11:02	370	240	390	360	100	340	630	86
Nickel [µg/g]	13-Feb-25	13:04	14-Feb-25	11:02	190	110	170	270	650	97	230	500

OnLine LIMS

0004028489

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quebec MA200-Met 1.2 Digest

LR Report : **CA11030-FEB25**

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: VIS-CV5-UM-304	6: VIS-CV5-UM-305	7: VIS-CV5-UM-306	8: VIS-CV5-UM-307	9: VIS-CV5-UM-308	10: VIS-CV5-UM-309	11: VIS-CV5-UM-310	12: VIS-CV5-UM-311
Phosphorus [µg/g]	13-Feb-25	13:04	14-Feb-25	11:02	150	160	180	480	310	180	150	250
Lead [µg/g]	13-Feb-25	13:04	14-Feb-25	11:02	3.2	3.8	0.65	2.0	1.1	0.91	2.8	1.9
Antimony [µg/g]	13-Feb-25	13:04	14-Feb-25	11:02	13	2.5	2.9	17	19	4.5	13	50
Selenium [µg/g]	13-Feb-25	13:04	14-Feb-25	11:02	0.3	0.3	0.3	0.7	0.2	0.2	< 0.1	0.2
Tin [µg/g]	13-Feb-25	13:04	14-Feb-25	11:02	< 5	< 5	< 5	< 5	< 5	11	< 5	< 5
Strontium [µg/g]	13-Feb-25	13:04	14-Feb-25	11:02	6.1	13	5.8	6.9	9.0	8.5	9.2	18
Titanium [µg/g]	13-Feb-25	13:04	14-Feb-25	11:02	220	450	410	460	440	450	470	450
Thallium [µg/g]	13-Feb-25	13:04	14-Feb-25	11:02	0.23	0.12	0.10	3.9	6.6	0.12	0.82	5.9
Uranium [µg/g]	13-Feb-25	13:04	14-Feb-25	11:02	0.062	0.070	0.036	0.41	0.12	0.19	0.062	0.48
Vanadium [µg/g]	13-Feb-25	13:04	14-Feb-25	11:02	20	24	22	25	48	29	23	36
Zinc [µg/g]	13-Feb-25	13:04	14-Feb-25	11:02	14	45	11	39	34	19	20	42
Gold [µg/g]	13-Feb-25	13:04	14-Feb-25	11:02	---	---	---	< 0.02	---	---	---	< 0.02
Cerium [µg/g]	13-Feb-25	13:04	14-Feb-25	11:02	---	---	---	5.29	---	---	---	6.81
Cesium [µg/g]	13-Feb-25	13:04	14-Feb-25	11:02	---	---	---	690	---	---	---	1300
Dysprosium [µg/g]	14-Feb-25	10:36	14-Feb-25	11:59	---	---	---	0.34	---	---	---	0.47
Erbium [µg/g]	14-Feb-25	10:36	14-Feb-25	11:59	---	---	---	0.17	---	---	---	0.28
Europium [µg/g]	14-Feb-25	10:36	14-Feb-25	11:59	---	---	---	0.097	---	---	---	0.096
Gallium [µg/g]	14-Feb-25	10:36	14-Feb-25	11:59	---	---	---	3	---	---	---	3
Gadolinium [µg/g]	14-Feb-25	10:36	14-Feb-25	11:59	---	---	---	0.50	---	---	---	0.61
Germanium [µg/g]	13-Feb-25	13:04	14-Feb-25	11:02	---	---	---	0.5	---	---	---	0.6
Hafnium [µg/g]	13-Feb-25	13:04	14-Feb-25	11:01	---	---	---	0.1	---	---	---	< 0.1
Holmium [µg/g]	14-Feb-25	10:36	14-Feb-25	11:59	---	---	---	0.060	---	---	---	0.092
Indium [µg/g]	14-Feb-25	10:36	14-Feb-25	11:59	---	---	---	0.05	---	---	---	0.04
Iridium [µg/g]	13-Feb-25	13:04	14-Feb-25	11:59	---	---	---	< 0.01	---	---	---	< 0.01
Lanthanum [µg/g]	13-Feb-25	13:04	14-Feb-25	11:01	---	---	---	2.55	---	---	---	3.53
Lutetium [µg/g]	14-Feb-25	10:36	14-Feb-25	11:59	---	---	---	0.023	---	---	---	0.042
Niobium [µg/g]	13-Feb-25	13:04	14-Feb-25	11:01	---	---	---	0.3	---	---	---	0.2
Neodymium [µg/g]	14-Feb-25	10:36	14-Feb-25	11:59	---	---	---	2.7	---	---	---	3.3
Osmium [µg/g]	13-Feb-25	13:04	14-Feb-25	11:01	---	---	---	< 0.1	---	---	---	< 0.1
Palladium [µg/g]	13-Feb-25	13:04	14-Feb-25	11:01	---	---	---	< 0.2	---	---	---	< 0.2
Praseodymium [µg/g]	14-Feb-25	10:36	14-Feb-25	11:59	---	---	---	0.71	---	---	---	0.88
Platinum [µg/g]	13-Feb-25	13:04	14-Feb-25	11:01	---	---	---	< 0.1	---	---	---	< 0.1
Rhodium [µg/g]	13-Feb-25	13:04	14-Feb-25	11:01	---	---	---	< 0.01	---	---	---	< 0.01
Rubidium [µg/g]	13-Feb-25	13:04	14-Feb-25	11:01	---	---	---	450	---	---	---	600
Rhenium [µg/g]	13-Feb-25	13:04	14-Feb-25	11:01	---	---	---	< 0.05	---	---	---	< 0.05
Ruthenium [µg/g]	13-Feb-25	13:04	14-Feb-25	11:01	---	---	---	< 0.01	---	---	---	< 0.01
Samarium [µg/g]	14-Feb-25	10:36	14-Feb-25	11:59	---	---	---	0.53	---	---	---	0.63
Scandium [µg/g]	14-Feb-25	10:36	14-Feb-25	11:59	---	---	---	4	---	---	---	9

OnLine LIMS

0004028489

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: VIS-CV5-UM-304	6: VIS-CV5-UM-305	7: VIS-CV5-UM-306	8: VIS-CV5-UM-307	9: VIS-CV5-UM-308	10: VIS-CV5-UM-309	11: VIS-CV5-UM-310	12: VIS-CV5-UM-311
Tantalum [µg/g]	13-Feb-25	13:04	14-Feb-25	11:01	---	---	---	0.01	---	---	---	< 0.01
Terbium [µg/g]	14-Feb-25	10:36	14-Feb-25	11:59	---	---	---	0.050	---	---	---	0.065
Tellurium [µg/g]	13-Feb-25	13:04	14-Feb-25	11:01	---	---	---	0.1	---	---	---	< 0.1
Thorium [µg/g]	13-Feb-25	13:04	14-Feb-25	11:01	---	---	---	0.55	---	---	---	0.53
Thulium [µg/g]	14-Feb-25	10:36	14-Feb-25	11:59	---	---	---	< 0.001	---	---	---	0.019

Analysis	13: VIS-CV5-UM-312	14: VIS-CV5-UM-313	15: VIS-CV5-UM-314	16: VIS-CV5-UM-315	17: VIS-CV5-UM-316	18: VIS-CV5-UM-317	19: VIS-CV5-UM-318	20: VIS-CV5-UM-319	21: VIS-CV5-UM-320	22: VIS-CV5-UM-321	23: VIS-CV5-UM-322	24: VIS-CV5-UM-323
Mercury [ug/g]	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Silver [µg/g]	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Aluminum [µg/g]	17000	7100	9300	11000	7200	10000	10000	4900	14000	5900	14000	10000
Arsenic [µg/g]	73	330	22	59	840	180	51	1100	360	130	58	30
Boron [µg/g]	2	2	7	5	15	3	2	23	9	7	3	3
Barium [µg/g]	128	1.1	11	18	3.2	19	8.5	0.54	60	26	23	13
Beryllium [µg/g]	0.16	0.35	0.75	0.80	1.2	0.99	0.54	0.75	2.7	1.1	0.30	1.4
Bismuth [µg/g]	0.14	0.33	0.34	0.25	0.89	0.36	0.63	0.76	1.2	0.70	0.10	0.25
Calcium [µg/g]	2300	13000	13000	11000	30000	7100	8300	25000	9200	15000	12000	19000
Cadmium [µg/g]	0.02	0.07	0.05	0.02	0.08	0.03	< 0.02	0.06	0.07	0.30	0.03	0.02
Cobalt [µg/g]	15	40	14	20	91	35	22	86	23	24	26	18
Chromium [µg/g]	290	540	120	170	720	320	290	760	430	130	360	180
Copper [µg/g]	15	44	110	85	72	80	81	45	82	84	120	96
Iron [µg/g]	14000	11000	8400	10000	32000	13000	13000	33000	16000	6500	18000	12000
Potassium [µg/g]	6800	49	660	720	2100	950	340	46	8700	790	720	640
Lithium [µg/g]	320	9	160	130	45	220	110	24	440	94	210	160
Magnesium [µg/g]	21000	22000	6100	8300	56000	12000	12000	52000	24000	4600	14000	10000
Manganese [µg/g]	120	250	240	180	720	180	220	750	370	270	270	320
Molybdenum [µg/g]	0.6	< 0.1	0.2	0.3	< 0.1	0.4	0.8	< 0.1	0.3	0.2	0.2	0.1
Sodium [µg/g]	240	31	520	630	43	340	390	37	630	410	320	350
Nickel [µg/g]	140	580	69	120	980	230	190	1200	210	86	170	85
Phosphorus [µg/g]	400	98	190	530	160	310	220	110	230	330	160	380
Lead [µg/g]	5.2	4.4	0.54	0.65	0.36	0.93	0.76	0.92	1.1	2.4	1.5	0.50
Antimony [µg/g]	9.8	33	7.3	1.6	45	5.8	2.3	73	12	7.4	5.1	1.8
Selenium [µg/g]	< 0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.3	< 0.1	0.1	0.2	0.1
Tin [µg/g]	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	6	< 5	< 5	< 5
Strontium [µg/g]	8.2	26	14	22	12	8.9	7.6	40	11	9.5	12	12
Titanium [µg/g]	740	29	510	510	65	380	370	32	690	390	580	480

OnLine LIMS

0004028489

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quebec MA200-Met 1.2 Digest

LR Report : **CA11030-FEB25**

Analysis	13: VIS-CV5-UM-312	14: VIS-CV5-UM-313	15: VIS-CV5-UM-314	16: VIS-CV5-UM-315	17: VIS-CV5-UM-316	18: VIS-CV5-UM-317	19: VIS-CV5-UM-318	20: VIS-CV5-UM-319	21: VIS-CV5-UM-320	22: VIS-CV5-UM-321	23: VIS-CV5-UM-322	24: VIS-CV5-UM-323
Thallium [µg/g]	3.0	0.20	0.60	0.85	2.8	0.60	0.20	0.11	8.7	0.30	0.29	0.40
Uranium [µg/g]	0.23	0.056	0.24	0.37	0.058	0.33	0.39	0.040	0.39	0.29	0.11	0.19
Vanadium [µg/g]	32	20	20	24	28	23	24	17	33	18	39	30
Zinc [µg/g]	25	16	13	9.8	16	16	14	19	38	71	20	14
Gold [µg/g]	---	---	---	< 0.02	---	---	---	< 0.02	---	---	---	< 0.02
Cerium [µg/g]	---	---	---	9.55	---	---	---	1.10	---	---	---	2.72
Cesium [µg/g]	---	---	---	100	---	---	---	14	---	---	---	83
Dysprosium [µg/g]	---	---	---	0.42	---	---	---	0.59	---	---	---	0.35
Erbium [µg/g]	---	---	---	0.23	---	---	---	0.35	---	---	---	0.22
Europium [µg/g]	---	---	---	0.18	---	---	---	0.12	---	---	---	0.098
Gallium [µg/g]	---	---	---	3	---	---	---	2	---	---	---	3
Gadolinium [µg/g]	---	---	---	0.71	---	---	---	0.52	---	---	---	0.34
Germanium [µg/g]	---	---	---	0.4	---	---	---	0.6	---	---	---	< 0.3
Hafnium [µg/g]	---	---	---	0.1	---	---	---	< 0.1	---	---	---	< 0.1
Holmium [µg/g]	---	---	---	0.079	---	---	---	0.12	---	---	---	0.074
Indium [µg/g]	---	---	---	0.04	---	---	---	0.07	---	---	---	0.06
Iridium [µg/g]	---	---	---	< 0.01	---	---	---	< 0.01	---	---	---	< 0.01
Lanthanum [µg/g]	---	---	---	4.35	---	---	---	0.44	---	---	---	1.35
Lutetium [µg/g]	---	---	---	0.028	---	---	---	0.044	---	---	---	0.033
Niobium [µg/g]	---	---	---	0.2	---	---	---	0.2	---	---	---	0.5
Neodymium [µg/g]	---	---	---	4.9	---	---	---	1.0	---	---	---	1.3
Osmium [µg/g]	---	---	---	< 0.1	---	---	---	< 0.1	---	---	---	< 0.1
Palladium [µg/g]	---	---	---	< 0.2	---	---	---	< 0.2	---	---	---	< 0.2
Praseodymium [µg/g]	---	---	---	1.28	---	---	---	0.19	---	---	---	0.35
Platinum [µg/g]	---	---	---	< 0.1	---	---	---	< 0.1	---	---	---	< 0.1
Rhodium [µg/g]	---	---	---	< 0.01	---	---	---	< 0.01	---	---	---	< 0.01
Rubidium [µg/g]	---	---	---	97.5	---	---	---	5.08	---	---	---	58.9
Rhenium [µg/g]	---	---	---	< 0.05	---	---	---	< 0.05	---	---	---	< 0.05
Ruthenium [µg/g]	---	---	---	< 0.01	---	---	---	0.01	---	---	---	< 0.01
Samarium [µg/g]	---	---	---	0.84	---	---	---	0.38	---	---	---	0.28
Scandium [µg/g]	---	---	---	3	---	---	---	7	---	---	---	4
Tantalum [µg/g]	---	---	---	0.02	---	---	---	< 0.01	---	---	---	< 0.01
Terbium [µg/g]	---	---	---	0.066	---	---	---	0.076	---	---	---	0.037
Tellurium [µg/g]	---	---	---	< 0.1	---	---	---	< 0.1	---	---	---	< 0.1
Thorium [µg/g]	---	---	---	0.57	---	---	---	0.15	---	---	---	0.09
Thulium [µg/g]	---	---	---	0.011	---	---	---	0.027	---	---	---	0.010

OnLine LIMS

00040289

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	25: VIS-CV5-UM-324	26: VIS-CV5-UM-325	27: VIS-CV5-UM-326	28: VIS-CV5-SP-343
Mercury [ug/g]	< 0.05	< 0.05	< 0.05	< 0.05
Silver [µg/g]	< 0.5	< 0.5	0.6	< 0.5
Aluminum [µg/g]	8100	31000	53000	4700
Arsenic [µg/g]	94	180	120	11
Boron [µg/g]	3	2	5	7
Barium [µg/g]	8.1	86	1.3	3.5
Beryllium [µg/g]	4.6	3.2	6.4	2.6
Bismuth [µg/g]	0.41	0.69	0.09	0.88
Calcium [µg/g]	14000	3900	3300	4300
Cadmium [µg/g]	< 0.02	< 0.02	1.5	0.36
Cobalt [µg/g]	20	33	51	1.5
Chromium [µg/g]	360	650	820	97
Copper [µg/g]	59	4.2	130	4.8
Iron [µg/g]	11000	32000	74000	3000
Potassium [µg/g]	600	12000	100	1500
Lithium [µg/g]	120	610	550	250
Magnesium [µg/g]	10000	47000	98000	2300
Manganese [µg/g]	200	550	510	510
Molybdenum [µg/g]	0.2	0.3	0.2	0.3
Sodium [µg/g]	670	210	120	560
Nickel [µg/g]	140	280	170	10
Phosphorus [µg/g]	1200	660	250	1100
Lead [µg/g]	1.3	0.73	60	1.8
Antimony [µg/g]	5.8	7.8	18	1.7
Selenium [µg/g]	0.1	< 0.1	0.3	< 0.1
Tin [µg/g]	5	< 5	< 5	< 5
Strontium [µg/g]	12	11	16	5.7
Titanium [µg/g]	310	930	410	13
Thallium [µg/g]	0.43	10	0.19	1.6
Uranium [µg/g]	0.75	0.25	0.038	0.98
Vanadium [µg/g]	21	55	240	3
Zinc [µg/g]	12	36	400	12
Gold [µg/g]	---	---	---	< 0.02
Cerium [µg/g]	---	---	---	1.76
Cesium [µg/g]	---	---	---	340
Dysprosium [µg/g]	---	---	---	2.11
Erbium [µg/g]	---	---	---	0.23
Europium [µg/g]	---	---	---	0.034

OnLine LIMS

0004028489

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	25: VIS-CV5-UM-324	26: VIS-CV5-UM-325	27: VIS-CV5-UM-326	28: VIS-CV5-SP-343
Gallium [µg/g]	---	---	---	5
Gadolinium [µg/g]	---	---	---	2.09
Germanium [µg/g]	---	---	---	< 0.3
Hafnium [µg/g]	---	---	---	0.2
Holmium [µg/g]	---	---	---	0.15
Indium [µg/g]	---	---	---	0.05
Iridium [µg/g]	---	---	---	< 0.01
Lanthanum [µg/g]	---	---	---	0.72
Lutetium [µg/g]	---	---	---	0.019
Niobium [µg/g]	---	---	---	0.7
Neodymium [µg/g]	---	---	---	0.96
Osmium [µg/g]	---	---	---	< 0.1
Palladium [µg/g]	---	---	---	< 0.2
Praseodymium [µg/g]	---	---	---	0.26
Platinum [µg/g]	---	---	---	< 0.1
Rhodium [µg/g]	---	---	---	< 0.01
Rubidium [µg/g]	---	---	---	260
Rhenium [µg/g]	---	---	---	< 0.05
Ruthenium [µg/g]	---	---	---	< 0.01
Samarium [µg/g]	---	---	---	1.31
Scandium [µg/g]	---	---	---	0.71
Tantalum [µg/g]	---	---	---	0.06
Terbium [µg/g]	---	---	---	0.60
Tellurium [µg/g]	---	---	---	< 0.1
Thorium [µg/g]	---	---	---	0.95
Thulium [µg/g]	---	---	---	0.005

OnLine LIMS

00040284 89

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

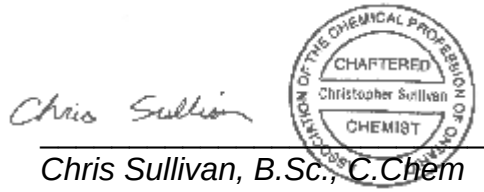
.

Method Descriptions

Parameter	SGS Method Code	Reference Method Code	PALA
Mercury by CVAAS	ME-CA-[ENV]SPE-LAK-AN-004	EPA 7471A/EPA 245	Y
Metals - Microwave/ICP-MS	ME-CA-[ENV]SPE-LAK-AN-007	EPA 3052/200.8	N
Metals, ICP-MS	ME-CA-[ENV]SPE-LAK-AN-005	MA200_MET.1.2	N
Metals, ICP-MS	ME-CA-[ENV]SPE-LAK-AN-005	MA200_MET.1.2	Y

Accreditation Descriptions

PALA:
SGS Canada Industries & Environment conforms to the requirements of ISO/IEC 17025:2005 for specific tests as listed on their scope of accreditation found at https://www.ceaeq.gouv.qc.ca/documents/publications/listes.htm#labo_accr. Analytes and SGS Method Codes marked with a “Y” in the “PALA” column in the table denote ISO/IEC17025:2005 accreditation



Chris Sullivan, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0004028489

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quality Control Report

Inorganic Analysis													
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Mercury by CVAAS - QCBatchID: EHG0030-FEB25													
Mercury	0.05	ug/g	<0.05			ND	20	94	80	120	106	70	130
Metals - Microwave/ICP-MS - QCBatchID: EMS0104-FEB25													
Cerium	0.001	µg/g	<0.001			ND	20	92	70	130	NV	70	130
Cesium	0.01	µg/g	<0.01			ND	20	92	70	130	NV	70	130
Germanium	0.3	µg/g	<0.3			ND	20	107	70	130	NV	70	130
Gold	0.02	µg/g	<0.02			14	20	106	70	130	NV	70	130
Hafnium	0.1	µg/g	<0.1			15	20	95	70	130	NV	70	130
Iridium	0.01	µg/g	<0.1			ND	20	102	70	130	NV	70	130
Lanthanum	0.001	µg/g	<0.001			ND	20	93	70	130	NV	70	130
Niobium	0.1	µg/g	<0.1			5	20	99	70	130	NV	70	130
Osmium	0.1	µg/g	<0.1			ND	20	95	70	130	NV	70	130
Palladium	0.2	µg/g	<0.2			ND	20	101	70	130	NV	70	130
Platinum	0.1	µg/g	<0.1			ND	20	91	70	130	NV	70	130
Rhenium	0.05	µg/g	<0.05			ND	20	107	70	130	NV	70	130
Rhodium	0.01	µg/g	<0.01			ND	20	100	70	130	NV	70	130
Rubidium	0.004	µg/g	<0.004			ND	20	91	70	130	NV	70	130
Ruthenium	0.01	µg/g	<0.01			ND	20	100	70	130	NV	70	130
Tantalum	0.01	µg/g	<0.01			ND	20	104	70	130	NV	70	130
Tellurium	0.1	µg/g	<0.01			7	20	94	70	130	NV	70	130
Metals - Microwave/ICP-MS - QCBatchID: EMS0125-FEB25													
Dysprosium	0.001	µg/g	< 0.001			2	20	96	70	130			
Erbium	0.001	µg/g	< 0.001			6	20	99	70	130			
Europium	0.001	µg/g	< 0.001			4	20	99	70	130			
Gadolinium	0.001	µg/g	< 0.001			1	20	96	70	130			
Gallium	0.03	µg/g	< 0.03			4	20	96	70	130			
Holmium	0.001	µg/g	< 0.001			3	20	97	70	130			
Indium	0.01	µg/g	< 0.01			4	20	95	70	130			
Lutetium	0.001	µg/g	< 0.001			1	20	97	70	130			
Neodymium	0.006	µg/g	< 0.006			1	20	99	70	130			
Praseodymium	0.001	µg/g	< 0.001			4	20	99	70	130			
Samarium	0.001	µg/g	< 0.001			1	20	98	70	130			
Scandium	0.03	µg/g	< 0.03			1	20	101	70	130			
Terbium	0.001	µg/g	< 0.001			1	20	98	70	130			
Metals, ICP-MS - QCBatchID: EMS0104-FEB25													
Aluminum	3	µg/g	<3			2	20	108	70	130	104	70	130

OnLine LIMS

0004028489

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quebec MA200-Met 1.2 Digest

LR Report : **CA11030-FEB25**

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Antimony	0.8	µg/g	<0.8			ND	20	102	70	130	NV	70	130
Arsenic	0.5	µg/g	<0.5			0	20	102	70	130	110	70	130
Barium	0.01	µg/g	<0.01			4	20	102	70	130	88	70	130
Beryllium	0.02	µg/g	<0.02			2	20	97	70	130	108	70	130
Bismuth	0.09	µg/g	<0.09			3	20	102	70	130	NV	70	130
Boron	1	µg/g	<1			5	20	103	70	130	NV	70	130
Cadmium	0.02	µg/g	<0.02			6	20	106	70	130	110	70	130
Calcium	3	µg/g	<3			1	20	101	70	130	98	70	130
Chromium	0.5	µg/g	<0.5			1	20	106	70	130	115	70	130
Cobalt	0.01	µg/g	<0.01			1	20	103	70	130	102	70	130
Copper	0.1	µg/g	<0.1			1	20	109	70	130	96	70	130
Iron	3	µg/g	<3			0	20	103	70	130	119	70	130
Lead	0.05	µg/g	<0.05			2	20	103	70	130	96	70	130
Lithium	2	µg/g	<2			0	20	99	70	130	110	70	130
Magnesium	3	µg/g	<1			0	20	108	70	130	114	70	130
Manganese	0.1	µg/g	<0.1			0	20	103	70	130	103	70	130
Molybdenum	0.1	µg/g	<0.1			1	20	97	70	130	122	70	130
Nickel	0.1	µg/g	<0.1			1	20	106	70	130	108	70	130
Phosphorus	3	µg/g	<3			0	20	101	70	130	NV	70	130
Potassium	3	µg/g	<3			0	20	102	70	130	93	70	130
Selenium	0.1	µg/g	<0.1			5	20	104	70	130	NV	70	130
Silver	0.5	µg/g	<0.5			ND	20	110	70	130	94	70	130
Sodium	3	µg/g	<3			0	20	109	70	130	106	70	130
Strontium	0.02	µg/g	<0.02			1	20	104	70	130	97	70	130
Thallium	0.02	µg/g	<0.02			ND	20	NV	70	130	NV	70	130
Thorium	0.01	µg/g	<0.5			ND	20	98	70	130	NV	70	130
Tin	5	µg/g	<5			ND	20	105	70	130	105	70	130
Titanium	0.1	µg/g	<0.1			0	20	95	70	130	NV	70	130
Uranium	0.002	µg/g	<0.002			1	20	98	70	130	85	70	130
Vanadium	1	µg/g	<1			0	20	103	70	130	116	70	130
Zinc	0.7	µg/g	<0.7			3	20	108	70	130	103	70	130

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

00040028489

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

Innova Lithium Inc.
Attn : John Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

03-March-2025

Date Rec. : 05 February 2025
LR Report: **CA11031-FEB25**
Reference: Shaakichiuwaanaan Project

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: VIS-CV5-UM-304	6: VIS-CV5-UM-305	7: VIS-CV5-UM-306	8: VIS-CV5-UM-307	9: VIS-CV5-UM-308	10: VIS-CV5-UM-309	11: VIS-CV5-UM-310	12: VIS-CV5-UM-311
Sample Date & Time					NA	NA	NA	NA	NA	NA	NA	NA
Sample weight [g]	18-Feb-25	13:08	21-Feb-25	16:24	20	20	20	21	19	20	20	20
Ext Fluid [#1 or #2]	20-Feb-25	14:24	21-Feb-25	16:24	1	1	1	1	1	1	1	1
Ext Volume [mL]	20-Feb-25	14:24	21-Feb-25	16:24	400	400	400	400	400	400	400	400
pH [No unit]	21-Feb-25	15:37	24-Feb-25	15:09	8.71	8.28	8.65	7.75	8.05	8.23	7.96	8.26
Conductivity [uS/cm]	21-Feb-25	15:37	24-Feb-25	15:09	73	58	63	64	61	66	68	69
Alkalinity [mg/L as CaCO3]	21-Feb-25	15:37	24-Feb-25	15:09	34	25	27	30	25	27	29	29
Acidity [mg/L as CaCO3]	21-Feb-25	15:37	24-Feb-25	15:09	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
F [mg/L]	23-Feb-25	11:05	24-Feb-25	09:18	< 0.06	< 0.06	< 0.06	0.16	0.07	< 0.06	0.07	0.11
Br [mg/L]	21-Feb-25	15:47	24-Feb-25	09:49	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30
Cl [mg/L]	21-Feb-25	15:47	24-Feb-25	09:49	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
SO4 [mg/L]	21-Feb-25	15:47	24-Feb-25	09:49	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
NO2 [as N mg/L]	21-Feb-25	15:47	24-Feb-25	09:49	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	21-Feb-25	15:47	24-Feb-25	09:49	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Tot.Reactive P [mg/L]	24-Feb-25	10:59	25-Feb-25	09:34	0.08	< 0.03	< 0.03	0.28	0.20	< 0.03	0.16	0.06
Hg [mg/L]	26-Feb-25	15:58	26-Feb-25	14:26	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	25-Feb-25	16:25	26-Feb-25	12:41	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	25-Feb-25	16:25	26-Feb-25	12:41	0.328	0.279	0.324	0.271	0.064	0.173	0.171	0.063
As [mg/L]	25-Feb-25	16:25	26-Feb-25	12:41	0.248	0.0785	0.0694	0.783	0.577	0.0355	0.460	0.179
Ba [mg/L]	25-Feb-25	16:25	26-Feb-25	12:41	0.00058	0.00107	0.00105	0.00187	0.00095	0.00107	0.00099	0.00080
Be [mg/L]	25-Feb-25	16:25	26-Feb-25	12:41	< 0.000007	< 0.000007	< 0.000007	0.000016	0.000018	< 0.000007	< 0.000007	< 0.000007
B [mg/L]	25-Feb-25	16:25	26-Feb-25	12:42	0.027	0.020	0.029	0.062	0.031	0.027	0.028	0.036

OnLine LIMS

0004033472

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11031-FEB25**

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: VIS-CV5-UM-304	6: VIS-CV5-UM-305	7: VIS-CV5-UM-306	8: VIS-CV5-UM-307	9: VIS-CV5-UM-308	10: VIS-CV5-UM-309	11: VIS-CV5-UM-310	12: VIS-CV5-UM-311
Bi [mg/L]	25-Feb-25	16:25	26-Feb-25	12:42	< 0.00001	< 0.00001	< 0.00001	0.00003	0.00002	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	25-Feb-25	16:25	26-Feb-25	12:42	6.89	5.90	6.62	5.24	5.34	6.21	6.69	5.81
Cd [mg/L]	25-Feb-25	16:25	26-Feb-25	12:42	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	25-Feb-25	16:25	26-Feb-25	12:42	0.000090	0.000056	0.000226	0.000506	0.000127	0.000026	0.000050	0.000070
Cr [mg/L]	25-Feb-25	16:25	26-Feb-25	12:42	0.00127	0.00089	0.00182	0.00418	0.00252	0.00056	0.00076	0.00048
Cu [mg/L]	25-Feb-25	16:25	26-Feb-25	12:42	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	25-Feb-25	16:25	26-Feb-25	12:42	0.046	0.052	0.225	0.310	0.084	0.025	0.023	0.020
K [mg/L]	25-Feb-25	16:25	26-Feb-25	12:42	0.499	0.518	0.178	1.21	1.19	0.356	1.25	1.36
Li [mg/L]	25-Feb-25	16:25	26-Feb-25	12:42	0.0148	0.0082	0.0146	0.0793	0.0313	0.0170	0.0323	0.0810
Mg [mg/L]	25-Feb-25	16:25	26-Feb-25	12:42	1.10	0.964	0.996	1.38	1.07	0.807	0.976	1.19
Mn [mg/L]	25-Feb-25	16:25	26-Feb-25	12:42	0.00137	0.00123	0.00465	0.00610	0.00231	0.00092	0.00070	0.00035
Mo [mg/L]	25-Feb-25	16:25	26-Feb-25	12:42	< 0.0004	< 0.0004	< 0.0004	0.0008	< 0.0004	< 0.0004	< 0.0004	0.0005
Na [mg/L]	25-Feb-25	16:25	26-Feb-25	12:42	5.08	4.19	4.72	4.53	4.52	5.06	4.68	4.88
Ni [mg/L]	25-Feb-25	16:25	26-Feb-25	12:42	0.0008	0.0004	0.0009	0.0040	0.0022	0.0003	0.0005	0.0004
P [mg/L]	25-Feb-25	16:25	26-Feb-25	12:42	0.003	< 0.003	0.005	0.020	0.005	0.003	0.004	0.003
Pb [mg/L]	25-Feb-25	16:25	26-Feb-25	12:42	< 0.00009	< 0.00009	< 0.00009	0.00012	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	25-Feb-25	16:25	26-Feb-25	12:42	0.0229	0.0046	0.0197	0.101	0.0289	0.0150	0.0571	0.0311
Se [mg/L]	25-Feb-25	16:25	26-Feb-25	12:42	0.00015	0.00008	0.00018	0.00030	< 0.00004	0.00020	0.00007	< 0.00004
Si [mg/L]	25-Feb-25	16:25	26-Feb-25	12:42	2.07	2.61	2.48	2.58	1.92	2.21	2.17	2.44
Sn [mg/L]	25-Feb-25	16:25	26-Feb-25	12:42	< 0.00006	< 0.00006	0.00006	0.00022	0.00010	0.00006	< 0.00006	0.00092
Sr [mg/L]	25-Feb-25	16:25	26-Feb-25	12:42	0.0112	0.0112	0.0138	0.0111	0.0244	0.0141	0.0225	0.0104
Ti [mg/L]	25-Feb-25	16:25	26-Feb-25	12:42	0.0012	0.0010	0.0049	0.0071	0.0015	0.0006	0.0008	0.0003
Tl [mg/L]	25-Feb-25	16:25	26-Feb-25	12:42	< 0.000005	< 0.000005	< 0.000005	0.000041	0.000057	< 0.000005	0.000008	0.000025
U [mg/L]	25-Feb-25	16:25	26-Feb-25	12:42	0.000009	0.000019	0.000014	0.000096	0.000006	0.000007	0.000015	0.000005
V [mg/L]	25-Feb-25	16:25	26-Feb-25	12:42	0.00376	0.00487	0.00444	0.00432	0.00242	0.00443	0.00377	0.00291
Zn [mg/L]	25-Feb-25	16:25	26-Feb-25	12:42	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0.004
Au [mg/L]	25-Feb-25	16:25	27-Feb-25	08:01	---	---	---	< 0.00001	---	---	---	< 0.00001
Ce [mg/L]	26-Feb-25	12:11	27-Feb-25	08:01	---	---	---	< 0.00001	---	---	---	< 0.00001
Cs [mg/L]	25-Feb-25	16:25	27-Feb-25	08:01	---	---	---	0.0497	---	---	---	0.0463
Dy [mg/L]	26-Feb-25	12:11	27-Feb-25	08:01	---	---	---	< 0.00001	---	---	---	< 0.00001
Er [mg/L]	26-Feb-25	12:11	27-Feb-25	08:01	---	---	---	< 0.00001	---	---	---	< 0.00001
Eu [mg/L]	26-Feb-25	12:11	27-Feb-25	08:01	---	---	---	< 0.00001	---	---	---	< 0.00001
Ga [mg/L]	26-Feb-25	12:11	27-Feb-25	08:01	---	---	---	< 0.0001	---	---	---	0.0004
Gd (tot) [mg/L]	26-Feb-25	12:11	27-Feb-25	08:01	---	---	---	< 0.00001	---	---	---	< 0.00001
Ge [mg/L]	25-Feb-25	16:25	27-Feb-25	08:01	---	---	---	< 0.0001	---	---	---	< 0.0001
Hf [mg/L]	25-Feb-25	16:25	27-Feb-25	08:01	---	---	---	< 0.0001	---	---	---	< 0.0001
Ho [mg/L]	26-Feb-25	12:11	27-Feb-25	08:01	---	---	---	< 0.00001	---	---	---	< 0.00001
In [mg/L]	26-Feb-25	12:11	27-Feb-25	08:01	---	---	---	< 0.00001	---	---	---	< 0.00001

OnLine LIMS

000403472

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11031-FEB25**

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: VIS-CV5-UM-304	6: VIS-CV5-UM-305	7: VIS-CV5-UM-306	8: VIS-CV5-UM-307	9: VIS-CV5-UM-308	10: VIS-CV5-UM-309	11: VIS-CV5-UM-310	12: VIS-CV5-UM-311
Ir [mg/L]	25-Feb-25	16:25	27-Feb-25	11:51	---	---	---	< 0.00001	---	---	---	< 0.00001
La [mg/L]	26-Feb-25	12:11	27-Feb-25	08:01	---	---	---	< 0.00001	---	---	---	< 0.00001
Lu [mg/L]	26-Feb-25	12:11	27-Feb-25	08:01	---	---	---	< 0.0001	---	---	---	< 0.0001
Nb [mg/L]	25-Feb-25	16:25	27-Feb-25	08:01	---	---	---	< 0.0001	---	---	---	< 0.0001
Nd [mg/L]	26-Feb-25	12:11	27-Feb-25	08:01	---	---	---	< 0.00001	---	---	---	< 0.00001
Os [mg/L]	25-Feb-25	16:25	27-Feb-25	08:01	---	---	---	< 0.0001	---	---	---	< 0.0001
Pd [mg/L]	25-Feb-25	16:25	27-Feb-25	08:01	---	---	---	< 0.0001	---	---	---	< 0.0001
Pr [mg/L]	26-Feb-25	12:11	27-Feb-25	08:01	---	---	---	< 0.00001	---	---	---	< 0.00001
Pt [mg/L]	25-Feb-25	16:25	27-Feb-25	08:01	---	---	---	< 0.0001	---	---	---	< 0.0001
Rh [mg/L]	25-Feb-25	16:25	27-Feb-25	08:01	---	---	---	< 0.00001	---	---	---	< 0.00001
Rb [mg/L]	25-Feb-25	16:25	27-Feb-25	08:01	---	---	---	0.0854	---	---	---	0.0675
Re [mg/L]	25-Feb-25	16:25	27-Feb-25	08:01	---	---	---	< 0.0001	---	---	---	< 0.0001
Ru [mg/L]	25-Feb-25	16:25	27-Feb-25	08:01	---	---	---	< 0.00001	---	---	---	< 0.00001
Sm [mg/L]	26-Feb-25	12:11	27-Feb-25	08:01	---	---	---	< 0.00001	---	---	---	< 0.00001
Sc [mg/L]	26-Feb-25	12:11	27-Feb-25	08:01	---	---	---	< 0.0001	---	---	---	< 0.0001
Ta [mg/L]	25-Feb-25	16:25	27-Feb-25	08:01	---	---	---	< 0.0001	---	---	---	< 0.0001
Tb [mg/L]	26-Feb-25	12:11	27-Feb-25	08:01	---	---	---	< 0.00001	---	---	---	< 0.00001
Te [mg/L]	25-Feb-25	16:25	27-Feb-25	08:01	---	---	---	< 0.0001	---	---	---	< 0.0001
Th [mg/L]	25-Feb-25	16:25	27-Feb-25	08:01	---	---	---	< 0.0001	---	---	---	< 0.0001
Tm [mg/L]	26-Feb-25	12:11	27-Feb-25	08:01	---	---	---	< 0.00001	---	---	---	< 0.00001

Analysis	13: VIS-CV5-UM-312	14: VIS-CV5-UM-313	15: VIS-CV5-UM-314	16: VIS-CV5-UM-315	17: VIS-CV5-UM-316	18: VIS-CV5-UM-317	19: VIS-CV5-UM-318	20: VIS-CV5-UM-319	21: VIS-CV5-UM-320	22: VIS-CV5-UM-321	23: VIS-CV5-UM-322	24: VIS-CV5-UM-323
Sample Date & Time	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sample weight [g]	21	20	19	20	20	21	20	20	20	20	20	20
Ext Fluid [#1 or #2]	1	1	1	1	1	1	1	1	1	1	1	1
Ext Volume [mL]	400	400	400	400	400	400	400	400	400	400	400	400
pH [No unit]	8.50	9.34	9.46	8.96	9.42	9.25	9.41	9.23	9.31	9.28	9.00	8.93
Conductivity [uS/cm]	65	63	66	70	75	61	66	73	71	63	65	65
Alkalinity [mg/L as CaCO3]	27	27	36	27	34	33	28	32	30	27	27	27
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
F [mg/L]	< 0.06	< 0.06	< 0.06	< 0.06	0.15	< 0.06	< 0.06	0.12	0.26	0.13	< 0.06	< 0.06
Br [mg/L]	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30
Cl [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
SO4 [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
NO2 [as N mg/L]	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3

OnLine LIMS

0004033472

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11031-FEB25**

Analysis	13: VIS-CV5-UM-312	14: VIS-CV5-UM-313	15: VIS-CV5-UM-314	16: VIS-CV5-UM-315	17: VIS-CV5-UM-316	18: VIS-CV5-UM-317	19: VIS-CV5-UM-318	20: VIS-CV5-UM-319	21: VIS-CV5-UM-320	22: VIS-CV5-UM-321	23: VIS-CV5-UM-322	24: VIS-CV5-UM-323
NO3 [as N mg/L]	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Tot.Reactive P [mg/L]	0.04	< 0.03	< 0.03	0.08	0.05	0.06	< 0.03	0.11	0.13	0.08	< 0.03	0.03
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.149	0.016	0.322	0.222	0.005	0.207	0.264	0.006	0.281	0.315	0.287	0.183
As [mg/L]	0.0786	0.0443	0.0208	0.218	0.160	0.150	0.0351	0.303	0.374	0.221	0.0203	0.0906
Ba [mg/L]	0.00141	0.00045	0.00087	0.00120	0.00057	0.00089	0.00088	0.00061	0.00110	0.00077	0.00115	0.00089
Be [mg/L]	< 0.000007	< 0.000007	< 0.000007	0.000023	< 0.000007	0.000013	< 0.000007	< 0.000007	0.000044	0.000022	< 0.000007	< 0.000007
B [mg/L]	0.033	0.025	0.022	0.027	0.027	0.023	0.021	0.033	0.035	0.023	0.021	0.022
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	4.13	5.89	6.19	6.87	5.88	6.59	6.73	6.04	5.14	6.43	5.98	6.41
Cd [mg/L]	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	0.000004	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	0.000033	< 0.000004	0.000086	0.000392	< 0.000004	0.000091	0.000164	< 0.000004	0.000155	0.000054	0.000058	0.000052
Cr [mg/L]	0.00058	0.00029	0.00157	0.00220	0.00064	0.00196	0.00397	0.00079	0.00412	0.00110	0.00130	0.00060
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	0.032	< 0.007	0.112	0.159	< 0.007	0.085	0.188	< 0.007	0.168	0.048	0.077	0.032
K [mg/L]	1.38	0.055	0.363	0.407	0.276	0.513	0.429	0.095	3.12	0.342	0.529	1.01
Li [mg/L]	0.0537	0.0003	0.0313	0.0169	0.0027	0.0408	0.0122	0.0023	0.121	0.0206	0.0116	0.0210
Mg [mg/L]	0.951	1.51	0.905	1.21	2.96	0.964	1.00	1.89	0.888	0.816	0.894	0.967
Mn [mg/L]	0.00078	0.00009	0.00272	0.00357	0.00007	0.00187	0.00357	0.00016	0.00519	0.00173	0.00179	0.00088
Mo [mg/L]	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	0.0096	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na [mg/L]	6.61	4.27	5.27	5.44	4.67	4.25	4.81	5.78	5.82	4.95	5.04	4.60
Ni [mg/L]	0.0004	0.0001	0.0006	0.0024	0.0003	0.0009	0.0014	0.0004	0.0014	0.0005	0.0004	0.0002
P [mg/L]	0.009	< 0.003	< 0.003	0.008	< 0.003	0.005	0.004	0.003	< 0.003	0.006	0.003	0.003
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.0307	0.0096	0.0238	0.0078	0.0150	0.0144	0.0040	0.130	0.0212	0.0240	0.0056	0.0081
Se [mg/L]	< 0.00004	< 0.00004	0.00005	0.00055	< 0.00004	0.00011	0.00010	< 0.00004	0.00006	0.00011	0.00008	0.00032
Si [mg/L]	1.99	2.34	2.70	2.09	2.59	2.58	3.12	2.63	2.53	2.54	2.47	2.32
Sn [mg/L]	0.00008	0.00009	< 0.00006	0.00007	0.00008	0.00007	0.00009	0.00019	0.00017	0.00006	< 0.00006	0.00008
Sr [mg/L]	0.00966	0.00775	0.0121	0.0118	0.00757	0.0128	0.0117	0.02483	0.00797	0.00934	0.0113	0.0113
Ti [mg/L]	0.0015	< 0.0001	0.0026	0.0040	< 0.0001	0.0020	0.0039	< 0.0001	0.0040	0.0008	0.0021	0.0007
Tl [mg/L]	0.000032	< 0.000005	0.000006	0.000006	< 0.000005	0.000017	< 0.000005	< 0.000005	0.000156	< 0.000005	< 0.000005	< 0.000005
U [mg/L]	0.000002	0.000006	0.000107	0.000045	0.000002	0.000009	0.000014	0.000002	0.000219	0.000150	0.000008	0.000011
V [mg/L]	0.00168	0.00141	0.00412	0.00740	0.00182	0.00430	0.00625	0.00220	0.00390	0.00465	0.00414	0.00576
Zn [mg/L]	< 0.002	0.003	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au [mg/L]	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001
Ce [mg/L]	---	---	---	< 0.00001	---	---	---	0.00003	---	---	---	0.00001
Cs [mg/L]	---	---	---	0.0084	---	---	---	0.0055	---	---	---	0.0077

OnLine LIMS

0004033472

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11031-FEB25**

Analysis	13: VIS-CV5-UM-312	14: VIS-CV5-UM-313	15: VIS-CV5-UM-314	16: VIS-CV5-UM-315	17: VIS-CV5-UM-316	18: VIS-CV5-UM-317	19: VIS-CV5-UM-318	20: VIS-CV5-UM-319	21: VIS-CV5-UM-320	22: VIS-CV5-UM-321	23: VIS-CV5-UM-322	24: VIS-CV5-UM-323
Dy [mg/L]	---	---	---	< 0.00001	---	---	---	0.00001	---	---	---	< 0.00001
Er [mg/L]	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001
Eu [mg/L]	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001
Ga [mg/L]	---	---	---	0.0003	---	---	---	0.0017	---	---	---	0.0003
Gd (tot) [mg/L]	---	---	---	< 0.00001	---	---	---	0.00001	---	---	---	< 0.00001
Ge [mg/L]	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001
Hf [mg/L]	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001
Ho [mg/L]	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001
In [mg/L]	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001
Ir [mg/L]	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001
La [mg/L]	---	---	---	< 0.00001	---	---	---	0.00001	---	---	---	< 0.00001
Lu [mg/L]	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001
Nb [mg/L]	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001
Nd [mg/L]	---	---	---	< 0.00001	---	---	---	0.00001	---	---	---	< 0.00001
Os [mg/L]	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001
Pd [mg/L]	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001
Pr [mg/L]	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001
Pt [mg/L]	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001
Rh [mg/L]	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001
Rb [mg/L]	---	---	---	0.0098	---	---	---	0.0029	---	---	---	0.0167
Re [mg/L]	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001
Ru [mg/L]	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001
Sm [mg/L]	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001
Sc [mg/L]	---	---	---	0.0001	---	---	---	< 0.0001	---	---	---	0.0001
Ta [mg/L]	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001
Tb [mg/L]	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001
Te [mg/L]	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001
Th [mg/L]	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001
Tm [mg/L]	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001

Analysis	25: VIS-CV5-UM-324	26: VIS-CV5-UM-325	27: VIS-CV5-UM-326	28: VIS-CV5-SP-343	29: VIS-CV5-SP-343
Sample Date & Time	NA	NA	NA	NA	
Sample weight [g]	20	20	20	20	20
Ext Fluid [#1 or #2]	1	1	1	1	1
Ext Volume [mL]	400	400	400	400	400

OnLine LIMS

0004033472

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11031-FEB25**

Analysis	25: VIS-CV5-UM-324	26: VIS-CV5-UM-325	27: VIS-CV5-UM-326	28: VIS-CV5-SP-343	29: VIS-CV5-SP-343
pH [No unit]	9.06	8.81	8.74	8.54	8.66
Conductivity [uS/cm]	68	64	78	59	60
Alkalinity [mg/L as CaCO3]	35	27	32	27	27
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2
F [mg/L]	0.10	0.17	0.29	0.19	0.19
Br [mg/L]	< 30	< 30	< 30	< 30	< 30
Cl [mg/L]	< 20	< 20	< 20	< 20	< 20
SO4 [mg/L]	< 20	< 20	< 20	< 20	< 20
NO2 [as N mg/L]	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	< 6	< 6	< 6	< 6	< 6
Tot.Reactive P [mg/L]	0.06	0.04	0.03	0.06	0.08
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.245	0.130	0.098	0.719	0.726
As [mg/L]	0.147	0.0917	0.0873	0.0091	0.0090
Ba [mg/L]	0.00066	0.00112	0.00093	0.00138	0.00137
Be [mg/L]	0.000069	0.000027	0.000011	0.000239	0.000293
B [mg/L]	0.024	0.030	0.066	0.030	0.031
Bi [mg/L]	0.00001	< 0.00001	< 0.00001	0.00019	0.00023
Ca [mg/L]	6.56	4.16	5.86	5.83	5.75
Cd [mg/L]	< 0.000003	< 0.000003	< 0.000003	0.000006	< 0.000003
Co [mg/L]	0.000082	0.000046	0.000111	0.000023	0.000026
Cr [mg/L]	0.00158	0.00081	0.00161	< 0.00008	< 0.00008
Cu [mg/L]	< 0.001	< 0.001	< 0.001	0.004	< 0.001
Fe [mg/L]	0.065	0.052	0.103	0.036	0.036
K [mg/L]	0.377	4.41	0.511	1.30	1.23
Li [mg/L]	0.0129	0.0840	0.0212	0.232	0.245
Mg [mg/L]	0.811	0.818	0.642	0.270	0.266
Mn [mg/L]	0.00141	0.00142	0.00101	0.00963	0.00936
Mo [mg/L]	< 0.0004	< 0.0004	0.0006	0.0005	< 0.0004
Na [mg/L]	5.95	4.52	9.06	4.76	4.63
Ni [mg/L]	0.0008	0.0003	0.0004	< 0.0001	< 0.0001
P [mg/L]	0.014	0.003	0.003	0.084	0.081
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	0.00035	< 0.00009
Sb [mg/L]	0.0212	0.0149	0.108	0.0022	0.0022
Se [mg/L]	0.00021	< 0.00004	< 0.00004	< 0.00004	< 0.00004
Si [mg/L]	1.94	1.98	2.19	2.30	2.31
Sn [mg/L]	0.00012	0.00010	0.00008	0.00068	0.00058

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

000403472

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	25: VIS-CV5-UM-324	26: VIS-CV5-UM-325	27: VIS-CV5-UM-326	28: VIS-CV5-SP-343	29: VIS-CV5-SP-343
Sr [mg/L]	0.00952	0.0132	0.0411	0.00842	0.00828
Ti [mg/L]	0.0015	0.0018	0.0012	0.0004	0.0004
Tl [mg/L]	0.000011	0.000080	< 0.000005	0.000145	0.000147
U [mg/L]	0.000040	0.000020	0.000002	0.000409	0.000391
V [mg/L]	0.00375	0.00410	0.0108	0.00015	0.00016
Zn [mg/L]	< 0.002	< 0.002	< 0.002	0.006	< 0.002
Au [mg/L]	---	---	---	0.00001	< 0.00001
Ce [mg/L]	---	---	---	< 0.00001	< 0.00001
Cs [mg/L]	---	---	---	0.0139	0.0143
Dy [mg/L]	---	---	---	< 0.00001	< 0.00001
Er [mg/L]	---	---	---	< 0.00001	< 0.00001
Eu [mg/L]	---	---	---	< 0.00001	< 0.00001
Ga [mg/L]	---	---	---	< 0.0001	0.0005
Gd (tot) [mg/L]	---	---	---	< 0.00001	< 0.00001
Ge [mg/L]	---	---	---	0.0001	0.0002
Hf [mg/L]	---	---	---	< 0.0001	< 0.0001
Ho [mg/L]	---	---	---	< 0.00001	< 0.00001
In [mg/L]	---	---	---	< 0.00001	< 0.00001
Ir [mg/L]	---	---	---	< 0.00001	< 0.00001
La [mg/L]	---	---	---	< 0.00001	< 0.00001
Lu [mg/L]	---	---	---	< 0.0001	< 0.0001
Nb [mg/L]	---	---	---	0.0002	0.0002
Nd [mg/L]	---	---	---	< 0.00001	< 0.00001
Os [mg/L]	---	---	---	< 0.0001	< 0.0001
Pd [mg/L]	---	---	---	< 0.0001	< 0.0001
Pr [mg/L]	---	---	---	< 0.00001	< 0.00001
Pt [mg/L]	---	---	---	< 0.0001	< 0.0001
Rh [mg/L]	---	---	---	< 0.00001	< 0.00001
Rb [mg/L]	---	---	---	0.0745	0.0744
Re [mg/L]	---	---	---	< 0.0001	< 0.0001
Ru [mg/L]	---	---	---	< 0.00001	< 0.00001
Sm [mg/L]	---	---	---	< 0.00001	< 0.00001
Sc [mg/L]	---	---	---	< 0.0001	0.0001
Ta [mg/L]	---	---	---	0.0003	0.0004
Tb [mg/L]	---	---	---	< 0.00001	< 0.00001
Te [mg/L]	---	---	---	< 0.0001	< 0.0001
Th [mg/L]	---	---	---	< 0.0001	< 0.0001
Tm [mg/L]	---	---	---	< 0.00001	< 0.00001

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

000403472

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Method Descriptions

Parameter	SGS Method Code	CALA	PALA
	NA	N	N
Acidity	ME-CA-[ENV]EWL-LAK-AN-006	Y	N
Alkalinity	ME-CA-[ENV]EWL-LAK-AN-006	Y	N
Anions by IC	ME-CA-[ENV]IC-LAK-AN-001	Y	N
Anions by IC	ME-CA-[ENV]IC-LAK-AN-001	Y	Y
Conductivity	ME-CA-[ENV]EWL-LAK-AN-006	Y	Y
Fluoride by Specific Ion Electrode	ME-CA-[ENV]EWL-LAK-AN-014	Y	Y
Inorganics-General	ME-CA-[ENV]SPE-LAK-AN-004	Y	Y
Metals in aqueous samples - ICP-MS	ME-CA-[ENV]SPE-LAK-AN-006	Y	N
Metals in aqueous samples - ICP-MS	ME-CA-[ENV]SPE-LAK-AN-006	Y	Y
pH	ME-CA-[ENV]EWL-LAK-AN-006	Y	Y
Reactive Phosphorus by SFA	ME-CA-[ENV]SFA-LAK-AN-004	Y	N

Accreditation Descriptions

CALA:
SGS Canada Industries & Environment conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation found at https://directory.cala.ca/#. Analytes and SGS Method Codes marked with a “Y” in the “CALA” column in the table denote ISO/IEC17025 accreditation

PALA:
SGS Canada Industries & Environment conforms to the requirements of ISO/IEC 17025:2005 for specific tests as listed on their scope of accreditation found at https://www.ceaeq.gouv.qc.ca/documents/publications/listes.htm#labo_accr. Analytes and SGS Method Codes marked with a “Y” in the “PALA” column in the table denote ISO/IEC17025:2005 accreditation

Catharine Arnold

CHARTERED CATHARINE ARNOLD CHEMIST

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0004033472

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0)
20:1 L/S ratio, 18hr

LR Report : **CA11031-FEB25**

Quality Control Report

Inorganic Analysis													
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Acidity - QCBatchID: EWL0311-FEB25													
Acidity	2	mg/L as Ca	< 2			0	20	96	90	110	NA		
Alkalinity - QCBatchID: EWL0311-FEB25													
Alkalinity	2	mg/L as Ca	< 2			ND	20	98	80	120	NA		
Anions by IC - QCBatchID: DIO0380-FEB25													
Bromide	0.3	mg/L	<0.3			ND	20	100	90	110	99	75	125
Chloride	0.2	mg/L	<0.2			ND	20	98	90	110	101	75	125
Nitrate (as N)	0.06	mg/L	<0.06			ND	20	100	90	110	101	75	125
Nitrite (as N)	0.03	mg/L	<0.03			19	20	101	90	110	102	75	125
Sulphate	0.2	mg/L	<0.2			9	20	98	90	110	95	75	125
Anions by IC - QCBatchID: DIO0381-FEB25													
Bromide	0.3	mg/L	<0.3			ND	20	100	90	110	102	75	125
Chloride	0.2	mg/L	<0.2			ND	20	102	90	110	114	75	125
Nitrate (as N)	0.06	mg/L	<0.06			ND	20	101	90	110	103	75	125
Nitrite (as N)	0.03	mg/L	<0.03			ND	20	99	90	110	102	75	125
Sulphate	0.2	mg/L	<0.2			9	20	102	90	110	112	75	125
Conductivity - QCBatchID: EWL0311-FEB25													
Conductivity	2	uS/cm	2			5	20	100	90	110	NA		
Fluoride by Specific Ion Electrode - QCBatchID: EWL0328-FEB25													
Fluoride	0.06	mg/L	<0.06			ND	10	100	90	110	96	75	125
Inorganics-General - QCBatchID: EHG0035-FEB25													
Mercury	0.00001	mg/L	< 0.00001			17	20	80	80	120	114	70	130
Metals in aqueous samples - ICP-MS - QCBatchID: EMS0195-FEB25													
Aluminum	0.001	mg/L	<0.001			1	20	100	90	110	83	70	130
Antimony	0.0009	mg/L	<0.0009			2	20	100	90	110	127	70	130
Arsenic	0.0002	mg/L	<0.0002			0	20	97	90	110	109	70	130
Barium	0.00008	mg/L	<0.00008			1	20	103	90	110	104	70	130
Beryllium	0.000007	mg/L	<0.000007			ND	20	102	90	110	98	70	130
Bismuth	0.00001	mg/L	<0.00001			ND	20	103	90	110	118	70	130
Boron	0.002	mg/L	<0.002			4	20	101	90	110	96	70	130
Cadmium	0.000003	mg/L	<0.000003			ND	20	101	90	110	114	70	130
Calcium	0.01	mg/L	<0.01			1	20	104	90	110	85	70	130
Cesium	0.0001	mg/L	<0.0001			ND	20	98	90	110	NV	70	130
Chromium	0.00008	mg/L	<0.00008			8	20	107	90	110	112	70	130
Cobalt	0.000004	mg/L	<0.000004			0	20	99	90	110	108	70	130
Copper	0.001	mg/L	<0.001			ND	20	103	90	110	112	70	130

OnLine LIMS

0004033472

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0)
20:1 L/S ratio, 18hr

LR Report : **CA11031-FEB25**

Inorganic Analysis													
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Germanium	0.0001	mg/L	<0.0001			ND	20	102	90	110	NV	70	130
Gold	0.00001	mg/L	<0.00001			ND	20	100	90	110	NV	70	130
Hafnium	0.0001	mg/L	<0.0001			ND	20	95	90	110	NV	70	130
Iridium	0.00001	mg/L	<0.00001			ND	20	106	90	110	NV	70	130
Iron	0.007	mg/L	<0.007			0	20	108	90	110	125	70	130
Lead	0.00009	mg/L	<0.00009			ND	20	102	90	110	103	70	130
Lithium	0.0001	mg/L	<0.0001			2	20	102	90	110	112	70	130
Magnesium	0.001	mg/L	<0.001			1	20	108	90	110	100	70	130
Manganese	0.00001	mg/L	<0.00001			5	20	101	90	110	108	70	130
Molybdenum	0.0004	mg/L	<0.0004			ND	20	103	90	110	101	70	130
Nickel	0.0001	mg/L	<0.0001			5	20	104	90	110	102	70	130
Niobium	0.0001	mg/L	<0.0001			ND	20	103	90	110	NV	70	130
Osmium	0.0001	mg/L	<0.0001			ND	20	94	90	110	NV	70	130
Palladium	0.0001	mg/L	<0.0001			ND	20	102	90	110	NV	70	130
Phosphorus	0.003	mg/L	<0.003			ND	20	100	90	110	NV	70	130
Platinum	0.0001	mg/L	<0.0001			ND	20	103	90	110	NV	70	130
Potassium	0.009	mg/L	<0.009			1	20	101	90	110	112	70	130
Rhenium	0.0001	mg/L	<0.0001			ND	20	103	90	110	NV	70	130
Rhodium	0.00001	mg/L	<0.0001			ND	20	100	90	110	NV	70	130
Rubidium	0.0001	mg/L	< 0.0001			7	20	95	90	110	NV	70	130
Ruthenium	0.00001	mg/L	<0.0001			ND	20	104	90	110	NV	70	130
Selenium	0.00004	mg/L	<0.00004			ND	20	102	90	110	107	70	130
Silicon	0.02	mg/L	<0.02			1	20	96	90	110	NV	70	130
Silver	0.00005	mg/L	<0.00005			ND	20	98	90	110	79	70	130
Sodium	0.01	mg/L	<0.01			2	20	106	90	110	115	70	130
Strontium	0.00008	mg/L	<0.00008			1	20	101	90	110	92	70	130
Tantalum	0.0001	mg/L	<0.0001			ND	20	104	90	110	NV	70	130
Tellurium	0.0001	mg/L	<0.0001			ND	20	101	90	110	NV	70	130
Thallium	0.000005	mg/L	<0.000005			ND	20	103	90	110	104	70	130
Thorium	0.0001	mg/L	<0.0001			ND	20	97	90	110	NV	70	130
Tin	0.00006	mg/L	<0.00006			11	20	102	90	110	NV	70	130
Titanium	0.0001	mg/L	<0.0001			11	20	99	90	110	NV	70	130
Uranium	0.000002	mg/L	<0.000002			0	20	100	90	110	108	70	130
Vanadium	0.00001	mg/L	<0.00001			2	20	100	90	110	92	70	130
Zinc	0.002	mg/L	<0.002			ND	20	102	90	110	116	70	130
Metals in aqueous samples - ICP-MS - QCBatchID: EMS0220-FEB25													
Cerium	0.00001	mg/L	<0.00001			5	20	95	90	110	NV	70	130
Dysprosium	0.00001	mg/L	<0.00001			0	20	95	90	110	NV	70	130
Erbium	0.00001	mg/L	<0.00001			ND	20	93	90	110	NV	70	130

OnLine LIMS

0004033472

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0)
20:1 L/S ratio, 18hr

LR Report : **CA11031-FEB25**

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material			
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)		
							%		Low	High		Low	High	
Europium	0.00001	mg/L	<0.00001			ND	20	94	90	110	NV	70	130	
Gadolinium	0.00001	mg/L	<0.0001			ND	20	95	90	110	NV	70	130	
Gallium	0.0001	mg/L	<0.0001			2	20	104	90	110	NV	70	130	
Holmium	0.00001	mg/L	<0.00001			ND	20	95	90	110	NV	70	130	
Indium	0.00001	mg/L	<0.00001			ND	20	101	90	110	NV	70	130	
Lanthanum	0.00001	mg/L	<0.00001			4	20	94	90	110	NV	70	130	
Lutetium	0.0001	mg/L	<0.0001			ND	20	94	90	110	NV	70	130	
Neodymium	0.00001	mg/L	<0.00001			6	20	95	90	110	NV	70	130	
Praseodymium	0.00001	mg/L	<0.00001			6	20	97	90	110	NV	70	130	
Samarium	0.00001	mg/L	<0.00001			6	20	92	90	110	NV	70	130	
Scandium	0.0001	mg/L	<0.0001			3	20	98	90	110	NV	70	130	
Terbium	0.00001	mg/L	<0.00001			ND	20	95	90	110	NV	70	130	
Thulium	0.00001	mg/L	<0.00001			ND	20	93	90	110	NV	70	130	
pH - QCBatchID: EWL0311-FEB25														
pH	0.05	No unit	NA			0		100			NA			
Reactive Phosphorus by SFA - QCBatchID: SKA0162-FEB25														
Total Reactive Phosphorous (o-phosphate as P)	0.03	mg/L	<0.03			ND	10	100	90	110	95	75	125	

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0004033472

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

03-March-2025

Innova Lithium Inc.
Attn : John Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 05 February 2025
LR Report: **CA11032-FEB25**
Reference: Shaakichiuwaanaan Project

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: VIS-CV5-UM-304	6: VIS-CV5-UM-305	7: VIS-CV5-UM-306	8: VIS-CV5-UM-307	9: VIS-CV5-UM-308	10: VIS-CV5-UM-309	11: VIS-CV5-UM-310
Sample Date & Time					NA	NA	NA	NA	NA	NA	NA
Sample weight [g]	12-Feb-25	15:59	21-Feb-25	16:25	100	100	101	100	100	100	101
Volume D.I. Water [mL]	14-Feb-25	06:34	21-Feb-25	16:25	400	400	400	400	400	400	400
pH [No unit]	22-Feb-25	12:17	24-Feb-25	13:07	8.71	8.73	9.19	8.65	8.83	8.64	8.60
Conductivity [uS/cm]	22-Feb-25	12:17	24-Feb-25	13:07	225	192	158	316	163	186	250
Alkalinity [mg/L as CaCO3]	22-Feb-25	12:17	24-Feb-25	13:07	69	49	56	66	56	50	70
Acidity [mg/L as CaCO3]	22-Feb-25	12:17	24-Feb-25	13:07	< 2	< 2	< 2	< 2	< 2	< 2	< 2
F [mg/L]	23-Feb-25	11:05	25-Feb-25	13:57	0.31	1.10	0.27	3.76	1.21	1.45	1.57
Br [mg/L]	22-Feb-25	15:36	24-Feb-25	12:37	< 30	< 30	< 30	< 30	< 30	< 30	< 30
Cl [mg/L]	22-Feb-25	15:36	24-Feb-25	12:37	< 20	< 20	< 20	< 20	< 20	< 20	< 20
SO4 [mg/L]	22-Feb-25	15:36	24-Feb-25	12:37	32	31	< 20	43	< 20	22	22
NO2 [as N mg/L]	22-Feb-25	15:36	24-Feb-25	12:37	< 3	< 3	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	22-Feb-25	15:36	24-Feb-25	12:37	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Tot.Reactive P [mg/L]	24-Feb-25	10:59	27-Feb-25	07:37	2.54	1.02	0.04	3.96	3.17	0.11	5.92
Hg [mg/L]	26-Feb-25	15:58	26-Feb-25	14:26	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	25-Feb-25	16:25	27-Feb-25	08:02	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	25-Feb-25	16:25	27-Feb-25	08:02	0.189	0.097	0.661	0.157	0.085	0.128	0.111
As [mg/L]	25-Feb-25	16:25	27-Feb-25	08:02	7.63	3.26	0.0898	11.5	9.42	0.353	17.4
Ba [mg/L]	25-Feb-25	16:25	27-Feb-25	08:02	0.00255	0.00253	0.00096	0.00509	0.00237	0.00181	0.00384
Be [mg/L]	25-Feb-25	16:25	27-Feb-25	08:02	< 0.000007	0.000015	< 0.000007	0.000022	0.000014	0.000012	< 0.000007
B [mg/L]	25-Feb-25	16:25	27-Feb-25	08:02	0.117	0.128	0.075	0.416	0.120	0.103	0.117
Bi [mg/L]	25-Feb-25	16:25	27-Feb-25	08:02	< 0.00001	< 0.00001	< 0.00001	0.00003	0.00001	0.00001	< 0.00001

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0004033480

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11032-FEB25**

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: VIS-CV5-UM-304	6: VIS-CV5-UM-305	7: VIS-CV5-UM-306	8: VIS-CV5-UM-307	9: VIS-CV5-UM-308	10: VIS-CV5-UM-309	11: VIS-CV5-UM-310
Ca [mg/L]	25-Feb-25	16:25	27-Feb-25	08:02	11.1	10.0	4.71	9.07	7.37	7.23	10.8
Cd [mg/L]	25-Feb-25	16:25	27-Feb-25	08:02	< 0.000003	0.000006	0.000033	0.000006	< 0.000003	< 0.000003	0.000003
Co [mg/L]	25-Feb-25	16:25	27-Feb-25	08:02	0.000999	0.000286	0.000151	0.000747	0.000251	0.000200	0.000590
Cr [mg/L]	25-Feb-25	16:25	27-Feb-25	08:02	0.0584	0.0402	0.134	0.0221	0.0355	0.0486	0.0839
Cu [mg/L]	25-Feb-25	16:25	27-Feb-25	08:02	0.003	< 0.001	< 0.001	0.004	< 0.001	0.001	< 0.001
Fe [mg/L]	25-Feb-25	16:25	27-Feb-25	08:02	0.241	0.139	0.154	0.327	0.118	0.164	0.135
K [mg/L]	25-Feb-25	16:25	27-Feb-25	08:02	7.97	10.7	4.10	27.8	9.49	4.84	20.1
Li [mg/L]	25-Feb-25	16:25	27-Feb-25	11:41	0.712	0.483	1.32	2.63	0.331	1.02	1.42
Mg [mg/L]	25-Feb-25	16:25	27-Feb-25	08:02	6.51	4.66	5.13	11.2	6.35	3.81	6.18
Mn [mg/L]	25-Feb-25	16:25	27-Feb-25	08:02	0.00556	0.00326	0.00267	0.00541	0.00230	0.00364	0.00366
Mo [mg/L]	25-Feb-25	16:25	27-Feb-25	08:02	0.0040	0.0038	0.0831	0.0106	0.0005	0.0012	0.0045
Na [mg/L]	25-Feb-25	16:25	27-Feb-25	08:02	19.0	13.1	11.5	10.9	10.1	19.0	15.3
Ni [mg/L]	25-Feb-25	16:25	27-Feb-25	08:02	0.0147	0.0050	0.0017	0.0101	0.0036	0.0016	0.0055
P [mg/L]	25-Feb-25	16:25	27-Feb-25	08:02	0.011	0.005	0.008	0.064	0.021	0.010	0.007
Pb [mg/L]	25-Feb-25	16:25	27-Feb-25	08:02	< 0.00009	< 0.00009	< 0.00009	0.00016	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	25-Feb-25	16:25	27-Feb-25	08:02	0.539	0.128	0.0355	1.37	0.587	0.255	0.689
Se [mg/L]	25-Feb-25	16:25	27-Feb-25	08:02	0.00075	0.00081	0.00111	0.00098	0.00019	0.00054	0.00016
Si [mg/L]	25-Feb-25	16:25	27-Feb-25	08:02	5.42	6.32	3.02	5.69	11.8	5.72	7.46
Sn [mg/L]	25-Feb-25	16:25	27-Feb-25	08:02	0.00010	0.00007	0.00012	0.00016	0.00008	0.00016	0.00007
Sr [mg/L]	25-Feb-25	16:25	27-Feb-25	08:02	0.0193	0.0200	0.00598	0.0149	0.0453	0.0140	0.0245
Ti [mg/L]	25-Feb-25	16:25	27-Feb-25	08:02	0.0051	0.0035	0.0040	0.0101	0.0024	0.0030	0.0049
Tl [mg/L]	25-Feb-25	16:25	27-Feb-25	08:02	0.000019	0.000025	0.000005	0.000364	0.000271	0.000061	0.000091
U [mg/L]	25-Feb-25	16:25	27-Feb-25	08:02	0.000193	0.000360	0.000007	0.00401	0.000102	0.000269	0.000205
V [mg/L]	25-Feb-25	16:25	27-Feb-25	08:02	0.0440	0.0698	0.0438	0.0459	0.0273	0.0486	0.0788
Zn [mg/L]	25-Feb-25	16:25	27-Feb-25	08:02	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au [mg/L]	25-Feb-25	16:25	27-Feb-25	08:02	---	---	---	0.00003	---	---	---
Ce [mg/L]	26-Feb-25	12:11	27-Feb-25	08:02	---	---	---	0.00004	---	---	---
Cs [mg/L]	25-Feb-25	16:25	27-Feb-25	08:02	---	---	---	1.33	---	---	---
Dy [mg/L]	26-Feb-25	12:11	27-Feb-25	08:02	---	---	---	< 0.00001	---	---	---
Er [mg/L]	26-Feb-25	12:11	27-Feb-25	08:02	---	---	---	< 0.00001	---	---	---
Eu [mg/L]	26-Feb-25	12:11	27-Feb-25	08:02	---	---	---	< 0.00001	---	---	---
Ga [mg/L]	26-Feb-25	12:11	27-Feb-25	08:02	---	---	---	< 0.0001	---	---	---
Gd (tot) [mg/L]	26-Feb-25	12:11	27-Feb-25	08:02	---	---	---	< 0.00001	---	---	---
Ge [mg/L]	25-Feb-25	16:25	27-Feb-25	08:02	---	---	---	0.0001	---	---	---
Hf [mg/L]	25-Feb-25	16:25	27-Feb-25	08:02	---	---	---	< 0.0001	---	---	---
Ho [mg/L]	26-Feb-25	12:11	27-Feb-25	08:02	---	---	---	< 0.00001	---	---	---
In [mg/L]	26-Feb-25	12:11	27-Feb-25	08:02	---	---	---	< 0.00001	---	---	---
Ir (tot) [mg/L]	26-Feb-25	15:46	27-Feb-25	08:02	---	---	---	< 0.00001	---	---	---

OnLine LIMS

0004033480

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11032-FEB25**

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: VIS-CV5-UM-304	6: VIS-CV5-UM-305	7: VIS-CV5-UM-306	8: VIS-CV5-UM-307	9: VIS-CV5-UM-308	10: VIS-CV5-UM-309	11: VIS-CV5-UM-310
La [mg/L]	26-Feb-25	12:11	27-Feb-25	08:02	---	---	---	0.00017	---	---	---
Lu [mg/L]	26-Feb-25	12:11	27-Feb-25	08:02	---	---	---	< 0.0001	---	---	---
Nb [mg/L]	25-Feb-25	16:25	27-Feb-25	08:02	---	---	---	< 0.0001	---	---	---
Nd [mg/L]	26-Feb-25	12:11	27-Feb-25	08:02	---	---	---	0.00002	---	---	---
Os (tot) [mg/L]	25-Feb-25	16:25	27-Feb-25	08:02	---	---	---	< 0.0001	---	---	---
Pd [mg/L]	25-Feb-25	16:25	27-Feb-25	08:02	---	---	---	< 0.0001	---	---	---
Pr [mg/L]	26-Feb-25	12:11	27-Feb-25	08:02	---	---	---	< 0.00001	---	---	---
Pt [mg/L]	25-Feb-25	16:25	27-Feb-25	08:02	---	---	---	< 0.0001	---	---	---
Rh [mg/L]	25-Feb-25	16:25	27-Feb-25	08:02	---	---	---	< 0.00001	---	---	---
Rb [mg/L]	25-Feb-25	16:25	27-Feb-25	08:02	---	---	---	2.25	---	---	---
Re [mg/L]	25-Feb-25	16:25	27-Feb-25	08:02	---	---	---	< 0.0001	---	---	---
Ru [mg/L]	25-Feb-25	16:25	27-Feb-25	08:02	---	---	---	< 0.00001	---	---	---
Sm [mg/L]	26-Feb-25	12:11	27-Feb-25	08:02	---	---	---	< 0.00001	---	---	---
Sc [mg/L]	26-Feb-25	12:11	27-Feb-25	08:02	---	---	---	0.0006	---	---	---
Ta [mg/L]	25-Feb-25	16:25	27-Feb-25	08:02	---	---	---	< 0.0001	---	---	---
Tb [mg/L]	26-Feb-25	12:11	27-Feb-25	08:02	---	---	---	< 0.00001	---	---	---
Te [mg/L]	25-Feb-25	16:25	27-Feb-25	08:02	---	---	---	< 0.0001	---	---	---
Th [mg/L]	25-Feb-25	16:25	27-Feb-25	08:02	---	---	---	< 0.0001	---	---	---
Tm [mg/L]	26-Feb-25	12:11	27-Feb-25	08:02	---	---	---	< 0.00001	---	---	---

Analysis	12: VIS-CV5-UM-311	13: VIS-CV5-UM-312	14: VIS-CV5-UM-313	15: VIS-CV5-UM-314	16: VIS-CV5-UM-315	17: VIS-CV5-UM-316	18: VIS-CV5-UM-317	19: VIS-CV5-UM-318	20: VIS-CV5-UM-319	21: VIS-CV5-UM-320	22: VIS-CV5-UM-321
Sample Date & Time	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sample weight [g]	100	100	100	101	100	100	100	100	100	100	100
Volume D.I. Water [mL]	400	400	400	400	400	400	400	400	400	400	400
pH [No unit]	8.47	8.95	8.90	9.27	8.61	8.78	9.08	8.02	8.47	9.73	9.36
Conductivity [uS/cm]	231	169	164	146	236	358	217	230	385	233	149
Alkalinity [mg/L as CaCO3]	83	77	78	51	51	152	62	59	156	84	52
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
F [mg/L]	1.27	0.35	0.41	1.21	1.57	1.87	1.49	1.13	0.98	7.73	1.59
Br [mg/L]	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30
Cl [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
SO4 [mg/L]	< 20	< 20	< 20	< 20	28	< 20	30	22	40	< 20	< 20
NO2 [as N mg/L]	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Tot.Reactive P [mg/L]	10.1	0.64	2.91	0.16	0.41	20.7	1.00	0.38	34.8	1.05	1.01

OnLine LIMS

0004033480

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11032-FEB25**

Analysis	12: VIS-CV5-UM-311	13: VIS-CV5-UM-312	14: VIS-CV5-UM-313	15: VIS-CV5-UM-314	16: VIS-CV5-UM-315	17: VIS-CV5-UM-316	18: VIS-CV5-UM-317	19: VIS-CV5-UM-318	20: VIS-CV5-UM-319	21: VIS-CV5-UM-320	22: VIS-CV5-UM-321
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	0.00005	< 0.00005	0.00006	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.051	0.564	0.044	0.244	0.065	0.013	0.231	0.276	0.008	0.349	0.367
As [mg/L]	29.7	1.72	8.52	0.443	1.22	58.9	2.57	1.12	96.1	2.93	2.81
Ba [mg/L]	0.00517	0.00420	0.00178	0.00118	0.00221	0.00606	0.00211	0.00216	0.00737	0.00305	0.00225
Be [mg/L]	0.000007	0.000010	0.000007	0.000013	0.000008	< 0.000007	0.000023	0.000028	< 0.000007	0.000062	0.000044
B [mg/L]	0.139	0.102	0.059	0.113	0.133	0.173	0.105	0.093	0.172	0.207	0.107
Bi [mg/L]	< 0.00001	0.00001	0.00001	< 0.00001	0.00001	0.00002	< 0.00001	0.00004	< 0.00001	0.00006	0.00001
Ca [mg/L]	10.5	2.96	6.11	3.91	13.4	13.8	6.75	12.9	23.7	3.39	4.96
Cd [mg/L]	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	0.000008	0.000010	0.000003	0.000003	0.000004
Co [mg/L]	0.000553	0.00113	0.000478	0.000191	0.000177	0.000528	0.000507	0.000806	0.000454	0.000416	0.000298
Cr [mg/L]	0.0116	0.0934	0.0671	0.0438	0.0418	0.00474	0.114	0.0830	0.00295	0.209	0.0838
Cu [mg/L]	< 0.001	< 0.001	< 0.001	0.001	< 0.001	< 0.001	< 0.001	0.003	< 0.001	0.002	< 0.001
Fe [mg/L]	0.118	0.608	0.125	0.185	0.079	0.079	0.214	0.479	0.049	0.436	0.274
K [mg/L]	10.3	18.9	0.372	7.21	7.48	2.75	9.41	6.51	0.878	32.3	9.58
Li [mg/L]	0.574	1.04	0.0061	2.32	1.20	0.0246	2.93	0.924	0.0176	3.33	1.28
Mg [mg/L]	14.0	4.24	13.8	1.54	6.23	35.1	6.07	4.69	37.8	2.40	1.84
Mn [mg/L]	0.00234	0.00631	0.00159	0.00454	0.00180	0.00098	0.00339	0.00816	0.00165	0.0112	0.00656
Mo [mg/L]	0.0066	0.0005	< 0.0004	0.0009	0.0030	0.0013	0.0097	0.0127	0.0004	0.0008	0.0006
Na [mg/L]	9.34	14.0	8.31	12.4	15.2	13.0	13.2	19.9	10.5	10.6	12.3
Ni [mg/L]	0.0264	0.0077	0.0115	0.0009	0.0025	0.129	0.0042	0.0090	0.369	0.0030	0.0019
P [mg/L]	0.026	0.041	0.012	0.009	0.019	0.009	0.017	0.021	0.022	0.027	0.012
Pb [mg/L]	< 0.00009	0.00013	0.00010	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	0.00010	0.00046
Sb [mg/L]	3.50	0.276	0.927	0.224	0.0874	3.66	0.242	0.153	6.52	0.325	0.275
Se [mg/L]	0.00058	0.00013	0.00021	0.00024	0.00169	0.00052	0.00034	0.00105	0.00095	0.00092	0.00023
Si [mg/L]	17.8	12.5	16.0	6.33	6.58	22.1	4.06	11.0	24.3	9.79	4.33
Sn [mg/L]	0.00009	0.00016	0.00008	0.00008	0.00006	0.00011	0.00011	0.00011	0.00006	0.00019	0.00015
Sr [mg/L]	0.0272	0.00985	0.0130	0.00661	0.0208	0.0394	0.0155	0.0210	0.112	0.00556	0.00822
Ti [mg/L]	0.0013	0.0193	0.0005	0.0060	0.0030	0.0003	0.0059	0.0109	0.0002	0.0181	0.0042
Tl [mg/L]	0.000156	0.000169	0.000027	0.000049	0.000097	0.000013	0.000158	0.000078	0.000005	0.000712	0.000061
U [mg/L]	0.000500	0.000050	0.000086	0.00119	0.000908	0.000068	0.000737	0.000471	0.000036	0.000521	0.00291
V [mg/L]	0.0401	0.0519	0.0203	0.0881	0.0744	0.00822	0.0488	0.0928	0.00851	0.0910	0.0704
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Au [mg/L]	0.00019	---	---	---	0.00002	---	---	---	0.00010	---	---
Ce [mg/L]	0.00031	---	---	---	0.00004	---	---	---	< 0.00001	---	---
Cs [mg/L]	0.510	---	---	---	0.0653	---	---	---	0.0238	---	---
Dy [mg/L]	0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---
Er [mg/L]	0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---

OnLine LIMS

0004033480

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	12: VIS-CV5-UM-311	13: VIS-CV5-UM-312	14: VIS-CV5-UM-313	15: VIS-CV5-UM-314	16: VIS-CV5-UM-315	17: VIS-CV5-UM-316	18: VIS-CV5-UM-317	19: VIS-CV5-UM-318	20: VIS-CV5-UM-319	21: VIS-CV5-UM-320	22: VIS-CV5-UM-321
Eu [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---
Ga [mg/L]	0.0003	---	---	---	0.0014	---	---	---	0.0047	---	---
Gd (tot) [mg/L]	0.00002	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---
Ge [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---
Hf [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---
Ho [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---
In [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---
Ir (tot) [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---
La [mg/L]	0.00017	---	---	---	0.00003	---	---	---	< 0.00001	---	---
Lu [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---
Nb [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---
Nd [mg/L]	0.00015	---	---	---	0.00002	---	---	---	< 0.00001	---	---
Os (tot) [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---
Pd [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---
Pr [mg/L]	0.00004	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---
Pt [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---
Rh [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---
Rb [mg/L]	0.596	---	---	---	0.217	---	---	---	0.0122	---	---
Re [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---
Ru [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---
Sm [mg/L]	0.00002	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---
Sc [mg/L]	0.0005	---	---	---	0.0002	---	---	---	0.0001	---	---
Ta [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---
Tb [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---
Te [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---
Th [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---
Tm [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---

Analysis	23: VIS-CV5-UM-322	24: VIS-CV5-UM-323	25: VIS-CV5-UM-324	26: VIS-CV5-UM-325	27: VIS-CV5-UM-326	28: VIS-CV5-SP-343	29: VIS-CV5-UM-319	30: VIS-CV5-SP-343	31:BLK: CTEU Blank
Sample Date & Time	NA	NA	NA	NA	NA	NA			
Sample weight [g]	101	100	101	100	100	100	100	100	< 0.001
Volume D.I. Water [mL]	400	400	400	400	400	400	400	400	400
pH [No unit]	9.28	9.07	9.03	9.06	9.11	9.17	8.46	9.04	7.32
Conductivity [uS/cm]	308	184	207	188	226	256	385	252	4
Alkalinity [mg/L as CaCO3]	70	48	61	73	74	92	152	92	2

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0004033480

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : CA11032-FEB25

Analysis	23: VIS-CV5-UM-322	24: VIS-CV5-UM-323	25: VIS-CV5-UM-324	26: VIS-CV5-UM-325	27: VIS-CV5-UM-326	28: VIS-CV5-SP-343	29: VIS-CV5-UM-319	30: VIS-CV5-SP-343	31:BLK: CTEU Blank
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
F [mg/L]	1.28	1.42	2.56	2.66	3.07	8.83	1.00	9.04	< 0.06
Br [mg/L]	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30
Cl [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
SO4 [mg/L]	42	28	20	< 20	26	< 20	< 20	< 20	< 20
NO2 [as N mg/L]	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Tot.Reactive P [mg/L]	0.06	0.13	1.00	1.75	0.28	0.58	34.9	0.57	< 0.03
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	0.00011	< 0.00005	< 0.00005	< 0.00005	0.00006	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.151	0.089	0.329	0.119	0.266	1.88	0.009	2.10	0.005
As [mg/L]	0.196	0.375	3.02	5.09	0.799	0.320	0.0349	0.313	0.0016
Ba [mg/L]	0.00270	0.00207	0.00248	0.00245	0.00147	0.00223	0.00742	0.00258	0.00013
Be [mg/L]	< 0.000007	0.000010	0.000537	0.000029	0.000050	0.00119	0.000007	0.00149	< 0.000007
B [mg/L]	0.069	0.096	0.115	0.085	0.318	0.317	0.168	0.309	< 0.002
Bi [mg/L]	< 0.00001	< 0.00001	0.00003	< 0.00001	< 0.00001	0.00040	< 0.00001	0.00043	< 0.00001
Ca [mg/L]	9.20	8.30	9.09	4.38	6.07	3.22	24.0	3.27	0.02
Cd [mg/L]	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	0.000017	< 0.000003	0.000015	0.000007
Co [mg/L]	0.000114	0.000144	0.000843	0.000379	0.000436	0.000208	0.000462	0.000138	0.000010
Cr [mg/L]	0.0888	0.0352	0.0671	0.120	0.00527	0.00162	0.00280	0.00181	< 0.00008
Cu [mg/L]	< 0.001	< 0.001	0.002	< 0.001	< 0.001	0.001	< 0.001	0.001	< 0.001
Fe [mg/L]	0.067	0.109	0.430	0.146	0.408	0.197	0.051	0.198	< 0.007
K [mg/L]	11.9	9.87	5.41	22.9	1.74	21.1	1.13	21.4	0.089
Li [mg/L]	2.30	0.976	0.822	0.907	0.0894	6.25	0.236	6.02	< 0.0001
Mg [mg/L]	13.0	3.23	4.49	6.60	2.15	0.638	37.4	0.643	0.004
Mn [mg/L]	0.00126	0.00256	0.00669	0.00275	0.00318	0.0407	0.00177	0.0441	0.00024
Mo [mg/L]	0.0042	0.0013	0.0028	0.0009	0.0044	0.0036	< 0.0004	0.0040	0.0028
Na [mg/L]	16.8	14.8	23.0	9.61	42.9	18.9	10.3	18.9	0.87
Ni [mg/L]	0.0010	0.0011	0.0062	0.0040	0.0018	0.0006	0.367	0.0006	< 0.0001
P [mg/L]	0.011	0.009	0.039	0.024	0.006	0.472	0.020	0.478	0.014
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	0.00041	0.00032	< 0.00009	0.00032	< 0.00009
Sb [mg/L]	0.229	0.113	0.340	0.411	0.916	0.0908	6.52	0.0860	< 0.0009
Se [mg/L]	0.00068	0.00091	0.00061	0.00012	0.00079	0.00012	0.00082	0.00013	< 0.00004
Si [mg/L]	2.49	5.96	7.74	9.86	6.26	4.73	24.1	5.16	< 0.02
Sn [mg/L]	0.00008	0.00008	0.00029	0.00008	0.00009	0.00174	0.00007	0.00216	0.00009
Sr [mg/L]	0.0209	0.0154	0.0146	0.0123	0.0436	0.00583	0.114	0.00587	0.00008
Ti [mg/L]	0.0015	0.0027	0.0104	0.0023	0.0015	0.0019	0.0003	0.0026	< 0.0001
Tl [mg/L]	0.000147	0.000114	0.000094	0.000426	0.000046	0.000651	< 0.000005	0.000728	< 0.000005

OnLine LIMS

0004033480

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11032-FEB25**

Analysis	23: VIS-CV5-UM-322	24: VIS-CV5-UM-323	25: VIS-CV5-UM-324	26: VIS-CV5-UM-325	27: VIS-CV5-UM-326	28: VIS-CV5-SP-343	29: VIS-CV5-UM-319	30: VIS-CV5-SP-343	31:BLK: CTEU Blank
U [mg/L]	0.000144	0.000179	0.00200	0.000044	0.000025	0.0217	0.000036	0.0222	0.000512
V [mg/L]	0.0134	0.0504	0.0704	0.0405	0.0477	0.00555	0.00871	0.00547	0.00001
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0.002	< 0.002	0.003	0.002
Au [mg/L]	---	< 0.00001	---	---	---	0.00002	0.00010	0.00004	< 0.00001
Ce [mg/L]	---	0.00005	---	---	---	0.00001	< 0.00001	0.00002	0.00010
Cs [mg/L]	---	0.0525	---	---	---	0.132	0.0230	0.135	1.18
Dy [mg/L]	---	< 0.00001	---	---	---	< 0.00001	< 0.00001	< 0.00001	0.00001
Er [mg/L]	---	< 0.00001	---	---	---	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu [mg/L]	---	< 0.00001	---	---	---	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga [mg/L]	---	0.0002	---	---	---	< 0.0001	0.0014	0.0051	0.0014
Gd (tot) [mg/L]	---	< 0.00001	---	---	---	< 0.00001	< 0.00001	< 0.00001	0.00001
Ge [mg/L]	---	< 0.0001	---	---	---	0.0003	< 0.0001	0.0004	< 0.0001
Hf [mg/L]	---	< 0.0001	---	---	---	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho [mg/L]	---	< 0.00001	---	---	---	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In [mg/L]	---	< 0.00001	---	---	---	0.00001	< 0.00001	< 0.00001	< 0.00001
Ir (tot) [mg/L]	---	< 0.00001	---	---	---	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La [mg/L]	---	0.00003	---	---	---	0.00029	0.00001	0.00002	0.00006
Lu [mg/L]	---	< 0.0001	---	---	---	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb [mg/L]	---	< 0.0001	---	---	---	0.0007	< 0.0001	0.0011	< 0.0001
Nd [mg/L]	---	0.00002	---	---	---	< 0.00001	< 0.00001	0.00001	0.00005
Os (tot) [mg/L]	---	< 0.0001	---	---	---	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd [mg/L]	---	< 0.0001	---	---	---	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr [mg/L]	---	< 0.00001	---	---	---	< 0.00001	< 0.00001	< 0.00001	0.00001
Pt [mg/L]	---	< 0.0001	---	---	---	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh [mg/L]	---	< 0.00001	---	---	---	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Rb [mg/L]	---	0.188	---	---	---	1.44	0.0122	1.44	2.46
Re [mg/L]	---	< 0.0001	---	---	---	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ru [mg/L]	---	< 0.00001	---	---	---	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sm [mg/L]	---	< 0.00001	---	---	---	< 0.00001	< 0.00001	< 0.00001	0.00001
Sc [mg/L]	---	0.0003	---	---	---	0.0008	0.0001	0.0002	0.0004
Ta [mg/L]	---	< 0.0001	---	---	---	0.0007	< 0.0001	0.0009	< 0.0001
Tb [mg/L]	---	< 0.00001	---	---	---	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te [mg/L]	---	< 0.0001	---	---	---	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th [mg/L]	---	< 0.0001	---	---	---	0.0003	< 0.0001	0.0004	0.0005
Tm [mg/L]	---	< 0.00001	---	---	---	< 0.00001	< 0.00001	< 0.00001	< 0.00001

OnLine LIMS

0004033480

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11032-FEB25**

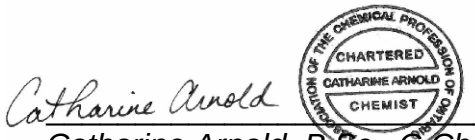
Method Descriptions

Parameter	SGS Method Code	CALA	PALA
	NA	N	N
Acidity	ME-CA-[ENV]EWL-LAK-AN-006	Y	N
Alkalinity	ME-CA-[ENV]EWL-LAK-AN-006	Y	N
Anions by IC	ME-CA-[ENV]IC-LAK-AN-001	Y	N
Anions by IC	ME-CA-[ENV]IC-LAK-AN-001	Y	Y
Conductivity	ME-CA-[ENV]EWL-LAK-AN-006	Y	Y
Fluoride by Specific Ion Electrode	ME-CA-[ENV]EWL-LAK-AN-014	Y	Y
Inorganics-General	ME-CA-[ENV]SPE-LAK-AN-004	Y	Y
Metals in aqueous samples - ICP-MS	ME-CA-[ENV]SPE-LAK-AN-006	Y	N
Metals in aqueous samples - ICP-MS	ME-CA-[ENV]SPE-LAK-AN-006	Y	Y
pH	ME-CA-[ENV]EWL-LAK-AN-006	Y	Y
Reactive Phosphorus by SFA	ME-CA-[ENV]SFA-LAK-AN-004	Y	N

Accreditation Descriptions

CALA:
SGS Canada Industries & Environment conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation found at https://directory.cala.ca/#. Analytes and SGS Method Codes marked with a “Y” in the “CALA” column in the table denote ISO/IEC17025 accreditation

PALA:
SGS Canada Industries & Environment conforms to the requirements of ISO/IEC 17025:2005 for specific tests as listed on their scope of accreditation found at https://www.ceaeq.gouv.qc.ca/documents/publications/listes.htm#labo_accr. Analytes and SGS Method Codes marked with a “Y” in the “PALA” column in the table denote ISO/IEC17025:2005 accreditation



Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0004033480

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quality Control Report

Inorganic Analysis													
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Acidity - QCBatchID: EWL0324-FEB25													
Acidity	2	mg/L as Ca	2			ND	20	102	90	110	NA		
Alkalinity - QCBatchID: EWL0324-FEB25													
Alkalinity	2	mg/L as Ca	< 2			0	20	102	80	120	NA		
Anions by IC - QCBatchID: DIO0401-FEB25													
Bromide	0.3	mg/L	<0.3			ND	20	99	90	110	99	75	125
Chloride	0.2	mg/L	<0.2			6	20	97	90	110	102	75	125
Nitrate (as N)	0.06	mg/L	<0.06			ND	20	100	90	110	102	75	125
Nitrite (as N)	0.03	mg/L	<0.03			ND	20	101	90	110	103	75	125
Sulphate	0.2	mg/L	<0.2			16	20	96	90	110	100	75	125
Anions by IC - QCBatchID: DIO0403-FEB25													
Bromide	0.3	mg/L	<0.3			ND	20	102	90	110	96	75	125
Chloride	0.2	mg/L	<0.2			12	20	99	90	110	105	75	125
Nitrate (as N)	0.06	mg/L	<0.06			ND	20	101	90	110	102	75	125
Nitrite (as N)	0.03	mg/L	<0.03			ND	20	101	90	110	103	75	125
Sulphate	0.2	mg/L	<0.2			15	20	100	90	110	117	75	125
Conductivity - QCBatchID: EWL0324-FEB25													
Conductivity	2	uS/cm	< 2			0	20	99	90	110	NA		
Fluoride by Specific Ion Electrode - QCBatchID: EWL0328-FEB25													
Fluoride	0.06	mg/L	<0.06			ND	10	100	90	110	96	75	125
Fluoride by Specific Ion Electrode - QCBatchID: EWL0336-FEB25													
Fluoride	0.06	mg/L	<0.06			0	10	102	90	110	100	75	125
Fluoride by Specific Ion Electrode - QCBatchID: EWL0353-FEB25													
Fluoride	0.06	mg/L	<0.06			ND	10	103	90	110	NV	75	125
Inorganics-General - QCBatchID: EHG0035-FEB25													
Mercury	0.00001	mg/L	< 0.00001			17	20	80	80	120	114	70	130
Metals in aqueous samples - ICP-MS - QCBatchID: EMS0181-FEB25													
Aluminum	0.001	mg/L	<0.001			1	20	101	90	110	95	70	130
Antimony	0.0009	mg/L	<0.0009			2	20	100	90	110	127	70	130
Arsenic	0.0002	mg/L	<0.0002			1	20	98	90	110	110	70	130
Barium	0.00008	mg/L	<0.00008			1	20	103	90	110	100	70	130
Beryllium	0.000007	mg/L	<0.000007			ND	20	102	90	110	97	70	130
Bismuth	0.00001	mg/L	<0.00001			ND	20	103	90	110	111	70	130
Boron	0.002	mg/L	<0.002			1	20	101	90	110	96	70	130
Cadmium	0.000003	mg/L	<0.000003			ND	20	101	90	110	107	70	130
Calcium	0.01	mg/L	<0.01			0	20	104	90	110	97	70	130

OnLine LIMS

0004033480

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank				Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)			Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High			Low	High
Chromium	0.00008	mg/L	<0.00008			ND	20	107	90	110		91	70	130
Cobalt	0.000004	mg/L	<0.000004			1	20	99	90	110		79	70	130
Copper	0.001	mg/L	<0.001			ND	20	103	90	110		111	70	130
Germanium	0.0001	mg/L	<0.0001			ND	20	102	90	110		NV	70	130
Gold	0.00001	mg/L	<0.00001			ND	20	100	90	110		NV	70	130
Hafnium	0.0001	mg/L	<0.0001			ND	20	95	90	110		NV	70	130
Iridium (total)	0.00001	mg/L	<0.00001			ND	20	106	90	110		NV	70	130
Iron	0.007	mg/L	<0.007			ND	20	108	90	110		100	70	130
Lead	0.00009	mg/L	<0.00009			ND	20	106	90	110		104	70	130
Lithium	0.0001	mg/L	<0.0001			3	20	102	90	110		112	70	130
Magnesium	0.001	mg/L	<0.001			0	20	108	90	110		100	70	130
Manganese	0.00001	mg/L	<0.00001			1	20	101	90	110		115	70	130
Molybdenum	0.0004	mg/L	<0.0004			2	20	103	90	110		100	70	130
Nickel	0.0001	mg/L	<0.0001			2	20	104	90	110		92	70	130
Niobium	0.0001	mg/L	<0.0001			ND	20	105	90	110		NV	70	130
Osmium (total)	0.0001	mg/L	<0.0001			ND	20	94	90	110		NV	70	130
Palladium	0.0001	mg/L	<0.0001			ND	20	102	90	110		NV	70	130
Phosphorus	0.003	mg/L	<0.003			ND	20	100	90	110		NV	70	130
Platinum	0.0001	mg/L	<0.0001			ND	20	103	90	110		NV	70	130
Potassium	0.009	mg/L	<0.009			3	20	104	90	110		93	70	130
Rhenium	0.0001	mg/L	<0.0001			ND	20	103	90	110		NV	70	130
Rhodium	0.00001	mg/L	<0.0001			ND	20	100	90	110		NV	70	130
Ruthenium	0.00001	mg/L	<0.0001			ND	20	104	90	110		NV	70	130
Selenium	0.00004	mg/L	<0.00004			12	20	102	90	110		97	70	130
Silicon	0.02	mg/L	<0.02			2	20	96	90	110		NV	70	130
Silver	0.00005	mg/L	<0.00005			ND	20	98	90	110		70	70	130
Sodium	0.01	mg/L	<0.01			1	20	106	90	110		104	70	130
Strontium	0.00008	mg/L	<0.00008			0	20	101	90	110		88	70	130
Tantalum	0.0001	mg/L	<0.0001			ND	20	104	90	110		NV	70	130
Tellurium	0.0001	mg/L	<0.0001			ND	20	101	90	110		NV	70	130
Thallium	0.000005	mg/L	<0.000005			0	20	104	90	110		104	70	130
Tin	0.00006	mg/L	<0.00006			9	20	102	90	110		NV	70	130
Titanium	0.0001	mg/L	<0.0001			ND	20	99	90	110		NV	70	130
Vanadium	0.00001	mg/L	<0.00001			4	20	100	90	110		106	70	130
Zinc	0.002	mg/L	<0.002			ND	20	102	90	110		118	70	130
Metals in aqueous samples - ICP-MS - QCBatchID: EMS0195-FEB25														
Aluminum	0.001	mg/L	<0.001			1	20	100	90	110		83	70	130
Antimony	0.0009	mg/L	<0.0009			2	20	100	90	110		127	70	130
Arsenic	0.0002	mg/L	<0.0002			0	20	97	90	110		109	70	130

OnLine LIMS

0004033480

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Barium	0.00008	mg/L	<0.00008			1	20	103	90	110	104	70	130
Beryllium	0.000007	mg/L	<0.000007			ND	20	102	90	110	98	70	130
Bismuth	0.00001	mg/L	<0.00001			ND	20	103	90	110	118	70	130
Boron	0.002	mg/L	<0.002			4	20	101	90	110	96	70	130
Cadmium	0.000003	mg/L	<0.000003			ND	20	101	90	110	114	70	130
Calcium	0.01	mg/L	<0.01			1	20	104	90	110	85	70	130
Cesium	0.0001	mg/L	<0.0001			ND	20	98	90	110	NV	70	130
Chromium	0.00008	mg/L	<0.00008			8	20	107	90	110	112	70	130
Cobalt	0.000004	mg/L	<0.000004			0	20	99	90	110	108	70	130
Copper	0.001	mg/L	<0.001			ND	20	103	90	110	112	70	130
Germanium	0.0001	mg/L	<0.0001			ND	20	102	90	110	NV	70	130
Gold	0.00001	mg/L	<0.00001			ND	20	100	90	110	NV	70	130
Hafnium	0.0001	mg/L	<0.0001			ND	20	95	90	110	NV	70	130
Iridium (total)	0.00001	mg/L	<0.00001			ND	20	106	90	110	NV	70	130
Iron	0.007	mg/L	<0.007			0	20	108	90	110	125	70	130
Lead	0.00009	mg/L	<0.00009			ND	20	102	90	110	103	70	130
Lithium	0.0001	mg/L	<0.0001			2	20	102	90	110	112	70	130
Magnesium	0.001	mg/L	<0.001			1	20	108	90	110	100	70	130
Manganese	0.00001	mg/L	<0.00001			5	20	101	90	110	108	70	130
Molybdenum	0.0004	mg/L	<0.0004			ND	20	103	90	110	101	70	130
Nickel	0.0001	mg/L	<0.0001			5	20	104	90	110	102	70	130
Niobium	0.0001	mg/L	<0.0001			ND	20	103	90	110	NV	70	130
Palladium	0.0001	mg/L	<0.0001			ND	20	102	90	110	NV	70	130
Phosphorus	0.003	mg/L	<0.003			ND	20	100	90	110	NV	70	130
Platinum	0.0001	mg/L	<0.0001			ND	20	103	90	110	NV	70	130
Potassium	0.009	mg/L	<0.009			1	20	101	90	110	112	70	130
Rhenium	0.0001	mg/L	<0.0001			ND	20	103	90	110	NV	70	130
Rhodium	0.00001	mg/L	<0.0001			ND	20	100	90	110	NV	70	130
Rubidium	0.0001	mg/L	< 0.0001			7	20	95	90	110	NV	70	130
Ruthenium	0.00001	mg/L	<0.0001			ND	20	104	90	110	NV	70	130
Selenium	0.00004	mg/L	<0.00004			ND	20	102	90	110	107	70	130
Silicon	0.02	mg/L	<0.02			1	20	96	90	110	NV	70	130
Silver	0.00005	mg/L	<0.00005			ND	20	98	90	110	79	70	130
Sodium	0.01	mg/L	<0.01			2	20	106	90	110	115	70	130
Strontium	0.00008	mg/L	<0.00008			1	20	101	90	110	92	70	130
Tantalum	0.0001	mg/L	<0.0001			ND	20	104	90	110	NV	70	130
Tellurium	0.0001	mg/L	<0.0001			ND	20	101	90	110	NV	70	130
Thallium	0.000005	mg/L	<0.000005			ND	20	103	90	110	104	70	130
Thorium	0.0001	mg/L	<0.0001			ND	20	97	90	110	NV	70	130

OnLine LIMS

0004033480

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material			
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Tin	0.00006	mg/L	<0.00006			11	20	102	90	110	NV	70	130
Titanium	0.0001	mg/L	<0.0001			11	20	99	90	110	NV	70	130
Uranium	0.000002	mg/L	<0.000002			0	20	100	90	110	108	70	130
Vanadium	0.00001	mg/L	<0.00001			2	20	100	90	110	92	70	130
Zinc	0.002	mg/L	<0.002			ND	20	102	90	110	116	70	130
Metals in aqueous samples - ICP-MS - QCBatchID: EMS0220-FEB25													
Cerium	0.00001	mg/L	<0.00001			5	20	95	90	110	NV	70	130
Cesium	0.0001	mg/L	<0.0001			ND	20	99	90	110	NV	70	130
Dysprosium	0.00001	mg/L	<0.00001			0	20	95	90	110	NV	70	130
Erbium	0.00001	mg/L	<0.00001			ND	20	93	90	110	NV	70	130
Europium	0.00001	mg/L	<0.00001			ND	20	94	90	110	NV	70	130
Gadolinium	0.00001	mg/L	<0.0001			ND	20	95	90	110	NV	70	130
Gallium	0.0001	mg/L	<0.0001			2	20	104	90	110	NV	70	130
Holmium	0.00001	mg/L	<0.00001			ND	20	95	90	110	NV	70	130
Indium	0.00001	mg/L	<0.00001			ND	20	101	90	110	NV	70	130
Lanthanum	0.00001	mg/L	<0.00001			4	20	94	90	110	NV	70	130
Lutetium	0.0001	mg/L	<0.0001			ND	20	94	90	110	NV	70	130
Neodymium	0.00001	mg/L	<0.00001			6	20	95	90	110	NV	70	130
Praseodymium	0.00001	mg/L	<0.00001			6	20	97	90	110	NV	70	130
Rubidium	0.0001	mg/L	<0.0001			0	20	104	90	110	NV	70	130
Samarium	0.00001	mg/L	<0.00001			6	20	92	90	110	NV	70	130
Scandium	0.0001	mg/L	<0.0001			3	20	98	90	110	NV	70	130
Terbium	0.00001	mg/L	<0.00001			ND	20	95	90	110	NV	70	130
Thorium	0.0001	mg/L	<0.0001			ND	20	91	90	110	NV	70	130
Thulium	0.00001	mg/L	<0.00001			ND	20	93	90	110	NV	70	130
Uranium	0.000002	mg/L	<0.000002			1	20	94	90	110	NV	70	130
Metals in aqueous samples - ICP-MS - QCBatchID: EMS0225-FEB25													
Antimony	0.0009	mg/L	<0.0009			ND	20	109	90	110	119	70	130
Iridium (total)	0.00001	mg/L	<0.00001			ND	20	105	90	110	NV	70	130
pH - QCBatchID: EWL0324-FEB25													
pH	0.05	No unit	NA			0		100			NA		
Reactive Phosphorus by SFA - QCBatchID: SKA0162-FEB25													
Total Reactive Phosphorous (o-phosphate as P)	0.03	mg/L	<0.03			ND	10	100	90	110	95	75	125
Reactive Phosphorus by SFA - QCBatchID: SKA0175-FEB25													
Total Reactive Phosphorous (o-phosphate as P)	0.03	mg/L	<0.03			2	10	99	90	110	98	75	125
Reactive Phosphorus by SFA - QCBatchID: SKA0184-FEB25													
Total Reactive Phosphorous (o-phosphate as P)	0.03	mg/L	0.5			ND	10	99	90	110	98	75	125

OnLine LIMS

0004033480

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

ABA - Modified Sobek

Innova Lithium Inc.
Attn : John Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

12-March-2025

Date Rec. : 12 February 2025
LR Report: **CA11128-FEB25**
Reference: Shaakichiuwaanaan Project

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-MAG-C	6: CV5-MAG-C-DUP	7: CV5-DMS-MID	8: CV5-FLO-C	9: CV5-MAG-F	10: CV5-MID-F
Sample Date & Time					NA	NA	NA	NA	NA	NA
Paste pH [no unit]	06-Mar-25	17:00	07-Mar-25	10:13	9.71	9.65	9.96	10.35	9.78	9.89
Fizz Rate [rating]	05-Mar-25	15:00	07-Mar-25	10:13	3	3	3	3	3	3
Sample weight [g]	05-Mar-25	13:33	07-Mar-25	10:13	2.00	2.03	2.03	2.02	2.01	2.00
HCl_add [mL]	06-Mar-25	14:00	07-Mar-25	10:13	20.00	20.00	20.00	20.00	20.00	20.00
HCl [Normality]	05-Mar-25	15:38	07-Mar-25	10:13	0.10	0.10	0.10	0.10	0.10	0.10
NaOH [Normality]	05-Mar-25	15:48	07-Mar-25	10:13	0.10	0.10	0.10	0.10	0.10	0.10
Vol NaOH to pH=8.3 [mL]	06-Mar-25	16:10	07-Mar-25	10:13	12.19	10.96	16.20	18.67	11.32	16.25
Final pH [no unit]	06-Mar-25	16:00	07-Mar-25	10:13	1.45	1.51	1.17	1.08	1.57	1.17
NP [t CaCO3/1000 t]	06-Mar-25	16:35	07-Mar-25	10:13	19.5	22.3	9.4	3.3	21.6	9.4
AP [t CaCO3/1000 t]	06-Mar-25	16:35	07-Mar-25	10:13	1.12	2.34	0.31	0.31	1.31	0.31
Net NP [t CaCO3/1000 t]	06-Mar-25	16:35	07-Mar-25	10:13	18.4	20.0	9.09	2.99	20.3	9.09
NP/AP [ratio]	06-Mar-25	16:35	07-Mar-25	10:13	17.3	9.51	30.1	10.6	16.5	30.1
S [%]	26-Feb-25	09:21	27-Feb-25	09:28	0.099	0.126	0.029	< 0.005	0.078	0.020
Acid Leachable SO4-S [%]	27-Feb-25	09:28	27-Feb-25	09:28	0.06	0.05	< 0.04	< 0.04	< 0.04	< 0.04
Sulphide [%]	27-Feb-25	08:48	27-Feb-25	09:28	0.04	0.08	< 0.01	< 0.01	0.04	< 0.01
C [%]	26-Feb-25	09:21	27-Feb-25	09:28	0.122	0.156	0.065	0.017	0.116	0.058

OnLine LIMS

0000402735

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-MAG-C	6: CV5-MAG-C-DUP	7: CV5-DMS-MID	8: CV5-FLO-C	9: CV5-MAG-F	10: CV5-MID-F
CO3 (HCl) as %CO3 [%]	27-Feb-25	11:36	27-Feb-25	11:46	0.51	0.68	0.16	< 0.04	0.45	0.21

Analysis	11: CV5-FLO-F
Sample Date & Time	NA
Paste pH [no unit]	10.29
Fizz Rate [rating]	3
Sample weight [g]	2.01
HCl_add [mL]	20.00
HCl [Normality]	0.10
NaOH [Normality]	0.10
Vol NaOH to pH=8.3 [mL]	18.48
Final pH [no unit]	1.06
NP [t CaCO3/1000 t]	3.8
AP [t CaCO3/1000 t]	0.31
Net NP [t CaCO3/1000 t]	3.49
NP/AP [ratio]	12.2
S [%]	< 0.005
Acid Leachable SO4-S [%]	< 0.04
Sulphide [%]	< 0.01
C [%]	0.022
CO3 (HCl) as %CO3 [%]	< 0.04

*NP (Neutralization Potential)
 = 50 x (N of HCL x Total HCL added - N NaOH x NaOH added)

                        Weight of Sample

*AP (Acid Potential) = % Sulphide Sulphur x 31.25
*Net NP (Net Neutralization Potential) = NP-AP
NP/AP Ratio = NP/AP
*Results expressed as tonnes CaCO3 equivalent/1000 tonnes of material

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0004042735

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Samples with a % Sulphide value of <0.04 will be calculated using a 0.04 value.

Method Descriptions

Parameter	Units	SGS Method Code	CALA	PALA
	g	NA	N	N
	mL		N	N
	mL	NA	N	N
	no unit	NA	N	N
	Normality	NA	N	N
	rating	NA	N	N
	ratio	ME-CA-[ENV]ARD-LAK-AN-001/003	N	N
	t CaCO3/1000 t	ME-CA-[ENV]ARD-LAK-AN-001/003	N	N
Acid Potential	t CaCO3/1000 t	ME-CA-[ENV]ARD-LAK-AN-001/003	Y	Y
Carbon/Sulphur	%	ME-CA-[ENV]ARD-LAK-AN-019	Y	N
Carbon/Sulphur	%	ME-CA-[ENV]ARD-LAK-AN-019	Y	Y
Carbon/Sulphur	%	ME-CA-[ENV]ARD-LAK-AN-020	Y	N
Neutralization Potential	t CaCO3/1000 t	ME-CA-[ENV]ARD-LAK-AN-001/003	N	Y
Paste pH	no unit	ME-CA-[ENV]ARD-LAK-AN-005	Y	N

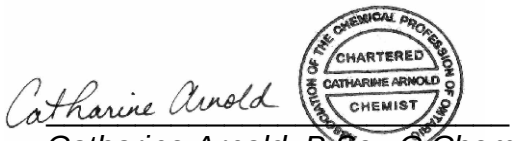
Accreditation Descriptions

CALA:

SGS Canada Industries & Environment conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation found at https://directory.cala.ca/#. Analytes and SGS Method Codes marked with a “Y” in the “CALA” column in the table denote ISO/IEC17025 accreditation

PALA:

SGS Canada Industries & Environment conforms to the requirements of ISO/IEC 17025:2005 for specific tests as listed on their scope of accreditation found at https://www.ceaeq.gouv.qc.ca/documents/publications/listes.htm#labo_accr. Analytes and SGS Method Codes marked with a “Y” in the “PALA” column in the table denote ISO/IEC17025:2005 accreditation



Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0004042735

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quality Control Report

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material			
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)		
							%		Low	High		Low	High	
Carbon/Sulphur - QCBatchID: ECS0084-FEB25														
Carbon (total)	0.005	%	<0.005			17	20				100	70	130	
Sulphur (total)	0.005	%	<0.005			ND	20				104	70	130	
Carbon/Sulphur - QCBatchID: ECS0086-FEB25														
Carbon (total)	0.005	%	<0.005			6	20				99	70	130	
Sulphur (total)	0.005	%	<0.005			ND	20				102	70	130	
Carbon/Sulphur - QCBatchID: ECS0093-FEB25														
Sulphide	0.01	%	< 0.01			7	20	112	80	120				
Carbon/Sulphur - QCBatchID: ECS0095-FEB25														
Carbonate (HCl) as %CO3	0.04	%	<0.04			7	20	101	80	120				

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

00004042735

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

03-March-2025

Innova Lithium Inc.
Attn : John Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 12 February 2025
LR Report: **CA11129-FEB25**
Reference: Shaakichiuwaanaan Project

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-MAG-C	6: CV5-MAG-C-DUP	7: CV5-DMS-MID
Sample Date & Time					NA	NA	NA
Hg [ug/g]	28-Feb-25	11:58	28-Feb-25	10:03	< 0.05	< 0.05	< 0.05
Ag [µg/g]	26-Feb-25	22:35	27-Feb-25	13:15	< 0.5	< 0.5	< 0.5
Al [µg/g]	26-Feb-25	22:35	27-Feb-25	13:15	12000	12000	5600
As [µg/g]	26-Feb-25	22:35	27-Feb-25	13:15	300	200	60
B [µg/g]	26-Feb-25	22:35	27-Feb-25	13:15	180	190	140
Ba [µg/g]	26-Feb-25	22:35	27-Feb-25	13:15	14	17	10
Be [µg/g]	26-Feb-25	22:35	27-Feb-25	13:15	0.68	0.80	1.6
Bi [µg/g]	26-Feb-25	22:35	27-Feb-25	13:15	1.1	0.75	7.1
Ca [µg/g]	26-Feb-25	22:35	27-Feb-25	13:15	6400	6600	2200
Cd [µg/g]	26-Feb-25	22:35	27-Feb-25	13:15	0.03	0.04	0.12
Co [µg/g]	26-Feb-25	22:35	27-Feb-25	13:15	24	23	4.4
Cr [µg/g]	26-Feb-25	22:35	27-Feb-25	13:15	450	450	160
Cu [µg/g]	26-Feb-25	22:35	27-Feb-25	13:15	40	43	5.0
Fe [µg/g]	26-Feb-25	22:35	27-Feb-25	13:15	15000	15000	5300
K [µg/g]	26-Feb-25	22:35	27-Feb-25	13:15	1800	2300	1500
Li [µg/g]	26-Feb-25	22:35	27-Feb-25	13:15	6	6	6
Mg [µg/g]	26-Feb-25	22:35	27-Feb-25	13:15	16000	17000	4700
Mn [µg/g]	26-Feb-25	22:35	27-Feb-25	13:15	270	260	250
Mo [µg/g]	26-Feb-25	22:35	27-Feb-25	13:15	0.1	0.2	0.3
Na [µg/g]	26-Feb-25	22:35	27-Feb-25	13:15	310	300	590
Ni [µg/g]	26-Feb-25	22:35	27-Feb-25	13:15	230	230	42
P [µg/g]	26-Feb-25	22:35	27-Feb-25	13:15	180	220	360
Pb [µg/g]	26-Feb-25	22:35	27-Feb-25	13:15	1.4	0.86	2.5
Sb [µg/g]	26-Feb-25	22:35	27-Feb-25	13:15	25	21	8.1
Se [µg/g]	26-Feb-25	22:35	27-Feb-25	13:15	0.2	0.1	< 0.1
Sn [µg/g]	26-Feb-25	22:35	27-Feb-25	13:15	< 5	< 5	< 5
Sr [µg/g]	26-Feb-25	22:35	27-Feb-25	13:15	7.9	9.1	4.0
Ti [µg/g]	26-Feb-25	22:35	27-Feb-25	13:15	310	350	120
Tl [µg/g]	26-Feb-25	22:35	27-Feb-25	13:15	2.3	2.9	1.1

OnLine LIMS

0004033448

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11129-FEB25**

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-MAG-C	6: CV5-MAG-C-DUP	7: CV5-DMS-MID
U [µg/g]	26-Feb-25	22:35	27-Feb-25	13:15	1.8	1.7	8.4
V [µg/g]	26-Feb-25	22:35	27-Feb-25	13:15	28	26	8
Zn [µg/g]	26-Feb-25	22:35	27-Feb-25	13:15	18	21	11
Ce [µg/g]	26-Feb-25	22:35	27-Feb-25	13:15	2.46	3.58	2.93
Cs [µg/g]	26-Feb-25	22:35	27-Feb-25	13:15	560	650	930
Dy [µg/g]	26-Feb-25	22:35	27-Feb-25	13:15	0.34	0.41	0.43
Er [µg/g]	26-Feb-25	22:35	27-Feb-25	13:15	0.16	0.23	0.11
Eu [µg/g]	26-Feb-25	22:35	27-Feb-25	13:15	0.056	0.077	0.041
Ga [µg/g]	26-Feb-25	17:39	27-Feb-25	14:01	3.02	3.00	2.87
Gd [µg/g]	26-Feb-25	22:35	27-Feb-25	13:15	0.41	0.46	0.55
Ge [µg/g]	26-Feb-25	22:35	27-Feb-25	13:15	0.4	0.5	< 0.3
Hf [µg/g]	26-Feb-25	22:35	27-Feb-25	13:15	< 0.1	< 0.1	0.4
Ho [µg/g]	26-Feb-25	22:35	27-Feb-25	13:15	0.054	0.078	0.046
In [µg/g]	26-Feb-25	17:39	27-Feb-25	14:01	0.01	0.01	0.01
Ir [µg/g]	26-Feb-25	22:35	27-Feb-25	13:15	< 0.01	< 0.01	< 0.01
La [µg/g]	26-Feb-25	22:35	27-Feb-25	13:15	1.19	1.72	1.43
Lu [µg/g]	26-Feb-25	22:35	27-Feb-25	13:15	0.031	0.033	0.019
Nb [µg/g]	26-Feb-25	22:35	27-Feb-25	13:15	< 0.1	< 0.1	0.3
Os [µg/g]	26-Feb-25	22:35	27-Feb-25	13:15	< 0.1	< 0.1	< 0.1
Pr [µg/g]	26-Feb-25	22:35	27-Feb-25	13:15	0.28	0.43	0.34
Rh [µg/g]	26-Feb-25	22:35	27-Feb-25	13:15	< 0.01	< 0.01	< 0.01
Rb [µg/g]	26-Feb-25	22:35	27-Feb-25	13:15	261	335	163
Re [µg/g]	26-Feb-25	22:35	27-Feb-25	13:15	< 0.05	< 0.05	< 0.05
Ru [µg/g]	26-Feb-25	22:35	27-Feb-25	13:15	< 0.01	< 0.01	< 0.01
Sm [µg/g]	26-Feb-25	22:35	27-Feb-25	13:15	0.32	0.39	0.47
Sc [µg/g]	26-Feb-25	17:39	27-Feb-25	14:01	2.85	2.65	1.17
Ta [µg/g]	26-Feb-25	22:35	27-Feb-25	13:15	< 0.01	< 0.01	0.02
Tb [µg/g]	26-Feb-25	17:39	27-Feb-25	14:01	0.081	0.081	0.12
Te [µg/g]	26-Feb-25	22:35	27-Feb-25	13:15	< 0.1	< 0.1	< 0.1
Th [µg/g]	26-Feb-25	22:35	27-Feb-25	13:15	0.90	0.66	3.3
Tm [µg/g]	26-Feb-25	17:39	27-Feb-25	14:01	0.025	0.032	0.016

Analysis	8: CV5-FLO-C	9: CV5-MAG-F	10: CV5-MID-F	11: CV5-FLO-F
Sample Date & Time	NA	NA	NA	NA
Hg [ug/g]	< 0.05	< 0.05	< 0.05	< 0.05
Ag [µg/g]	< 0.5	< 0.5	< 0.5	< 0.5
Al [µg/g]	2000	10000	5800	2300
As [µg/g]	12	200	51	13
B [µg/g]	27	240	140	30
Ba [µg/g]	1.1	13	12	2.3
Be [µg/g]	1.4	1.0	2.5	1.3
Bi [µg/g]	8.3	2.2	24	8.0

OnLine LIMS

0004033448

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11129-FEB25**

Analysis	8: CV5-FLO-C	9: CV5-MAG-F	10: CV5-MID-F	11: CV5-FLO-F
Ca [µg/g]	990	8800	2500	840
Cd [µg/g]	0.06	0.60	0.17	0.04
Co [µg/g]	0.22	16	4.7	0.50
Cr [µg/g]	58	320	170	73
Cu [µg/g]	1.0	39	6.1	1.1
Fe [µg/g]	1000	12000	5600	1500
K [µg/g]	1300	1900	1600	1300
Li [µg/g]	2	14	6	2
Mg [µg/g]	190	12000	5000	520
Mn [µg/g]	59	930	230	59
Mo [µg/g]	0.1	0.2	0.2	0.2
Na [µg/g]	970	350	520	1000
Ni [µg/g]	1.7	150	48	4.2
P [µg/g]	290	1900	490	200
Pb [µg/g]	2.6	2.8	2.8	2.1
Sb [µg/g]	2.8	20	7.2	3.0
Se [µg/g]	< 0.1	0.1	< 0.1	< 0.1
Sn [µg/g]	< 5	< 5	< 5	< 5
Sr [µg/g]	3.9	9.1	3.9	2.8
Ti [µg/g]	6.0	240	120	16
Tl [µg/g]	0.98	2.0	1.2	0.99
U [µg/g]	8.5	9.3	5.8	4.8
V [µg/g]	< 1	19	8	< 1
Zn [µg/g]	2.0	21	16	3.4
Ce [µg/g]	0.59	4.04	2.95	0.64
Cs [µg/g]	76	530	780	89
Dy [µg/g]	0.20	1.63	0.53	0.14
Er [µg/g]	0.027	0.28	0.12	0.027
Eu [µg/g]	0.019	0.072	0.036	0.012
Ga [µg/g]	1.27	4.18	3.28	1.37
Gd [µg/g]	0.32	1.86	0.70	0.20
Ge [µg/g]	< 0.3	0.5	< 0.3	< 0.3
Hf [µg/g]	0.5	0.2	0.4	0.4
Ho [µg/g]	0.017	0.14	0.053	0.013
In [µg/g]	< 0.01	0.02	0.02	< 0.01
Ir [µg/g]	< 0.01	< 0.01	< 0.01	< 0.01
La [µg/g]	0.24	1.89	1.46	0.29
Lu [µg/g]	0.005	0.039	0.017	0.005
Nb [µg/g]	0.8	0.2	0.3	0.6
Os [µg/g]	< 0.1	< 0.1	< 0.1	< 0.1
Pr [µg/g]	0.081	0.48	0.34	0.076
Rh [µg/g]	< 0.01	< 0.01	< 0.01	< 0.01
Rb [µg/g]	150	278	192	149
Re [µg/g]	< 0.05	< 0.05	< 0.05	< 0.05
Ru [µg/g]	< 0.01	< 0.01	< 0.01	< 0.01

OnLine LIMS

0004033448

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

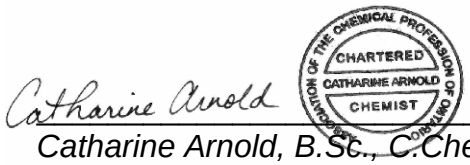
SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11129-FEB25**

Analysis	8: CV5-FLO-C	9: CV5-MAG-F	10: CV5-MID-F	11: CV5-FLO-F
Sm [µg/g]	0.24	1.33	0.57	0.18
Sc [µg/g]	0.11	2.33	1.14	0.18
Ta [µg/g]	< 0.01	0.02	0.03	< 0.01
Tb [µg/g]	0.071	0.48	0.16	0.045
Te [µg/g]	< 0.1	< 0.1	< 0.1	< 0.1
Th [µg/g]	2.5	4.4	3.0	1.8
Tm [µg/g]	0.005	0.043	0.017	0.004

Method Descriptions

Parameter	SGS Method Code
Mercury by CVAAS	ME-CA-[ENV]SPE-LAK-AN-004
Metals - Microwave/ICP-MS	ME-CA-[ENV]SPE-LAK-AN-007
Metals, ICP-MS	ME-CA-[ENV]SPE-LAK-AN-005



Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0004033448

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quebec MA200-Met 1.2 Digest

LR Report : **CA11129-FEB25**

Quality Control Report

Inorganic Analysis													
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Mercury by CVAAS - QCBatchID: EHG0041-FEB25													
Mercury	0.05	ug/g	<0.05			ND	20	111	80	120	101	70	130
Metals - Microwave/ICP-MS - QCBatchID: EMS0203-FEB25													
Cerium	0.001	µg/g	<0.01			7	20	101	70	130	NV	70	130
Cesium	0.01	µg/g	<0.01			3	20	102	70	130	NV	70	130
Dysprosium	0.001	µg/g	<0.01			12	20	102	70	130	NV	70	130
Erbium	0.001	µg/g	<0.01			5	20	101	70	130	NV	70	130
Europium	0.001	µg/g	<0.01			9	20	99	70	130	NV	70	130
Gadolinium	0.001	µg/g	<0.01			3	20	100	70	130	NV	70	130
Germanium	0.3	µg/g	<0.0001			ND	20	104	70	130	NV	70	130
Hafnium	0.1	µg/g	<0.0001			5	20	105	70	130	NV	70	130
Holmium	0.001	µg/g	<0.01			ND	20	102	70	130	NV	70	130
Iridium	0.01	µg/g	<0.0001			ND	20	92	70	130	NV	70	130
Lanthanum	0.001	µg/g	<0.01			10	20	98	70	130	NV	70	130
Lutetium	0.001	µg/g	<0.01			ND	20	100	70	130	NV	70	130
Niobium	0.1	µg/g	<0.01			6	20	106	70	130	NV	70	130
Osmium	0.1	µg/g	<0.0001			ND	20	94	70	130	NV	70	130
Praseodymium	0.001	µg/g	<0.01			10	20	104	70	130	NV	70	130
Rhenium	0.05	µg/g	<0.0001			ND	20	94	70	130	NV	70	130
Rhodium	0.01	µg/g	<0.0001			ND	20	95	70	130	NV	70	130
Rubidium	0.004	µg/g	<0.0001			ND	20	103	70	130	NV	70	130
Ruthenium	0.01	µg/g	<0.0001			ND	20	92	70	130	NV	70	130
Samarium	0.001	µg/g	<0.01			14	20	102	70	130	NV	70	130
Tantalum	0.01	µg/g	<0.0001			1	20	107	70	130	NV	70	130
Tellurium	0.1	µg/g	<0.01			ND	20	104	70	130	NV	70	130
Metals - Microwave/ICP-MS - QCBatchID: EMS0238-FEB25													
Gallium	0.03	µg/g	< 0.03			7	20	93	70	130			
Indium	0.01	µg/g	< 0.01			ND	20	100	70	130			
Metals, ICP-MS - QCBatchID: EMS0203-FEB25													
Aluminum	3	µg/g	<3			3	20	99	70	130	99	70	130
Antimony	0.8	µg/g	<0.8			2	20	103	70	130	NV	70	130
Arsenic	0.5	µg/g	<0.5			6	20	94	70	130	110	70	130
Barium	0.01	µg/g	<0.01			11	20	95	70	130	88	70	130
Beryllium	0.02	µg/g	<0.02			3	20	92	70	130	100	70	130
Bismuth	0.09	µg/g	<0.09			5	20	92	70	130	NV	70	130
Boron	1	µg/g	<1			1	20	97	70	130	NV	70	130

OnLine LIMS

0004033448

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quebec MA200-Met 1.2 Digest

LR Report : **CA11129-FEB25**

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Cadmium	0.02	µg/g	<0.02			2	20	95	70	130	114	70	130
Calcium	3	µg/g	<3			2	20	105	70	130	100	70	130
Chromium	0.5	µg/g	<0.5			4	20	97	70	130	102	70	130
Cobalt	0.01	µg/g	<0.01			5	20	92	70	130	85	70	130
Copper	0.1	µg/g	<0.1			4	20	95	70	130	81	70	130
Iron	3	µg/g	<3			2	20	106	70	130	114	70	130
Lead	0.05	µg/g	<0.05			10	20	92	70	130	90	70	130
Lithium	2	µg/g	<2			1	20	97	70	130	73	70	130
Magnesium	3	µg/g	<1			5	20	107	70	130	102	70	130
Manganese	0.1	µg/g	<0.1			5	20	97	70	130	95	70	130
Molybdenum	0.1	µg/g	<0.1			3	20	104	70	130	110	70	130
Nickel	0.1	µg/g	<0.1			12	20	97	70	130	90	70	130
Phosphorus	3	µg/g	<3			6	20	106	70	130	NV	70	130
Potassium	3	µg/g	<3			6	20	104	70	130	92	70	130
Selenium	0.1	µg/g	<0.1			ND	20	93	70	130	NV	70	130
Silver	0.5	µg/g	<0.5			ND	20	93	70	130	83	70	130
Sodium	3	µg/g	<3			9	20	102	70	130	103	70	130
Strontium	0.02	µg/g	<0.02			4	20	97	70	130	93	70	130
Thallium	0.02	µg/g	<0.02			3	20	96	70	130	111	70	130
Thorium	0.01	µg/g	<0.5			2	20	96	70	130	NV	70	130
Tin	5	µg/g	<5			ND	20	105	70	130	101	70	130
Titanium	0.1	µg/g	<0.1			18	20	104	70	130	NV	70	130
Uranium	0.002	µg/g	<0.002			4	20	94	70	130	81	70	130
Vanadium	1	µg/g	<1			ND	20	97	70	130	105	70	130
Zinc	0.7	µg/g	<0.7			4	20	98	70	130	93	70	130

OnLine LIMS

0004033448

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

24-March-2025

Innova Lithium Inc.
Attn : John Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 12 February 2025
LR Report: **CA11131-FEB25**
Reference: Shaakichiuwaanaan Project

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-MAG-C	6: CV5-MAG-C-DUP	7: CV5-DMS-MID	8: CV5-FLO-C	9: CV5-MAG-F	10: CV5-MID-F	11: CV5-FLO-F	12: CV5-FLO-F	13:BLK: CTEU Blank
Sample Date & Time			NA	NA	NA	NA	NA	NA	NA		
Sample weight [g]	11-Mar-25	16:51	99	100	100	99	100	101	100	100	---
Volume D.I. Water [mL]	11-Mar-25	16:51	400	400	400	400	400	400	400	400	400
Alkalinity [mg/L as CaCO3]	11-Mar-25	14:53	87	82	88	72	71	69	76	76	4
pH [No unit]	11-Mar-25	14:53	9.25	9.29	9.39	9.33	9.16	9.29	9.51	9.47	6.80
Acidity [mg/L as CaCO3]	11-Mar-25	14:53	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	3
Conductivity [uS/cm]	11-Mar-25	14:53	207	199	191	169	177	165	194	194	5
F [mg/L]	11-Mar-25	12:56	2.76	2.76	3.68	1.11	4.17	3.38	1.44	1.46	< 0.06
Cl [mg/L]	11-Mar-25	14:15	< 20	< 20	< 20	< 20	< 20	< 20	24	23	< 20
SO4 [mg/L]	11-Mar-25	14:15	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
NO2 [as N mg/L]	11-Mar-25	14:15	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	11-Mar-25	14:15	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Br [mg/L]	11-Mar-25	14:15	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30
Tot.Reactive P [mg/L]	13-Mar-25	09:18	4.26	3.92	1.04	1.42	2.14	1.02	1.01	1.02	< 0.03
Hg [mg/L]	12-Mar-25	12:16	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	12-Mar-25	12:16	< 0.00005	< 0.00005	< 0.00005	0.00006	< 0.00005	< 0.00005	0.00012	0.00014	< 0.00005
Al [mg/L]	12-Mar-25	12:16	0.086	0.127	1.23	1.82	0.405	1.69	2.36	2.12	0.001
As [mg/L]	17-Mar-25	13:53	11.7	10.4	1.03	1.68	4.85	1.94	0.946	0.959	< 0.0002
Ba [mg/L]	12-Mar-25	12:16	0.00226	0.00224	0.00228	0.00165	0.00140	0.00342	0.00254	0.00252	0.00303
Be [mg/L]	12-Mar-25	12:16	0.000014	0.000025	0.000604	0.000493	0.000105	0.000904	0.00111	0.000907	< 0.000007
B [mg/L]	12-Mar-25	12:16	0.189	0.170	0.211	0.135	0.475	0.204	0.140	0.133	< 0.002
Bi [mg/L]	12-Mar-25	12:16	0.00002	0.00003	0.00429	0.00324	0.00015	0.00307	0.00370	0.00377	< 0.00001

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

000040555906

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11131-FEB25**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-MAG-C	6: CV5-MAG-C-DUP	7: CV5-DMS-MID	8: CV5-FLO-C	9: CV5-MAG-F	10: CV5-MID-F	11: CV5-FLO-F	12: CV5-FLO-F	13:BLK: CTEU Blank
Ca [mg/L]	12-Mar-25	12:16	6.93	6.59	1.26	0.91	3.43	2.02	1.14	1.11	0.03
Cd [mg/L]	12-Mar-25	12:16	0.000011	0.000006	0.000028	0.000020	0.000015	0.000025	0.000027	0.000024	0.000026
Co [mg/L]	12-Mar-25	12:16	0.000391	0.000527	0.000361	0.000082	0.000714	0.00116	0.000214	0.000206	0.000032
Cr [mg/L]	12-Mar-25	12:16	0.0910	0.0880	0.0119	0.00395	0.0279	0.0278	0.0104	0.00993	< 0.00008
Cu [mg/L]	12-Mar-25	12:16	< 0.001	< 0.001	< 0.001	0.001	< 0.001	0.002	0.002	0.002	< 0.001
Fe [mg/L]	12-Mar-25	12:16	0.113	0.163	0.288	0.086	0.246	0.710	0.245	0.234	< 0.007
K [mg/L]	12-Mar-25	12:17	14.1	14.8	10.9	10.3	23.8	15.4	12.0	11.6	0.236
Li [mg/L]	12-Mar-25	12:17	1.27	1.25	2.37	0.587	2.18	1.71	0.822	0.768	< 0.0001
Mg [mg/L]	12-Mar-25	12:17	10.6	9.95	0.567	0.138	2.90	1.74	0.316	0.293	0.003
Mn [mg/L]	12-Mar-25	12:17	0.00257	0.00378	0.0180	0.0311	0.0150	0.0427	0.0289	0.0280	0.00041
Mo [mg/L]	12-Mar-25	12:17	0.0034	0.0018	0.0157	0.0055	0.0048	0.0026	0.0057	0.0055	0.0005
Na [mg/L]	12-Mar-25	12:17	12.4	13.4	20.3	29.7	11.1	18.3	35.3	35.0	0.91
Ni [mg/L]	12-Mar-25	12:17	0.0057	0.0064	0.0020	0.0004	0.0054	0.0088	0.0011	0.0011	< 0.0001
Pb [mg/L]	12-Mar-25	12:17	< 0.00009	< 0.00009	0.00098	0.00136	0.00026	0.00139	0.00234	0.00233	0.00118
Sb [mg/L]	12-Mar-25	12:17	1.61	1.40	0.343	0.305	0.936	0.434	0.280	0.273	< 0.0009
Se [mg/L]	12-Mar-25	12:17	0.00065	0.00054	0.00013	0.00038	0.00035	0.00014	0.00039	0.00037	< 0.00004
Si [mg/L]	12-Mar-25	12:17	15.6	16.0	6.62	8.22	8.77	9.47	9.12	8.46	< 0.02
Sn [mg/L]	12-Mar-25	12:17	0.00010	0.00011	0.00107	0.00073	0.00143	0.00198	0.00116	0.00097	0.00007
Sr [mg/L]	12-Mar-25	12:17	0.0156	0.0148	0.00317	0.00461	0.00566	0.00469	0.00310	0.00313	0.00112
Ti [mg/L]	12-Mar-25	12:17	0.0019	0.0026	0.0121	0.0014	0.0054	0.0195	0.0052	0.0047	0.0002
Tl [mg/L]	12-Mar-25	12:17	0.000168	0.000185	0.000462	0.00165	0.000345	0.000516	0.00269	0.00267	< 0.000005
U [mg/L]	12-Mar-25	12:17	0.00644	0.00628	0.0615	0.156	0.0210	0.0242	0.132	0.135	0.000004
V [mg/L]	12-Mar-25	12:17	0.0660	0.0647	0.0244	0.00312	0.0422	0.0278	0.00815	0.00807	0.00001
Zn [mg/L]	12-Mar-25	12:17	< 0.002	< 0.002	0.003	0.003	0.003	0.004	0.004	0.004	0.004
Ce [mg/L]	17-Mar-25	13:53	0.00002	0.00003	0.00052	0.00027	0.00008	0.00072	0.00046	0.00047	0.00005
Cs [mg/L]	12-Mar-25	12:17	0.472	0.481	0.117	0.0415	0.322	0.171	0.0545	0.0536	< 0.0001
Dy [mg/L]	17-Mar-25	13:53	< 0.00001	< 0.00001	0.00008	0.00007	0.00002	0.00009	0.00009	0.00010	< 0.00001
Er [mg/L]	17-Mar-25	13:53	< 0.00001	< 0.00001	0.00002	0.00001	< 0.00001	0.00003	0.00002	0.00002	< 0.00001
Eu [mg/L]	17-Mar-25	13:53	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00001	0.00001	< 0.00001	< 0.00001
Ga [mg/L]	17-Mar-25	13:53	0.0002	0.0002	0.0247	0.0253	0.0022	0.0071	0.0277	0.0268	< 0.0001
Gd (tot) [mg/L]	17-Mar-25	13:53	< 0.00001	< 0.00001	0.00010	0.00011	0.00003	0.00013	0.00015	0.00017	< 0.00001
Ge [mg/L]	12-Mar-25	12:17	< 0.0001	< 0.0001	0.0003	0.0012	0.0002	0.0003	0.0011	0.0011	< 0.0001
Hf [mg/L]	12-Mar-25	12:17	< 0.0001	< 0.0001	0.0002	0.0001	< 0.0001	0.0003	0.0002	0.0003	< 0.0001
Ho [mg/L]	17-Mar-25	13:53	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00001	< 0.00001	0.00001	< 0.00001
In [mg/L]	17-Mar-25	13:53	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00001	< 0.00001	< 0.00001	< 0.00001
La [mg/L]	17-Mar-25	13:53	0.00011	0.00010	0.00026	0.00014	0.00009	0.00036	0.00022	0.00022	0.00002
Lu [mg/L]	17-Mar-25	13:53	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb [mg/L]	12-Mar-25	12:17	0.0001	0.0001	0.0011	0.0027	0.0011	0.0022	0.0031	0.0034	< 0.0001

OnLine LIMS

00004055006

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11131-FEB25**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-MAG-C	6: CV5-MAG-C-DUP	7: CV5-DMS-MID	8: CV5-FLO-C	9: CV5-MAG-F	10: CV5-MID-F	11: CV5-FLO-F	12: CV5-FLO-F	13:BLK: CTEU Blank
Os [mg/L]	12-Mar-25	12:17	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr [mg/L]	17-Mar-25	13:53	< 0.00001	< 0.00001	0.00007	0.00004	0.00001	0.00009	0.00006	0.00006	< 0.00001
Rh [mg/L]	12-Mar-25	12:17	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Rb [mg/L]	12-Mar-25	12:17	0.834	0.871	0.734	0.496	1.67	0.931	0.589	0.591	< 0.0001
Re [mg/L]	12-Mar-25	12:17	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ru [mg/L]	12-Mar-25	12:17	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sm [mg/L]	17-Mar-25	13:53	< 0.00001	< 0.00001	0.00009	0.00010	0.00002	0.00012	0.00014	0.00014	< 0.00001
Sc [mg/L]	17-Mar-25	13:53	0.0006	0.0006	0.0004	0.0004	0.0004	0.0007	0.0004	0.0005	< 0.0001
Ta [mg/L]	12-Mar-25	12:17	< 0.0001	< 0.0001	0.0004	0.0005	0.0004	0.0009	0.0004	0.0006	< 0.0001
Tb [mg/L]	17-Mar-25	13:53	< 0.00001	< 0.00001	0.00002	0.00002	< 0.00001	0.00002	0.00003	0.00003	< 0.00001
Te [mg/L]	12-Mar-25	12:17	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th [mg/L]	12-Mar-25	12:17	< 0.0001	< 0.0001	0.0006	0.0005	0.0001	0.0011	0.0014	0.0014	< 0.0001
Tm [mg/L]	17-Mar-25	13:53	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Method Descriptions

Parameter	Units	SGS Method Code	CALA	PALA
	g	NA	N	N
	mL	NA	N	N
Acidity	mg/L as CaCO3	ME-CA-[ENV]EWL-LAK-AN-006	Y	N
Alkalinity	mg/L as CaCO3	ME-CA-[ENV]EWL-LAK-AN-006	Y	N
Anions by IC	mg/L	ME-CA-[ENV]IC-LAK-AN-001	Y	N
Anions by IC	mg/L	ME-CA-[ENV]IC-LAK-AN-001	Y	Y
Conductivity	uS/cm	ME-CA-[ENV]EWL-LAK-AN-006	Y	Y
Fluoride by Specific Ion Electrode	mg/L	ME-CA-[ENV]EWL-LAK-AN-014	Y	Y
Inorganics-General	mg/L	ME-CA-[ENV]SPE-LAK-AN-004	Y	Y
Metals in aqueous samples - ICP-MS	mg/L	ME-CA-[ENV]SPE-LAK-AN-006	Y	N
Metals in aqueous samples - ICP-MS	mg/L	ME-CA-[ENV]SPE-LAK-AN-006	Y	Y
pH	No unit	ME-CA-[ENV]EWL-LAK-AN-006	Y	Y
Reactive Phosphorus by SFA	mg/L	ME-CA-[ENV]SFA-LAK-AN-004	Y	N

OnLine LIMS

00040550006

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

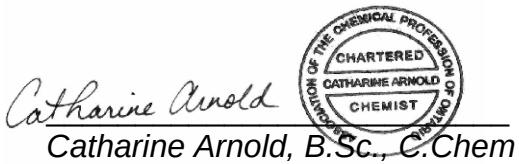
Accreditation Descriptions

CALA:

SGS Canada Industries & Environment conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation found at https://directory.cala.ca/#. Analytes and SGS Method Codes marked with a “Y” in the “CALA” column in the table denote ISO/IEC17025 accreditation

PALA:

SGS Canada Industries & Environment conforms to the requirements of ISO/IEC 17025:2005 for specific tests as listed on their scope of accreditation found at https://www.ceaeq.gouv.qc.ca/documents/publications/listes.htm#labo_accr. Analytes and SGS Method Codes marked with a “Y” in the “PALA” column in the table denote ISO/IEC17025:2005 accreditation



Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

00004055006

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quality Control Report

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material			
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)		
							%		Low	High		Low	High	
Acidity - QCBatchID: EWL0162-MAR25														
Acidity	2	mg/L as Ca	< 2			ND	20	104	90	110	NA			
Alkalinity - QCBatchID: EWL0162-MAR25														
Alkalinity	2	mg/L as Ca	< 2			0	20	109	80	120	NA			
Anions by IC - QCBatchID: DIO0192-MAR25														
Bromide	0.3	mg/L	<0.3			ND	20	100	90	110	95	75	125	
Chloride	0.2	mg/L	<0.2			14	20	102	90	110	106	75	125	
Nitrate (as N)	0.06	mg/L	<0.06			ND	20	102	90	110	105	75	125	
Nitrite (as N)	0.03	mg/L	<0.03			ND	20	101	90	110	106	75	125	
Sulphate	0.2	mg/L	<0.2			1	20	100	90	110	95	75	125	
Conductivity - QCBatchID: EWL0162-MAR25														
Conductivity	2	uS/cm	< 2			0	20	99	90	110	NA			
Fluoride by Specific Ion Electrode - QCBatchID: EWL0175-MAR25														
Fluoride	0.06	mg/L	<0.06			2	10	98	90	110	97	75	125	
Inorganics-General - QCBatchID: EHG0015-MAR25														
Mercury	0.00001	mg/L	< 0.00001			ND	20	116	80	120	119	70	130	
Metals in aqueous samples - ICP-MS - QCBatchID: EMS0069-MAR25														
Aluminum	0.001	mg/L	<0.001			5	20	102	90	110	113	70	130	
Antimony	0.0009	mg/L	<0.0009			12	20	106	90	110	96	70	130	
Arsenic	0.0002	mg/L	<0.0002			ND	20	100	90	110	102	70	130	
Barium	0.00008	mg/L	<0.00008			0	20	100	90	110	79	70	130	
Beryllium	0.000007	mg/L	<0.000007			17	20	103	90	110	104	70	130	
Bismuth	0.00001	mg/L	<0.00001			ND	20	97	90	110	91	70	130	
Boron	0.002	mg/L	<0.002			2	20	97	90	110	98	70	130	
Cadmium	0.000003	mg/L	<0.000003			18	20	103	90	110	96	70	130	
Calcium	0.01	mg/L	<0.01			5	20	100	90	110	101	70	130	
Cesium	0.0001	mg/L	<0.0001			3	20	104	90	110	NV	70	130	
Chromium	0.00008	mg/L	<0.00008			4	20	100	90	110	86	70	130	
Cobalt	0.000004	mg/L	<0.000004			6	20	98	90	110	97	70	130	
Copper	0.001	mg/L	<0.001			5	20	101	90	110	83	70	130	
Germanium	0.0001	mg/L	<0.0001			ND	20	101	90	110	NV	70	130	
Hafnium	0.0001	mg/L	<0.0001			ND	20	94	90	110	NV	70	130	
Iron	0.007	mg/L	<0.007			10	20	102	90	110	100	70	130	
Lead	0.00009	mg/L	<0.00009			6	20	98	90	110	93	70	130	
Lithium	0.0001	mg/L	<0.0001			7	20	103	90	110	99	70	130	
Magnesium	0.001	mg/L	<0.001			3	20	103	90	110	99	70	130	

OnLine LIMS

00004055006

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - K0L 2H0
Phone: 705-652-2000 FAX: 705-652-6365

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Manganese	0.00001	mg/L	<0.00001			7	20	102	90	110	88	70	130
Molybdenum	0.0004	mg/L	<0.0004			2	20	100	90	110	81	70	130
Nickel	0.0001	mg/L	<0.0001			13	20	102	90	110	102	70	130
Niobium	0.0001	mg/L	<0.0001			ND	20	103	90	110	NV	70	130
Osmium	0.0001	mg/L	<0.0001			ND	20	102	90	110	NV	70	130
Potassium	0.009	mg/L	<0.009			7	20	101	90	110	92	70	130
Rhenium	0.0001	mg/L	<0.0001			ND	20	96	90	110	NV	70	130
Rhodium	0.00001	mg/L	<0.0001			ND	20	98	90	110	NV	70	130
Rubidium	0.0001	mg/L	< 0.0001			5	20	98	90	110	NV	70	130
Ruthenium	0.00001	mg/L	<0.0001			ND	20	101	90	110	NV	70	130
Selenium	0.00004	mg/L	<0.00004			7	20	99	90	110	100	70	130
Silicon	0.02	mg/L	<0.02			2	20	97	90	110	NV	70	130
Silver	0.00005	mg/L	<0.00005			3	20	98	90	110	88	70	130
Sodium	0.01	mg/L	<0.01			4	20	97	90	110	95	70	130
Strontium	0.00008	mg/L	<0.00008			4	20	101	90	110	85	70	130
Tantalum	0.0001	mg/L	<0.0001			ND	20	104	90	110	NV	70	130
Tellurium	0.0001	mg/L	<0.0001			ND	20	97	90	110	NV	70	130
Thallium	0.000005	mg/L	<0.000005			1	20	97	90	110	95	70	130
Thorium	0.0001	mg/L	<0.0001			12	20	91	90	110	NV	70	130
Tin	0.00006	mg/L	<0.00006			5	20	97	90	110	NV	70	130
Titanium	0.0001	mg/L	<0.0001			9	20	101	90	110	NV	70	130
Uranium	0.000002	mg/L	<0.000002			2	20	102	90	110	101	70	130
Vanadium	0.00001	mg/L	<0.00001			3	20	101	90	110	78	70	130
Zinc	0.002	mg/L	<0.002			ND	20	102	90	110	98	70	130
Metals in aqueous samples - ICP-MS - QCBatchID: EMS0082-MAR25													
Arsenic	0.0002	mg/L	<0.0002			ND	20	100	90	110	103	70	130
Metals in aqueous samples - ICP-MS - QCBatchID: EMS0116-MAR25													
Cerium	0.00001	mg/L	<0.00001			0	20	100	90	110	NV	70	130
Dysprosium	0.00001	mg/L	<0.00001			ND	20	100	90	110	NV	70	130
Erbium	0.00001	mg/L	<0.00001			ND	20	99	90	110	NV	70	130
Europium	0.00001	mg/L	<0.00001			ND	20	99	90	110	NV	70	130
Gadolinium	0.00001	mg/L	<0.0001			ND	20	101	90	110	NV	70	130
Gallium	0.0001	mg/L	<0.0001			1	20	100	90	110	NV	70	130
Holmium	0.00001	mg/L	<0.00001			ND	20	98	90	110	NV	70	130
Indium	0.00001	mg/L	<0.00001			5	20	101	90	110	NV	70	130
Lanthanum	0.00001	mg/L	<0.00001			5	20	99	90	110	NV	70	130
Lutetium	0.0001	mg/L	<0.0001			ND	20	101	90	110	NV	70	130
Praseodymium	0.00001	mg/L	<0.00001			ND	20	101	90	110	NV	70	130
Samarium	0.00001	mg/L	<0.00001			ND	20	100	90	110	NV	70	130

OnLine LIMS

00004055006

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material			
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Scandium	0.0001	mg/L	<0.0001			11	20	94	90	110	NV	70	130
Terbium	0.00001	mg/L	<0.00001			ND	20	101	90	110	NV	70	130
Thulium	0.00001	mg/L	<0.00001			ND	20	99	90	110	NV	70	130
pH - QCBatchID: EWL0162-MAR25													
pH	0.05	No unit	NA			0		100			NA		
Reactive Phosphorus by SFA - QCBatchID: SKA0083-MAR25													
Total Reactive Phosphorous (o-phosphate as P)	0.03	mg/L	<0.03			4	10	95	90	110	107	75	125
Reactive Phosphorus by SFA - QCBatchID: SKA0094-MAR25													
Total Reactive Phosphorous (o-phosphate as P)	0.03	mg/L	<0.03			ND	10	97	90	110	70	75	125

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

00004055006

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

27-March-2025

Innova Lithium Inc.
Attn : John Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 12 February 2025
LR Report: **CA11132-FEB25**
Reference: Shaakichiuwaanaan Project

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-FLO-CP	6: CV5-MID-CP	7: CV5-MAG-CP	8: CV5-BYP-CP	9: CV5-MAS-CP	10: CV5-FLO-CP DUP
Sample Date & Time					NA	NA	NA	NA	NA	NA
Paste pH [no unit]	07-Mar-25	13:16	11-Mar-25	16:45	10.32	9.97	9.83	10.00	10.11	10.44
Fizz Rate [rating]	10-Mar-25	07:09	11-Mar-25	16:45	2	2	2	2	2	2
Sample weight [g]	07-Mar-25	07:39	11-Mar-25	16:45	1.99	2.01	2.03	2.00	1.98	2.01
HCl_add [mL]	11-Mar-25	06:36	11-Mar-25	16:45	20.00	20.00	20.00	20.00	20.00	20.00
HCl [Normality]	10-Mar-25	08:37	11-Mar-25	16:45	0.10	0.10	0.10	0.10	0.10	0.10
NaOH [Normality]	10-Mar-25	08:37	11-Mar-25	16:45	0.10	0.10	0.10	0.10	0.10	0.10
Vol NaOH to pH=8.3 [mL]	11-Mar-25	13:51	11-Mar-25	16:45	18.72	17.04	11.71	15.97	16.41	18.62
Final pH [no unit]	11-Mar-25	08:36	11-Mar-25	16:45	1.16	1.34	1.34	1.10	1.26	1.12
NP [t CaCO3/1000 t]	11-Mar-25	13:51	11-Mar-25	16:45	3.2	7.4	20.4	10.1	9.1	3.4
AP [t CaCO3/1000 t]	12-Mar-25	13:23	12-Mar-25	13:23	0.31	0.53	2.09	0.38	0.31	0.31
Net NP [t CaCO3/1000 t]	12-Mar-25	13:23	12-Mar-25	13:23	2.89	6.87	18.3	9.72	8.79	3.09
NP/AP [ratio]	12-Mar-25	13:23	12-Mar-25	13:23	10.3	13.9	9.74	26.9	29.4	11.0
S [%]	06-Mar-25	12:49	12-Mar-25	13:23	< 0.005	0.020	0.135	0.032	0.017	< 0.005
Acid Leachable SO4-S [%]	12-Mar-25	13:23	12-Mar-25	13:23	<0.04	< 0.04	0.07	< 0.04	<0.04	<0.04
Sulphide [%]	12-Mar-25	12:28	12-Mar-25	13:23	< 0.01	0.02	0.07	0.01	< 0.01	< 0.01
C [%]	06-Mar-25	12:49	12-Mar-25	13:23	0.017	0.042	0.141	0.141	0.058	0.015

OnLine LIMS

00004059621

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-FLO-CP	6: CV5-MID-CP	7: CV5-MAG-CP	8: CV5-BYP-CP	9: CV5-MAS-CP	10: CV5-FLO-CP DUP
CO3 (HCl) as %CO3 [%]	24-Mar-25	15:17	25-Mar-25	09:08	0.05	0.17	0.66	0.25	0.14	< 0.04

Analysis	11: CV5-MID-CP DUP	12: CV5-MAG-CP DUP	13: CV5-BYP-CP DUP	14: CV5-MAS-CP DUP
Sample Date & Time	NA	NA	NA	NA
Paste pH [no unit]	10.05	9.84	10.16	10.16
Fizz Rate [rating]	2	3	2	2
Sample weight [g]	1.98	2.01	2.02	2.01
HCl_add [mL]	20.00	20.00	20.00	20.00
HCl [Normality]	0.10	0.10	0.10	0.10
NaOH [Normality]	0.10	0.10	0.10	0.10
Vol NaOH to pH=8.3 [mL]	17.34	13.13	16.32	16.97
Final pH [no unit]	1.30	1.08	1.06	1.12
NP [t CaCO3/1000 t]	6.7	17.1	9.1	7.5
AP [t CaCO3/1000 t]	0.38	1.44	0.44	0.31
Net NP [t CaCO3/1000 t]	6.32	15.7	8.66	7.19
NP/AP [ratio]	17.9	11.9	20.8	24.2
S [%]	0.024	0.101	0.029	0.009
Acid Leachable SO4-S [%]	< 0.04	0.06	< 0.04	<0.04
Sulphide [%]	0.01	0.05	0.01	< 0.01
C [%]	0.040	0.114	0.071	0.031
CO3 (HCl) as %CO3 [%]	0.06	0.43	0.12	< 0.04

*NP (Neutralization Potential)

$$= \frac{50 \times (\text{N of HCL} \times \text{Total HCL added} - \text{N NaOH} \times \text{NaOH added})}{\text{Weight of Sample}}$$

*AP (Acid Potential) = % Sulphide Sulphur x 31.25
*Net NP (Net Neutralization Potential) = NP-AP
NP/AP Ratio = NP/AP
*Results expressed as tonnes CaCO3 equivalent/1000 tonnes of material

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0004059921

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Samples with a % Sulphide value of <0.04 will be calculated using a 0.04 value.

Method Descriptions

Parameter	Units	SGS Method Code	CALA	PALA
	g	NA	N	N
	mL		N	N
	mL	NA	N	N
	no unit	NA	N	N
	Normality	NA	N	N
	rating	NA	N	N
	ratio	ME-CA-[ENV]ARD-LAK-AN-001/003	N	N
	t CaCO3/1000 t	ME-CA-[ENV]ARD-LAK-AN-001/003	N	N
Acid Potential	t CaCO3/1000 t	ME-CA-[ENV]ARD-LAK-AN-001/003	Y	Y
Carbon/Sulphur	%	ME-CA-[ENV]ARD-LAK-AN-019	Y	N
Carbon/Sulphur	%	ME-CA-[ENV]ARD-LAK-AN-019	Y	Y
Carbon/Sulphur	%	ME-CA-[ENV]ARD-LAK-AN-020	Y	N
Neutralization Potential	t CaCO3/1000 t	ME-CA-[ENV]ARD-LAK-AN-001/003	N	Y
Paste pH	no unit	ME-CA-[ENV]ARD-LAK-AN-005	Y	N

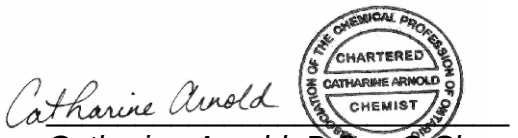
Accreditation Descriptions

CALA:

SGS Canada Industries & Environment conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation found at https://directory.cala.ca/#. Analytes and SGS Method Codes marked with a “Y” in the “CALA” column in the table denote ISO/IEC17025 accreditation

PALA:

SGS Canada Industries & Environment conforms to the requirements of ISO/IEC 17025:2005 for specific tests as listed on their scope of accreditation found at https://www.ceaeq.gouv.qc.ca/documents/publications/listes.htm#labo_accr. Analytes and SGS Method Codes marked with a “Y” in the “PALA” column in the table denote ISO/IEC17025:2005 accreditation



Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0004059921

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quality Control Report

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material			
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)		
							%		Low	High		Low	High	
Carbon/Sulphur - QCBatchID: ECS0021-MAR25														
Carbon (total)	0.005	%	<0.005			19	20				98	70	130	
Sulphur (total)	0.005	%	<0.005			0	20				106	70	130	
Carbon/Sulphur - QCBatchID: ECS0039-MAR25														
Sulphide	0.01	%	< 0.01			ND	20	113	80	120				
Carbon/Sulphur - QCBatchID: ECS0041-MAR25														
Carbonate (HCl) as %CO3	0.04	%	< 0.04			ND	20	100	80	120				
Carbon/Sulphur - QCBatchID: ECS0074-MAR25														
Carbonate (HCl) as %CO3	0.04	%	<0.04			18	20	4	80	120				

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0004059621

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

24-March-2025

Innova Lithium Inc.
Attn : John Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 18 February 2025
LR Report: **CA11133-FEB25**
Reference: Shaakichiuwaanaan Project

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-FLO-CP	6: CV5-MID-CP	7: CV5-MAG-CP	8: CV5-BYP-CP	9: CV5-MAS-CP	10: CV5-FLO-CP DUP
Sample Date & Time					NA	NA	NA	NA	NA	NA
Hg [ug/g]	13-Mar-25	13:02	13-Mar-25	12:48	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Ag [µg/g]	14-Mar-25	00:01	16-Mar-25	21:14	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Al [µg/g]	14-Mar-25	00:01	16-Mar-25	21:14	2000	5000	11000	4600	3800	1700
As [µg/g]	14-Mar-25	00:01	19-Mar-25	09:52	12	67	160	81	63	7.1
B [µg/g]	14-Mar-25	00:01	19-Mar-25	09:52	2	4	6	5	3	2
Ba [µg/g]	14-Mar-25	00:01	19-Mar-25	09:52	1.5	17	11	9.1	6.9	1.1
Be [µg/g]	14-Mar-25	00:01	16-Mar-25	21:16	1.4	2.2	0.93	1.8	1.1	1.1
Bi [µg/g]	14-Mar-25	00:01	19-Mar-25	09:52	7.1	5.2	1.9	13	14	11
Ca [µg/g]	14-Mar-25	00:01	16-Mar-25	21:17	730	1600	5600	2400	1800	680
Cd [µg/g]	14-Mar-25	00:01	16-Mar-25	21:17	0.05	0.09	0.03	0.16	0.13	0.07
Co [µg/g]	14-Mar-25	00:01	16-Mar-25	21:18	0.30	5.7	24	7.4	5.8	0.26
Cr [µg/g]	14-Mar-25	00:01	19-Mar-25	09:53	72	140	390	170	160	62
Cu [µg/g]	14-Mar-25	00:01	19-Mar-25	09:53	34	10	50	12	7.2	1.5
Fe [µg/g]	14-Mar-25	00:01	16-Mar-25	21:19	1100	6600	13000	5200	4300	1000
K [µg/g]	14-Mar-25	00:01	16-Mar-25	21:19	1200	1400	1700	1100	1100	1000
Li [µg/g]	14-Mar-25	00:01	16-Mar-25	21:19	28	140	180	120	90	21

OnLine LIMS

0004055012

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : CA11133-FEB25

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-FLO-CP	6: CV5-MID-CP	7: CV5-MAG-CP	8: CV5-BYP-CP	9: CV5-MAS-CP	10: CV5-FLO-CP DUP
Mg [µg/g]	14-Mar-25	00:01	16-Mar-25	21:19	210	4300	14000	4600	4100	160
Mn [µg/g]	14-Mar-25	00:01	16-Mar-25	21:19	54	190	250	230	180	50
Mo [µg/g]	14-Mar-25	00:01	16-Mar-25	21:19	1.8	2.2	0.9	1.2	1.6	1.7
Na [µg/g]	14-Mar-25	00:01	17-Mar-25	10:20	820	400	290	470	470	740
Ni [µg/g]	14-Mar-25	00:01	19-Mar-25	09:53	2.7	39	220	60	53	1.5
P [µg/g]	14-Mar-25	00:01	19-Mar-25	09:53	220	280	170	480	350	230
Pb [µg/g]	14-Mar-25	00:01	16-Mar-25	21:21	2.7	2.6	1.7	5.6	3.2	3.1
Sb [µg/g]	14-Mar-25	00:01	19-Mar-25	09:53	2.7	6.7	25	7.4	9.2	2.4
Se [µg/g]	14-Mar-25	00:01	16-Mar-25	21:21	< 0.1	< 0.1	0.2	< 0.1	< 0.1	< 0.1
Sn [µg/g]	14-Mar-25	00:01	16-Mar-25	21:21	< 5	< 5	< 5	< 5	< 5	< 5
Sr [µg/g]	14-Mar-25	00:01	16-Mar-25	21:22	2.6	4.2	7.8	4.5	3.6	2.4
Ti [µg/g]	14-Mar-25	00:01	16-Mar-25	21:22	6.8	150	290	99	81	8.7
Tl [µg/g]	14-Mar-25	00:01	19-Mar-25	09:53	1.00	0.87	1.9	1.1	0.98	0.76
U [µg/g]	14-Mar-25	00:01	19-Mar-25	09:53	5.8	7.2	2.2	10	5.9	4.9
V [µg/g]	14-Mar-25	00:01	16-Mar-25	21:23	< 1	9	23	8	6	< 1
Zn [µg/g]	14-Mar-25	00:01	16-Mar-25	21:24	3.9	15	19	16	9.9	2.4
Ce [µg/g]	14-Mar-25	00:01	16-Mar-25	21:24	0.66	3.73	3.41	9.38	1.90	0.58
Cs [µg/g]	14-Mar-25	00:01	19-Mar-25	09:53	47	430	470	550	170	20
Dy [µg/g]	14-Mar-25	00:01	16-Mar-25	21:25	0.20	0.46	0.33	0.61	0.45	0.20
Er [µg/g]	14-Mar-25	00:01	16-Mar-25	21:25	0.046	0.14	0.16	0.13	0.089	0.024
Eu [µg/g]	14-Mar-25	00:01	16-Mar-25	21:25	0.022	0.058	0.066	0.058	0.026	0.012
Ga [µg/g]	14-Mar-25	14:17	19-Mar-25	09:51	1	3	3	2	2	0.93
Gd [µg/g]	14-Mar-25	00:01	16-Mar-25	21:25	0.30	0.60	0.41	0.99	0.56	0.28
Ge [µg/g]	18-Mar-25	21:19	19-Mar-25	09:51	< 0.3	< 0.3	0.3	< 0.3	< 0.3	< 0.3
Hf [µg/g]	14-Mar-25	00:01	16-Mar-25	21:25	0.4	0.7	0.1	0.7	0.3	0.3
Ho [µg/g]	14-Mar-25	00:01	16-Mar-25	21:25	0.020	0.058	0.057	0.057	0.042	0.014
In [µg/g]	14-Mar-25	14:17	19-Mar-25	09:51	0.01	0.02	0.01	0.01	0.01	< 0.01
Ir [µg/g]	14-Mar-25	00:01	16-Mar-25	21:25	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
La [µg/g]	14-Mar-25	00:01	19-Mar-25	09:51	0.29	1.85	1.50	4.73	0.96	0.24
Lu [µg/g]	14-Mar-25	00:01	19-Mar-25	09:51	0.004	0.014	0.085	0.069	0.083	< 0.001
Nb [µg/g]	14-Mar-25	00:01	16-Mar-25	21:26	0.6	0.3	< 0.1	0.4	0.2	0.6

OnLine LIMS

0004055012

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-FLO-CP	6: CV5-MID-CP	7: CV5-MAG-CP	8: CV5-BYP-CP	9: CV5-MAS-CP	10: CV5-FLO-CP DUP
Os [µg/g]	14-Mar-25	00:01	16-Mar-25	21:25	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pr [µg/g]	14-Mar-25	00:01	16-Mar-25	21:26	0.086	0.42	0.39	1.03	0.22	0.072
Rh [µg/g]	18-Mar-25	21:19	19-Mar-25	09:51	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Rb [µg/g]	14-Mar-25	14:17	19-Mar-25	09:51	140	130	230	150	130	110
Re [µg/g]	14-Mar-25	00:01	16-Mar-25	21:25	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Ru [µg/g]	18-Mar-25	21:19	19-Mar-25	09:51	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Sm [µg/g]	14-Mar-25	14:17	19-Mar-25	09:51	0.21	0.44	0.32	0.79	0.40	0.19
Sc [µg/g]	14-Mar-25	14:17	19-Mar-25	09:51	0.07	1.23	2.25	0.86	0.78	0.06
Ta [µg/g]	14-Mar-25	00:01	16-Mar-25	21:26	< 0.01	0.03	< 0.01	0.04	< 0.01	< 0.01
Tb [µg/g]	14-Mar-25	14:17	19-Mar-25	09:51	0.053	0.10	0.060	0.16	0.12	0.055
Te [µg/g]	14-Mar-25	00:01	16-Mar-25	21:26	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Th [µg/g]	14-Mar-25	00:01	19-Mar-25	09:51	2.5	4.7	3.1	5.5	2.0	1.8
Tm [µg/g]	14-Mar-25	14:17	19-Mar-25	09:51	0.005	0.017	0.022	0.013	0.012	0.003

Analysis	11: CV5-MID-CP DUP	12: CV5-MAG-CP DUP	13: CV5-BYP-CP DUP	14: CV5-MAS-CP DUP
Sample Date & Time	NA	NA	NA	NA
Hg [ug/g]	< 0.05	< 0.05	< 0.05	< 0.05
Ag [µg/g]	< 0.5	< 0.5	< 0.5	< 0.5
Al [µg/g]	4500	11000	4500	4100
As [µg/g]	36	230	80	36
B [µg/g]	4	3	5	3
Ba [µg/g]	16	16	9.8	6.0
Be [µg/g]	2.5	0.91	1.8	1.1
Bi [µg/g]	8.9	0.58	12	7.6
Ca [µg/g]	1600	4700	2400	1600
Cd [µg/g]	0.12	0.05	0.19	0.09
Co [µg/g]	3.4	27	7.5	4.1
Cr [µg/g]	110	470	160	140

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0004055012

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	11: CV5-MID-CP DUP	12: CV5-MAG-CP DUP	13: CV5-BYP-CP DUP	14: CV5-MAS-CP DUP
Cu [µg/g]	6.6	43	9.1	3.9
Fe [µg/g]	5000	14000	5200	4000
K [µg/g]	1500	2300	1100	1200
Li [µg/g]	140	220	120	80
Mg [µg/g]	2700	16000	4600	3600
Mn [µg/g]	170	230	240	130
Mo [µg/g]	2.2	1.0	1.3	1.7
Na [µg/g]	500	250	490	690
Ni [µg/g]	25	290	62	37
P [µg/g]	300	190	490	270
Pb [µg/g]	3.3	1.0	5.5	2.0
Sb [µg/g]	5.2	29	7.7	6.7
Se [µg/g]	< 0.1	0.1	< 0.1	< 0.1
Sn [µg/g]	< 5	< 5	< 5	< 5
Sr [µg/g]	3.0	5.9	4.9	3.3
Ti [µg/g]	130	300	95	96
Tl [µg/g]	0.94	2.5	1.1	1.3
U [µg/g]	4.7	1.4	9.6	5.2
V [µg/g]	6	26	8	6
Zn [µg/g]	13	21	14	12
Ce [µg/g]	3.14	2.26	10.0	1.91
Cs [µg/g]	380	690	570	1100
Dy [µg/g]	0.40	0.29	0.59	0.30
Er [µg/g]	0.10	0.13	0.11	0.074
Eu [µg/g]	0.046	0.048	0.059	0.034
Ga [µg/g]	3	3	2	2
Gd [µg/g]	0.52	0.32	0.92	0.41
Ge [µg/g]	< 0.3	0.4	0.3	< 0.3
Hf [µg/g]	0.5	< 0.1	0.7	0.5
Ho [µg/g]	0.043	0.046	0.053	0.031
In [µg/g]	0.01	0.01	0.01	< 0.01

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	11: CV5-MID-CP DUP	12: CV5-MAG-CP DUP	13: CV5-BYP-CP DUP	14: CV5-MAS-CP DUP
Ir [µg/g]	< 0.01	< 0.01	< 0.01	< 0.01
La [µg/g]	1.60	1.06	5.18	0.93
Lu [µg/g]	0.011	0.079	0.069	0.088
Nb [µg/g]	0.4	< 0.1	0.2	0.1
Os [µg/g]	< 0.1	< 0.1	< 0.1	< 0.1
Pr [µg/g]	0.35	0.26	1.08	0.22
Rh [µg/g]	< 0.01	< 0.01	< 0.01	< 0.01
Rb [µg/g]	150	360	140	150
Re [µg/g]	< 0.05	< 0.05	< 0.05	< 0.05
Ru [µg/g]	< 0.01	< 0.01	< 0.01	< 0.01
Sm [µg/g]	0.43	0.25	0.79	0.28
Sc [µg/g]	0.86	2.60	0.85	0.61
Ta [µg/g]	0.03	< 0.01	0.05	0.02
Tb [µg/g]	0.095	0.053	0.16	0.071
Te [µg/g]	< 0.1	< 0.1	< 0.1	< 0.1
Th [µg/g]	3.5	0.77	4.6	1.8
Tm [µg/g]	0.013	0.018	0.014	0.008

Method Descriptions

Parameter	Units	SGS Method Code	CALA	PALA
Mercury by CVAAS	ug/g	ME-CA-[ENV]SPE-LAK-AN-004	Y	Y
Metals - Microwave/ICP-MS	µg/g	ME-CA-[ENV]SPE-LAK-AN-007	Y	N
Metals, ICP-MS	µg/g	ME-CA-[ENV]SPE-LAK-AN-005	Y	N
Metals, ICP-MS	µg/g	ME-CA-[ENV]SPE-LAK-AN-005	Y	Y

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Accreditation Descriptions

CALA:

SGS Canada Industries & Environment conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation found at https://directory.cala.ca/#. Analytes and SGS Method Codes marked with a “Y” in the “CALA” column in the table denote ISO/IEC17025 accreditation

PALA:

SGS Canada Industries & Environment conforms to the requirements of ISO/IEC 17025:2005 for specific tests as listed on their scope of accreditation found at https://www.ceaeq.gouv.qc.ca/documents/publications/listes.htm#labo_accr. Analytes and SGS Method Codes marked with a “Y” in the “PALA” column in the table denote ISO/IEC17025:2005 accreditation

Catharine Arnold

CHARTERED CHEMICAL PROFESSION OF ONTARIO CATHARINE ARNOLD CHEMIST

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0004055012

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quebec MA200-Met 1.2 Digest

LR Report : **CA11133-FEB25**

Quality Control Report

Inorganic Analysis													
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Mercury by CVAAS - QCBatchID: EHG0019-MAR25													
Mercury	0.05	ug/g	<0.05			ND	20	103	80	120	99	70	130
Metals - Microwave/ICP-MS - QCBatchID: EMS0097-MAR25													
Cerium	0.001	µg/g	<0.001			1	20	102	70	130	NV	70	130
Dysprosium	0.001	µg/g	<0.001			2	20	105	70	130	NV	70	130
Erbium	0.001	µg/g	<0.001			1	20	107	70	130	NV	70	130
Europium	0.001	µg/g	<0.001			3	20	105	70	130	NV	70	130
Gadolinium	0.001	µg/g	<0.001			0	20	105	70	130	NV	70	130
Hafnium	0.1	µg/g	<0.1			ND	20	92	70	130	NV	70	130
Holmium	0.001	µg/g	<0.001			0	20	105	70	130	NV	70	130
Iridium	0.01	µg/g	<0.01			ND	20	102	70	130	NV	70	130
Lanthanum	0.001	µg/g	<0.001			0	20	102	70	130	NV	70	130
Lutetium	0.001	µg/g	<0.001			8	20	104	70	130	NV	70	130
Niobium	0.1	µg/g	<0.1			ND	20	96	70	130	NV	70	130
Osmium	0.1	µg/g	<0.1			ND	20	105	70	130	NV	70	130
Praseodymium	0.001	µg/g	<0.001			3	20	102	70	130	NV	70	130
Rhenium	0.05	µg/g	<0.05			ND	20	105	70	130	NV	70	130
Tantalum	0.01	µg/g	<0.01			ND	20	107	70	130	NV	70	130
Tellurium	0.1	µg/g	<0.01			1	20	102	70	130	NV	70	130
Metals - Microwave/ICP-MS - QCBatchID: EMS0121-MAR25													
Gallium	0.03	µg/g	< 0.03			1	20	100	70	130			
Indium	0.01	µg/g	< 0.01			ND	20	101	70	130			
Lutetium	0.001	µg/g	< 0.001			4	20	101	70	130			
Rubidium	0.004	µg/g	< 0.004			2	20	100	70	130			
Samarium	0.001	µg/g	< 0.001			6	20	100	70	130			
Scandium	0.03	µg/g	< 0.03			1	20	99	70	130			
Terbium	0.001	µg/g	< 0.001			2	20	101	70	130			
Thulium	0.001	µg/g	< 0.001			6	20	99	70	130			
Metals - Microwave/ICP-MS - QCBatchID: EMS0141-MAR25													
Cesium	0.01	µg/g	<0.001			9	20	107	70	130	NV	70	130
Germanium	0.3	µg/g	<0.001			0	20	97	70	130	NV	70	130
Rhodium	0.01	µg/g	<0.001			ND	20	95	70	130	NV	70	130
Ruthenium	0.01	µg/g	<0.001			1	20	97	70	130	NV	70	130
Metals, ICP-MS - QCBatchID: EMS0097-MAR25													
Aluminum	3	µg/g	<3			0	20	104	70	130	92	70	130
Antimony	0.8	µg/g	<0.8			3	20	98	70	130	NV	70	130

OnLine LIMS

0004055012

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - K0L 2H0
Phone: 705-652-2000 FAX: 705-652-6365

Quebec MA200-Met 1.2 Digest

LR Report : **CA11133-FEB25**

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material			
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)		
							%		Low	High		Low	High	
Arsenic	0.5	µg/g	<0.5			12	20	101	70	130	96	70	130	
Barium	0.01	µg/g	<0.01			0	20	101	70	130	88	70	130	
Beryllium	0.02	µg/g	<0.02			7	20	105	70	130	106	70	130	
Bismuth	0.09	µg/g	<0.09			1	20	93	70	130	NV	70	130	
Boron	1	µg/g	<1			2	20	94	70	130	NV	70	130	
Cadmium	0.02	µg/g	<0.02			ND	20	106	70	130	100	70	130	
Calcium	3	µg/g	<3			1	20	95	70	130	87	70	130	
Chromium	0.5	µg/g	<0.5			1	20	101	70	130	102	70	130	
Cobalt	0.01	µg/g	<0.01			5	20	100	70	130	91	70	130	
Copper	0.1	µg/g	<0.1			0	20	99	70	130	85	70	130	
Iron	3	µg/g	<3			0	20	102	70	130	109	70	130	
Lead	0.05	µg/g	<0.05			8	20	103	70	130	101	70	130	
Lithium	2	µg/g	<2			4	20	102	70	130	101	70	130	
Magnesium	3	µg/g	<1			0	20	105	70	130	98	70	130	
Manganese	0.1	µg/g	<0.1			1	20	102	70	130	93	70	130	
Molybdenum	0.1	µg/g	<0.1			3	20	99	70	130	111	70	130	
Nickel	0.1	µg/g	<0.1			0	20	101	70	130	95	70	130	
Phosphorus	3	µg/g	<3			3	20	97	70	130	NV	70	130	
Potassium	3	µg/g	<3			0	20	97	70	130	83	70	130	
Selenium	0.1	µg/g	<0.1			6	20	106	70	130	NV	70	130	
Silver	0.5	µg/g	<0.5			ND	20	109	70	130	112	70	130	
Sodium	3	µg/g	<3			0	20	105	70	130	91	70	130	
Strontium	0.02	µg/g	<0.02			3	20	99	70	130	90	70	130	
Thallium	0.02	µg/g	<0.02			3	20	97	70	130	105	70	130	
Thorium	0.01	µg/g	<0.5			6	20	106	70	130	NV	70	130	
Tin	5	µg/g	<5			ND	20	102	70	130	112	70	130	
Titanium	0.1	µg/g	<0.1			2	20	96	70	130	NV	70	130	
Uranium	0.002	µg/g	<0.002			2	20	106	70	130	87	70	130	
Vanadium	1	µg/g	<1			1	20	97	70	130	102	70	130	
Zinc	0.7	µg/g	<0.7			1	20	104	70	130	94	70	130	
Metals, ICP-MS - QCBatchID: EMS0121-MAR25														
Thorium	0.01	µg/g	< 0.5			ND	20	96	70	130				
Metals, ICP-MS - QCBatchID: EMS0141-MAR25														
Antimony	0.8	µg/g	<0.8			8	20	104	70	130	NV	70	130	
Arsenic	0.5	µg/g	<0.5			6	20	101	70	130	88	70	130	
Barium	0.01	µg/g	<0.01			4	20	100	70	130	75	70	130	
Bismuth	0.09	µg/g	<0.09			16	20	93	70	130	NV	70	130	
Boron	1	µg/g	<1			5	20	103	70	130	NV	70	130	
Chromium	0.5	µg/g	<0.5			8	20	98	70	130	90	70	130	

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0004055012

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quebec MA200-Met 1.2 Digest

LR Report : **CA11133-FEB25**

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material			
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Copper	0.1	µg/g	<0.1			7	20	95	70	130	74	70	130
Nickel	0.1	µg/g	<0.1			7	20	95	70	130	82	70	130
Phosphorus	3	µg/g	<3			4	20	105	70	130	NV	70	130
Thallium	0.02	µg/g	<0.02			11	20	93	70	130	103	70	130
Uranium	0.002	µg/g	<0.002			7	20	95	70	130	73	70	130

OnLine LIMS

0004055012

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

27-March-2025

Innova Lithium Inc.
Attn : John Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 18 February 2025
LR Report: **CA11134-FEB25**
Reference: Shaakichiuwaanaan Project

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-FLO-CP	6: CV5-MID-CP	7: CV5-MAG-CP	8: CV5-BYP-CP	9: CV5-MAS-CP	10: CV5-FLO-CP DUP	11: CV5-MID-CP DUP	12: CV5-MAG-CP DUP
Sample Date & Time			NA	NA	NA	NA	NA	NA	NA	NA
Sample weight [g]	11-Mar-25	08:41	21	20	20	19	20	20	20	20
Ext Fluid [#1 or #2]	11-Mar-25	08:41	1	1	1	1	1	1	1	1
Ext Volume [mL]	11-Mar-25	08:41	400	400	400	400	400	400	400	400
pH [No unit]	12-Mar-25	15:38	7.52	7.70	8.61	8.33	7.91	7.85	9.29	8.68
Conductivity [uS/cm]	12-Mar-25	15:38	27	24	64	67	56	46	60	61
Alkalinity [mg/L as CaCO3]	12-Mar-25	15:38	8	7	25	27	24	14	26	25
Acidity [mg/L as CaCO3]	12-Mar-25	15:38	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
F [mg/L]	14-Mar-25	08:29	< 0.06	0.06	0.13	0.15	0.10	< 0.06	0.14	0.15
Br [mg/L]	12-Mar-25	14:16	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30
Cl [mg/L]	12-Mar-25	14:16	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
SO4 [mg/L]	12-Mar-25	14:16	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
NO2 [as N mg/L]	12-Mar-25	14:16	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	12-Mar-25	14:16	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Tot.Reactive P [mg/L]	12-Mar-25	10:11	< 0.03	< 0.03	< 0.03	0.05	< 0.03	0.03	0.04	0.06
Hg [mg/L]	12-Mar-25	12:43	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	17-Mar-25	14:10	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

000040599227

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11134-FEB25**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-FLO-CP	6: CV5-MID-CP	7: CV5-MAG-CP	8: CV5-BYP-CP	9: CV5-MAS-CP	10: CV5-FLO-CP DUP	11: CV5-MID-CP DUP	12: CV5-MAG-CP DUP
Al [mg/L]	25-Mar-25	08:30	0.140	0.215	0.150	0.530	0.549	0.511	0.657	0.167
As [mg/L]	25-Mar-25	08:30	0.0188	0.0665	0.182	0.154	0.0950	0.0281	0.0754	0.204
Ba [mg/L]	25-Mar-25	08:30	0.00034	0.00029	0.00054	0.00134	0.00113	0.00051	0.00088	0.00064
Be [mg/L]	25-Mar-25	08:30	0.000028	0.000062	< 0.000007	0.000325	0.000158	0.000150	0.000207	< 0.000007
B [mg/L]	25-Mar-25	08:30	0.003	0.006	0.027	0.033	0.032	0.044	0.032	0.038
Bi [mg/L]	25-Mar-25	08:30	0.00015	0.00003	< 0.00001	0.00091	0.00015	0.00026	0.00018	< 0.00001
Ca [mg/L]	25-Mar-25	08:30	2.38	1.64	4.88	5.63	3.82	1.29	5.20	5.52
Cd [mg/L]	25-Mar-25	08:30	0.000009	0.000003	< 0.000003	0.000005	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	25-Mar-25	08:30	0.000060	0.000054	0.000057	0.000192	0.000150	0.000014	0.000088	0.000025
Cr [mg/L]	25-Mar-25	08:30	0.00010	0.00023	0.00115	0.00146	0.00125	0.00008	0.00112	0.00052
Cu [mg/L]	25-Mar-25	08:30	0.002	< 0.001	< 0.001	0.002	0.002	< 0.001	< 0.001	< 0.001
Fe [mg/L]	25-Mar-25	08:30	< 0.007	0.013	0.060	0.083	0.081	0.012	0.058	0.023
K [mg/L]	25-Mar-25	08:30	1.13	1.03	0.794	0.848	0.887	1.14	1.00	0.964
Li [mg/L]	25-Mar-25	08:30	0.0239	0.0438	0.0490	0.0894	0.0377	0.0195	0.0692	0.0476
Mg [mg/L]	25-Mar-25	08:30	0.133	0.415	1.06	0.504	0.668	0.094	0.504	1.03
Mn [mg/L]	25-Mar-25	08:30	0.03899	0.01231	0.00180	0.01024	0.00677	0.00484	0.00617	0.00080
Mo [mg/L]	25-Mar-25	08:30	0.0039	0.0005	< 0.0004	0.0013	0.0046	< 0.0004	< 0.0004	0.0030
Na [mg/L]	25-Mar-25	08:30	1.36	1.44	4.98	6.12	5.61	6.71	5.62	4.68
Ni [mg/L]	25-Mar-25	08:30	0.0003	0.0007	0.0006	0.0020	0.0020	< 0.0001	0.0008	0.0003
Pb [mg/L]	25-Mar-25	08:30	< 0.00009	< 0.00009	< 0.00009	0.00048	0.00022	0.00024	0.00010	< 0.00009
Sb [mg/L]	25-Mar-25	08:30	0.0079	0.0472	0.0424	0.0366	0.0160	0.0081	0.0109	0.0395
Se [mg/L]	25-Mar-25	08:30	< 0.00004	< 0.00004	< 0.00004	0.00009	< 0.00004	< 0.00004	< 0.00004	< 0.00004
Si [mg/L]	25-Mar-25	08:30	0.82	1.07	2.78	2.45	2.46	2.11	2.60	2.52
Sn [mg/L]	25-Mar-25	08:30	0.00014	0.00011	0.00012	0.00045	0.00045	0.00027	0.00043	< 0.00006
Sr [mg/L]	25-Mar-25	08:30	0.00467	0.00298	0.00667	0.0118	0.00520	0.00212	0.00578	0.00907
Ti [mg/L]	25-Mar-25	08:30	0.0002	0.0007	0.0012	0.0023	0.0022	0.0004	0.0017	0.0005
Tl [mg/L]	25-Mar-25	08:30	0.000149	0.000110	0.000026	0.000087	0.000104	0.000184	0.000091	0.000013
U [mg/L]	25-Mar-25	08:30	0.00128	0.000057	0.000152	0.00333	0.000396	0.000901	0.000439	0.000038
V [mg/L]	25-Mar-25	08:31	0.00038	0.00061	0.00327	0.00125	0.00084	0.00023	0.00086	0.00302
Zn [mg/L]	17-Mar-25	14:04	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Ce [mg/L]	25-Mar-25	08:31	0.00002	< 0.00001	< 0.00001	0.00017	0.00008	0.00005	0.00004	< 0.00001

OnLine LIMS

0004059927

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0) 20:1 L/S ratio, 18hr

LR Report : **CA11134-FEB25**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-FLO-CP	6: CV5-MID-CP	7: CV5-MAG-CP	8: CV5-BYP-CP	9: CV5-MAS-CP	10: CV5-FLO-CP DUP	11: CV5-MID-CP DUP	12: CV5-MAG-CP DUP
Cs [mg/L]	25-Mar-25	08:31	0.0099	0.0263	0.0690	0.0453	0.0146	0.0059	0.0249	0.0602
Dy [mg/L]	17-Mar-25	14:04	< 0.00001	< 0.00001	< 0.00001	0.00002	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Er [mg/L]	17-Mar-25	14:04	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu [mg/L]	17-Mar-25	14:04	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga [mg/L]	25-Mar-25	08:31	0.0006	0.0009	0.0004	0.0008	0.0009	0.0008	0.0016	0.0004
Gd (tot) [mg/L]	17-Mar-25	14:03	< 0.00001	< 0.00001	< 0.00001	0.00004	0.00001	0.00001	< 0.00001	< 0.00001
Ge [mg/L]	17-Mar-25	14:02	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf [mg/L]	17-Mar-25	14:02	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho [mg/L]	17-Mar-25	14:02	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In [mg/L]	17-Mar-25	14:02	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir [mg/L]	17-Mar-25	14:02	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La [mg/L]	17-Mar-25	14:03	< 0.00001	< 0.00001	< 0.00001	0.00009	0.00004	0.00002	0.00002	< 0.00001
Lu [mg/L]	17-Mar-25	14:02	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb [mg/L]	25-Mar-25	08:31	< 0.0001	< 0.0001	< 0.0001	0.0009	0.0002	0.0004	0.0003	< 0.0001
Os [mg/L]	17-Mar-25	14:02	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr [mg/L]	17-Mar-25	14:02	< 0.00001	< 0.00001	< 0.00001	0.00002	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Rh [mg/L]	17-Mar-25	14:02	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Rb [mg/L]	25-Mar-25	08:31	0.0742	0.0692	0.0547	0.0456	0.0483	0.0683	0.0609	0.0552
Re [mg/L]	17-Mar-25	14:02	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ru [mg/L]	17-Mar-25	14:02	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sm [mg/L]	17-Mar-25	14:01	< 0.00001	< 0.00001	< 0.00001	0.00004	0.00001	0.00001	< 0.00001	< 0.00001
Sc [mg/L]	17-Mar-25	14:01	< 0.0001	< 0.0001	0.0001	0.0001	0.0001	< 0.0001	0.0001	0.0001
Ta [mg/L]	17-Mar-25	14:01	< 0.0001	< 0.0001	< 0.0001	0.0008	0.0002	0.0002	0.0002	< 0.0001
Tb [mg/L]	17-Mar-25	14:01	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te [mg/L]	17-Mar-25	14:01	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th [mg/L]	17-Mar-25	14:01	< 0.0001	< 0.0001	< 0.0001	0.0004	< 0.0001	0.0001	< 0.0001	< 0.0001
Tm [mg/L]	17-Mar-25	14:00	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

00004059927

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	13: CV5-BYP-CP DUP	14: CV5-MAS-CP DUP	15: CV5-MAS-CP DUP	16:BLK: $SPLP1312 Blank #1
Sample Date & Time	NA	NA		
Sample weight [g]	20	20	20	---
Ext Fluid [#1 or #2]	1	1	1	1
Ext Volume [mL]	400	400	400	400
pH [No unit]	7.89	8.11	7.99	4.86
Conductivity [uS/cm]	68	65	63	15
Alkalinity [mg/L as CaCO3]	27	26	27	< 2
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	3
F [mg/L]	0.20	0.14	0.14	< 0.06
Br [mg/L]	< 30	< 30	< 30	< 30
Cl [mg/L]	< 20	< 20	< 20	< 20
SO4 [mg/L]	< 20	< 20	< 20	< 20
NO2 [as N mg/L]	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	< 6	< 6	< 6	< 6
Tot.Reactive P [mg/L]	0.05	0.04	< 0.03	< 0.03
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.488	0.603	0.656	0.001
As [mg/L]	0.177	0.0996	0.105	< 0.0002
Ba [mg/L]	0.00115	0.00113	0.00114	< 0.00008
Be [mg/L]	0.000331	0.000295	0.000181	< 0.000007
B [mg/L]	0.033	0.033	0.037	< 0.002
Bi [mg/L]	0.00084	0.00052	0.00041	< 0.00001
Ca [mg/L]	5.23	4.42	4.70	< 0.01
Cd [mg/L]	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	0.000154	0.000155	0.000199	< 0.000004
Cr [mg/L]	0.00109	0.00127	0.00168	< 0.00008
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001
Fe [mg/L]	0.066	0.064	0.077	< 0.007
K [mg/L]	1.07	1.06	1.17	0.011
Li [mg/L]	0.119	0.0557	0.0590	< 0.0001

OnLine LIMS

00040599927

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	13: CV5-BYP-CP DUP	14: CV5-MAS-CP DUP	15: CV5-MAS-CP DUP	16:BLK: $SPLP1312 Blank #1
Mg [mg/L]	0.497	0.485	0.569	< 0.001
Mn [mg/L]	0.00857	0.00644	0.00818	0.00019
Mo [mg/L]	0.0035	0.0020	< 0.0004	< 0.0004
Na [mg/L]	6.30	6.62	5.83	< 0.01
Ni [mg/L]	0.0014	0.0014	0.0015	< 0.0001
Pb [mg/L]	0.00058	0.00033	0.00027	< 0.00009
Sb [mg/L]	0.0488	0.0188	0.0222	< 0.0009
Se [mg/L]	0.00006	< 0.00004	< 0.00004	< 0.00004
Si [mg/L]	2.45	2.49	2.79	< 0.02
Sn [mg/L]	0.00040	0.00036	0.00052	< 0.00006
Sr [mg/L]	0.0112	0.00854	0.00687	< 0.00008
Ti [mg/L]	0.0018	0.0014	0.0020	< 0.0001
Tl [mg/L]	0.000084	0.000090	0.000132	< 0.000005
U [mg/L]	0.00217	0.00108	0.000720	< 0.000002
V [mg/L]	0.00107	0.00095	0.00097	< 0.00001
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002
Ce [mg/L]	0.00015	0.00006	0.00005	0.00003
Cs [mg/L]	0.0491	0.0271	0.0377	< 0.0001
Dy [mg/L]	0.00002	0.00001	< 0.00001	< 0.00001
Er [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga [mg/L]	0.0009	0.0012	0.0012	< 0.0001
Gd (tot) [mg/L]	0.00003	0.00002	0.00001	0.00001
Ge [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La [mg/L]	0.00007	0.00004	0.00003	0.00003
Lu [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb [mg/L]	0.0008	0.0004	0.0003	< 0.0001

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

00004059927

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	13: CV5-BYP-CP DUP	14: CV5-MAS-CP DUP	15: CV5-MAS-CP DUP	16:BLK: $SPLP1312 Blank #1
Os [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr [mg/L]	0.00002	< 0.00001	< 0.00001	0.00001
Rh [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Rb [mg/L]	0.0540	0.0546	0.0727	< 0.0001
Re [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ru [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sm [mg/L]	0.00003	0.00002	< 0.00001	0.00001
Sc [mg/L]	0.0001	0.0001	0.0001	< 0.0001
Ta [mg/L]	0.0007	0.0003	0.0004	< 0.0001
Tb [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th [mg/L]	0.0003	0.0002	0.0001	< 0.0001
Tm [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Method Descriptions

Parameter	Units	SGS Method Code	CALA	PALA
	#1 or #2	NA	N	N
	g	NA	N	N
	mL	NA	N	N
Acidity	mg/L as CaCO3	ME-CA-[ENV]EWL-LAK-AN-006	Y	N
Alkalinity	mg/L as CaCO3	ME-CA-[ENV]EWL-LAK-AN-006	Y	N
Anions by IC	mg/L	ME-CA-[ENV]IC-LAK-AN-001	Y	N
Anions by IC	mg/L	ME-CA-[ENV]IC-LAK-AN-001	Y	Y
Conductivity	uS/cm	ME-CA-[ENV]EWL-LAK-AN-006	Y	Y
Fluoride by Specific Ion Electrode	mg/L	ME-CA-[ENV]EWL-LAK-AN-014	Y	Y
Inorganics-General	mg/L	ME-CA-[ENV]SPE-LAK-AN-004	Y	Y
Metals in aqueous samples - ICP-MS	mg/L	ME-CA-[ENV]SPE-LAK-AN-006	Y	N
Metals in aqueous samples - ICP-MS	mg/L	ME-CA-[ENV]SPE-LAK-AN-006	Y	Y
pH	No unit	ME-CA-[ENV]EWL-LAK-AN-006	Y	Y
Reactive Phosphorus by SFA	mg/L	ME-CA-[ENV]SFA-LAK-AN-004	Y	N

OnLine LIMS

00004059927

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

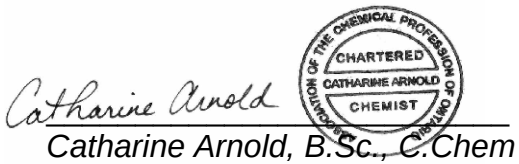
Accreditation Descriptions

CALA:

SGS Canada Industries & Environment conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation found at https://directory.cala.ca/#. Analytes and SGS Method Codes marked with a “Y” in the “CALA” column in the table denote ISO/IEC17025 accreditation

PALA:

SGS Canada Industries & Environment conforms to the requirements of ISO/IEC 17025:2005 for specific tests as listed on their scope of accreditation found at https://www.ceaeq.gouv.qc.ca/documents/publications/listes.htm#labo_accr. Analytes and SGS Method Codes marked with a “Y” in the “PALA” column in the table denote ISO/IEC17025:2005 accreditation



Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

00004059927

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quality Control Report

Inorganic Analysis													
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Acidity - QCBatchID: EWL0183-MAR25													
Acidity	2	mg/L as Ca	< 2			ND	20	100	90	110	NA		
Acidity - QCBatchID: EWL0184-MAR25													
Acidity	2	mg/L as Ca	2			ND	20	106	90	110	NA		
Alkalinity - QCBatchID: EWL0183-MAR25													
Alkalinity	2	mg/L as Ca	< 2			0	20	104	80	120	NA		
Alkalinity - QCBatchID: EWL0184-MAR25													
Alkalinity	2	mg/L as Ca	< 2			2	20	102	80	120	NA		
Anions by IC - QCBatchID: DIO0209-MAR25													
Bromide	0.3	mg/L	<0.3			ND	20	101	90	110	101	75	125
Chloride	0.2	mg/L	<0.2			ND	20	100	90	110	104	75	125
Nitrate (as N)	0.06	mg/L	<0.06			ND	20	101	90	110	104	75	125
Nitrite (as N)	0.03	mg/L	<0.03			ND	20	98	90	110	104	75	125
Sulphate	0.2	mg/L	<0.2			7	20	96	90	110	96	75	125
Conductivity - QCBatchID: EWL0183-MAR25													
Conductivity	2	uS/cm	2			3	20	105	90	110	NA		
Conductivity - QCBatchID: EWL0184-MAR25													
Conductivity	2	uS/cm	< 2			0	20	101	90	110	NA		
Fluoride by Specific Ion Electrode - QCBatchID: EWL0186-MAR25													
Fluoride	0.06	mg/L	<0.06			0	10	99	90	110	107	75	125
Fluoride by Specific Ion Electrode - QCBatchID: EWL0201-MAR25													
Fluoride	0.06	mg/L	<0.06			ND	10	100	90	110	96	75	125
Inorganics-General - QCBatchID: EHG0017-MAR25													
Mercury	0.00001	mg/L	< 0.00001			ND	20	113	80	120	121	70	130
Metals in aqueous samples - ICP-MS - QCBatchID: EMS0083-MAR25													
Aluminum	0.001	mg/L	<0.001			6	20	99	90	110	106	70	130
Antimony	0.0009	mg/L	<0.0009			ND	20	108	90	110	116	70	130
Arsenic	0.0002	mg/L	<0.0002			0	20	100	90	110	97	70	130
Barium	0.00008	mg/L	<0.00008			2	20	98	90	110	102	70	130
Beryllium	0.000007	mg/L	<0.000007			13	20	93	90	110	98	70	130
Bismuth	0.00001	mg/L	<0.00001			8	20	92	90	110	102	70	130
Boron	0.002	mg/L	<0.002			1	20	100	90	110	99	70	130
Cadmium	0.000003	mg/L	<0.000003			0	20	98	90	110	108	70	130
Calcium	0.01	mg/L	<0.01			1	20	101	90	110	85	70	130
Cesium	0.0001	mg/L	<0.0001			2	20	105	90	110	NV	70	130
Chromium	0.00008	mg/L	<0.00008			3	20	97	90	110	84	70	130

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

00004959627

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0)
20:1 L/S ratio, 18hr

LR Report : **CA11134-FEB25**

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Cobalt	0.000004	mg/L	<0.000004			10	20	95	90	110	92	70	130
Copper	0.001	mg/L	<0.001			6	20	99	90	110	101	70	130
Germanium	0.0001	mg/L	<0.0001			ND	20	104	90	110	NV	70	130
Hafnium	0.0001	mg/L	<0.0001			ND	20	97	90	110	NV	70	130
Iridium	0.00001	mg/L	<0.00001			ND	20	100	90	110	NV	70	130
Iron	0.007	mg/L	<0.007			9	20	102	90	110	100	70	130
Lead	0.00009	mg/L	<0.00009			7	20	96	90	110	95	70	130
Lithium	0.0001	mg/L	<0.0001			1	20	95	90	110	96	70	130
Magnesium	0.001	mg/L	<0.001			1	20	102	90	110	90	70	130
Manganese	0.00001	mg/L	<0.00001			7	20	99	90	110	98	70	130
Molybdenum	0.0004	mg/L	<0.0004			5	20	101	90	110	104	70	130
Nickel	0.0001	mg/L	<0.0001			3	20	99	90	110	99	70	130
Niobium	0.0001	mg/L	<0.0001			ND	20	105	90	110	NV	70	130
Osmium	0.0001	mg/L	<0.0001			ND	20	98	90	110	NV	70	130
Potassium	0.009	mg/L	<0.009			2	20	107	90	110	99	70	130
Rhenium	0.0001	mg/L	<0.0001			ND	20	96	90	110	NV	70	130
Rhodium	0.00001	mg/L	<0.0001			ND	20	99	90	110	NV	70	130
Rubidium	0.0001	mg/L	<0.0001			2	20	99	90	110	NV	70	130
Ruthenium	0.00001	mg/L	<0.0001			ND	20	101	90	110	NV	70	130
Selenium	0.00004	mg/L	<0.00004			3	20	97	90	110	98	70	130
Silicon	0.02	mg/L	<0.02			2	20	96	90	110	NV	70	130
Silver	0.00005	mg/L	<0.00005			ND	20	97	90	110	99	70	130
Sodium	0.01	mg/L	<0.01			1	20	99	90	110	100	70	130
Strontium	0.00008	mg/L	<0.00008			1	20	97	90	110	95	70	130
Tantalum	0.0001	mg/L	<0.0001			ND	20	106	90	110	NV	70	130
Tellurium	0.0001	mg/L	<0.0001			ND	20	99	90	110	NV	70	130
Thallium	0.000005	mg/L	<0.000005			5	20	96	90	110	96	70	130
Thorium	0.0001	mg/L	<0.0001			ND	20	96	90	110	NV	70	130
Tin	0.00006	mg/L	<0.00006			3	20	101	90	110	NV	70	130
Titanium	0.0001	mg/L	<0.0001			7	20	97	90	110	NV	70	130
Uranium	0.000002	mg/L	<0.000002			4	20	98	90	110	93	70	130
Vanadium	0.00001	mg/L	<0.00001			0	20	99	90	110	100	70	130
Zinc	0.002	mg/L	<0.002			ND	20	98	90	110	103	70	130
Metals in aqueous samples - ICP-MS - QCBatchID: EMS0116-MAR25													
Cerium	0.00001	mg/L	<0.00001			0	20	100	90	110	NV	70	130
Dysprosium	0.00001	mg/L	<0.00001			ND	20	100	90	110	NV	70	130
Erbium	0.00001	mg/L	<0.00001			ND	20	99	90	110	NV	70	130
Europium	0.00001	mg/L	<0.00001			ND	20	99	90	110	NV	70	130
Gadolinium	0.00001	mg/L	<0.0001			ND	20	101	90	110	NV	70	130

OnLine LIMS

00004059627

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SPLP1312--(Quebec Modified Version - MA. 100 -Lix.com.1.0)
20:1 L/S ratio, 18hr

LR Report : **CA11134-FEB25**

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material			
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Gallium	0.0001	mg/L	<0.0001			1	20	100	90	110	NV	70	130
Holmium	0.00001	mg/L	<0.00001			ND	20	98	90	110	NV	70	130
Indium	0.00001	mg/L	<0.00001			5	20	101	90	110	NV	70	130
Lanthanum	0.00001	mg/L	<0.00001			5	20	99	90	110	NV	70	130
Lutetium	0.0001	mg/L	<0.0001			ND	20	101	90	110	NV	70	130
Praseodymium	0.00001	mg/L	<0.00001			ND	20	101	90	110	NV	70	130
Samarium	0.00001	mg/L	<0.00001			ND	20	100	90	110	NV	70	130
Scandium	0.0001	mg/L	<0.0001			11	20	94	90	110	NV	70	130
Terbium	0.00001	mg/L	<0.00001			ND	20	101	90	110	NV	70	130
Thulium	0.00001	mg/L	<0.00001			ND	20	99	90	110	NV	70	130
pH - QCBatchID: EWL0183-MAR25													
pH	0.05	No unit	NA			0		100			NA		
pH - QCBatchID: EWL0184-MAR25													
pH	0.05	No unit	NA			0		100			NA		
Reactive Phosphorus by SFA - QCBatchID: SKA0083-MAR25													
Total Reactive Phosphorous (o-phosphate as P)	0.03	mg/L	<0.03			4	10	95	90	110	107	75	125

OnLine LIMS

00004959627

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

24-March-2025

Innova Lithium Inc.
Attn : John Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 12 February 2025
LR Report: **CA11135-FEB25**
Reference: Shaakichiuwaanaan Project

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-FLO-CP	6: CV5-MID-CP	7: CV5-MAG-CP	8: CV5-BYP-CP	9: CV5-MAS-CP	10: CV5-FLO-CP DUP	11: CV5-MID-CP DUP	12: CV5-MAG-CP DUP
Sample Date & Time			NA	NA	NA	NA	NA	NA	NA	NA
Sample weight [g]	17-Mar-25	15:16	100	101	99	101	100	101	99	99
Volume D.I. Water [mL]	17-Mar-25	15:16	400	400	400	400	400	400	400	400
Alkalinity [mg/L as CaCO3]	19-Mar-25	14:16	98	100	68	82	72	94	68	71
pH [No unit]	19-Mar-25	14:16	9.42	9.48	9.08	9.16	9.18	9.24	8.96	9.27
Acidity [mg/L as CaCO3]	19-Mar-25	14:16	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Conductivity [uS/cm]	19-Mar-25	14:16	210	218	204	188	172	218	173	174
F [mg/L]	19-Mar-25	13:56	2.07	4.33	2.45	3.16	2.51	1.86	3.53	2.26
Cl [mg/L]	20-Mar-25	17:42	22	< 20	< 20	< 20	< 20	28	< 20	< 20
SO4 [mg/L]	19-Mar-25	15:00	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
NO2 [as N mg/L]	19-Mar-25	15:00	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	19-Mar-25	15:00	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Br [mg/L]	19-Mar-25	15:00	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30
Tot.Reactive P [mg/L]	20-Mar-25	13:13	1.27	1.20	3.22	1.34	0.91	1.41	0.94	3.27
Hg [mg/L]	20-Mar-25	13:24	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	20-Mar-25	13:24	0.00012	< 0.00005	< 0.00005	< 0.00005	< 0.00005	0.00013	< 0.00005	< 0.00005
Al [mg/L]	20-Mar-25	13:24	2.08	0.825	0.112	0.588	0.887	1.83	0.770	0.133

OnLine LIMS

0004055014

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11135-FEB25**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-FLO-CP	6: CV5-MID-CP	7: CV5-MAG-CP	8: CV5-BYP-CP	9: CV5-MAS-CP	10: CV5-FLO-CP DUP	11: CV5-MID-CP DUP	12: CV5-MAG-CP DUP
As [mg/L]	20-Mar-25	13:24	0.796	2.21	8.60	2.88	1.69	1.15	1.33	8.51
Ba [mg/L]	20-Mar-25	13:24	0.00113	0.00193	0.00353	0.00268	0.00209	0.00136	0.00176	0.00327
Be [mg/L]	20-Mar-25	13:24	0.00122	0.000717	0.000030	0.000380	0.000414	0.000429	0.000502	0.000019
B [mg/L]	21-Mar-25	11:54	0.246	0.272	0.251	0.221	0.181	0.186	0.173	0.193
Bi [mg/L]	21-Mar-25	11:54	0.00155	0.00146	0.00005	0.00084	0.00105	0.00255	0.00122	0.00005
Ca [mg/L]	21-Mar-25	11:54	0.66	1.24	7.38	3.09	2.26	0.89	1.19	6.99
Cd [mg/L]	21-Mar-25	11:54	0.000016	0.000006	< 0.000003	0.000043	0.000008	0.000026	0.000005	0.000015
Co [mg/L]	21-Mar-25	11:54	0.000080	0.000574	0.000434	0.000549	0.000631	0.000051	0.000277	0.000494
Cr [mg/L]	21-Mar-25	11:54	0.0246	0.0267	0.0326	0.0229	0.0225	0.0051	0.0124	0.0475
Cu [mg/L]	21-Mar-25	11:54	0.021	0.003	< 0.001	0.003	0.004	0.002	< 0.001	< 0.001
Fe [mg/L]	21-Mar-25	11:54	0.125	0.386	0.140	0.251	0.369	0.083	0.186	0.188
K [mg/L]	21-Mar-25	11:54	13.3	12.2	13.2	10.7	11.1	11.3	9.48	8.00
Li [mg/L]	21-Mar-25	12:04	0.881	2.42	1.32	2.16	1.54	0.826	1.89	1.06
Mg [mg/L]	21-Mar-25	12:04	0.262	1.64	9.24	2.35	1.61	0.173	0.660	7.49
Mn [mg/L]	21-Mar-25	12:04	0.0128	0.0201	0.0035	0.0149	0.0175	0.0130	0.0111	0.0044
Mo [mg/L]	21-Mar-25	12:04	0.0097	0.0037	0.0017	0.0059	0.0054	0.0023	0.0017	0.0011
Na [mg/L]	21-Mar-25	12:04	38.0	31.7	12.2	23.2	22.3	41.7	20.1	13.9
Ni [mg/L]	21-Mar-25	12:04	0.0005	0.0041	0.0058	0.0046	0.0041	0.0003	0.0019	0.0053
Pb [mg/L]	21-Mar-25	12:04	0.00100	0.00093	< 0.00009	0.00125	0.00076	0.00083	0.00056	0.00020
Sb [mg/L]	21-Mar-25	12:04	0.232	0.402	1.39	0.499	0.284	0.310	0.360	1.18
Se [mg/L]	24-Mar-25	10:27	0.00031	0.00016	0.00090	0.00032	0.00016	0.00049	0.00022	0.00048
Si [mg/L]	21-Mar-25	13:40	6.97	9.00	11.9	8.13	8.98	8.58	6.33	12.8
Sn [mg/L]	21-Mar-25	13:40	0.00126	0.00098	0.00011	0.00080	0.00072	0.00678	0.00077	0.00022
Sr [mg/L]	21-Mar-25	13:40	0.00159	0.00269	0.01509	0.00735	0.00455	0.00210	0.00257	0.0156
Ti [mg/L]	21-Mar-25	13:40	0.0021	0.0102	0.0025	0.0060	0.0096	0.0014	0.0069	0.0034
Tl [mg/L]	21-Mar-25	13:40	0.00168	0.000309	0.00012	0.00031	0.00042	0.00206	0.00028	0.00007
U [mg/L]	21-Mar-25	13:40	0.142	0.0274	0.0102	0.0657	0.0262	0.219	0.0538	0.0113
V [mg/L]	21-Mar-25	13:40	0.0281	0.0371	0.0437	0.0356	0.0330	0.00710	0.0239	0.0528
Zn [mg/L]	21-Mar-25	13:40	0.003	0.002	< 0.002	0.004	0.002	0.002	< 0.002	0.003
Ce [mg/L]	24-Mar-25	10:27	0.00012	0.00030	0.00002	0.00038	0.00034	0.00011	0.00030	0.00005
Cs [mg/L]	24-Mar-25	10:27	0.0434	0.0515	0.242	0.112	0.106	0.0354	0.0718	0.114

OnLine LIMS

0004055014

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11135-FEB25**

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: CV5-FLO-CP	6: CV5-MID-CP	7: CV5-MAG-CP	8: CV5-BYP-CP	9: CV5-MAS-CP	10: CV5-FLO-CP DUP	11: CV5-MID-CP DUP	12: CV5-MAG-CP DUP
Dy [mg/L]	24-Mar-25	10:27	0.00004	0.00005	< 0.00001	0.00003	0.00005	0.00003	0.00004	< 0.00001
Er [mg/L]	24-Mar-25	10:27	0.00001	0.00001	< 0.00001	0.00001	0.00001	< 0.00001	0.00001	< 0.00001
Eu [mg/L]	24-Mar-25	10:27	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga [mg/L]	24-Mar-25	10:27	0.0370	0.0057	0.0002	0.0037	0.0064	0.0366	0.0166	0.0002
Gd (tot) [mg/L]	24-Mar-25	10:27	0.00006	0.00005	< 0.00001	0.00004	0.00006	0.00005	0.00005	< 0.00001
Ge [mg/L]	21-Mar-25	13:40	0.0009	0.0004	< 0.0001	0.0003	0.0004	0.0012	0.0002	< 0.0001
Hf [mg/L]	24-Mar-25	10:28	< 0.0001	0.0002	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001
Ho [mg/L]	24-Mar-25	10:28	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In [mg/L]	24-Mar-25	10:28	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00002	< 0.00001	< 0.00001
Ir [mg/L]	24-Mar-25	10:28	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La [mg/L]	24-Mar-25	10:28	0.00006	0.00016	0.00007	0.00021	0.00018	0.00006	0.00016	0.00007
Lu [mg/L]	24-Mar-25	10:28	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb [mg/L]	24-Mar-25	10:28	0.0027	0.0013	0.0002	0.0015	0.0013	0.0054	0.0014	0.0001
Os [mg/L]	24-Mar-25	10:28	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr [mg/L]	24-Mar-25	10:28	0.00002	0.00004	< 0.00001	0.00005	0.00005	0.00002	0.00004	< 0.00001
Rh [mg/L]	21-Mar-25	13:41	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Rb [mg/L]	21-Mar-25	13:41	0.638	0.531	0.732	0.501	0.564	0.514	0.564	0.303
Re [mg/L]	21-Mar-25	13:41	0.0006	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ru [mg/L]	21-Mar-25	13:41	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sm [mg/L]	24-Mar-25	10:28	0.00004	0.00005	< 0.00001	0.00005	0.00006	0.00004	0.00005	< 0.00001
Sc [mg/L]	24-Mar-25	10:28	0.0003	0.0005	0.0005	0.0004	0.0005	0.0004	0.0003	0.0006
Ta [mg/L]	21-Mar-25	13:41	0.0005	0.0009	< 0.0001	0.0006	0.0006	0.0007	0.0005	< 0.0001
Tb [mg/L]	24-Mar-25	10:28	0.00001	0.00001	< 0.00001	< 0.00001	0.00001	< 0.00001	0.00001	< 0.00001
Te [mg/L]	21-Mar-25	13:41	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th [mg/L]	21-Mar-25	13:41	0.0004	0.0005	< 0.0001	0.0005	0.0005	0.0006	0.0005	< 0.0001
Tm [mg/L]	24-Mar-25	10:28	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

OnLine LIMS

0004055014

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	13: CV5-BYP-CP DUP	14: CV5-MAS-CP DUP	15: CV5-MAS-CP DUP
Sample Date & Time	NA	NA	
Sample weight [g]	100	100	100
Volume D.I. Water [mL]	400	400	400
Alkalinity [mg/L as CaCO3]	74	80	85
pH [No unit]	9.22	9.42	9.44
Acidity [mg/L as CaCO3]	< 2	< 2	< 2
Conductivity [uS/cm]	178	200	200
F [mg/L]	2.63	3.24	3.24
Cl [mg/L]	< 20	22	21
SO4 [mg/L]	< 20	< 20	< 20
NO2 [as N mg/L]	< 3	< 3	< 3
NO3 [as N mg/L]	< 6	< 6	< 6
Br [mg/L]	< 30	< 30	< 30
Tot.Reactive P [mg/L]	1.36	1.22	1.21
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.653	0.851	0.803
As [mg/L]	2.98	2.17	2.17
Ba [mg/L]	0.00290	0.00188	0.00186
Be [mg/L]	0.000519	0.000648	0.000762
B [mg/L]	0.215	0.191	0.191
Bi [mg/L]	0.00154	0.00217	0.00231
Ca [mg/L]	3.03	1.79	1.77
Cd [mg/L]	0.000013	0.000014	0.000014
Co [mg/L]	0.000882	0.000775	0.000773
Cr [mg/L]	0.0166	0.0366	0.0372
Cu [mg/L]	0.001	0.001	0.001
Fe [mg/L]	0.312	0.405	0.401
K [mg/L]	8.96	14.6	14.5
Li [mg/L]	1.78	1.69	1.69
Mg [mg/L]	1.97	2.06	2.02

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0004055014

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11135-FEB25**

Analysis	13: CV5-BYP-CP DUP	14: CV5-MAS-CP DUP	15: CV5-MAS-CP DUP
Mn [mg/L]	0.0200	0.0184	0.0181
Mo [mg/L]	0.0035	0.0019	0.0018
Na [mg/L]	23.5	25.7	25.5
Ni [mg/L]	0.0064	0.0052	0.0053
Pb [mg/L]	0.00123	0.00124	0.00124
Sb [mg/L]	0.548	0.469	0.478
Se [mg/L]	0.00033	0.00033	0.00029
Si [mg/L]	8.03	10.4	10.3
Sn [mg/L]	0.00072	0.00094	0.00081
Sr [mg/L]	0.00969	0.00359	0.00356
Ti [mg/L]	0.0072	0.0090	0.0086
Tl [mg/L]	0.00025	0.00058	0.00058
U [mg/L]	0.0801	0.0222	0.0217
V [mg/L]	0.0277	0.0385	0.0387
Zn [mg/L]	0.002	0.003	0.002
Ce [mg/L]	0.00073	0.00027	0.00028
Cs [mg/L]	0.0858	0.157	0.156
Dy [mg/L]	0.00006	0.00005	0.00005
Er [mg/L]	0.00001	0.00002	0.00001
Eu [mg/L]	< 0.00001	< 0.00001	< 0.00001
Ga [mg/L]	0.0037	0.0055	0.0057
Gd (tot) [mg/L]	0.00009	0.00007	0.00007
Ge [mg/L]	0.0003	0.0004	0.0004
Hf [mg/L]	< 0.0001	< 0.0001	0.0001
Ho [mg/L]	< 0.00001	< 0.00001	< 0.00001
In [mg/L]	< 0.00001	< 0.00001	< 0.00001
Ir [mg/L]	< 0.00001	< 0.00001	< 0.00001
La [mg/L]	0.00039	0.00015	0.00015
Lu [mg/L]	< 0.0001	< 0.0001	< 0.0001
Nb [mg/L]	0.0018	0.0013	0.0013
Os [mg/L]	< 0.0001	< 0.0001	< 0.0001

OnLine LIMS

0004055014

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11135-FEB25**

Analysis	13: CV5-BYP-CP DUP	14: CV5-MAS-CP DUP	15: CV5-MAS-CP DUP
Pr [mg/L]	0.00009	0.00003	0.00004
Rh [mg/L]	< 0.00001	< 0.00001	< 0.00001
Rb [mg/L]	0.392	0.872	0.870
Re [mg/L]	< 0.0001	< 0.0001	< 0.0001
Ru [mg/L]	< 0.00001	< 0.00001	< 0.00001
Sm [mg/L]	0.00009	0.00006	0.00006
Sc [mg/L]	0.0005	0.0005	0.0005
Ta [mg/L]	0.0007	0.0005	0.0003
Tb [mg/L]	0.00002	0.00001	0.00001
Te [mg/L]	< 0.0001	< 0.0001	< 0.0001
Th [mg/L]	0.0009	0.0006	0.0006
Tm [mg/L]	< 0.00001	< 0.00001	< 0.00001

Method Descriptions

Parameter	Units	SGS Method Code	CALA	PALA
	g	NA	N	N
	mL	NA	N	N
Acidity	mg/L as CaCO3	ME-CA-[ENV]EWL-LAK-AN-006	Y	N
Alkalinity	mg/L as CaCO3	ME-CA-[ENV]EWL-LAK-AN-006	Y	N
Anions by IC	mg/L	ME-CA-[ENV]IC-LAK-AN-001	Y	N
Anions by IC	mg/L	ME-CA-[ENV]IC-LAK-AN-001	Y	Y
Conductivity	uS/cm	ME-CA-[ENV]EWL-LAK-AN-006	Y	Y
Fluoride by Specific Ion Electrode	mg/L	ME-CA-[ENV]EWL-LAK-AN-014	Y	Y
Inorganics-General	mg/L	ME-CA-[ENV]SPE-LAK-AN-004	Y	Y
Metals in aqueous samples - ICP-MS	mg/L	ME-CA-[ENV]SPE-LAK-AN-006	Y	N
Metals in aqueous samples - ICP-MS	mg/L	ME-CA-[ENV]SPE-LAK-AN-006	Y	Y
pH	No unit	ME-CA-[ENV]EWL-LAK-AN-006	Y	Y
Reactive Phosphorus by SFA	mg/L	ME-CA-[ENV]SFA-LAK-AN-004	Y	N

OnLine LIMS

0004055014

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

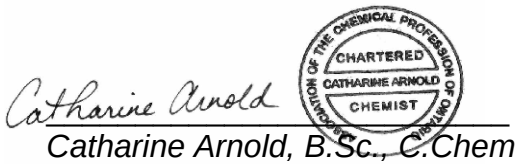
Accreditation Descriptions

CALA:

SGS Canada Industries & Environment conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation found at https://directory.cala.ca/#. Analytes and SGS Method Codes marked with a “Y” in the “CALA” column in the table denote ISO/IEC17025 accreditation

PALA:

SGS Canada Industries & Environment conforms to the requirements of ISO/IEC 17025:2005 for specific tests as listed on their scope of accreditation found at https://www.ceaeq.gouv.qc.ca/documents/publications/listes.htm#labo_accr. Analytes and SGS Method Codes marked with a “Y” in the “PALA” column in the table denote ISO/IEC17025:2005 accreditation



Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0004055014

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Quality Control Report

Inorganic Analysis													
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Acidity - QCBatchID: EWL0329-MAR25													
Acidity	2	mg/L as Ca	< 2			ND	20	104	90	110	NA		
Alkalinity - QCBatchID: EWL0329-MAR25													
Alkalinity	2	mg/L as Ca	< 2			8	20	100	80	120	NA		
Anions by IC - QCBatchID: DIO0368-MAR25													
Bromide	0.3	mg/L	<0.3			ND	20	101	90	110	100	75	125
Nitrate (as N)	0.06	mg/L	<0.06			3	20	99	90	110	99	75	125
Nitrite (as N)	0.03	mg/L	<0.03			16	20	96	90	110	101	75	125
Sulphate	0.2	mg/L	<0.2			10	20	98	90	110	96	75	125
Anions by IC - QCBatchID: DIO0412-MAR25													
Chloride	0.2	mg/L	<0.2			2	20	104	90	110	105	75	125
Conductivity - QCBatchID: EWL0329-MAR25													
Conductivity	2	uS/cm	< 2			0	20	96	90	110	NA		
Fluoride by Specific Ion Electrode - QCBatchID: EWL0343-MAR25													
Fluoride	0.06	mg/L	<0.06			ND	10	100	90	110	101	75	125
Inorganics-General - QCBatchID: EHG0032-MAR25													
Mercury	0.00001	mg/L	< 0.00001			ND	20	91	80	120	124	70	130
Metals in aqueous samples - ICP-MS - QCBatchID: EMS0149-MAR25													
Aluminum	0.001	mg/L	<0.001			5	20	100	90	110	118	70	130
Antimony	0.0009	mg/L	<0.0009			2	20	107	90	110	118	70	130
Arsenic	0.0002	mg/L	<0.0002			0	20	99	90	110	105	70	130
Barium	0.00008	mg/L	<0.00008			19	20	97	90	110	96	70	130
Beryllium	0.000007	mg/L	<0.000007			11	20	97	90	110	105	70	130
Bismuth	0.00001	mg/L	<0.00001			1	20	92	90	110	90	70	130
Boron	0.002	mg/L	<0.002			2	20	100	90	110	102	70	130
Cadmium	0.000003	mg/L	<0.000003			0	20	100	90	110	108	70	130
Calcium	0.01	mg/L	<0.01			0	20	104	90	110	95	70	130
Cesium	0.0001	mg/L	<0.0001			0	20	102	90	110	NV	70	130
Chromium	0.00008	mg/L	<0.00008			1	20	95	90	110	89	70	130
Cobalt	0.000004	mg/L	<0.000004			4	20	98	90	110	92	70	130
Copper	0.001	mg/L	<0.001			18	20	98	90	110	102	70	130
Germanium	0.0001	mg/L	<0.0001			3	20	106	90	110	NV	70	130
Hafnium	0.0001	mg/L	<0.0001			ND	20	102	90	110	NV	70	130
Iridium	0.00001	mg/L	<0.00001			ND	20	108	90	110	NV	70	130
Iron	0.007	mg/L	<0.007			1	20	106	90	110	100	70	130
Lead	0.00009	mg/L	<0.00009			1	20	94	90	110	128	70	130

OnLine LIMS

0004055014

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - K0L 2H0
Phone: 705-652-2000 FAX: 705-652-6365

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Lithium	0.0001	mg/L	<0.0001			4	20	100	90	110	102	70	130
Magnesium	0.001	mg/L	<0.001			5	20	107	90	110	81	70	130
Manganese	0.00001	mg/L	<0.00001			0	20	100	90	110	107	70	130
Molybdenum	0.0004	mg/L	<0.0004			2	20	105	90	110	93	70	130
Nickel	0.0001	mg/L	<0.0001			4	20	98	90	110	91	70	130
Niobium	0.0001	mg/L	<0.0001			5	20	102	90	110	NV	70	130
Osmium	0.0001	mg/L	<0.0001			ND	20	97	90	110	NV	70	130
Potassium	0.009	mg/L	<0.009			1	20	105	90	110	101	70	130
Rhenium	0.0001	mg/L	<0.0001			ND	20	102	90	110	NV	70	130
Rhodium	0.00001	mg/L	<0.0001			ND	20	101	90	110	NV	70	130
Rubidium	0.0001	mg/L	Error!			1	20	95	90	110	NV	70	130
Ruthenium	0.00001	mg/L	<0.0001			ND	20	102	90	110	NV	70	130
Selenium	0.00004	mg/L	<0.00004			4	20	100	90	110	104	70	130
Silicon	0.02	mg/L	<0.02			1	20	100	90	110	NV	70	130
Silver	0.00005	mg/L	<0.00005			ND	20	95	90	110	81	70	130
Sodium	0.01	mg/L	<0.01			1	20	100	90	110	95	70	130
Strontium	0.00008	mg/L	<0.00008			2	20	100	90	110	91	70	130
Tantalum	0.0001	mg/L	<0.0001			1	20	102	90	110	NV	70	130
Tellurium	0.0001	mg/L	<0.0001			ND	20	101	90	110	NV	70	130
Thallium	0.000005	mg/L	<0.000005			1	20	97	90	110	110	70	130
Thorium	0.0001	mg/L	<0.0001			1	20	97	90	110	NV	70	130
Tin	0.00006	mg/L	<0.00006			1	20	103	90	110	NV	70	130
Titanium	0.0001	mg/L	<0.0001			6	20	106	90	110	NV	70	130
Uranium	0.000002	mg/L	<0.000002			1	20	98	90	110	99	70	130
Vanadium	0.00001	mg/L	<0.00001			1	20	99	90	110	101	70	130
Zinc	0.002	mg/L	<0.002			6	20	100	90	110	102	70	130
Metals in aqueous samples - ICP-MS - QCBatchID: EMS0177-MAR25													
Cerium	0.00001	mg/L	<0.00001			ND	20	95	90	110	NV	70	130
Dysprosium	0.00001	mg/L	<0.00001			ND	20	97	90	110	NV	70	130
Erbium	0.00001	mg/L	<0.00001			ND	20	96	90	110	NV	70	130
Europium	0.00001	mg/L	<0.00001			ND	20	95	90	110	NV	70	130
Gadolinium	0.00001	mg/L	<0.0001			ND	20	93	90	110	NV	70	130
Gallium	0.0001	mg/L	<0.0001			2	20	102	90	110	NV	70	130
Holmium	0.00001	mg/L	<0.00001			ND	20	97	90	110	NV	70	130
Indium	0.00001	mg/L	<0.00001			5	20	100	90	110	NV	70	130
Lanthanum	0.00001	mg/L	<0.00001			ND	20	95	90	110	NV	70	130
Lutetium	0.0001	mg/L	<0.0001			ND	20	95	90	110	NV	70	130
Praseodymium	0.00001	mg/L	<0.00001			ND	20	91	90	110	NV	70	130
Samarium	0.00001	mg/L	<0.00001			ND	20	98	90	110	NV	70	130

OnLine LIMS

0004055014

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material			
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Terbium	0.00001	mg/L	<0.00001			ND	20	91	90	110	NV	70	130
Thulium	0.00001	mg/L	<0.00001			ND	20	94	90	110	NV	70	130
pH - QCBatchID: EWL0329-MAR25													
pH	0.05	No unit	NA			0		100			NA		
Reactive Phosphorus by SFA - QCBatchID: SKA0145-MAR25													
Total Reactive Phosphorous (o-phosphate as P)	0.03	mg/L	<0.03			ND	10	98	90	110	94	75	125
Reactive Phosphorus by SFA - QCBatchID: SKA0163-MAR25													
Total Reactive Phosphorous (o-phosphate as P)	0.03	mg/L	<0.03			ND	10	96	90	110	NV	75	125

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0004055014

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

24-March-2025

Innova Lithium Inc.
Attn : John Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 12 February 2025
LR Report: **CA11136-FEB25**
Reference: Shaakichiuwaanaan Project

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Sample ID	Sample Date & Time	Spec.Grav
1: Analysis Start Date		13-Mar-25
2: Analysis Start Time		09:07
3: Analysis Completed Date		13-Mar-25
4: Analysis Completed Time		09:11
5: CV5-FLO-CP	NA	2.62
6: CV5-MID-CP	NA	2.69
7: CV5-MAG-CP	NA	2.98
8: CV5-BYP-CP	NA	2.73
9: CV5-MAS-CP	NA	2.69

Catharine Arnold

CHARTERED CATHARINE ARNOLD CHEMIST

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0004055024

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

16-April-2025

Innova Lithium Inc.
Attn : John Drapack

1801 McGill College Avenue, Suite 900,, Montreal
Canada, H3A 1Z4
Phone: 647-782-7386, Fax:

Date Rec. : 14 March 2025
LR Report: **CA11168-MAR25**
Reference: Shaakichiuwaanaan Project

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: VIS-CV5-PEG-277	6: VIS-CV5-PEG-278	12: VIS-CV5-SP-327	13: VIS-CV5-SP-328	14: VIS-CV5-SP-329	15: VIS-CV5-SP-330	16: VIS-CV5-SP-331	17: VIS-CV5-SP-332
Sample Date & Time					NA	NA	NA	NA	NA	NA	NA	NA
Sample weight [g]	21-Mar-25	12:59	01-Apr-25	10:50	100	100	100	100	101	99	100	100
Volume D.I. Water [mL]	24-Mar-25	07:00	01-Apr-25	10:50	400	400	400	400	400	400	400	400
pH [No unit]	01-Apr-25	15:45	03-Apr-25	11:33	9.48	9.16	9.25	9.37	9.38	8.71	9.58	9.46
Conductivity [uS/cm]	01-Apr-25	15:45	03-Apr-25	11:33	180	162	223	238	193	150	277	226
Alkalinity [mg/L as CaCO3]	01-Apr-25	15:45	03-Apr-25	11:33	67	63	92	101	94	58	135	106
Acidity [mg/L as CaCO3]	01-Apr-25	15:45	03-Apr-25	11:33	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
F [mg/L]	01-Apr-25	08:25	03-Apr-25	15:22	1.99	2.47	4.84	9.00	6.21	6.90	10.6	5.92
Br [mg/L]	31-Mar-25	21:30	02-Apr-25	12:51	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30
Cl [mg/L]	31-Mar-25	21:30	02-Apr-25	12:51	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
SO4 [mg/L]	31-Mar-25	21:30	04-Apr-25	13:26	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
NO2 [as N mg/L]	31-Mar-25	21:30	02-Apr-25	12:52	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	31-Mar-25	21:30	02-Apr-25	12:52	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Tot.Reactive P [mg/L]	01-Apr-25	07:12	14-Apr-25	10:48	< 0.03	1.66	2.37	3.16	1.94	1.35	1.11	1.76
Hg [mg/L]	04-Apr-25	14:53	04-Apr-25	15:00	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	03-Apr-25	18:14	07-Apr-25	08:49	< 0.00005	< 0.00005	0.00011	0.00007	0.00015	0.00010	< 0.00005	0.00011
Al [mg/L]	03-Apr-25	18:14	07-Apr-25	08:49	1.82	4.22	5.20	6.10	7.98	3.69	6.99	4.71
As [mg/L]	03-Apr-25	18:14	08-Apr-25	09:08	0.554	0.0842	1.25	0.953	2.66	1.19	4.05	1.79
Ba [mg/L]	03-Apr-25	18:14	07-Apr-25	08:49	0.00221	0.00402	0.00406	0.00303	0.00768	0.00427	0.00438	0.00437
Be [mg/L]	03-Apr-25	18:14	07-Apr-25	08:49	0.000410	0.00241	0.0109	0.00160	0.00137	0.000951	0.000468	0.000542
B [mg/L]	03-Apr-25	18:14	07-Apr-25	08:52	0.222	0.186	0.472	0.258	0.390	0.292	0.418	0.296
Bi [mg/L]	03-Apr-25	18:14	07-Apr-25	08:52	0.00271	0.00011	0.00610	0.00036	0.00105	0.0561	0.00007	0.00140

OnLine LIMS

0004081418

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

CTEU-9--(4:1 L/S ratio, 7 day on 100mesh)

LR Report : **CA11168-MAR25**

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: VIS-CV5-PEG-277	6: VIS-CV5-PEG-278	12: VIS-CV5-SP-327	13: VIS-CV5-SP-328	14: VIS-CV5-SP-329	15: VIS-CV5-SP-330	16: VIS-CV5-SP-331	17: VIS-CV5-SP-332
Ca [mg/L]	03-Apr-25	18:14	07-Apr-25	08:52	1.21	0.90	1.10	0.97	0.93	0.89	0.75	0.78
Cd [mg/L]	03-Apr-25	18:14	07-Apr-25	08:52	0.000012	0.000018	0.000047	0.000030	0.000042	0.000059	0.000029	0.000021
Co [mg/L]	03-Apr-25	18:14	07-Apr-25	08:52	0.000152	0.000356	0.000147	0.000111	0.000155	0.000126	0.000081	0.000067
Cr [mg/L]	03-Apr-25	18:14	07-Apr-25	09:03	0.0122	0.00125	0.00321	0.00474	0.00428	0.0155	0.00327	0.00256
Cu [mg/L]	03-Apr-25	18:14	07-Apr-25	09:03	0.003	0.005	0.001	0.002	0.002	0.002	0.001	< 0.001
Fe [mg/L]	03-Apr-25	18:14	07-Apr-25	09:03	0.086	0.500	0.239	0.186	0.210	0.433	0.168	0.228
K [mg/L]	03-Apr-25	18:14	07-Apr-25	09:03	26.1	6.36	5.94	5.84	1.42	3.37	2.99	4.05
Li [mg/L]	03-Apr-25	18:14	07-Apr-25	09:03	0.589	0.142	2.04	9.73	7.49	3.22	12.6	6.98
Mg [mg/L]	03-Apr-25	18:14	07-Apr-25	09:03	0.179	0.210	0.305	0.152	0.227	0.240	0.191	0.246
Mn [mg/L]	03-Apr-25	18:14	07-Apr-25	09:03	0.0130	0.0350	0.0730	0.164	0.153	0.0850	0.116	0.0732
Mo [mg/L]	03-Apr-25	18:14	07-Apr-25	09:03	0.0016	0.0004	0.0046	0.0089	0.0066	0.0053	0.0047	0.0056
Na [mg/L]	03-Apr-25	18:14	07-Apr-25	09:03	16.2	27.5	37.1	18.4	18.2	20.1	20.3	24.4
Ni [mg/L]	03-Apr-25	18:14	07-Apr-25	09:03	0.0002	0.0003	0.0003	0.0002	0.0003	0.0005	0.0003	0.0001
P [mg/L]	03-Apr-25	18:14	07-Apr-25	09:03	0.833	1.55	1.59	2.58	2.51	0.927	1.98	1.04
Pb [mg/L]	03-Apr-25	18:14	07-Apr-25	09:03	0.00088	0.00078	0.00197	0.00069	0.00313	0.00133	0.00152	0.00082
Sb [mg/L]	03-Apr-25	18:14	07-Apr-25	09:03	0.0819	0.0342	0.290	0.569	3.84	0.451	4.60	0.443
Se [mg/L]	03-Apr-25	18:14	07-Apr-25	09:03	0.00019	0.00040	0.00030	0.00018	0.00013	0.00116	0.00021	0.00015
Si [mg/L]	03-Apr-25	18:14	07-Apr-25	09:03	5.15	5.64	7.92	8.16	12.6	9.31	7.36	7.03
Sn [mg/L]	03-Apr-25	18:14	07-Apr-25	09:03	0.00067	0.00423	0.00264	0.00453	0.00327	0.00267	0.00293	0.00167
Sr [mg/L]	03-Apr-25	18:14	07-Apr-25	09:03	0.00284	0.00305	0.00343	0.00317	0.00643	0.00483	0.00299	0.00266
Ti [mg/L]	03-Apr-25	18:14	07-Apr-25	09:06	0.0007	0.0038	0.0032	0.0037	0.0024	0.0036	0.0017	0.0019
Tl [mg/L]	03-Apr-25	18:14	07-Apr-25	09:06	0.000977	0.000812	0.000785	0.00126	0.000877	0.000727	0.000712	0.000515
U [mg/L]	03-Apr-25	18:14	07-Apr-25	09:06	0.00874	0.0174	0.102	0.0263	0.114	0.00779	0.0265	0.0714
V [mg/L]	03-Apr-25	18:14	07-Apr-25	09:06	0.00573	0.0147	0.00132	0.00091	0.00161	0.00181	0.00125	0.00118
Zn [mg/L]	03-Apr-25	18:14	07-Apr-25	09:06	0.002	0.006	0.006	0.005	0.007	0.010	0.005	0.005
Au [mg/L]	03-Apr-25	18:14	07-Apr-25	09:06	0.00001	0.00009	0.00004	0.00009	0.00004	0.00004	0.00004	< 0.00001
Ce [mg/L]	03-Apr-25	18:14	07-Apr-25	09:10	0.00023	0.00059	0.00041	0.00005	0.00007	0.00023	0.00004	0.00017
Cs [mg/L]	03-Apr-25	18:14	07-Apr-25	09:10	0.0687	0.0268	0.0491	0.272	0.287	0.0914	0.132	0.150
Dy [mg/L]	03-Apr-25	18:14	07-Apr-25	09:10	0.00002	0.00007	0.00012	0.00001	0.00002	0.00013	0.00001	0.00005
Er [mg/L]	03-Apr-25	18:14	07-Apr-25	09:10	< 0.00001	0.00002	0.00002	< 0.00001	< 0.00001	0.00002	< 0.00001	< 0.00001
Eu [mg/L]	03-Apr-25	18:14	07-Apr-25	09:10	< 0.00001	0.00005	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga [mg/L]	06-Apr-25	08:53	07-Apr-25	09:10	0.0216	0.0597	0.0528	0.0564	0.0464	0.0339	0.0633	0.0548
Gd (tot) [mg/L]	03-Apr-25	18:14	07-Apr-25	09:10	0.00003	0.00018	0.00019	0.00001	0.00002	0.00015	< 0.00001	0.00008
Ge [mg/L]	03-Apr-25	18:14	07-Apr-25	09:10	0.0007	0.0003	0.0009	0.0016	0.0019	0.0005	0.0020	0.0009
Hf [mg/L]	03-Apr-25	18:14	07-Apr-25	09:10	0.0001	0.0014	0.0003	< 0.0001	< 0.0001	0.0001	< 0.0001	0.0002
Ho [mg/L]	03-Apr-25	18:14	07-Apr-25	09:10	< 0.00001	< 0.00001	0.00001	< 0.00001	< 0.00001	0.00001	< 0.00001	< 0.00001
In [mg/L]	06-Apr-25	08:53	07-Apr-25	09:10	< 0.00001	0.00002	< 0.00001	0.00002	< 0.00001	0.00001	0.00001	< 0.00001
Ir [mg/L]	03-Apr-25	18:14	07-Apr-25	09:10	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

OnLine LIMS

0004081418

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: VIS-CV5-PEG-277	6: VIS-CV5-PEG-278	12: VIS-CV5-SP-327	13: VIS-CV5-SP-328	14: VIS-CV5-SP-329	15: VIS-CV5-SP-330	16: VIS-CV5-SP-331	17: VIS-CV5-SP-332
La [mg/L]	03-Apr-25	18:14	07-Apr-25	09:10	0.00010	0.00028	0.00020	0.00005	0.00018	0.00012	0.00019	0.00009
Lu [mg/L]	06-Apr-25	08:53	07-Apr-25	09:10	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb [mg/L]	03-Apr-25	18:14	07-Apr-25	09:10	0.0013	0.0038	0.0051	0.0018	0.0023	0.0015	0.0011	0.0014
Nd [mg/L]	03-Apr-25	18:14	07-Apr-25	09:10	0.00012	0.00063	0.00019	0.00001	0.00003	0.00013	0.00002	0.00009
Os [mg/L]	03-Apr-25	18:14	07-Apr-25	09:10	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd [mg/L]	03-Apr-25	18:14	07-Apr-25	09:10	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr [mg/L]	03-Apr-25	18:14	07-Apr-25	09:10	0.00003	0.00010	0.00008	< 0.00001	< 0.00001	0.00003	< 0.00001	0.00002
Pt [mg/L]	03-Apr-25	18:14	07-Apr-25	09:10	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh [mg/L]	03-Apr-25	18:14	07-Apr-25	09:10	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Rb [mg/L]	03-Apr-25	18:14	07-Apr-25	09:10	1.45	0.597	0.447	0.884	0.234	0.267	0.369	0.309
Re [mg/L]	03-Apr-25	18:14	07-Apr-25	09:10	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ru [mg/L]	03-Apr-25	18:14	07-Apr-25	09:10	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sm [mg/L]	03-Apr-25	18:14	07-Apr-25	09:10	0.00003	0.00018	0.00016	0.00001	0.00001	0.00011	0.00001	0.00006
Sc [mg/L]	06-Apr-25	08:53	07-Apr-25	09:10	0.0002	0.0002	0.0003	0.0003	0.0004	0.0003	0.0002	0.0002
Ta [mg/L]	03-Apr-25	18:14	07-Apr-25	09:10	0.0003	0.0035	0.0012	0.0025	0.0017	0.0014	0.0016	0.0003
Tb [mg/L]	06-Apr-25	08:53	07-Apr-25	09:10	< 0.00001	0.00002	0.00005	< 0.00001	< 0.00001	0.00005	< 0.00001	0.00002
Te [mg/L]	03-Apr-25	18:14	07-Apr-25	09:10	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th [mg/L]	03-Apr-25	18:14	07-Apr-25	09:10	0.0008	0.0053	0.0029	0.0025	0.0026	0.0020	0.0004	0.0009
Tm [mg/L]	06-Apr-25	08:53	07-Apr-25	09:10	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Analysis	18: VIS-CV5-SP-333	19: VIS-CV5-SP-334	20: VIS-CV5-SP-335	21: VIS-CV5-SP-336	22: VIS-CV5-SP-337	23: VIS-CV5-SP-338	24: VIS-CV5-SP-339	25: VIS-CV5-SP-340	26: VIS-CV5-SP-341	27: VIS-CV5-SP-342	28: VIS-CV5-UM-279
Sample Date & Time	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sample weight [g]	101	101	101	99	100	99	101	99	100	100	99
Volume D.I. Water [mL]	400	400	400	400	400	400	400	400	400	400	400
pH [No unit]	9.03	9.28	8.38	8.87	8.83	9.05	9.53	9.42	8.84	8.54	9.15
Conductivity [uS/cm]	237	227	253	242	184	186	219	199	210	227	192
Alkalinity [mg/L as CaCO3]	99	92	71	88	81	78	103	95	85	68	91
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
F [mg/L]	11.5	5.72	3.98	9.53	4.42	5.15	5.15	1.89	2.25	3.66	0.27
Br [mg/L]	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30
Cl [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
SO4 [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
NO2 [as N mg/L]	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Tot.Reactive P [mg/L]	3.10	1.41	0.37	2.56	3.20	2.23	2.11	1.47	0.79	0.82	0.61

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0004081418

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11168-MAR25**

Analysis	18: VIS-CV5-SP-333	19: VIS-CV5-SP-334	20: VIS-CV5-SP-335	21: VIS-CV5-SP-336	22: VIS-CV5-SP-337	23: VIS-CV5-SP-338	24: VIS-CV5-SP-339	25: VIS-CV5-SP-340	26: VIS-CV5-SP-341	27: VIS-CV5-SP-342	28: VIS-CV5-UM-279
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	0.00007	< 0.00005	< 0.00005	< 0.00005	0.00025	< 0.00005	0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	5.82	5.75	0.778	3.94	7.12	2.77	5.98	3.66	1.29	0.659	0.044
As [mg/L]	3.54	0.484	0.151	1.82	1.43	0.957	1.43	0.275	0.177	0.548	1.80
Ba [mg/L]	0.00326	0.00700	0.00162	0.00202	0.00177	0.00091	0.00155	0.00052	0.00117	0.00089	0.00079
Be [mg/L]	0.000289	0.00110	0.000906	0.000460	0.000500	0.000286	0.000319	0.000232	0.00101	0.000266	< 0.000007
B [mg/L]	0.533	0.233	0.338	0.290	0.396	0.252	0.365	0.286	0.231	0.288	0.050
Bi [mg/L]	0.00020	0.00010	0.00017	0.00337	0.00093	0.00965	0.00014	0.00118	0.00112	0.00036	< 0.00001
Ca [mg/L]	0.40	1.21	1.63	1.00	0.45	0.61	0.50	0.71	0.85	2.57	5.91
Cd [mg/L]	0.000006	0.000043	0.000013	0.000016	0.000031	0.000017	0.000011	0.000014	0.000015	0.000004	< 0.000003
Co [mg/L]	0.000041	0.000235	0.000042	0.000064	0.000048	0.000026	0.000021	0.000017	0.000045	0.000024	0.000317
Cr [mg/L]	0.00116	0.00244	0.00037	0.00190	0.00579	0.00690	0.00262	0.00224	0.00263	0.00078	0.105
Cu [mg/L]	0.001	0.006	< 0.001	< 0.001	0.001	0.001	< 0.001	< 0.001	0.001	0.001	< 0.001
Fe [mg/L]	0.097	0.431	0.116	0.122	0.089	0.042	0.073	0.028	0.078	0.037	0.102
K [mg/L]	1.38	8.93	20.1	16.0	1.55	13.5	2.54	5.46	8.68	13.8	0.182
Li [mg/L]	7.17	7.41	2.33	7.67	4.16	3.04	5.54	2.65	3.06	3.12	0.0017
Mg [mg/L]	0.124	0.552	0.654	0.183	0.061	0.077	0.065	0.057	0.126	0.436	16.9
Mn [mg/L]	0.0354	0.135	0.00591	0.0577	0.0536	0.0177	0.0279	0.0131	0.0157	0.00849	0.00199
Mo [mg/L]	0.0032	0.0027	0.0013	0.0044	0.0024	0.0059	0.0011	0.0049	0.0179	0.0029	0.0007
Na [mg/L]	25.1	18.1	20.8	15.5	23.2	21.6	28.9	31.3	27.1	21.8	6.31
Ni [mg/L]	0.0002	0.0011	0.0001	0.0002	0.0001	0.0002	< 0.0001	0.0001	0.0002	0.0001	0.0028
P [mg/L]	1.71	1.11	0.313	1.82	2.43	1.90	1.35	1.26	0.642	0.609	0.015
Pb [mg/L]	0.00043	0.00198	0.00015	0.00052	0.00143	0.00102	0.00087	0.00029	0.00043	0.00046	< 0.00009
Sb [mg/L]	2.58	0.106	0.0672	0.589	0.273	0.186	0.906	0.135	0.0543	0.130	0.0157
Se [mg/L]	0.00005	0.00014	0.00047	0.00009	0.00018	0.00047	0.00021	0.00029	0.00016	0.00049	0.00012
Si [mg/L]	8.11	7.58	5.70	5.19	8.11	5.17	5.34	4.23	5.30	3.70	13.4
Sn [mg/L]	0.00210	0.00421	0.00103	0.00264	0.00155	0.00077	0.00122	0.00065	0.00055	0.00044	< 0.00006
Sr [mg/L]	0.00180	0.00624	0.00517	0.00293	0.00161	0.00169	0.00144	0.00119	0.00114	0.00604	0.00934
Ti [mg/L]	0.0013	0.0024	0.0005	0.0029	0.0013	0.0008	0.0014	0.0005	0.0011	0.0005	0.0005
Tl [mg/L]	0.000412	0.000857	0.000291	0.00137	0.000764	0.000851	0.000621	0.000298	0.000411	0.000333	0.000028
U [mg/L]	0.0484	0.0303	0.0130	0.00889	0.0800	0.0244	0.214	0.209	0.0576	0.0148	0.000107
V [mg/L]	0.00115	0.00212	0.00163	0.00079	0.00086	0.00161	0.00170	0.00161	0.00769	0.00120	0.00869
Zn [mg/L]	0.004	0.008	0.002	0.004	0.005	< 0.002	0.002	< 0.002	0.002	< 0.002	< 0.002
Au [mg/L]	0.00004	0.00002	< 0.00001	0.00002	0.00001	< 0.00001	< 0.00001	< 0.00001	0.00001	< 0.00001	0.00002
Ce [mg/L]	0.00003	0.00008	0.00006	0.00013	0.00031	0.00010	0.00012	0.00005	0.00004	0.00002	< 0.00001
Cs [mg/L]	0.113	0.0935	0.0692	0.352	0.119	0.108	0.123	0.0303	0.0444	0.0338	0.0031
Dy [mg/L]	< 0.00001	0.00001	0.00002	0.00001	0.00011	0.00003	0.00004	0.00002	0.00001	< 0.00001	< 0.00001
Er [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

OnLine LIMS

00040081418

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	18: VIS-CV5-SP-333	19: VIS-CV5-SP-334	20: VIS-CV5-SP-335	21: VIS-CV5-SP-336	22: VIS-CV5-SP-337	23: VIS-CV5-SP-338	24: VIS-CV5-SP-339	25: VIS-CV5-SP-340	26: VIS-CV5-SP-341	27: VIS-CV5-SP-342	28: VIS-CV5-UM-279
Eu [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga [mg/L]	0.0569	0.0573	0.0131	0.0626	0.0461	0.0333	0.0553	0.0518	0.0342	0.0327	< 0.0001
Gd (tot) [mg/L]	0.00001	0.00002	0.00003	0.00002	0.00021	0.00006	0.00007	0.00003	0.00002	< 0.00001	< 0.00001
Ge [mg/L]	0.0016	0.0006	0.0001	0.0008	0.0017	0.0013	0.0012	0.0009	0.0003	0.0002	< 0.0001
Hf [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0004	0.0002	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In [mg/L]	< 0.00001	0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La [mg/L]	0.00012	0.00006	0.00003	0.00007	0.00013	0.00005	0.00009	0.00003	0.00002	0.00001	< 0.00001
Lu [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb [mg/L]	0.0023	0.0009	0.0005	0.0013	0.0037	0.0014	0.0032	0.0035	0.0010	0.0006	< 0.0001
Nd [mg/L]	0.00001	0.00004	0.00004	0.00006	0.00016	0.00005	0.00006	0.00002	0.00002	0.00001	< 0.00001
Os [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr [mg/L]	< 0.00001	< 0.00001	0.00001	0.00002	0.00004	0.00001	0.00002	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pt [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Rh [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Rb [mg/L]	0.175	0.539	0.480	1.85	0.131	1.04	0.237	0.304	0.412	0.524	0.0062
Re [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ru [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sm [mg/L]	< 0.00001	0.00002	0.00002	0.00001	0.00018	0.00005	0.00005	0.00003	0.00001	< 0.00001	< 0.00001
Sc [mg/L]	0.0002	0.0003	0.0002	0.0002	0.0003	0.0002	0.0002	0.0001	0.0002	< 0.0001	0.0004
Ta [mg/L]	0.0011	0.0006	0.0002	0.0008	0.0005	0.0002	0.0003	0.0003	0.0004	0.0002	< 0.0001
Tb [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00005	0.00001	0.00002	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th [mg/L]	0.0004	0.0016	0.0003	0.0015	0.0024	0.0009	0.0007	0.0004	0.0005	0.0001	< 0.0001
Tm [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Analysis	29: VIS-CV5-UM-280	30: VIS-CV5-UM-281	31: VIS-CV5-UM-282	32: VIS-CV5-UM-283	33: VIS-CV5-UM-284	34: VIS-CV5-UM-285	35: VIS-CV5-UM-286	36: VIS-CV5-UM-287	37: VIS-CV5-UM-288	38: VIS-CV5-UM-289	39: VIS-CV5-UM-290
Sample Date & Time	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sample weight [g]	99	100	100	101	100	99	100	100	100	100	100
Volume D.I. Water [mL]	400	400	400	400	400	400	400	400	400	400	400
pH [No unit]	8.60	8.94	8.73	8.43	8.75	8.94	8.69	8.72	9.00	8.75	9.02
Conductivity [uS/cm]	235	402	363	381	286	213	355	379	290	289	188
Alkalinity [mg/L as CaCO3]	98	96	104	107	84	57	132	86	86	80	73

OnLine LIMS

0004081418

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11168-MAR25**

Analysis	29: VIS-CV5-UM-280	30: VIS-CV5-UM-281	31: VIS-CV5-UM-282	32: VIS-CV5-UM-283	33: VIS-CV5-UM-284	34: VIS-CV5-UM-285	35: VIS-CV5-UM-286	36: VIS-CV5-UM-287	37: VIS-CV5-UM-288	38: VIS-CV5-UM-289	39: VIS-CV5-UM-290
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
F [mg/L]	0.70	17.7	1.04	2.16	3.80	1.71	2.19	2.21	1.89	0.66	1.11
Br [mg/L]	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30
Cl [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
SO4 [mg/L]	32	29	28	38	< 20	28	< 20	58	23	35	< 20
NO2 [as N mg/L]	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Tot.Reactive P [mg/L]	12.0	6.08	2.16	11.8	5.40	0.33	16.1	5.72	3.56	2.50	1.10
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	0.00005	< 0.00005	0.00005	< 0.00005	0.00013	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.053	0.230	0.077	0.016	0.034	0.175	0.016	0.041	0.121	0.611	0.032
As [mg/L]	33.5	18.2	24.9	53.3	19.5	1.32	79.5	35.5	25.7	23.8	6.11
Ba [mg/L]	0.00223	0.00409	0.00496	0.00800	0.00673	0.00177	0.00711	0.00544	0.00405	0.00346	0.00294
Be [mg/L]	0.000007	0.000099	0.000009	0.000012	0.000017	0.000026	0.000012	0.000047	0.000022	0.000032	0.000008
B [mg/L]	0.063	0.163	0.046	0.172	0.113	0.049	0.108	0.102	0.133	0.125	0.060
Bi [mg/L]	0.00001	0.00006	< 0.00001	< 0.00001	< 0.00001	0.00002	0.00001	0.00003	0.00002	0.00001	0.00003
Ca [mg/L]	8.94	5.32	7.34	21.3	10.9	10.8	12.1	24.9	8.11	7.48	6.21
Cd [mg/L]	0.000006	0.000013	< 0.000003	0.000025	0.000009	0.000005	0.000003	0.000007	0.000003	0.000021	0.000005
Co [mg/L]	0.000508	0.000586	0.00118	0.000321	0.000254	0.00108	0.000260	0.000360	0.00105	0.00371	0.000561
Cr [mg/L]	0.0839	0.180	0.0668	0.0304	0.0406	0.0577	0.00659	0.00707	0.110	0.175	0.0119
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.003	< 0.001	< 0.001	< 0.001	0.003	0.001
Fe [mg/L]	0.081	0.304	0.115	0.029	0.060	0.297	0.080	0.075	0.185	0.736	0.086
K [mg/L]	0.236	58.2	0.868	4.01	8.39	1.38	6.02	2.86	23.0	17.6	0.380
Li [mg/L]	0.0039	4.32	0.0089	0.134	0.381	0.889	0.0351	0.317	0.795	0.795	0.0031
Mg [mg/L]	21.1	7.36	27.5	29.3	17.5	9.92	30.9	19.2	13.1	17.7	13.7
Mn [mg/L]	0.00641	0.00740	0.00112	0.00249	0.00133	0.00542	0.00487	0.00284	0.00415	0.00730	0.00152
Mo [mg/L]	0.0007	0.0013	0.0013	0.0160	0.0040	0.0016	0.0005	0.0054	0.0028	0.0012	0.0004
Na [mg/L]	7.44	6.54	19.0	7.76	7.64	7.84	9.23	14.2	8.92	6.08	7.69
Ni [mg/L]	0.0431	0.0074	0.0372	0.146	0.0249	0.0087	0.0850	0.0747	0.0136	0.0339	0.0112
P [mg/L]	0.011	0.016	0.029	0.010	0.007	0.013	0.026	0.027	0.025	0.047	0.010
Pb [mg/L]	< 0.00009	0.00024	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	0.00019	< 0.00009
Sb [mg/L]	2.34	1.69	8.02	8.23	5.86	0.999	8.02	4.29	2.39	2.22	3.83
Se [mg/L]	0.00036	0.00210	0.00047	0.00089	0.00047	0.00104	0.00078	0.01009	0.00051	0.00053	0.00091
Si [mg/L]	13.6	7.48	11.6	19.6	12.9	5.18	24.2	13.9	13.1	12.4	18.3
Sn [mg/L]	< 0.00006	0.00057	< 0.00006	< 0.00006	< 0.00006	< 0.00006	0.00036	< 0.00006	< 0.00006	0.00007	0.00012
Sr [mg/L]	0.0269	0.00510	0.00993	0.0545	0.0248	0.0153	0.0154	0.0586	0.0389	0.0267	0.0103
Ti [mg/L]	0.0002	0.0086	0.0005	0.0004	0.0008	0.0050	0.0003	0.0010	0.0030	0.0160	0.0003
Tl [mg/L]	0.000064	0.00785	0.000010	0.000133	0.000192	0.000045	0.000129	0.000076	0.00122	0.00128	0.000024

OnLine LIMS

0004081418

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	29: VIS-CV5-UM-280	30: VIS-CV5-UM-281	31: VIS-CV5-UM-282	32: VIS-CV5-UM-283	33: VIS-CV5-UM-284	34: VIS-CV5-UM-285	35: VIS-CV5-UM-286	36: VIS-CV5-UM-287	37: VIS-CV5-UM-288	38: VIS-CV5-UM-289	39: VIS-CV5-UM-290
U [mg/L]	0.000788	0.000283	0.000162	0.001075	0.000261	0.000505	0.000199	0.00851	0.000681	0.000170	0.000069
V [mg/L]	0.0322	0.0781	0.0551	0.0395	0.0609	0.0258	0.0218	0.0505	0.0634	0.0613	0.0240
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0.003	< 0.002
Au [mg/L]	0.00002	< 0.00001	0.00001	0.00007	0.00003	0.00002	0.00003	0.00005	< 0.00001	0.00001	< 0.00001
Ce [mg/L]	---	---	---	0.00002	---	---	---	0.00004	---	---	---
Cs [mg/L]	---	---	---	0.104	---	---	---	0.134	---	---	---
Dy [mg/L]	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Er [mg/L]	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Eu [mg/L]	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Ga [mg/L]	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Gd (tot) [mg/L]	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Ge [mg/L]	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Hf [mg/L]	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Ho [mg/L]	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
In [mg/L]	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Ir [mg/L]	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
La [mg/L]	---	---	---	0.00029	---	---	---	0.00017	---	---	---
Lu [mg/L]	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Nb [mg/L]	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Nd [mg/L]	---	---	---	< 0.00001	---	---	---	0.00001	---	---	---
Os [mg/L]	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Pd [mg/L]	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Pr [mg/L]	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Pt [mg/L]	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Rh [mg/L]	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Rb [mg/L]	---	---	---	0.342	---	---	---	0.0787	---	---	---
Re [mg/L]	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Ru [mg/L]	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Sm [mg/L]	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Sc [mg/L]	---	---	---	0.0006	---	---	---	0.0004	---	---	---
Ta [mg/L]	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Tb [mg/L]	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Te [mg/L]	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Th [mg/L]	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Tm [mg/L]	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---	---

OnLine LIMS

0004081418

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11168-MAR25**

Analysis	40: VIS-CV5-UM-291	41: VIS-CV5-UM-292	42: VIS-CV5-UM-293	43: VIS-CV5-UM-294	44: VIS-CV5-UM-295	45: VIS-CV5-UM-296	46: VIS-CV5-UM-297	47: VIS-CV5-UM-298	48: VIS-CV5-UM-299	49: VIS-CV5-UM-300	50: VIS-CV5-UM-301
Sample Date & Time	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sample weight [g]	100	100	100	100	100	100	100	101	100	101	100
Volume D.I. Water [mL]	400	400	400	400	400	400	400	400	400	400	400
pH [No unit]	9.25	8.91	9.13	9.30	9.49	9.39	8.60	8.59	8.52	8.43	8.87
Conductivity [uS/cm]	204	262	154	162	149	166	350	299	213	233	196
Alkalinity [mg/L as CaCO3]	86	99	68	66	60	57	95	82	69	57	69
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
F [mg/L]	0.29	0.51	0.97	0.91	1.04	2.99	0.80	6.38	1.80	1.15	0.76
Br [mg/L]	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30
Cl [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	28	< 20	< 20
SO4 [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	33	< 20	140	28	< 20
NO2 [as N mg/L]	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Tot.Reactive P [mg/L]	4.18	7.54	0.62	< 0.03	0.10	0.68	7.40	4.91	0.32	1.40	1.18
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	0.00007	0.00010	< 0.00005
Al [mg/L]	0.117	0.039	0.180	0.264	0.452	0.202	0.056	0.058	0.222	0.109	0.213
As [mg/L]	12.3	43.1	3.85	0.188	0.471	2.15	42.2	14.5	1.61	4.34	3.36
Ba [mg/L]	0.00267	0.00237	0.00116	0.00060	0.00103	0.00127	0.00429	0.00397	0.00178	0.00147	0.00195
Be [mg/L]	< 0.000007	0.000012	0.000021	< 0.000007	0.000014	0.000024	0.000014	< 0.000007	0.000040	< 0.000007	0.000020
B [mg/L]	0.048	0.059	0.049	0.035	0.092	0.076	0.057	0.165	0.075	0.060	0.139
Bi [mg/L]	0.00002	0.00001	0.00003	< 0.00001	< 0.00001	0.00002	< 0.00001	0.00002	0.00003	0.00006	0.00002
Ca [mg/L]	5.77	9.62	4.34	5.13	4.27	7.18	11.1	6.06	8.93	9.18	7.22
Cd [mg/L]	< 0.000003	0.000004	0.000009	0.000004	0.000008	< 0.000003	0.000007	0.000008	0.000013	0.000009	0.000014
Co [mg/L]	0.000631	0.000959	0.00118	0.000093	0.000367	0.000365	0.00119	0.000154	0.000578	0.000628	0.000559
Cr [mg/L]	0.185	0.0827	0.0872	0.0983	0.0465	0.0446	0.136	0.157	0.0350	0.124	0.0725
Cu [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	0.002	0.002	< 0.001	0.002	< 0.001	0.001	0.003
Fe [mg/L]	0.160	0.115	0.400	0.046	0.383	0.287	0.102	0.022	0.335	0.128	0.246
K [mg/L]	3.83	0.760	0.483	0.713	5.57	4.18	0.404	33.1	2.54	3.06	6.86
Li [mg/L]	0.0621	0.0036	0.0053	0.827	2.03	1.66	0.0098	2.57	0.962	0.545	1.15
Mg [mg/L]	14.8	22.4	12.4	8.76	2.43	3.74	28.9	7.88	9.36	10.4	4.88
Mn [mg/L]	0.00167	0.00103	0.00397	0.00083	0.00773	0.00892	0.00153	0.00142	0.0157	0.00280	0.00590
Mo [mg/L]	0.0007	< 0.0004	0.0009	0.0040	0.0021	0.0007	0.0047	0.0032	0.0140	0.0024	0.0144
Na [mg/L]	8.32	7.26	7.26	6.62	10.6	11.9	8.03	8.08	10.3	9.05	10.5
Ni [mg/L]	0.0140	0.0707	0.0151	0.0010	0.0019	0.0028	0.0411	0.0028	0.0029	0.0047	0.0035
P [mg/L]	0.015	0.008	0.009	< 0.003	0.011	0.013	0.013	0.029	0.018	0.024	0.021
Pb [mg/L]	0.00009	< 0.00009	0.00012	< 0.00009	< 0.00009	< 0.00009	< 0.00009	0.00109	0.00014	0.00011	0.00013
Sb [mg/L]	1.30	1.49	0.462	0.0795	0.0640	0.162	1.48	0.429	0.346	0.299	0.529

OnLine LIMS

0004081418

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11168-MAR25**

Analysis	40: VIS-CV5-UM-291	41: VIS-CV5-UM-292	42: VIS-CV5-UM-293	43: VIS-CV5-UM-294	44: VIS-CV5-UM-295	45: VIS-CV5-UM-296	46: VIS-CV5-UM-297	47: VIS-CV5-UM-298	48: VIS-CV5-UM-299	49: VIS-CV5-UM-300	50: VIS-CV5-UM-301
Se [mg/L]	0.00057	0.00037	0.00023	0.00063	0.00021	0.00037	0.00157	0.00045	0.00052	0.00122	0.00055
Si [mg/L]	13.0	19.6	15.3	2.48	5.28	8.34	18.8	7.47	5.24	4.80	4.96
Sn [mg/L]	< 0.00006	< 0.00006	0.00007	< 0.00006	< 0.00006	0.00009	< 0.00006	< 0.00006	0.00011	0.00010	0.00036
Sr [mg/L]	0.0170	0.0167	0.0103	0.00884	0.00618	0.0134	0.0337	0.0130	0.0184	0.0102	0.0107
Ti [mg/L]	0.0006	0.0005	0.0008	0.0009	0.0134	0.0073	0.0007	0.0006	0.0033	0.0021	0.0067
Tl [mg/L]	0.000057	0.000008	0.000024	0.000011	0.000040	0.000194	0.000030	0.000936	0.000022	0.000036	0.000075
U [mg/L]	0.000223	0.000172	0.000294	0.000087	0.000206	0.000508	0.000108	0.000452	0.000406	0.000899	0.000593
V [mg/L]	0.0327	0.0414	0.0221	0.0217	0.0716	0.103	0.0361	0.0659	0.0372	0.0365	0.0571
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0.002	0.002	< 0.002
Au [mg/L]	0.00007	0.00021	0.00002	< 0.00001	< 0.00001	< 0.00001	0.00004	< 0.00001	< 0.00001	0.00002	< 0.00001
Ce [mg/L]	0.00003	---	---	---	0.00002	---	---	---	0.00005	---	---
Cs [mg/L]	0.0795	---	---	---	0.0108	---	---	---	0.0179	---	---
Dy [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	0.00002	---	---
Er [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	0.00001	---	---
Eu [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---
Ga [mg/L]	0.0008	---	---	---	0.0019	---	---	---	0.0013	---	---
Gd (tot) [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	0.00002	---	---
Ge [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---
Hf [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---
Ho [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---
In [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---
Ir [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---
La [mg/L]	0.00006	---	---	---	0.00002	---	---	---	0.00004	---	---
Lu [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---
Nb [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---
Nd [mg/L]	0.00001	---	---	---	0.00002	---	---	---	0.00004	---	---
Os [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---
Pd [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---
Pr [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---
Pt [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---
Rh [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---
Rb [mg/L]	0.156	---	---	---	0.131	---	---	---	0.0364	---	---
Re [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---
Ru [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---
Sm [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	0.00001	---	---
Sc [mg/L]	0.0004	---	---	---	0.0002	---	---	---	0.0004	---	---
Ta [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---
Tb [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---

OnLine LIMS

00040814 18

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11168-MAR25**

Analysis	40: VIS-CV5-UM-291	41: VIS-CV5-UM-292	42: VIS-CV5-UM-293	43: VIS-CV5-UM-294	44: VIS-CV5-UM-295	45: VIS-CV5-UM-296	46: VIS-CV5-UM-297	47: VIS-CV5-UM-298	48: VIS-CV5-UM-299	49: VIS-CV5-UM-300	50: VIS-CV5-UM-301
Te [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---
Th [mg/L]	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---
Tm [mg/L]	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---

Analysis	51: VIS-CV5-UM-302	52: VIS-CV5-UM-303	53: VIS-CV5-UM-300	54: VIS-CV5-UM-301	55:BLK: CTEU Blank
Sample Date & Time	NA	NA			
Sample weight [g]	100	100	101	100	< 0.001
Volume D.I. Water [mL]	400	400	400	400	400
pH [No unit]	8.86	8.90	8.71	8.82	6.50
Conductivity [uS/cm]	196	313	241	202	6
Alkalinity [mg/L as CaCO3]	51	79	58	58	2
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	2
F [mg/L]	0.27	2.70	1.12	0.75	< 0.06
Br [mg/L]	< 30	< 30	< 30	< 30	< 30
Cl [mg/L]	< 20	< 20	< 20	< 20	< 20
SO4 [mg/L]	< 20	21	25	< 20	< 20
NO2 [as N mg/L]	< 3	< 3	< 3	< 3	< 3
NO3 [as N mg/L]	< 6	< 6	< 6	< 6	< 6
Tot.Reactive P [mg/L]	0.33	0.05	1.43	1.18	< 0.03
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	0.00005	0.00009	< 0.00005	< 0.00005
Al [mg/L]	0.285	0.171	0.139	0.264	0.001
As [mg/L]	1.46	0.254	4.22	3.37	0.0036
Ba [mg/L]	0.00164	0.00218	0.00171	0.00210	0.00020
Be [mg/L]	0.000010	0.000078	0.000009	0.000033	< 0.000007
B [mg/L]	0.145	0.157	0.058	0.136	< 0.002
Bi [mg/L]	0.00002	0.00001	0.00006	0.00002	< 0.00001
Ca [mg/L]	4.82	7.88	9.93	7.60	0.03
Cd [mg/L]	0.000003	0.000006	0.000013	0.000015	0.000006
Co [mg/L]	0.000084	0.000194	0.000704	0.000593	< 0.000004
Cr [mg/L]	0.0260	0.00676	0.134	0.0755	< 0.00008
Cu [mg/L]	< 0.001	< 0.001	0.002	0.003	< 0.001
Fe [mg/L]	0.027	0.199	0.182	0.325	< 0.007
K [mg/L]	15.0	10.8	3.48	8.66	0.057
Li [mg/L]	1.50	1.20	0.561	1.18	0.0006

OnLine LIMS

0004081418

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	51: VIS-CV5-UM-302	52: VIS-CV5-UM-303	53: VIS-CV5-UM-300	54: VIS-CV5-UM-301	55:BLK: CTEU Blank
Mg [mg/L]	3.10	4.92	11.2	5.04	0.010
Mn [mg/L]	0.00085	0.00317	0.00382	0.00734	0.00027
Mo [mg/L]	0.0021	0.0073	0.0021	0.0144	< 0.0004
Na [mg/L]	8.17	28.8	9.69	10.9	0.47
Ni [mg/L]	0.0011	0.0016	0.0052	0.0037	< 0.0001
P [mg/L]	0.005	0.026	0.026	0.021	< 0.003
Pb [mg/L]	< 0.00009	0.00013	0.00014	0.00013	< 0.00009
Sb [mg/L]	0.0414	0.674	0.312	0.524	< 0.0009
Se [mg/L]	0.00387	0.00084	0.00111	0.00058	< 0.00004
Si [mg/L]	3.96	3.92	4.75	5.12	< 0.02
Sn [mg/L]	< 0.00006	0.00013	0.00008	0.00039	< 0.00006
Sr [mg/L]	0.00539	0.0166	0.0111	0.0112	< 0.00008
Ti [mg/L]	0.0012	0.0058	0.0032	0.0096	< 0.0001
Tl [mg/L]	0.000028	0.000222	0.000043	0.000078	0.000017
U [mg/L]	0.000139	0.00267	0.000952	0.000607	0.000005
V [mg/L]	0.0337	0.0217	0.0386	0.0584	0.00002
Zn [mg/L]	< 0.002	< 0.002	0.002	< 0.002	< 0.002
Au [mg/L]	< 0.00001	0.00004	0.00002	< 0.00001	< 0.00001
Ce [mg/L]	---	0.00018	0.00002	0.00016	< 0.00001
Cs [mg/L]	---	0.0540	0.0116	0.0241	0.0014
Dy [mg/L]	---	< 0.00001	< 0.00001	0.00001	< 0.00001
Er [mg/L]	---	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Eu [mg/L]	---	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ga [mg/L]	---	0.0019	0.0005	0.0010	< 0.0001
Gd (tot) [mg/L]	---	0.00001	< 0.00001	0.00002	< 0.00001
Ge [mg/L]	---	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hf [mg/L]	---	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ho [mg/L]	---	< 0.00001	< 0.00001	< 0.00001	< 0.00001
In [mg/L]	---	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ir [mg/L]	---	< 0.00001	< 0.00001	< 0.00001	< 0.00001
La [mg/L]	---	0.00011	0.00002	0.00009	< 0.00001
Lu [mg/L]	---	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nb [mg/L]	---	0.0003	< 0.0001	< 0.0001	< 0.0001
Nd [mg/L]	---	0.00009	0.00001	0.00007	< 0.00001
Os [mg/L]	---	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pd [mg/L]	---	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Pr [mg/L]	---	0.00003	< 0.00001	0.00002	< 0.00001
Pt [mg/L]	---	< 0.0001	< 0.0001	< 0.0001	< 0.0001

OnLine LIMS

0004081418

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11168-MAR25**

Analysis	51: VIS-CV5-UM-302	52: VIS-CV5-UM-303	53: VIS-CV5-UM-300	54: VIS-CV5-UM-301	55:BLK: CTEU Blank
Rh [mg/L]	---	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Rb [mg/L]	---	0.755	0.0519	0.256	0.0017
Re [mg/L]	---	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ru [mg/L]	---	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sm [mg/L]	---	0.00001	< 0.00001	0.00001	< 0.00001
Sc [mg/L]	---	0.0001	0.0002	0.0002	< 0.0001
Ta [mg/L]	---	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tb [mg/L]	---	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Te [mg/L]	---	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Th [mg/L]	---	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tm [mg/L]	---	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Method Descriptions

Parameter	Units	SGS Method Code
	g	NA
	mL	NA
Acidity	mg/L as CaCO3	ME-CA-[ENV]EWL-LAK-AN-006
Alkalinity	mg/L as CaCO3	ME-CA-[ENV]EWL-LAK-AN-006
Anions by IC	mg/L	ME-CA-[ENV]IC-LAK-AN-001
Conductivity	uS/cm	ME-CA-[ENV]EWL-LAK-AN-006
Fluoride by Specific Ion Electrode	mg/L	ME-CA-[ENV]EWL-LAK-AN-014
Inorganics-General	mg/L	ME-CA-[ENV]SPE-LAK-AN-004
Metals in aqueous samples - ICP-MS	mg/L	ME-CA-[ENV]SPE-LAK-AN-006
pH	No unit	ME-CA-[ENV]EWL-LAK-AN-006
Reactive Phosphorus by SFA	mg/L	ME-CA-[ENV]SFA-LAK-AN-004

Catharine Arnold

CHARTERED CATHARINE ARNOLD CHEMIST

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0004081418

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11168-MAR25**

Quality Control Report

Inorganic Analysis													
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Acidity - QCBatchID: EWL0017-APR25													
Acidity	2	mg/L as Ca	2			ND	20	102	90	110	NA		
Acidity - QCBatchID: EWL0037-APR25													
Acidity	2	mg/L as Ca	3			ND	20	108	90	110	NA		
Alkalinity - QCBatchID: EWL0017-APR25													
Alkalinity	2	mg/L as Ca	< 2			2	20	102	80	120	NA		
Alkalinity - QCBatchID: EWL0037-APR25													
Alkalinity	2	mg/L as Ca	< 2			0	20	102	80	120	NA		
Anions by IC - QCBatchID: DIO0008-APR25													
Bromide	0.3	mg/L	<0.3			ND	20	101	90	110	99	75	125
Chloride	0.2	mg/L	<0.2			0	20	101	90	110	99	75	125
Nitrate (as N)	0.06	mg/L	<0.06			ND	20	101	90	110	103	75	125
Nitrite (as N)	0.03	mg/L	<0.03			ND	20	99	90	110	102	75	125
Sulphate	0.2	mg/L	<0.2			1	20	101	90	110	97	75	125
Anions by IC - QCBatchID: DIO0027-APR25													
Bromide	0.3	mg/L	<0.3			ND	20	102	90	110	100	75	125
Chloride	0.2	mg/L	<0.2			9	20	99	90	110	99	75	125
Nitrate (as N)	0.06	mg/L	<0.06			ND	20	99	90	110	100	75	125
Nitrite (as N)	0.03	mg/L	<0.03			5	20	98	90	110	101	75	125
Sulphate	0.2	mg/L	<0.2			0	20	100	90	110	90	75	125
Anions by IC - QCBatchID: DIO0030-APR25													
Bromide	0.3	mg/L	<0.3			ND	20	100	90	110	94	75	125
Chloride	0.2	mg/L	<0.2			4	20	102	90	110	101	75	125
Nitrate (as N)	0.06	mg/L	<0.06			ND	20	101	90	110	100	75	125
Nitrite (as N)	0.03	mg/L	<0.03			ND	20	99	90	110	101	75	125
Sulphate	0.2	mg/L	<0.2			15	20	101	90	110	100	75	125
Anions by IC - QCBatchID: DIO0070-APR25													
Sulphate	0.2	mg/L	<0.2			19	20	107	90	110	97	75	125
Anions by IC - QCBatchID: DIO0667-MAR25													
Bromide	0.3	mg/L	<0.3			ND	20	100	90	110	98	75	125
Chloride	0.2	mg/L	<0.2			5	20	102	90	110	97	75	125
Nitrate (as N)	0.06	mg/L	<0.06			ND	20	101	90	110	100	75	125
Nitrite (as N)	0.03	mg/L	<0.03			ND	20	99	90	110	100	75	125
Sulphate	0.2	mg/L	<0.2			1	20	100	90	110	93	75	125
Conductivity - QCBatchID: EWL0017-APR25													
Conductivity	2	uS/cm	2			2	20	106	90	110	NA		

OnLine LIMS

0004081418

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material			
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Conductivity - QCBatchID: EWL0037-APR25													
Conductivity	2	uS/cm	2			1	20	100	90	110	NA		
Fluoride by Specific Ion Electrode - QCBatchID: EWL0002-APR25													
Fluoride	0.06	mg/L	<0.06			6	10	100	90	110	96	75	125
Fluoride by Specific Ion Electrode - QCBatchID: EWL0028-APR25													
Fluoride	0.06	mg/L	<0.06			0	10	97	90	110	94	75	125
Fluoride by Specific Ion Electrode - QCBatchID: EWL0038-APR25													
Fluoride	0.06	mg/L	<0.06			ND	10	97	90	110	94	75	125
Fluoride by Specific Ion Electrode - QCBatchID: EWL0063-APR25													
Fluoride	0.06	mg/L	<0.06			2	10	101	90	110	99	75	125
Inorganics-General - QCBatchID: EHG0001-APR25													
Mercury	0.00001	mg/L	< 0.00001			ND	20	114	80	120	115	70	130
Inorganics-General - QCBatchID: EHG0003-APR25													
Mercury	0.00001	mg/L	< 0.00001			ND	20	120	80	120	120	70	130
Metals in aqueous samples - ICP-MS - QCBatchID: EMS0011-APR25													
Aluminum	0.001	mg/L	<0.001			1	20	97	90	110	99	70	130
Antimony	0.0009	mg/L	<0.0009			ND	20	99	90	110	99	70	130
Arsenic	0.0002	mg/L	<0.0002			0	20	96	90	110	81	70	130
Barium	0.00008	mg/L	<0.00008			4	20	92	90	110	88	70	130
Beryllium	0.000007	mg/L	<0.000007			ND	20	93	90	110	96	70	130
Bismuth	0.00001	mg/L	<0.00001			ND	20	91	90	110	91	70	130
Boron	0.002	mg/L	<0.002			2	20	99	90	110	103	70	130
Cadmium	0.000003	mg/L	<0.000003			7	20	94	90	110	98	70	130
Calcium	0.01	mg/L	<0.01			4	20	105	90	110	94	70	130
Cerium	0.00001	mg/L	<0.0001			ND	20	98	90	110	NV	70	130
Cesium	0.0001	mg/L	<0.0001			ND	20	105	90	110	NV	70	130
Chromium	0.00008	mg/L	<0.00008			3	20	94	90	110	103	70	130
Cobalt	0.000004	mg/L	<0.000004			4	20	92	90	110	91	70	130
Copper	0.001	mg/L	<0.001			2	20	91	90	110	73	70	130
Dysprosium	0.00001	mg/L	<0.0001			ND	20	95	90	110	NV	70	130
Erbium	0.00001	mg/L	<0.0001			ND	20	91	90	110	NV	70	130
Europium	0.00001	mg/L	<0.0001			ND	20	90	90	110	NV	70	130
Gadolinium	0.00001	mg/L	<0.0001			ND	20	95	90	110	NV	70	130
Germanium	0.0001	mg/L	<0.0001			ND	20	103	90	110	NV	70	130
Gold	0.00001	mg/L	<0.00001			20	20	101	90	110	NV	70	130
Hafnium	0.0001	mg/L	<0.0001			ND	20	95	90	110	NV	70	130
Holmium	0.00001	mg/L	<0.0001			ND	20	98	90	110	NV	70	130
Iridium	0.00001	mg/L	<0.00001			ND	20	102	90	110	NV	70	130
Iron	0.007	mg/L	<0.007			ND	20	107	90	110	75	70	130

OnLine LIMS

00040814 18

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA11168-MAR25**

Inorganic Analysis													
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Lanthanum	0.00001	mg/L	<0.0001			ND	20	98	90	110	NV	70	130
Lead	0.00009	mg/L	<0.00009			ND	20	94	90	110	82	70	130
Lithium	0.0001	mg/L	<0.0001			ND	20	98	90	110	88	70	130
Magnesium	0.001	mg/L	<0.001			0	20	103	90	110	93	70	130
Manganese	0.00001	mg/L	<0.00001			2	20	97	90	110	82	70	130
Molybdenum	0.0004	mg/L	<0.0004			5	20	101	90	110	89	70	130
Neodymium	0.00001	mg/L	<0.0001			ND	20	96	90	110	NV	70	130
Nickel	0.0001	mg/L	<0.0001			3	20	96	90	110	92	70	130
Niobium	0.0001	mg/L	<0.0001			18	20	102	90	110	NV	70	130
Osmium	0.0001	mg/L	<0.0001			ND	20	92	90	110	NV	70	130
Palladium	0.0001	mg/L	<0.0001			ND	20	104	90	110	NV	70	130
Phosphorus	0.003	mg/L	<0.003			2	20	104	90	110	NV	70	130
Platinum	0.0001	mg/L	<0.0001			ND	20	100	90	110	NV	70	130
Potassium	0.009	mg/L	<0.009			0	20	103	90	110	70	70	130
Praseodymium	0.00001	mg/L	<0.0001			ND	20	98	90	110	NV	70	130
Rhenium	0.0001	mg/L	<0.0001			ND	20	99	90	110	NV	70	130
Rhodium	0.00001	mg/L	<0.0001			ND	20	102	90	110	NV	70	130
Rubidium	0.0001	mg/L	Error!			9	20	103	90	110	NV	70	130
Ruthenium	0.00001	mg/L	<0.0001			ND	20	103	90	110	NV	70	130
Samarium	0.00001	mg/L	<0.0001			ND	20	94	90	110	NV	70	130
Selenium	0.00004	mg/L	<0.00004			17	20	97	90	110	101	70	130
Silicon	0.02	mg/L	<0.02			1	20	99	90	110	NV	70	130
Silver	0.00005	mg/L	<0.00005			ND	20	91	90	110	80	70	130
Sodium	0.01	mg/L	<0.01			1	20	103	90	110	94	70	130
Strontium	0.00008	mg/L	<0.00008			3	20	92	90	110	91	70	130
Tantalum	0.0001	mg/L	<0.0001			12	20	95	90	110	NV	70	130
Tellurium	0.0001	mg/L	<0.0001			ND	20	95	90	110	NV	70	130
Thallium	0.000005	mg/L	<0.000005			ND	20	93	90	110	91	70	130
Thorium	0.0001	mg/L	<0.0001			ND	20	93	90	110	NV	70	130
Tin	0.00006	mg/L	<0.00006			ND	20	95	90	110	NV	70	130
Titanium	0.0001	mg/L	<0.0001			20	20	101	90	110	NV	70	130
Uranium	0.000002	mg/L	<0.000002			0	20	93	90	110	82	70	130
Vanadium	0.00001	mg/L	<0.00001			0	20	91	90	110	88	70	130
Zinc	0.002	mg/L	<0.002			7	20	96	90	110	89	70	130
Metals in aqueous samples - ICP-MS - QCBatchID: EMS0054-APR25													
Arsenic	0.0002	mg/L	<0.0002			0	20	108	90	110	118	70	130
Metals in aqueous samples - ICP-MS - QCBatchID: EMS0060-APR25													
Gallium	0.0001	mg/L	<0.0001			ND	20	97	90	110	NV	70	130
Indium	0.00001	mg/L	<0.00001			ND	20	102	90	110	NV	70	130

OnLine LIMS

0004081418

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material			
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)		
							%		Low	High		Low	High	
Lutetium	0.0001	mg/L	<0.0001			ND	20	97	90	110	NV	70	130	
Rubidium	0.0001	mg/L	<0.0001			4	20	98	90	110	NV	70	130	
Scandium	0.0001	mg/L	<0.0001			ND	20	101	90	110	NV	70	130	
Terbium	0.00001	mg/L	<0.00001			ND	20	99	90	110	NV	70	130	
Thulium	0.00001	mg/L	<0.00001			ND	20	98	90	110	NV	70	130	
pH - QCBatchID: EWL0017-APR25														
pH	0.05	No unit	NA			0		100			NA			
pH - QCBatchID: EWL0037-APR25														
pH	0.05	No unit	NA			1		100			NA			
Reactive Phosphorus by SFA - QCBatchID: SKA0010-APR25														
Total Reactive Phosphorous (o-phosphate as P)	0.03	mg/L	<0.03			2	10	97	90	110	124	75	125	
Reactive Phosphorus by SFA - QCBatchID: SKA0013-APR25														
Total Reactive Phosphorous (o-phosphate as P)	0.03	mg/L	<0.03			2	10	99	90	110	107	75	125	
Reactive Phosphorus by SFA - QCBatchID: SKA0027-APR25														
Total Reactive Phosphorous (o-phosphate as P)	0.03	mg/L	<0.03			1	10	95	90	110	95	75	125	
Reactive Phosphorus by SFA - QCBatchID: SKA0036-APR25														
Total Reactive Phosphorous (o-phosphate as P)	0.03	mg/L	<0.03			0	10	98	90	110	92	75	125	
Reactive Phosphorus by SFA - QCBatchID: SKA0093-APR25														
Total Reactive Phosphorous (o-phosphate as P)	0.03	mg/L	<0.03			ND	10	96	90	110	NV	75	125	
Reactive Phosphorus by SFA - QCBatchID: SKA0099-APR25														
Total Reactive Phosphorous (o-phosphate as P)	0.03	mg/L	<0.03			0	10	95	90	110	NV	75	125	
Reactive Phosphorus by SFA - QCBatchID: SKA0101-APR25														
Total Reactive Phosphorous (o-phosphate as P)	0.03	mg/L	<0.03			ND	10	99	90	110	92	75	125	

OnLine LIMS

00040814 18

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

TCLP1311--(Quebec Modified Version - MA. 100 -Lix.com.1.0)20:1 L/S ratio, 18hr

13-August-2025

Innova Lithium Inc.
Attn : John Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 03 July 2025
LR Report: **CA11201-JUL25**
Reference: Shaakichiuwaanaan

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	8: VIS-CV5-AMP-088	20: VIS-CV5-AMP-100	21: VIS-CV5-AMP-101	22: VIS-CV5-AMP-102	25: VIS-CV5-AMP-105	29: VIS-CV5-AMP-109
Sample weight [g]	04-Jul-25	09:23	07-Jul-25	11:39	20	20	20	21	20	20
Ext Fluid [#1 or #2]	06-Jul-25	11:04	07-Jul-25	11:39	1	1	1	1	1	1
Ext Volume [mL]	06-Jul-25	11:04	07-Jul-25	11:39	400	400	400	400	400	400
pH [No unit]	07-Jul-25	14:02	09-Jul-25	08:43	5.11	4.98	5.16	4.97	4.92	5.41
Conductivity [uS/cm]	07-Jul-25	14:02	09-Jul-25	08:43	4720	4490	4840	4340	4280	5250
Alkalinity [mg/L as CaCO3]	07-Jul-25	14:02	09-Jul-25	08:43	1530	1260	1630	1200	1060	2050
Acidity [mg/L as CaCO3]	07-Jul-25	14:02	09-Jul-25	13:37	1300	1560	1170	1640	1740	783
Fluoride [mg/L]	07-Jul-25	08:22	08-Jul-25	13:37	0.10	1.51	0.53	< 0.06	0.43	< 0.06
Bromide [mg/L]	07-Jul-25	12:44	10-Jul-25	12:51	< 30	< 30	< 30	< 30	< 30	< 30
Chloride [mg/L]	07-Jul-25	12:44	10-Jul-25	12:51	< 50	< 50	< 50	< 50	< 50	< 50
Sulphate [mg/L]	07-Jul-25	12:44	10-Jul-25	12:51	< 20	22	< 20	< 20	70	< 20
Nitrite (as N) [mg/L]	07-Jul-25	12:44	10-Jul-25	12:51	< 3	< 3	< 3	< 3	< 3	< 3
Nitrate (as N) [mg/L]	07-Jul-25	12:44	10-Jul-25	12:51	< 6	< 6	< 6	< 6	< 6	< 6
Nitrate + Nitrite (as N) [mg/L]	07-Jul-25	12:44	10-Jul-25	12:51	< 6	< 6	< 6	< 6	< 6	< 6
Total Reactive Phosphorous (o-phosphate as P) [mg/L]	07-Jul-25	11:45	08-Jul-25	13:54	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Mercury [mg/L]	09-Jul-25	13:31	11-Jul-25	14:43	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Silver [mg/L]	09-Jul-25	23:07	11-Jul-25	14:43	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Aluminum [mg/L]	09-Jul-25	23:07	11-Jul-25	14:43	0.52	1.6	1.1	1.9	0.27	0.25
Arsenic [mg/L]	09-Jul-25	23:07	11-Jul-25	14:43	0.004	0.367	0.040	0.029	0.002	0.009
Barium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:43	0.0287	0.0322	0.101	0.136	0.109	0.0319
Boron [mg/L]	09-Jul-25	23:07	11-Jul-25	14:43	0.14	0.17	0.15	0.15	0.17	0.14
Beryllium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:43	< 0.00007	0.00343	0.00131	0.00048	0.00125	0.00008

OnLine LIMS

0004217378

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

TCLP1311--(Quebec Modified Version - MA. 100 -Lix.com.1.0)20:1 L/S ratio, 18hr

LR Report : **CA11201-JUL25**

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	8: VIS-CV5-AMP-088	20: VIS-CV5-AMP-100	21: VIS-CV5-AMP-101	22: VIS-CV5-AMP-102	25: VIS-CV5-AMP-105	29: VIS-CV5-AMP-109
Bismuth [mg/L]	09-Jul-25	23:07	11-Jul-25	14:43	0.0002	0.0028	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Calcium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:43	204	75.1	230	51.2	24.1	387
Cadmium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:43	0.00022	0.00035	0.00016	0.00016	0.00004	0.00044
Chromium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:43	0.0055	0.0107	0.0052	0.0110	0.0025	0.0028
Cobalt [mg/L]	09-Jul-25	23:07	11-Jul-25	14:43	0.00729	0.0732	0.0593	0.0207	0.0528	0.00890
Copper [mg/L]	09-Jul-25	23:07	11-Jul-25	14:43	0.01	0.06	0.02	0.02	< 0.01	0.01
Iron [mg/L]	09-Jul-25	23:07	11-Jul-25	14:43	3.6	2.3	4.2	5.8	18.1	4.2
Potassium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:43	1.4	5.9	4.9	9.7	2.7	1.3
Lithium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:43	0.018	0.285	0.169	0.242	0.084	0.055
Magnesium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:43	2.6	5.0	4.3	3.2	4.5	2.4
Manganese [mg/L]	09-Jul-25	23:07	11-Jul-25	14:43	1.86	0.558	0.985	0.599	0.470	3.26
Molybdenum [mg/L]	09-Jul-25	23:07	11-Jul-25	14:43	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004
Sodium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:43	1470	1440	1400	1410	1390	1410
Nickel [mg/L]	09-Jul-25	23:07	11-Jul-25	14:43	0.012	0.403	0.129	0.068	0.101	0.039
Phosphorus [mg/L]	09-Jul-25	23:07	11-Jul-25	14:43	< 0.03	0.06	< 0.03	< 0.03	< 0.03	< 0.03
Lead [mg/L]	09-Jul-25	23:07	11-Jul-25	14:43	0.0173	0.0038	0.0022	0.0028	0.0022	0.0056
Antimony [mg/L]	09-Jul-25	23:07	11-Jul-25	14:43	< 0.009	0.074	0.021	0.020	< 0.009	< 0.009
Tin [mg/L]	09-Jul-25	23:07	11-Jul-25	14:43	< 0.0006	< 0.0006	< 0.0006	< 0.0006	< 0.0006	< 0.0006
Strontium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:44	0.0800	0.0704	0.0931	0.0496	0.0302	0.119
Silicon [mg/L]	09-Jul-25	23:07	11-Jul-25	14:44	1.79	2.61	2.46	3.19	1.48	1.80
Selenium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:44	< 0.0004	0.0016	0.0004	< 0.0004	< 0.0004	< 0.0004
Titanium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:44	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Thallium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:44	< 0.00005	0.00251	0.00085	0.00055	0.00013	0.00016
Uranium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:44	0.00041	0.0118	0.00145	0.00046	0.00758	0.00033
Vanadium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:44	0.0007	0.0016	0.0008	0.0016	< 0.0001	0.0005
Zinc [mg/L]	09-Jul-25	23:07	11-Jul-25	14:44	0.03	0.05	0.05	0.09	< 0.02	0.07

Analysis	35: VIS-CV5-AMP-115	42: VIS-CV5-AMP-122	53: VIS-CV5-AMP-115 - LAB DUP	54: VIS-CV5-AMP-115 - LAB DUP	55:BLK: $Reg347/TCLP1311 Blank#1
Sample weight [g]	20	20	20	20	---
Ext Fluid [#1 or #2]	1	1	1	1	1
Ext Volume [mL]	400	400	400	400	400
pH [No unit]	5.46	4.98	5.53	5.48	4.91
Conductivity [uS/cm]	5230	4360	5400	5340	4380
Alkalinity [mg/L as CaCO3]	2070	1260	2170	2120	1070
Acidity [mg/L as CaCO3]	665	1550	627	662	1720

OnLine LIMS

0004217378

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

TCLP1311--(Quebec Modified Version - MA. 100 -Lix.com.1.0)20:1 L/S ratio, 18hr

LR Report : **CA11201-JUL25**

Analysis	35: VIS-CV5-AMP-115	42: VIS-CV5-AMP-122	53: VIS-CV5-AMP-115 - LAB DUP	54: VIS-CV5-AMP-1$15 - LAB DUP	55:BLK: Reg347/TCLP1311 Blank#1
Fluoride [mg/L]	0.16	0.18	0.16	0.25	0.11
Bromide [mg/L]	< 30	< 30	< 30	< 30	< 30
Chloride [mg/L]	< 50	< 50	< 50	< 50	< 50
Sulphate [mg/L]	< 20	< 20	< 20	< 20	< 20
Nitrite (as N) [mg/L]	< 3	< 3	< 3	< 3	< 3
Nitrate (as N) [mg/L]	< 6	< 6	< 6	< 6	< 6
Nitrate + Nitrite (as N) [mg/L]	< 6	< 6	< 6	< 6	< 6
Total Reactive Phosphorous (o-phosphate as P) [mg/L]	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Mercury [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Silver [mg/L]	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Aluminum [mg/L]	0.16	0.91	0.10	0.13	< 0.01
Arsenic [mg/L]	0.034	0.006	0.028	0.030	< 0.002
Barium [mg/L]	0.0953	0.0622	0.0844	0.0835	0.0067
Boron [mg/L]	0.16	0.17	0.13	0.12	0.09
Beryllium [mg/L]	< 0.00007	0.00057	0.00007	0.00008	< 0.00007
Bismuth [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Calcium [mg/L]	424	61.7	436	434	1.0
Cadmium [mg/L]	0.00027	0.00019	0.00024	0.00023	< 0.00003
Chromium [mg/L]	0.0019	0.0066	0.0015	0.0018	0.0011
Cobalt [mg/L]	0.0921	0.0174	0.0842	0.0869	0.00014
Copper [mg/L]	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Iron [mg/L]	3.9	3.8	3.3	3.7	< 0.07
Potassium [mg/L]	2.9	5.0	1.8	1.9	0.71
Lithium [mg/L]	0.045	0.084	0.042	0.043	0.004
Magnesium [mg/L]	3.7	3.2	3.3	3.5	0.27
Manganese [mg/L]	3.75	0.585	3.63	3.83	0.0021
Molybdenum [mg/L]	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004
Sodium [mg/L]	1410	1350	1360	1430	1470
Nickel [mg/L]	0.156	0.055	0.146	0.149	0.003
Phosphorus [mg/L]	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Lead [mg/L]	0.0011	0.0016	0.0016	0.0024	0.0028
Antimony [mg/L]	< 0.009	0.015	< 0.009	< 0.009	< 0.009
Tin [mg/L]	< 0.0006	< 0.0006	< 0.0006	< 0.0006	< 0.0006
Strontium [mg/L]	0.236	0.0417	0.224	0.222	0.00298
Silicon [mg/L]	2.15	2.83	1.97	1.97	0.18
Selenium [mg/L]	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Titanium [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Thallium [mg/L]	0.00017	0.00037	0.00016	0.00020	< 0.00005

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0004217378

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

TCLP1311--(Quebec Modified Version - MA. 100 -Lix.com.1.0)20:1 L/S ratio, 18hr

LR Report : **CA11201-JUL25**

Analysis	35: VIS-CV5-AMP-115	42: VIS-CV5-AMP-122	53: VIS-CV5-AMP-115 - LAB DUP	54: VIS-CV5-AMP-115 - LAB DUP	55:BLK: $Reg347/TCLP1311 Blank#1
Uranium [mg/L]	0.00604	0.00157	0.00552	0.00556	0.00011
Vanadium [mg/L]	0.0002	0.0007	0.0002	0.0003	0.0001
Zinc [mg/L]	0.03	0.04	0.03	0.02	< 0.02

Extraction Fluid #1 - pH 4.93 ± 0.05
5.7mLs of acetic acid plus 64.3 mLs of 1.0N NaOH bulked to 1L with deionized water.

Extraction Fluid #2 - pH 2.88 ± 0.05
5.7 mLs of acetic acid bulked to 1L with deionized water.

Chris Sullivan

CHARTERED
Christopher Sullivan
CHEMIST

Chris Sullivan, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0004217378

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Method Descriptions

Parameter	Units	SGS Method Code	Reference Method Code	PALA
Acidity	mg/L as CaCO3	ME-CA-[ENV]EWL-LAK-AN-006	SM 2310	N
Alkalinity	mg/L as CaCO3	ME-CA-[ENV]EWL-LAK-AN-006	SM 2320	N
Anions by IC	mg/L	ME-CA-[ENV]IC-LAK-AN-001	EPA300/MA300-Ions1.3	Y
Conductivity	uS/cm	ME-CA-[ENV]EWL-LAK-AN-006	SM 2510	Y
Fluoride by Specific Ion Electrode	mg/L	ME-CA-[ENV]EWL-LAK-AN-014	SM 4500	Y
Inorganics-General	mg/L	ME-CA-[ENV]SPE-LAK-AN-004	EPA 7471A/SM 3112B	Y
Metals in aqueous samples - ICP-MS	mg/L	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8	N
Metals in aqueous samples - ICP-MS	mg/L	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8	Y
pH	No unit	ME-CA-[ENV]EWL-LAK-AN-006	SM 4500	Y
Reactive Phosphorus by SFA	mg/L	ME-CA-[ENV]SFA-LAK-AN-004	SM 4500-P F	N

Accreditation Descriptions

PALA:
SGS Canada Industries & Environment conforms to the requirements of ISO/IEC 17025:2005 for specific tests as listed on their scope of accreditation found at https://www.ceaeq.gouv.qc.ca/documents/publications/listes.htm#labo_accr. Analytes and SGS Method Codes marked with a “Y” in the “PALA” column in the table denote ISO/IEC17025:2005 accreditation

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0004217378

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

TCLP1311--(Quebec Modified Version - MA. 100 -Lix.com.1.0)20:1 L/S ratio, 18hr

LR Report : **CA11201-JUL25**

Quality Control Report

Inorganic Analysis													
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Acidity - QCBatchID: EWL0140-JUL25													
Acidity	2	mg/L as Ca	< 2			1	20	104	90	110	NA		
Alkalinity - QCBatchID: EWL0107-JUL25													
Alkalinity	2	mg/L as Ca	< 2			0	20	102	80	120	NA		
Anions by IC - QCBatchID: DIO0145-JUL25													
Bromide	0.3	mg/L	<0.3			ND	20	99	90	110	91	75	125
Chloride	0.2	mg/L	<0.2			ND	20	103	90	110	97	75	125
Nitrate (as N)	0.06	mg/L	<0.06			ND	20	103	90	110	101	75	125
Nitrate + Nitrite (as N)	0.06	mg/L	<0.06			NA		NA			NA		
Nitrite (as N)	0.03	mg/L	<0.03			ND	20	100	90	110	99	75	125
Sulphate	0.2	mg/L	<0.2			3	20	101	90	110	105	75	125
Conductivity - QCBatchID: EWL0107-JUL25													
Conductivity	2	uS/cm	< 2			0	10	95	90	110	NA		
Fluoride by Specific Ion Electrode - QCBatchID: EWL0096-JUL25													
Fluoride	0.06	mg/L	<0.06			0	10	101	90	110	100	75	125
Inorganics-General - QCBatchID: EHG0009-JUL25													
Mercury	0.00001	mg/L	< 0.00001			ND	20	119	80	120	123	70	130
Metals in aqueous samples - ICP-MS - QCBatchID: EMS0067-JUL25													
Aluminum	0.01	mg/L	<0.001			0	20	97	90	110	98	70	130
Antimony	0.009	mg/L	<0.0009			0	20	101	90	110	82	70	130
Arsenic	0.002	mg/L	<0.0002			4	20	99	90	110	102	70	130
Barium	0.0008	mg/L	<0.00008			1	20	101	90	110	97	70	130
Beryllium	0.00007	mg/L	<0.000007			ND	20	99	90	110	88	70	130
Bismuth	0.0001	mg/L	<0.00001			ND	20	99	90	110	92	70	130
Boron	0.02	mg/L	<0.002			ND	20	103	90	110	95	70	130
Cadmium	0.00003	mg/L	<0.000003			ND	20	100	90	110	96	70	130
Calcium	0.1	mg/L	<0.01			1	20	97	90	110	100	70	130
Chromium	0.0008	mg/L	<0.00008			8	20	101	90	110	102	70	130
Cobalt	0.00004	mg/L	<0.000004			3	20	99	90	110	98	70	130
Copper	0.01	mg/L	<0.001			2	20	99	90	110	104	70	130
Iron	0.07	mg/L	<0.007			0	20	102	90	110	100	70	130
Lead	0.0009	mg/L	<0.00009			1	20	98	90	110	116	70	130
Lithium	0.001	mg/L	<0.0001			ND	20	102	90	110	86	70	130
Magnesium	0.01	mg/L	<0.001			0	20	98	90	110	98	70	130
Manganese	0.0001	mg/L	<0.00001			2	20	98	90	110	94	70	130
Molybdenum	0.004	mg/L	<0.0004			ND	20	101	90	110	96	70	130

OnLine LIMS

0004217378

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

TCLP1311--(Quebec Modified Version - MA. 100 -Lix.com.1.0)20:1 L/S ratio, 18hr

LR Report : **CA11201-JUL25**

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank				Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)			Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High			Low	High
Nickel	0.001	mg/L	<0.0001			3	20	101	90	110		96	70	130
Phosphorus	0.03	mg/L	<0.003			ND	20	97	90	110		NV	70	130
Potassium	0.09	mg/L	<0.009			0	20	96	90	110		87	70	130
Selenium	0.0004	mg/L	<0.00004			ND	20	102	90	110		112	70	130
Silicon	0.02	mg/L	<0.02			ND	20	98	90	110		NV	70	130
Silver	0.0005	mg/L	<0.00005			ND	20	96	90	110		103	70	130
Sodium	0.1	mg/L	<0.01			2	20	100	90	110		105	70	130
Strontium	0.00008	mg/L	<0.00008			4	20	99	90	110		98	70	130
Thallium	0.00005	mg/L	<0.000005			ND	20	99	90	110		90	70	130
Tin	0.0006	mg/L	<0.00006			ND	20	105	90	110		NV	70	130
Titanium	0.001	mg/L	<0.0001			ND	20	102	90	110		NV	70	130
Uranium	0.00002	mg/L	<0.000002			0	20	100	90	110		89	70	130
Vanadium	0.0001	mg/L	<0.00001			0	20	97	90	110		96	70	130
Zinc	0.02	mg/L	<0.002			1	20	99	90	110		98	70	130
pH - QCBatchID: EWL0107-JUL25														
pH	0.05	No unit	NA			0		100				NA		
Reactive Phosphorus by SFA - QCBatchID: SKA0055-JUL25														
Total Reactive Phosphorous (o-phosphate as P)	0.3	mg/L	<0.03			1	10	98	90	110		81	75	125

OnLine LIMS

0004217378

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

TCLP1311--(Quebec Modified Version - MA. 100 -Lix.com.1.0)20:1 L/S ratio, 18hr

13-August-2025

Innova Lithium Inc.
Attn : John Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 03 July 2025
LR Report: **CA11202-JUL25**
Reference: Shaakichiuwaanaan

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	6: VIS-CV5-AMP-134	35: VIS-CV5-AMP-163	39: VIS-CV5-AMP-167
Sample weight [g]	04-Jul-25	09:23	07-Jul-25	11:39	20	20	20
Ext Fluid [#1 or #2]	06-Jul-25	11:04	07-Jul-25	11:39	1	1	1
Ext Volume [mL]	06-Jul-25	11:04	07-Jul-25	11:39	400	400	400
pH [No unit]	07-Jul-25	14:02	09-Jul-25	08:44	4.97	5.04	5.01
Conductivity [uS/cm]	07-Jul-25	14:02	09-Jul-25	08:44	4400	4610	4460
Alkalinity [mg/L as CaCO3]	07-Jul-25	14:02	09-Jul-25	08:44	1220	1410	1310
Acidity [mg/L as CaCO3]	07-Jul-25	14:02	09-Jul-25	13:37	1610	1440	1470
Fluoride [mg/L]	07-Jul-25	08:22	07-Jul-25	13:41	< 0.06	0.07	0.12
Bromide [mg/L]	07-Jul-25	17:49	08-Jul-25	12:31	< 30	< 30	< 30
Chloride [mg/L]	07-Jul-25	17:49	08-Jul-25	12:31	< 20	< 20	< 20
Sulphate [mg/L]	07-Jul-25	17:49	08-Jul-25	12:31	< 20	< 20	< 20
Nitrite (as N) [mg/L]	07-Jul-25	17:49	08-Jul-25	12:31	< 3	< 3	< 3
Nitrate (as N) [mg/L]	07-Jul-25	17:49	08-Jul-25	12:31	< 6	< 6	< 6
Nitrate + Nitrite (as N) [mg/L]	07-Jul-25	17:49	08-Jul-25	12:31	< 6	< 6	< 6
Total Reactive Phosphorous (o-phosphate as P) [mg/L]	07-Jul-25	11:45	08-Jul-25	13:55	< 0.3	< 0.3	< 0.3
Mercury [mg/L]	09-Jul-25	13:31	11-Jul-25	14:45	< 0.00001	< 0.00001	< 0.00001
Silver [mg/L]	09-Jul-25	23:07	11-Jul-25	14:45	< 0.0005	< 0.0005	< 0.0005
Aluminum [mg/L]	09-Jul-25	23:07	11-Jul-25	14:45	0.86	0.84	1.2
Arsenic [mg/L]	09-Jul-25	23:07	11-Jul-25	14:45	0.165	0.079	< 0.002
Barium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:45	0.0232	0.0494	0.0205
Boron [mg/L]	09-Jul-25	23:07	11-Jul-25	14:45	0.15	0.13	0.22
Beryllium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:45	0.00014	0.00102	0.00875

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0004217383

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

TCLP1311--(Quebec Modified Version - MA. 100 -Lix.com.1.0)20:1 L/S ratio, 18hr

LR Report : **CA11202-JUL25**

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	6: VIS-CV5-AMP-134	35: VIS-CV5-AMP-163	39: VIS-CV5-AMP-167
Bismuth [mg/L]	09-Jul-25	23:07	11-Jul-25	14:45	< 0.0001	0.0002	0.0005
Calcium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:45	64.3	122	95.3
Cadmium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:45	0.00010	0.00144	< 0.00003
Chromium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:45	0.0017	0.0196	0.0032
Cobalt [mg/L]	09-Jul-25	23:07	11-Jul-25	14:45	0.0160	0.0565	0.0139
Copper [mg/L]	09-Jul-25	23:07	11-Jul-25	14:44	0.01	< 0.01	0.02
Iron [mg/L]	09-Jul-25	23:07	11-Jul-25	14:44	6.8	15.5	3.3
Potassium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:44	1.2	4.1	1.7
Lithium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:44	0.037	0.049	0.058
Magnesium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:44	2.0	3.8	9.8
Manganese [mg/L]	09-Jul-25	23:07	11-Jul-25	14:44	0.418	0.670	0.491
Molybdenum [mg/L]	09-Jul-25	23:07	11-Jul-25	14:44	< 0.004	< 0.004	< 0.004
Sodium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:44	1460	1430	1430
Nickel [mg/L]	09-Jul-25	23:07	11-Jul-25	14:44	0.015	0.203	0.008
Phosphorus [mg/L]	09-Jul-25	23:07	11-Jul-25	14:44	< 0.03	< 0.03	< 0.03
Lead [mg/L]	09-Jul-25	23:07	11-Jul-25	14:44	0.0086	0.0195	0.0032
Antimony [mg/L]	09-Jul-25	23:07	11-Jul-25	14:44	< 0.009	0.075	< 0.009
Tin [mg/L]	09-Jul-25	23:07	11-Jul-25	14:44	< 0.0006	< 0.0006	< 0.0006
Strontium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:44	0.0526	0.0811	0.235
Silicon [mg/L]	09-Jul-25	23:07	11-Jul-25	14:44	1.78	2.67	3.50
Selenium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:44	< 0.0004	< 0.0004	< 0.0004
Titanium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:44	< 0.001	< 0.001	< 0.001
Thallium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:44	0.00008	0.00011	0.00005
Uranium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:44	0.00125	0.0500	0.00237
Vanadium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:44	0.0014	0.0001	0.0007
Zinc [mg/L]	09-Jul-25	23:07	11-Jul-25	14:44	0.06	0.24	< 0.02

Extraction Fluid #1 - pH 4.93 ± 0.05
5.7mLs of acetic acid plus 64.3 mLs of 1.0N NaOH bulked to 1L with deionized water.

Extraction Fluid #2 - pH 2.88 ± 0.05
5.7 mLs of acetic acid bulked to 1L with deionized water.

.

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

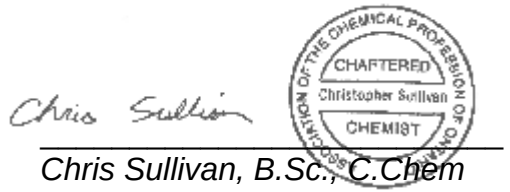
SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Method Descriptions

Parameter	Units	SGS Method Code	Reference Method Code	PALA
	#1 or #2	NA		N
	g	NA	Sample weight	N
	mL	NA		N
Acidity	mg/L as CaCO3	ME-CA-[ENV]EWL-LAK-AN-006	SM 2310	N
Alkalinity	mg/L as CaCO3	ME-CA-[ENV]EWL-LAK-AN-006	SM 2320	N
Anions by IC	mg/L	ME-CA-[ENV]IC-LAK-AN-001	EPA300/MA300-Ions1.3	Y
Conductivity	uS/cm	ME-CA-[ENV]EWL-LAK-AN-006	SM 2510	Y
Fluoride by Specific Ion Electrode	mg/L	ME-CA-[ENV]EWL-LAK-AN-014	SM 4500	Y
Inorganics-General	mg/L	ME-CA-[ENV]SPE-LAK-AN-004	EPA 7471A/SM 3112B	Y
Metals in aqueous samples - ICP-MS	mg/L	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8	N
Metals in aqueous samples - ICP-MS	mg/L	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8	Y
pH	No unit	ME-CA-[ENV]EWL-LAK-AN-006	SM 4500	Y
Reactive Phosphorus by SFA	mg/L	ME-CA-[ENV]SFA-LAK-AN-004	SM 4500-P F	N

Accreditation Descriptions

PALA:
SGS Canada Industries & Environment conforms to the requirements of ISO/IEC 17025:2005 for specific tests as listed on their scope of accreditation found at https://www.ceaeq.gouv.qc.ca/documents/publications/listes.htm#labo_accr. Analytes and SGS Method Codes marked with a “Y” in the “PALA” column in the table denote ISO/IEC17025:2005 accreditation



Chris Sullivan, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0004217383

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

TCLP1311--(Quebec Modified Version - MA. 100 -Lix.com.1.0)20:1 L/S ratio, 18hr

LR Report : **CA11202-JUL25**

Quality Control Report

Inorganic Analysis													
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Acidity - QCBatchID: EWL0140-JUL25													
Acidity	2	mg/L as Ca	< 2			1	20	104	90	110	NA		
Alkalinity - QCBatchID: EWL0107-JUL25													
Alkalinity	2	mg/L as Ca	< 2			0	20	102	80	120	NA		
Anions by IC - QCBatchID: DIO0153-JUL25													
Bromide	0.3	mg/L	<0.3			ND	20	99	90	110	92	75	125
Chloride	0.2	mg/L	<0.2			ND	20	102	90	110	85	75	125
Nitrate (as N)	0.06	mg/L	<0.06			0	20	103	90	110	102	75	125
Nitrate + Nitrite (as N)	0.06	mg/L	<0.06			NA		NA			NA		
Nitrite (as N)	0.03	mg/L	<0.03			ND	20	100	90	110	101	75	125
Sulphate	0.2	mg/L	<0.2			5	20	101	90	110	97	75	125
Conductivity - QCBatchID: EWL0107-JUL25													
Conductivity	2	uS/cm	< 2			0	10	95	90	110	NA		
Fluoride by Specific Ion Electrode - QCBatchID: EWL0096-JUL25													
Fluoride	0.06	mg/L	<0.06			0	10	101	90	110	100	75	125
Inorganics-General - QCBatchID: EHG0009-JUL25													
Mercury	0.00001	mg/L	< 0.00001			ND	20	119	80	120	123	70	130
Metals in aqueous samples - ICP-MS - QCBatchID: EMS0067-JUL25													
Aluminum	0.01	mg/L	<0.001			0	20	97	90	110	98	70	130
Antimony	0.009	mg/L	<0.0009			0	20	101	90	110	82	70	130
Arsenic	0.002	mg/L	<0.0002			4	20	99	90	110	102	70	130
Barium	0.0008	mg/L	<0.00008			1	20	101	90	110	97	70	130
Beryllium	0.00007	mg/L	<0.000007			ND	20	99	90	110	88	70	130
Bismuth	0.0001	mg/L	<0.00001			ND	20	99	90	110	92	70	130
Boron	0.02	mg/L	<0.002			ND	20	103	90	110	95	70	130
Cadmium	0.00003	mg/L	<0.000003			ND	20	100	90	110	96	70	130
Calcium	0.1	mg/L	<0.01			1	20	97	90	110	100	70	130
Chromium	0.0008	mg/L	<0.00008			8	20	101	90	110	102	70	130
Cobalt	0.00004	mg/L	<0.000004			3	20	99	90	110	98	70	130
Copper	0.01	mg/L	<0.001			2	20	99	90	110	104	70	130
Iron	0.07	mg/L	<0.007			0	20	102	90	110	100	70	130
Lead	0.0009	mg/L	<0.00009			1	20	98	90	110	116	70	130
Lithium	0.001	mg/L	<0.0001			ND	20	102	90	110	86	70	130
Magnesium	0.01	mg/L	<0.001			0	20	98	90	110	98	70	130
Manganese	0.0001	mg/L	<0.00001			2	20	98	90	110	94	70	130
Molybdenum	0.004	mg/L	<0.0004			ND	20	101	90	110	96	70	130

OnLine LIMS

0004217383

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

TCLP1311--(Quebec Modified Version - MA. 100 -Lix.com.1.0)20:1 L/S ratio, 18hr

LR Report : **CA11202-JUL25**

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank				Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)			Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High			Low	High
Nickel	0.001	mg/L	<0.0001			3	20	101	90	110		96	70	130
Phosphorus	0.03	mg/L	<0.003			ND	20	97	90	110		NV	70	130
Potassium	0.09	mg/L	<0.009			0	20	96	90	110		87	70	130
Selenium	0.0004	mg/L	<0.00004			ND	20	102	90	110		112	70	130
Silicon	0.02	mg/L	<0.02			ND	20	98	90	110		NV	70	130
Silver	0.0005	mg/L	<0.00005			ND	20	96	90	110		103	70	130
Sodium	0.1	mg/L	<0.01			2	20	100	90	110		105	70	130
Strontium	0.00008	mg/L	<0.00008			4	20	99	90	110		98	70	130
Thallium	0.00005	mg/L	<0.000005			ND	20	99	90	110		90	70	130
Tin	0.0006	mg/L	<0.00006			ND	20	105	90	110		NV	70	130
Titanium	0.001	mg/L	<0.0001			ND	20	102	90	110		NV	70	130
Uranium	0.00002	mg/L	<0.000002			0	20	100	90	110		89	70	130
Vanadium	0.0001	mg/L	<0.00001			0	20	97	90	110		96	70	130
Zinc	0.02	mg/L	<0.002			1	20	99	90	110		98	70	130
pH - QCBatchID: EWL0107-JUL25														
pH	0.05	No unit	NA			0		100				NA		
Reactive Phosphorus by SFA - QCBatchID: SKA0055-JUL25														
Total Reactive Phosphorous (o-phosphate as P)	0.3	mg/L	<0.03			1	10	98	90	110		81	75	125

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0004217383

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

TCLP1311--(Quebec Modified Version - MA. 100 -Lix.com.1.0)20:1 L/S ratio, 18hr

13-August-2025

Innova Lithium Inc.
Attn : John Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 03 July 2025
LR Report: **CA11203-JUL25**
Reference: Shaakichiuwaanaan

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	9: VIS-CV5-MS-185	10: VIS-CV5-MS-186	11: VIS-CV5-MS-187	19: VIS-CV5-MS-195	20: VIS-CV5-MS-196	21: VIS-CV5-MS-197
Sample weight [g]	07-Jul-25	10:16	09-Jul-25	08:40	20	20	20	20	19	20
Ext Fluid [#1 or #2]	07-Jul-25	10:16	09-Jul-25	08:40	1	1	1	2	2	2
Ext Volume [mL]	07-Jul-25	13:48	09-Jul-25	08:40	400	400	400	400	400	400
pH [No unit]	09-Jul-25	10:02	17-Jul-25	11:09	4.96	4.98	5.55	6.12	5.53	5.91
Conductivity [uS/cm]	09-Jul-25	10:02	17-Jul-25	11:09	4760	4840	5990	6040	5720	5890
Alkalinity [mg/L as CaCO3]	08-Jul-25	15:12	10-Jul-25	11:47	1440	1500	2460	2900	2570	2800
Acidity [mg/L as CaCO3]	08-Jul-25	15:12	10-Jul-25	11:47	1610	1570	617	246	573	316
Fluoride [mg/L]	09-Jul-25	07:58	10-Jul-25	08:39	0.20	0.15	< 0.06	0.11	< 0.06	< 0.06
Bromide [mg/L]	09-Jul-25	02:47	10-Jul-25	13:14	< 30	< 30	< 30	< 30	< 30	< 30
Chloride [mg/L]	09-Jul-25	02:47	10-Jul-25	13:14	< 20	< 20	< 20	< 20	< 20	< 20
Sulphate [mg/L]	09-Jul-25	02:47	10-Jul-25	13:14	< 20	< 20	< 20	24	< 20	< 20
Nitrite (as N) [mg/L]	09-Jul-25	02:47	10-Jul-25	13:14	< 3	< 3	< 3	< 3	< 3	< 3
Nitrate (as N) [mg/L]	09-Jul-25	02:47	10-Jul-25	13:14	< 6	< 6	< 6	< 6	< 6	< 6
Nitrate + Nitrite (as N) [mg/L]	09-Jul-25	02:47	10-Jul-25	13:14	< 6	< 6	< 6	< 6	< 6	< 6
Total Reactive Phosphorous (o-phosphate as P) [mg/L]	08-Jul-25	15:04	09-Jul-25	08:21	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Mercury [mg/L]	09-Jul-25	13:31	11-Jul-25	14:46	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Silver [mg/L]	09-Jul-25	23:07	11-Jul-25	14:46	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Aluminum [mg/L]	09-Jul-25	23:07	11-Jul-25	14:46	1.3	1.0	0.05	< 0.01	0.03	0.01
Arsenic [mg/L]	09-Jul-25	23:07	11-Jul-25	14:46	0.004	0.008	0.004	0.011	0.088	0.141
Barium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:46	0.0746	0.0923	0.0728	0.246	0.196	0.237
Boron [mg/L]	09-Jul-25	23:07	11-Jul-25	14:46	0.17	0.17	0.14	0.12	0.14	0.11
Beryllium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:46	0.00063	0.00029	< 0.00007	< 0.00007	< 0.00007	< 0.00007

OnLine LIMS

0004217391

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

TCLP1311--(Quebec Modified Version - MA. 100 -Lix.com.1.0)20:1 L/S ratio, 18hr

LR Report : **CA11203-JUL25**

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	9: VIS-CV5-MS-185	10: VIS-CV5-MS-186	11: VIS-CV5-MS-187	19: VIS-CV5-MS-195	20: VIS-CV5-MS-196	21: VIS-CV5-MS-197
Bismuth [mg/L]	09-Jul-25	23:07	11-Jul-25	14:48	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Calcium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:48	57.1	78.2	446	1960	1740	1900
Cadmium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:48	0.00010	0.00017	0.00061	0.00140	0.00107	0.00080
Chromium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:48	0.0065	0.0104	0.0027	< 0.0008	0.0010	< 0.0008
Cobalt [mg/L]	09-Jul-25	23:07	11-Jul-25	14:48	0.00904	0.00721	0.00313	0.00977	0.0103	0.0116
Copper [mg/L]	09-Jul-25	23:07	11-Jul-25	14:48	0.02	0.02	< 0.01	< 0.01	0.01	< 0.01
Iron [mg/L]	09-Jul-25	23:07	11-Jul-25	14:48	2.9	3.6	2.7	27.8	48.0	28.3
Potassium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:48	9.0	8.8	6.7	2.6	2.7	4.6
Lithium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:48	0.089	0.105	0.034	0.005	0.005	0.006
Magnesium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:48	2.4	1.9	2.1	16.6	12.3	13.0
Manganese [mg/L]	09-Jul-25	23:07	11-Jul-25	14:48	0.843	1.40	4.06	27.7	26.0	27.1
Molybdenum [mg/L]	09-Jul-25	23:07	11-Jul-25	14:48	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004
Sodium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:48	1370	1480	1360	6.7	6.3	6.2
Nickel [mg/L]	09-Jul-25	23:07	11-Jul-25	14:49	0.014	0.013	0.006	0.094	0.187	0.383
Phosphorus [mg/L]	09-Jul-25	23:07	11-Jul-25	14:49	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Lead [mg/L]	09-Jul-25	23:07	11-Jul-25	14:49	0.0356	0.0931	0.0037	0.0012	0.0233	< 0.0009
Antimony [mg/L]	09-Jul-25	23:07	11-Jul-25	14:49	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009
Tin [mg/L]	09-Jul-25	23:07	11-Jul-25	14:49	< 0.0006	< 0.0006	< 0.0006	< 0.0006	< 0.0006	< 0.0006
Strontium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:49	0.0792	0.0769	0.235	2.45	2.39	2.06
Silicon [mg/L]	09-Jul-25	23:07	11-Jul-25	14:49	2.36	2.05	0.93	1.55	1.58	1.46
Selenium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:49	< 0.0004	< 0.0004	< 0.0004	< 0.0004	0.0005	< 0.0004
Titanium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:49	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Thallium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:49	0.00014	0.00020	0.00011	< 0.00005	< 0.00005	< 0.00005
Uranium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:51	0.00180	0.00211	0.00314	0.00095	0.00072	0.00086
Vanadium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:51	0.0008	0.0009	0.0004	< 0.0001	0.0001	< 0.0001
Zinc [mg/L]	09-Jul-25	23:07	11-Jul-25	14:51	0.03	0.03	0.02	< 0.02	0.07	< 0.02

Analysis	22: VIS-CV5-MS-198	25: VIS-CV5-MS-201	26: VIS-CV5-MS-202	27: VIS-CV5-MS-203	31: VIS-CV5-MS-207	34: VIS-CV5-MS-210	36: VIS-CV5-MS-212	44: VIS-CV5-MS-220	45: VIS-CV5-MS-221	47: VIS-CV5-MS-223
Sample weight [g]	20	20	20	20	20	20	20	20	20	20
Ext Fluid [#1 or #2]	1	1	1	1	1	1	1	1	1	1
Ext Volume [mL]	400	400	400	400	400	400	400	400	400	400
pH [No unit]	4.95	4.92	4.90	4.95	4.95	4.91	4.99	4.91	5.07	4.92
Conductivity [uS/cm]	4670	4610	4800	4700	4720	4520	4780	4590	5050	4600
Alkalinity [mg/L as CaCO3]	1450	1380	1260	1420	1360	1340	1520	1260	1670	1410
Acidity [mg/L as CaCO3]	1520	1660	1740	1580	1680	1680	1570	1720	1300	1660

OnLine LIMS

0004217391

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

TCLP1311--(Quebec Modified Version - MA. 100 -Lix.com.1.0)20:1 L/S ratio, 18hr

LR Report : **CA11203-JUL25**

Analysis	22: VIS-CV5-MS-198	25: VIS-CV5-MS-201	26: VIS-CV5-MS-202	27: VIS-CV5-MS-203	31: VIS-CV5-MS-207	34: VIS-CV5-MS-210	36: VIS-CV5-MS-212	44: VIS-CV5-MS-220	45: VIS-CV5-MS-221	47: VIS-CV5-MS-223
Fluoride [mg/L]	0.67	0.74	4.05	0.13	4.91	5.54	1.71	2.20	< 0.06	0.12
Bromide [mg/L]	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30
Chloride [mg/L]	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Sulphate [mg/L]	< 20	< 20	87	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Nitrite (as N) [mg/L]	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Nitrate (as N) [mg/L]	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Nitrate + Nitrite (as N) [mg/L]	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Total Reactive Phosphorous (o-phosphate as P) [mg/L]	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Mercury [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Silver [mg/L]	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Aluminum [mg/L]	0.96	1.5	2.7	0.41	3.7	3.7	2.0	0.75	0.40	1.4
Arsenic [mg/L]	0.009	< 0.002	0.003	0.018	0.019	0.458	0.385	0.004	0.005	0.127
Barium [mg/L]	0.0887	0.0863	0.0625	0.0397	0.0705	0.0649	0.0748	0.106	0.264	0.0665
Boron [mg/L]	0.20	0.16	0.16	0.16	0.21	0.25	0.15	0.16	0.14	0.16
Beryllium [mg/L]	0.00279	0.00026	0.00158	0.00093	0.00171	0.00368	0.00118	0.00010	0.00009	0.00098
Bismuth [mg/L]	0.0001	< 0.0001	< 0.0001	< 0.0001	0.0002	0.0170	0.0006	0.0003	0.0002	0.0002
Calcium [mg/L]	56.4	17.0	12.4	52.1	32.6	8.7	76.7	7.8	157	17.5
Cadmium [mg/L]	0.00035	0.00011	0.00013	0.00008	0.00019	0.00206	0.00171	0.00004	0.00022	0.00017
Chromium [mg/L]	0.0114	0.0125	0.0093	0.0059	0.0211	0.0033	0.0040	0.0027	0.0170	0.0153
Cobalt [mg/L]	0.0255	0.00893	0.0305	0.0215	0.0334	0.0229	0.0221	0.00822	0.00285	0.0239
Copper [mg/L]	< 0.01	< 0.01	< 0.01	0.01	0.01	0.07	0.01	< 0.01	< 0.01	< 0.01
Iron [mg/L]	3.3	4.8	24.9	1.3	3.7	2.4	2.2	2.6	4.9	2.8
Potassium [mg/L]	6.4	5.8	3.4	1.4	5.4	5.5	6.9	8.3	5.3	7.2
Lithium [mg/L]	0.131	0.147	0.181	0.050	0.216	0.410	0.215	0.039	0.042	0.171
Magnesium [mg/L]	2.9	1.8	3.2	1.9	2.4	1.8	1.2	0.78	3.0	3.1
Manganese [mg/L]	0.729	0.194	0.315	0.319	0.647	0.178	0.984	0.0354	2.59	0.103
Molybdenum [mg/L]	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004
Sodium [mg/L]	1420	1360	1310	1340	1420	1380	1380	1400	1390	1380
Nickel [mg/L]	0.034	0.015	0.071	0.024	0.049	0.040	0.061	0.008	0.012	0.170
Phosphorus [mg/L]	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Lead [mg/L]	0.0098	0.0700	0.0222	0.0099	0.0520	0.304	0.0589	0.0047	0.0306	0.0070
Antimony [mg/L]	< 0.009	< 0.009	< 0.009	< 0.009	0.010	0.848	0.154	< 0.009	< 0.009	< 0.009
Tin [mg/L]	< 0.0006	< 0.0006	< 0.0006	< 0.0006	< 0.0006	< 0.0006	< 0.0006	< 0.0006	< 0.0006	< 0.0006
Strontium [mg/L]	0.0597	0.0440	0.0177	0.0436	0.0417	0.0192	0.0755	0.0431	0.0616	0.0365
Silicon [mg/L]	2.42	2.04	1.28	0.93	2.78	2.69	2.15	1.29	1.23	2.91
Selenium [mg/L]	< 0.0004	< 0.0004	< 0.0004	0.0005	< 0.0004	0.0010	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Titanium [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	0.001	0.004	< 0.001	< 0.001	< 0.001	< 0.001
Thallium [mg/L]	0.00035	0.00017	0.00016	0.00028	0.00079	0.00388	0.00111	0.00008	0.00010	0.00053

OnLine LIMS

0004217391

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

TCLP1311--(Quebec Modified Version - MA. 100 -Lix.com.1.0)20:1 L/S ratio, 18hr

LR Report : **CA11203-JUL25**

Analysis	22: VIS-CV5-MS-198	25: VIS-CV5-MS-201	26: VIS-CV5-MS-202	27: VIS-CV5-MS-203	31: VIS-CV5-MS-207	34: VIS-CV5-MS-210	36: VIS-CV5-MS-212	44: VIS-CV5-MS-220	45: VIS-CV5-MS-221	47: VIS-CV5-MS-223
Uranium [mg/L]	0.0137	0.00477	0.00362	0.00747	0.00507	0.00503	0.0147	0.0152	0.00411	0.00508
Vanadium [mg/L]	0.0004	0.0004	0.0001	0.0001	0.0011	0.0007	0.0013	0.0012	0.0006	0.0005
Zinc [mg/L]	0.08	< 0.02	0.06	< 0.02	0.05	0.38	0.18	0.03	0.05	0.04

Analysis	48: VIS-CV5-MS-224	51: VIS-CV5-MS-227	54:BLK: $Reg347/TCLP1 311 Blank#1	55:BLK: $Reg347/TCLP1 311 Blank#2
Sample weight [g]	20	20	< 0.001	< 0.001
Ext Fluid [#1 or #2]	1	1	1	2
Ext Volume [mL]	400	400	400	400
pH [No unit]	4.92	4.94	3.66	2.89
Conductivity [uS/cm]	4610	4690	4650	536
Alkalinity [mg/L as CaCO3]	1330	1390	1300	< 2
Acidity [mg/L as CaCO3]	1670	1610	1700	4880
Fluoride [mg/L]	0.22	0.10	< 0.06	< 0.06
Bromide [mg/L]	< 30	< 30	< 30	< 30
Chloride [mg/L]	< 20	< 20	< 20	< 20
Sulphate [mg/L]	< 20	< 20	< 20	< 20
Nitrite (as N) [mg/L]	< 3	< 3	< 3	< 3
Nitrate (as N) [mg/L]	< 6	< 6	< 6	< 6
Nitrate + Nitrite (as N) [mg/L]	< 6	< 6	< 6	< 6
Total Reactive Phosphorous (o-phosphate as P) [mg/L]	< 0.3	< 0.3	< 0.3	< 0.3
Mercury [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Silver [mg/L]	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Aluminum [mg/L]	1.6	0.87	< 0.01	< 0.01
Arsenic [mg/L]	0.005	0.003	< 0.002	< 0.002
Barium [mg/L]	0.0646	0.0719	0.0013	< 0.0008
Boron [mg/L]	0.15	0.14	< 0.02	< 0.02
Beryllium [mg/L]	0.00125	0.00039	< 0.00007	< 0.00007
Bismuth [mg/L]	0.0001	< 0.0001	< 0.0001	0.0002
Calcium [mg/L]	9.2	35.6	< 0.1	0.2
Cadmium [mg/L]	0.00078	0.00011	< 0.00003	< 0.00003
Chromium [mg/L]	0.0054	0.0037	0.0010	< 0.0008
Cobalt [mg/L]	0.0343	0.0117	0.00008	0.00008
Copper [mg/L]	0.02	< 0.01	< 0.01	< 0.01
Iron [mg/L]	3.2	6.2	< 0.07	< 0.07
Potassium [mg/L]	7.0	7.2	0.55	2.1

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0004217391

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	48: VIS-CV5-MS-224	51: VIS-CV5-MS-227	54:BLK: $Reg347/TCLP1311 Blank#1	55:BLK: $Reg347/TCLP1311 Blank#2
Lithium [mg/L]	0.150	0.112	0.004	0.001
Magnesium [mg/L]	2.8	3.1	< 0.01	< 0.01
Manganese [mg/L]	0.203	0.523	0.0004	0.0020
Molybdenum [mg/L]	< 0.004	< 0.004	< 0.004	< 0.004
Sodium [mg/L]	1370	1400	1430	0.2
Nickel [mg/L]	0.077	0.025	< 0.001	< 0.001
Phosphorus [mg/L]	< 0.03	< 0.03	< 0.03	< 0.03
Lead [mg/L]	0.0567	0.0543	< 0.0009	< 0.0009
Antimony [mg/L]	< 0.009	< 0.009	< 0.009	< 0.009
Tin [mg/L]	< 0.0006	< 0.0006	< 0.0006	< 0.0006
Strontium [mg/L]	0.0344	0.0268	0.00015	0.00026
Silicon [mg/L]	2.83	1.54	< 0.02	< 0.02
Selenium [mg/L]	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Titanium [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001
Thallium [mg/L]	0.00056	0.00062	< 0.00005	< 0.00005
Uranium [mg/L]	0.00722	0.00868	< 0.00002	< 0.00002
Vanadium [mg/L]	0.0003	< 0.0001	< 0.0001	< 0.0001
Zinc [mg/L]	0.15	0.03	< 0.02	< 0.02

Extraction Fluid #1 - pH 4.93 ± 0.05
5.7mLs of acetic acid plus 64.3 mLs of 1.0N NaOH bulked to 1L with deionized water.

Extraction Fluid #2 - pH 2.88 ± 0.05
5.7 mLs of acetic acid bulked to 1L with deionized water.

Chris Sullivan

CHARTERED
Christopher Sullivan
CHEMIST

Chris Sullivan, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0004217391

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Method Descriptions

Parameter	Units	SGS Method Code	Reference Method Code	PALA
Acidity	mg/L as CaCO3	ME-CA-[ENV]EWL-LAK-AN-006	SM 2310	N
Alkalinity	mg/L as CaCO3	ME-CA-[ENV]EWL-LAK-AN-006	SM 2320	N
Anions by IC	mg/L	ME-CA-[ENV]IC-LAK-AN-001	EPA300/MA300-Ions1.3	Y
Conductivity	uS/cm	ME-CA-[ENV]EWL-LAK-AN-006	SM 2510	Y
Fluoride by Specific Ion Electrode	mg/L	ME-CA-[ENV]EWL-LAK-AN-014	SM 4500	Y
Inorganics-General	mg/L	ME-CA-[ENV]SPE-LAK-AN-004	EPA 7471A/SM 3112B	Y
Metals in aqueous samples - ICP-MS	mg/L	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8	N
Metals in aqueous samples - ICP-MS	mg/L	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8	Y
pH	No unit	ME-CA-[ENV]EWL-LAK-AN-006	SM 4500	Y
Reactive Phosphorus by SFA	mg/L	ME-CA-[ENV]SFA-LAK-AN-004	SM 4500-P F	N

Accreditation Descriptions

PALA:
SGS Canada Industries & Environment conforms to the requirements of ISO/IEC 17025:2005 for specific tests as listed on their scope of accreditation found at https://www.ceaeq.gouv.qc.ca/documents/publications/listes.htm#labo_accr. Analytes and SGS Method Codes marked with a “Y” in the “PALA” column in the table denote ISO/IEC17025:2005 accreditation

OnLine LIMS

0004217391

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

TCLP1311--(Quebec Modified Version - MA. 100 -Lix.com.1.0)20:1 L/S ratio, 18hr

LR Report : **CA11203-JUL25**

Quality Control Report

Inorganic Analysis													
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Acidity - QCBatchID: EWL0140-JUL25													
Acidity	2	mg/L as Ca	< 2			1	20	104	90	110	NA		
Acidity - QCBatchID: EWL0158-JUL25													
Acidity	2	mg/L as Ca	< 2			18	20	98	90	110	NA		
Alkalinity - QCBatchID: EWL0140-JUL25													
Alkalinity	2	mg/L as Ca	< 2			1	20	102	80	120	NA		
Alkalinity - QCBatchID: EWL0158-JUL25													
Alkalinity	2	mg/L as Ca	< 2			3	20	104	80	120	NA		
Anions by IC - QCBatchID: DIO0187-JUL25													
Bromide	0.3	mg/L	<0.3			ND	20	101	90	110	98	75	125
Chloride	0.2	mg/L	<0.2			ND	20	104	90	110	97	75	125
Nitrate (as N)	0.06	mg/L	<0.06			ND	20	103	90	110	104	75	125
Nitrate + Nitrite (as N)	0.06	mg/L	<0.06			NA		NA			NA		
Nitrite (as N)	0.03	mg/L	<0.03			ND	20	101	90	110	105	75	125
Sulphate	0.2	mg/L	<0.2			ND	20	101	90	110	105	75	125
Anions by IC - QCBatchID: DIO0189-JUL25													
Bromide	0.3	mg/L	<0.3			ND	20	99	90	110	97	75	125
Chloride	0.2	mg/L	<0.2			ND	20	103	90	110	83	75	125
Nitrate (as N)	0.06	mg/L	<0.06			ND	20	103	90	110	101	75	125
Nitrate + Nitrite (as N)	0.06	mg/L	<0.06			NA		NA			NA		
Nitrite (as N)	0.03	mg/L	<0.03			ND	20	101	90	110	102	75	125
Sulphate	0.2	mg/L	<0.2			14	20	101	90	110	100	75	125
Conductivity - QCBatchID: EWL0163-JUL25													
Conductivity	2	uS/cm	< 2			0	10	99	90	110	NA		
Conductivity - QCBatchID: EWL0315-JUL25													
Conductivity	2	uS/cm	< 2			0	10	100	90	110	NA		
Fluoride by Specific Ion Electrode - QCBatchID: EWL0144-JUL25													
Fluoride	0.06	mg/L	<0.06			ND	10	97	90	110	98	75	125
Fluoride by Specific Ion Electrode - QCBatchID: EWL0173-JUL25													
Fluoride	0.06	mg/L	<0.06			8	10	104	90	110	103	75	125
Inorganics-General - QCBatchID: EHG0009-JUL25													
Mercury	0.00001	mg/L	< 0.00001			ND	20	119	80	120	123	70	130
Metals in aqueous samples - ICP-MS - QCBatchID: EMS0067-JUL25													
Aluminum	0.01	mg/L	<0.001			0	20	97	90	110	98	70	130
Antimony	0.009	mg/L	<0.0009			0	20	101	90	110	82	70	130
Arsenic	0.002	mg/L	<0.0002			4	20	99	90	110	102	70	130

OnLine LIMS

0004217391

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

TCLP1311--(Quebec Modified Version - MA. 100 -Lix.com.1.0)20:1 L/S ratio, 18hr

LR Report : **CA11203-JUL25**

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material			
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)		
							%		Low	High		Low	High	
Barium	0.0008	mg/L	<0.00008			1	20	101	90	110	97	70	130	
Beryllium	0.00007	mg/L	<0.000007			ND	20	99	90	110	88	70	130	
Bismuth	0.0001	mg/L	<0.00001			ND	20	99	90	110	92	70	130	
Boron	0.02	mg/L	<0.002			ND	20	103	90	110	95	70	130	
Cadmium	0.00003	mg/L	<0.000003			ND	20	100	90	110	96	70	130	
Calcium	0.1	mg/L	<0.01			1	20	97	90	110	100	70	130	
Chromium	0.0008	mg/L	<0.00008			8	20	101	90	110	102	70	130	
Cobalt	0.00004	mg/L	<0.000004			3	20	99	90	110	98	70	130	
Copper	0.01	mg/L	<0.001			2	20	99	90	110	104	70	130	
Iron	0.07	mg/L	<0.007			0	20	102	90	110	100	70	130	
Lead	0.0009	mg/L	<0.00009			1	20	98	90	110	116	70	130	
Lithium	0.001	mg/L	<0.0001			ND	20	102	90	110	86	70	130	
Magnesium	0.01	mg/L	<0.001			0	20	98	90	110	98	70	130	
Manganese	0.0001	mg/L	<0.00001			2	20	98	90	110	94	70	130	
Molybdenum	0.004	mg/L	<0.0004			ND	20	101	90	110	96	70	130	
Nickel	0.001	mg/L	<0.0001			3	20	101	90	110	96	70	130	
Phosphorus	0.03	mg/L	<0.003			ND	20	97	90	110	NV	70	130	
Potassium	0.09	mg/L	<0.009			0	20	96	90	110	87	70	130	
Selenium	0.0004	mg/L	<0.00004			ND	20	102	90	110	112	70	130	
Silicon	0.02	mg/L	<0.02			ND	20	98	90	110	NV	70	130	
Silver	0.0005	mg/L	<0.00005			ND	20	96	90	110	103	70	130	
Sodium	0.1	mg/L	<0.01			2	20	100	90	110	105	70	130	
Strontium	0.00008	mg/L	<0.00008			4	20	99	90	110	98	70	130	
Thallium	0.00005	mg/L	<0.000005			ND	20	99	90	110	90	70	130	
Tin	0.0006	mg/L	<0.00006			ND	20	105	90	110	NV	70	130	
Titanium	0.001	mg/L	<0.0001			ND	20	102	90	110	NV	70	130	
Uranium	0.00002	mg/L	<0.000002			0	20	100	90	110	89	70	130	
Vanadium	0.0001	mg/L	<0.00001			0	20	97	90	110	96	70	130	
Zinc	0.02	mg/L	<0.002			1	20	99	90	110	98	70	130	
pH - QCBatchID: EWL0163-JUL25														
pH	0.05	No unit	NA			0		100			NA			
pH - QCBatchID: EWL0315-JUL25														
pH	0.05	No unit	NA			0		100			NA			
Reactive Phosphorus by SFA - QCBatchID: SKA0069-JUL25														
Total Reactive Phosphorous (o-phosphate as P)	0.3	mg/L	<0.03			6	10	97	90	110	96	75	125	

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0004217391

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

TCLP1311--(Quebec Modified Version - MA. 100 -Lix.com.1.0)20:1 L/S ratio, 18hr

13-August-2025

Innova Lithium Inc.
Attn : John Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 03 July 2025
LR Report: **CA11204-JUL25**
Reference: Shaakichiuwaanaan

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: VIS-CV5-MS-229	7: VIS-CV5-MS-231	10: VIS-CV5-MS-234	15: VIS-CV5-MS-239	26: VIS-CV5-MS-250	29: VIS-CV5-MS-253	32: VIS-CV5-MS-256	53: VIS-CV5-MS-231 - LAB DUP
Sample weight [g]	04-Jul-25	09:23	07-Jul-25	11:39	20	20	20	20	20	20	20	20
Ext Fluid [#1 or #2]	06-Jul-25	11:04	07-Jul-25	11:39	1	1	1	1	1	1	1	1
Ext Volume [mL]	06-Jul-25	11:04	07-Jul-25	11:39	400	400	400	400	400	400	400	400
pH [No unit]	07-Jul-25	14:02	09-Jul-25	08:44	5.11	4.92	4.93	5.11	5.19	4.99	4.95	4.92
Conductivity [uS/cm]	07-Jul-25	14:02	09-Jul-25	08:44	4740	4230	4270	4770	4950	4420	4340	4270
Alkalinity [mg/L as CaCO3]	07-Jul-25	14:02	09-Jul-25	08:44	1530	1100	1120	1540	1670	1260	1200	1100
Acidity [mg/L as CaCO3]	07-Jul-25	14:02	09-Jul-25	13:37	1310	1700	1710	1270	1100	1560	1630	1720
Fluoride [mg/L]	07-Jul-25	08:22	07-Jul-25	13:41	< 0.06	0.49	0.11	0.11	0.06	0.41	1.48	1.09
Bromide [mg/L]	09-Jul-25	15:19	10-Jul-25	12:54	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30
Chloride [mg/L]	09-Jul-25	15:19	10-Jul-25	12:54	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Sulphate [mg/L]	09-Jul-25	15:19	10-Jul-25	12:54	< 20	< 20	< 20	< 20	< 20	24	< 20	< 20
Nitrite (as N) [mg/L]	09-Jul-25	15:19	10-Jul-25	12:54	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Nitrate (as N) [mg/L]	09-Jul-25	15:19	10-Jul-25	12:54	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Nitrate + Nitrite (as N) [mg/L]	09-Jul-25	15:19	10-Jul-25	12:54	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Total Reactive Phosphorous (o-phosphate as P) [mg/L]	07-Jul-25	11:45	08-Jul-25	13:56	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Mercury [mg/L]	09-Jul-25	13:31	11-Jul-25	14:51	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Silver [mg/L]	09-Jul-25	23:07	11-Jul-25	14:51	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Aluminum [mg/L]	09-Jul-25	23:07	11-Jul-25	14:51	0.55	0.92	1.1	0.81	0.39	0.79	2.1	0.91
Arsenic [mg/L]	09-Jul-25	23:07	11-Jul-25	14:51	< 0.002	< 0.002	0.012	0.006	0.005	0.003	0.004	< 0.002
Barium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:51	0.265	0.111	0.0760	0.112	0.0145	0.0915	0.162	0.120
Boron [mg/L]	09-Jul-25	23:07	11-Jul-25	14:51	0.13	0.14	0.15	0.15	0.11	0.13	0.19	0.15
Beryllium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:51	0.00008	0.00056	0.00047	0.00036	0.00008	0.00024	0.00035	0.00059

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0004217402

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

TCLP1311--(Quebec Modified Version - MA. 100 -Lix.com.1.0)20:1 L/S ratio, 18hr

LR Report : **CA11204-JUL25**

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: VIS-CV5-MS-229	7: VIS-CV5-MS-231	10: VIS-CV5-MS-234	15: VIS-CV5-MS-239	26: VIS-CV5-MS-250	29: VIS-CV5-MS-253	32: VIS-CV5-MS-256	53: VIS-CV5-MS-231 - LAB DUP
Bismuth [mg/L]	09-Jul-25	23:07	11-Jul-25	14:51	< 0.0001	< 0.0001	0.0003	< 0.0001	< 0.0001	0.0001	0.0002	< 0.0001
Calcium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:51	189	11.5	13.7	194	254	78.1	33.4	13.0
Cadmium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:52	0.00022	0.00003	0.00026	0.00018	0.00008	0.00009	0.00008	0.00003
Chromium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:52	0.0066	0.0262	0.0064	0.0072	0.0018	0.0018	0.0110	0.0260
Cobalt [mg/L]	09-Jul-25	23:07	11-Jul-25	14:52	0.0119	0.00664	0.0145	0.0155	0.00220	0.00462	0.00663	0.00675
Copper [mg/L]	09-Jul-25	23:07	11-Jul-25	14:52	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Iron [mg/L]	09-Jul-25	23:07	11-Jul-25	14:52	8.5	4.9	3.4	4.5	14.7	20.2	5.8	5.3
Potassium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:52	12.9	7.7	7.9	4.2	1.0	5.0	9.9	8.1
Lithium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:52	0.088	0.051	0.185	0.086	0.013	0.089	0.183	0.053
Magnesium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:52	2.4	1.3	1.8	2.7	2.6	0.97	2.2	1.4
Manganese [mg/L]	09-Jul-25	23:07	11-Jul-25	14:52	2.62	0.0709	0.174	0.894	2.85	0.496	0.395	0.0785
Molybdenum [mg/L]	09-Jul-25	23:07	11-Jul-25	14:52	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004
Sodium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:52	1430	1440	1420	1440	1430	1430	1350	1440
Nickel [mg/L]	09-Jul-25	23:07	11-Jul-25	14:52	0.059	0.018	0.019	0.060	< 0.001	0.046	0.016	0.018
Phosphorus [mg/L]	09-Jul-25	23:07	11-Jul-25	14:52	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Lead [mg/L]	09-Jul-25	23:07	11-Jul-25	14:52	0.0257	0.0042	0.0172	0.0134	0.0026	0.0030	0.0043	0.0053
Antimony [mg/L]	09-Jul-25	23:07	11-Jul-25	14:52	< 0.009	< 0.009	< 0.009	0.053	< 0.009	< 0.009	< 0.009	< 0.009
Tin [mg/L]	09-Jul-25	23:07	11-Jul-25	14:52	< 0.0006	< 0.0006	< 0.0006	< 0.0006	< 0.0006	0.0028	< 0.0006	< 0.0006
Strontium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:52	0.119	0.0202	0.0381	0.0856	0.0948	0.0489	0.0390	0.0214
Silicon [mg/L]	09-Jul-25	23:07	11-Jul-25	14:52	1.41	1.45	2.15	1.82	1.36	1.20	2.87	1.65
Selenium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:52	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Titanium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:52	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Thallium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:52	0.00082	0.00052	0.00025	0.00028	< 0.00005	< 0.00005	0.00018	0.00043
Uranium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:52	0.00055	0.00450	0.00931	0.00079	0.00150	0.00223	0.00260	0.00461
Vanadium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:52	0.0001	0.0002	0.0009	0.0008	< 0.0001	< 0.0001	0.0020	0.0002
Zinc [mg/L]	09-Jul-25	23:07	11-Jul-25	14:52	0.12	0.02	0.08	0.07	< 0.02	< 0.02	0.03	< 0.02

Extraction Fluid #1 - pH 4.93 ± 0.05
5.7mLs of acetic acid plus 64.3 mLs of 1.0N NaOH bulked to 1L with deionized water.

Extraction Fluid #2 - pH 2.88 ± 0.05
5.7 mLs of acetic acid bulked to 1L with deionized water.

.

OnLine LIMS

0004217402

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

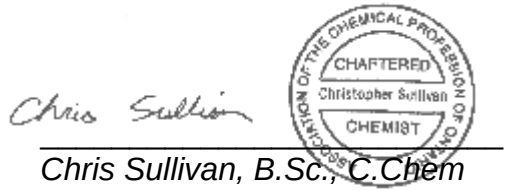
SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Method Descriptions

Parameter	Units	SGS Method Code	Reference Method Code	PALA
Acidity	mg/L as CaCO3	ME-CA-[ENV]EWL-LAK-AN-006	SM 2310	N
Alkalinity	mg/L as CaCO3	ME-CA-[ENV]EWL-LAK-AN-006	SM 2320	N
Anions by IC	mg/L	ME-CA-[ENV]IC-LAK-AN-001	EPA300/MA300-Ions1.3	Y
Conductivity	uS/cm	ME-CA-[ENV]EWL-LAK-AN-006	SM 2510	Y
Fluoride by Specific Ion Electrode	mg/L	ME-CA-[ENV]EWL-LAK-AN-014	SM 4500	Y
Inorganics-General	mg/L	ME-CA-[ENV]SPE-LAK-AN-004	EPA 7471A/SM 3112B	Y
Metals in aqueous samples - ICP-MS	mg/L	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8	N
Metals in aqueous samples - ICP-MS	mg/L	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8	Y
pH	No unit	ME-CA-[ENV]EWL-LAK-AN-006	SM 4500	Y
Reactive Phosphorus by SFA	mg/L	ME-CA-[ENV]SFA-LAK-AN-004	SM 4500-P F	N

Accreditation Descriptions

PALA:
SGS Canada Industries & Environment conforms to the requirements of ISO/IEC 17025:2005 for specific tests as listed on their scope of accreditation found at https://www.ceaeq.gouv.qc.ca/documents/publications/listes.htm#labo_accr. Analytes and SGS Method Codes marked with a “Y” in the “PALA” column in the table denote ISO/IEC17025:2005 accreditation



Chris Sullivan, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0004217402

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

TCLP1311--(Quebec Modified Version - MA. 100 -Lix.com.1.0)20:1 L/S ratio, 18hr

LR Report : **CA11204-JUL25**

Quality Control Report

Inorganic Analysis													
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Acidity - QCBatchID: EWL0140-JUL25													
Acidity	2	mg/L as Ca	< 2			1	20	104	90	110	NA		
Alkalinity - QCBatchID: EWL0107-JUL25													
Alkalinity	2	mg/L as Ca	< 2			0	20	102	80	120	NA		
Anions by IC - QCBatchID: DIO0145-JUL25													
Bromide	0.3	mg/L	<0.3			ND	20	99	90	110	91	75	125
Chloride	0.2	mg/L	<0.2			ND	20	103	90	110	97	75	125
Nitrate (as N)	0.06	mg/L	<0.06			ND	20	103	90	110	101	75	125
Nitrate + Nitrite (as N)	0.06	mg/L	<0.06			NA		NA			NA		
Nitrite (as N)	0.03	mg/L	<0.03			ND	20	100	90	110	99	75	125
Sulphate	0.2	mg/L	<0.2			3	20	101	90	110	105	75	125
Conductivity - QCBatchID: EWL0107-JUL25													
Conductivity	2	uS/cm	< 2			0	10	95	90	110	NA		
Fluoride by Specific Ion Electrode - QCBatchID: EWL0096-JUL25													
Fluoride	0.06	mg/L	<0.06			0	10	101	90	110	100	75	125
Inorganics-General - QCBatchID: EHG0009-JUL25													
Mercury	0.00001	mg/L	< 0.00001			ND	20	119	80	120	123	70	130
Metals in aqueous samples - ICP-MS - QCBatchID: EMS0067-JUL25													
Aluminum	0.01	mg/L	<0.001			0	20	97	90	110	98	70	130
Antimony	0.009	mg/L	<0.0009			0	20	101	90	110	82	70	130
Arsenic	0.002	mg/L	<0.0002			4	20	99	90	110	102	70	130
Barium	0.0008	mg/L	<0.00008			1	20	101	90	110	97	70	130
Beryllium	0.00007	mg/L	<0.000007			ND	20	99	90	110	88	70	130
Bismuth	0.0001	mg/L	<0.00001			ND	20	99	90	110	92	70	130
Boron	0.02	mg/L	<0.002			ND	20	103	90	110	95	70	130
Cadmium	0.00003	mg/L	<0.000003			ND	20	100	90	110	96	70	130
Calcium	0.1	mg/L	<0.01			1	20	97	90	110	100	70	130
Chromium	0.0008	mg/L	<0.00008			8	20	101	90	110	102	70	130
Cobalt	0.00004	mg/L	<0.000004			3	20	99	90	110	98	70	130
Copper	0.01	mg/L	<0.001			2	20	99	90	110	104	70	130
Iron	0.07	mg/L	<0.007			0	20	102	90	110	100	70	130
Lead	0.0009	mg/L	<0.00009			1	20	98	90	110	116	70	130
Lithium	0.001	mg/L	<0.0001			ND	20	102	90	110	86	70	130
Magnesium	0.01	mg/L	<0.001			0	20	98	90	110	98	70	130
Manganese	0.0001	mg/L	<0.00001			2	20	98	90	110	94	70	130
Molybdenum	0.004	mg/L	<0.0004			ND	20	101	90	110	96	70	130

OnLine LIMS

0004217402

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

TCLP1311--(Quebec Modified Version - MA. 100 -Lix.com.1.0)20:1 L/S ratio, 18hr

LR Report : **CA11204-JUL25**

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank				Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)			Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High			Low	High
Nickel	0.001	mg/L	<0.0001			3	20	101	90	110		96	70	130
Phosphorus	0.03	mg/L	<0.003			ND	20	97	90	110		NV	70	130
Potassium	0.09	mg/L	<0.009			0	20	96	90	110		87	70	130
Selenium	0.0004	mg/L	<0.00004			ND	20	102	90	110		112	70	130
Silicon	0.02	mg/L	<0.02			ND	20	98	90	110		NV	70	130
Silver	0.0005	mg/L	<0.00005			ND	20	96	90	110		103	70	130
Sodium	0.1	mg/L	<0.01			2	20	100	90	110		105	70	130
Strontium	0.00008	mg/L	<0.00008			4	20	99	90	110		98	70	130
Thallium	0.00005	mg/L	<0.000005			ND	20	99	90	110		90	70	130
Tin	0.0006	mg/L	<0.00006			ND	20	105	90	110		NV	70	130
Titanium	0.001	mg/L	<0.0001			ND	20	102	90	110		NV	70	130
Uranium	0.00002	mg/L	<0.000002			0	20	100	90	110		89	70	130
Vanadium	0.0001	mg/L	<0.00001			0	20	97	90	110		96	70	130
Zinc	0.02	mg/L	<0.002			1	20	99	90	110		98	70	130
pH - QCBatchID: EWL0107-JUL25														
pH	0.05	No unit	NA			0		100				NA		
Reactive Phosphorus by SFA - QCBatchID: SKA0055-JUL25														
Total Reactive Phosphorous (o-phosphate as P)	0.3	mg/L	<0.03			1	10	98	90	110		81	75	125

OnLine LIMS

0004217402

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

TCLP1311--(Quebec Modified Version - MA. 100 -Lix.com.1.0)20:1 L/S ratio, 18hr

13-August-2025

Innova Lithium Inc.
Attn : John Drapack

1801 McGill College Avenue, Suite 900,
Montreal, Quebec
H3A 1Z4, Canada

Phone: 647-782-7386
Fax:

Date Rec. : 03 July 2025
LR Report: **CA11205-JUL25**
Reference: Shaakichiuwaanaan

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	8: VIS-CV5-UM-307	27: VIS-CV5-UM-326
Sample weight [g]	04-Jul-25	09:23	07-Jul-25	11:40	21	20
Ext Fluid [#1 or #2]	06-Jul-25	11:04	07-Jul-25	11:40	1	1
Ext Volume [mL]	06-Jul-25	11:04	07-Jul-25	11:40	400	400
pH [No unit]	07-Jul-25	14:02	09-Jul-25	08:44	4.95	4.98
Conductivity [uS/cm]	07-Jul-25	14:02	09-Jul-25	08:44	4300	4410
Alkalinity [mg/L as CaCO3]	07-Jul-25	14:02	09-Jul-25	08:44	1170	1250
Acidity [mg/L as CaCO3]	07-Jul-25	14:02	09-Jul-25	13:37	1700	1600
Fluoride [mg/L]	07-Jul-25	08:22	07-Jul-25	13:41	0.47	0.61
Bromide [mg/L]	07-Jul-25	17:49	08-Jul-25	12:32	< 30	< 30
Chloride [mg/L]	07-Jul-25	17:49	08-Jul-25	12:32	< 20	< 20
Sulphate [mg/L]	07-Jul-25	17:49	08-Jul-25	12:32	< 20	< 20
Nitrite (as N) [mg/L]	07-Jul-25	17:49	08-Jul-25	12:32	< 3	< 3
Nitrate (as N) [mg/L]	07-Jul-25	17:49	08-Jul-25	12:32	< 6	< 6
Nitrate + Nitrite (as N) [mg/L]	07-Jul-25	17:49	08-Jul-25	12:32	< 6	< 6
Total Reactive Phosphorous (o-phosphate as P) [mg/L]	07-Jul-25	11:45	08-Jul-25	13:56	< 0.3	< 0.3
Mercury [mg/L]	09-Jul-25	13:31	11-Jul-25	14:53	< 0.00001	< 0.00001
Silver [mg/L]	09-Jul-25	23:07	11-Jul-25	14:53	< 0.0005	< 0.0005
Aluminum [mg/L]	09-Jul-25	23:07	11-Jul-25	14:53	0.74	0.96
Arsenic [mg/L]	09-Jul-25	23:07	11-Jul-25	14:53	0.648	0.165
Barium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:53	0.0596	0.0149
Boron [mg/L]	09-Jul-25	23:07	11-Jul-25	14:53	0.19	0.23
Beryllium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:53	0.00121	0.0103

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

TCLP1311--(Quebec Modified Version - MA. 100 -Lix.com.1.0)20:1 L/S ratio, 18hr

LR Report : **CA11205-JUL25**

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	8: VIS-CV5-UM-307	27: VIS-CV5-UM-326
Bismuth [mg/L]	09-Jul-25	23:07	11-Jul-25	14:53	0.0003	< 0.0001
Calcium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:53	32.3	61.5
Cadmium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:53	0.00017	0.00140
Chromium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:53	0.0167	0.0290
Cobalt [mg/L]	09-Jul-25	23:07	11-Jul-25	14:53	0.0363	0.365
Copper [mg/L]	09-Jul-25	23:07	11-Jul-25	14:53	< 0.01	< 0.01
Iron [mg/L]	09-Jul-25	23:07	11-Jul-25	14:53	2.7	4.7
Potassium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:53	3.4	5.9
Lithium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:53	0.105	0.147
Magnesium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:53	3.4	18.5
Manganese [mg/L]	09-Jul-25	23:07	11-Jul-25	14:53	0.292	0.452
Molybdenum [mg/L]	09-Jul-25	23:07	11-Jul-25	14:53	< 0.004	< 0.004
Sodium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:53	1410	1400
Nickel [mg/L]	09-Jul-25	23:07	11-Jul-25	14:53	0.388	0.440
Phosphorus [mg/L]	09-Jul-25	23:07	11-Jul-25	14:53	0.03	< 0.03
Lead [mg/L]	09-Jul-25	23:07	11-Jul-25	14:53	0.0080	0.0470
Antimony [mg/L]	09-Jul-25	23:07	11-Jul-25	14:53	0.127	0.199
Tin [mg/L]	09-Jul-25	23:07	11-Jul-25	14:53	< 0.0006	< 0.0006
Strontium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:53	0.0466	0.472
Silicon [mg/L]	09-Jul-25	23:07	11-Jul-25	14:53	1.97	6.62
Selenium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:53	< 0.0004	< 0.0004
Titanium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:53	< 0.001	< 0.001
Thallium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:53	0.00182	0.00036
Uranium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:53	0.0117	0.00047
Vanadium [mg/L]	09-Jul-25	23:07	11-Jul-25	14:53	0.0017	0.0018
Zinc [mg/L]	09-Jul-25	23:07	11-Jul-25	14:53	0.03	0.16

Extraction Fluid #1 - pH 4.93 ± 0.05
5.7mLs of acetic acid plus 64.3 mLs of 1.0N NaOH bulked to 1L with deionized water.

Extraction Fluid #2 - pH 2.88 ± 0.05
5.7 mLs of acetic acid bulked to 1L with deionized water.

.

OnLine LIMS

0004217410

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

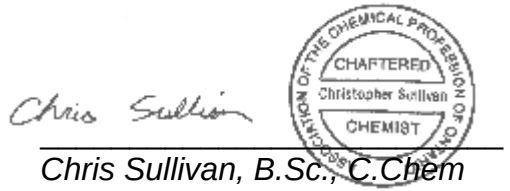
SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Method Descriptions

Parameter	Units	SGS Method Code	Reference Method Code	PALA
Acidity	mg/L as CaCO3	ME-CA-[ENV]EWL-LAK-AN-006	SM 2310	N
Alkalinity	mg/L as CaCO3	ME-CA-[ENV]EWL-LAK-AN-006	SM 2320	N
Anions by IC	mg/L	ME-CA-[ENV]IC-LAK-AN-001	EPA300/MA300-Ions1.3	Y
Conductivity	uS/cm	ME-CA-[ENV]EWL-LAK-AN-006	SM 2510	Y
Fluoride by Specific Ion Electrode	mg/L	ME-CA-[ENV]EWL-LAK-AN-014	SM 4500	Y
Inorganics-General	mg/L	ME-CA-[ENV]SPE-LAK-AN-004	EPA 7471A/SM 3112B	Y
Metals in aqueous samples - ICP-MS	mg/L	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8	N
Metals in aqueous samples - ICP-MS	mg/L	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8	Y
pH	No unit	ME-CA-[ENV]EWL-LAK-AN-006	SM 4500	Y
Reactive Phosphorus by SFA	mg/L	ME-CA-[ENV]SFA-LAK-AN-004	SM 4500-P F	N

Accreditation Descriptions

PALA:
SGS Canada Industries & Environment conforms to the requirements of ISO/IEC 17025:2005 for specific tests as listed on their scope of accreditation found at https://www.ceaeq.gouv.qc.ca/documents/publications/listes.htm#labo_accr. Analytes and SGS Method Codes marked with a “Y” in the “PALA” column in the table denote ISO/IEC17025:2005 accreditation



Chris Sullivan, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0004217410

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

TCLP1311--(Quebec Modified Version - MA. 100 -Lix.com.1.0)20:1 L/S ratio, 18hr

LR Report : **CA11205-JUL25**

Quality Control Report

Inorganic Analysis													
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Acidity - QCBatchID: EWL0140-JUL25													
Acidity	2	mg/L as Ca	< 2			1	20	104	90	110	NA		
Alkalinity - QCBatchID: EWL0107-JUL25													
Alkalinity	2	mg/L as Ca	< 2			0	20	102	80	120	NA		
Anions by IC - QCBatchID: DIO0153-JUL25													
Bromide	0.3	mg/L	<0.3			ND	20	99	90	110	92	75	125
Chloride	0.2	mg/L	<0.2			ND	20	102	90	110	85	75	125
Nitrate (as N)	0.06	mg/L	<0.06			0	20	103	90	110	102	75	125
Nitrate + Nitrite (as N)	0.06	mg/L	<0.06			NA		NA			NA		
Nitrite (as N)	0.03	mg/L	<0.03			ND	20	100	90	110	101	75	125
Sulphate	0.2	mg/L	<0.2			5	20	101	90	110	97	75	125
Conductivity - QCBatchID: EWL0107-JUL25													
Conductivity	2	uS/cm	< 2			0	10	95	90	110	NA		
Fluoride by Specific Ion Electrode - QCBatchID: EWL0096-JUL25													
Fluoride	0.06	mg/L	<0.06			0	10	101	90	110	100	75	125
Inorganics-General - QCBatchID: EHG0009-JUL25													
Mercury	0.00001	mg/L	< 0.00001			ND	20	119	80	120	123	70	130
Metals in aqueous samples - ICP-MS - QCBatchID: EMS0067-JUL25													
Aluminum	0.01	mg/L	<0.001			0	20	97	90	110	98	70	130
Antimony	0.009	mg/L	<0.0009			0	20	101	90	110	82	70	130
Arsenic	0.002	mg/L	<0.0002			4	20	99	90	110	102	70	130
Barium	0.0008	mg/L	<0.00008			1	20	101	90	110	97	70	130
Beryllium	0.00007	mg/L	<0.000007			ND	20	99	90	110	88	70	130
Bismuth	0.0001	mg/L	<0.00001			ND	20	99	90	110	92	70	130
Boron	0.02	mg/L	<0.002			ND	20	103	90	110	95	70	130
Cadmium	0.00003	mg/L	<0.000003			ND	20	100	90	110	96	70	130
Calcium	0.1	mg/L	<0.01			1	20	97	90	110	100	70	130
Chromium	0.0008	mg/L	<0.00008			8	20	101	90	110	102	70	130
Cobalt	0.00004	mg/L	<0.000004			3	20	99	90	110	98	70	130
Copper	0.01	mg/L	<0.001			2	20	99	90	110	104	70	130
Iron	0.07	mg/L	<0.007			0	20	102	90	110	100	70	130
Lead	0.0009	mg/L	<0.00009			1	20	98	90	110	116	70	130
Lithium	0.001	mg/L	<0.0001			ND	20	102	90	110	86	70	130
Magnesium	0.01	mg/L	<0.001			0	20	98	90	110	98	70	130
Manganese	0.0001	mg/L	<0.00001			2	20	98	90	110	94	70	130
Molybdenum	0.004	mg/L	<0.0004			ND	20	101	90	110	96	70	130

OnLine LIMS

0004217410

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

TCLP1311--(Quebec Modified Version - MA. 100 -Lix.com.1.0)20:1 L/S ratio, 18hr

LR Report : **CA11205-JUL25**

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank				Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)			Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High			Low	High
Nickel	0.001	mg/L	<0.0001			3	20	101	90	110		96	70	130
Phosphorus	0.03	mg/L	<0.003			ND	20	97	90	110		NV	70	130
Potassium	0.09	mg/L	<0.009			0	20	96	90	110		87	70	130
Selenium	0.0004	mg/L	<0.00004			ND	20	102	90	110		112	70	130
Silicon	0.02	mg/L	<0.02			ND	20	98	90	110		NV	70	130
Silver	0.0005	mg/L	<0.00005			ND	20	96	90	110		103	70	130
Sodium	0.1	mg/L	<0.01			2	20	100	90	110		105	70	130
Strontium	0.00008	mg/L	<0.00008			4	20	99	90	110		98	70	130
Thallium	0.00005	mg/L	<0.000005			ND	20	99	90	110		90	70	130
Tin	0.0006	mg/L	<0.00006			ND	20	105	90	110		NV	70	130
Titanium	0.001	mg/L	<0.0001			ND	20	102	90	110		NV	70	130
Uranium	0.00002	mg/L	<0.000002			0	20	100	90	110		89	70	130
Vanadium	0.0001	mg/L	<0.00001			0	20	97	90	110		96	70	130
Zinc	0.02	mg/L	<0.002			1	20	99	90	110		98	70	130
pH - QCBatchID: EWL0107-JUL25														
pH	0.05	No unit	NA			0		100				NA		
Reactive Phosphorus by SFA - QCBatchID: SKA0055-JUL25														
Total Reactive Phosphorous (o-phosphate as P)	0.3	mg/L	<0.03			1	10	98	90	110		81	75	125

OnLine LIMS

0004217410

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

Annexe B : Résultats des bilan acide-bases

Bilan acid-base

# échantillon	Type de matériel	Lithologie	pH en pâte	Soufre (total)	SO_4 lixiviable (HCl)	Sulfure	Carbone (total)	Carbonate	CO_3-NP
			Unité pH	%	%S	%S	%C	%C	$kgCaCO_3/t$
1	Stérile	Amphibolite	9,96	0,81	0,07	0,74	0,24	0,12	10,1
2	Stérile	Amphibolite	9,64	1,30	0,18	1,12	0,66	0,58	48,2
3	Stérile	Amphibolite	9,85	0,19	0,04	0,16	0,35	0,24	20,0
4	Stérile	Amphibolite	9,88	0,01	0,04	0,04	0,04	0,01	1,2
5	Stérile	Amphibolite	9,73	0,72	0,1	0,62	0,08	0,03	2,5
6	Stérile	Amphibolite	9,8	0,13	0,04	0,1	1,01	0,86	71,7
7	Stérile	Amphibolite	9,79	0,09	0,04	0,07	0,25	0,17	14,2
8	Stérile	Amphibolite	9,69	0,11	0,04	0,08	0,05	0,01	1,1
9	Stérile	Amphibolite	9,75	0,09	0,04	0,06	0,06	0,02	1,7
10	Stérile	Amphibolite	9,62	0,52	0,06	0,46	0,06	0,02	1,3
11	Stérile	Amphibolite	9,85	0,23	0,05	0,18	0,31	0,21	17,2
12	Stérile	Amphibolite	9,75	0,46	0,07	0,39	0,72	0,53	44,5
13	Stérile	Amphibolite	9,65	0,10	0,04	0,09	0,24	0,17	13,9
14	Stérile	Amphibolite	9,8	0,11	0,04	0,08	0,19	0,10	7,9
15	Stérile	Amphibolite	9,81	0,11	0,04	0,09	0,63	0,50	41,4
16	Stérile	Métasédiment	9,55	3,56	0,12	3,44	0,10	0,10	8,4
17	Stérile	Amphibolite	9,58	4,43	0,24	4,19	0,14	0,14	11,7
18	Stérile	Amphibolite	9,6	0,39	0,08	0,31	0,16	0,10	8,7
19	Stérile	Pegmatite stérile	9,69	0,34	0,07	0,27	0,12	0,05	4,4
20	Stérile	Amphibolite	9,15	7,39	0,51	6,88	0,07	0,01	0,4
21	Stérile	Amphibolite	9,8	0,06	0,04	0,04	0,49	0,37	30,5
22	Stérile	Amphibolite	9,68	0,05	0,04	0,04	0,10	0,04	3,0
23	Stérile	Métasédiment	9,12	7,32	0,17	7,15	0,08	0,01	0,4
24	Stérile	Amphibolite	9,65	0,08	0,04	0,06	0,09	0,04	3,3
25	Stérile	Métasédiment	9,71	0,13	0,04	0,08	0,07	0,04	3,0
26	Stérile	Amphibolite	9,74	0,10	0,04	0,08	0,20	0,13	10,6
27	Stérile	Amphibolite	9,71	0,29	0,04	0,27	0,23	0,12	10,1
28	Stérile	Amphibolite	9,75	0,02	0,04	0,04	0,05	0,01	0,4
29	Stérile	Amphibolite	9,8	0,01	0,04	0,04	0,22	0,17	13,9
30	Stérile	Amphibolite	9,72	0,03	0,04	0,04	0,35	0,25	20,8
31	Stérile	Métasédiment	9,59	0,04	0,04	0,04	0,04	0,01	0,4
32	Stérile	Amphibolite	9,96	0,04	0,04	0,04	0,11	0,06	4,9
33	Stérile	Amphibolite	9,74	0,09	0,04	0,05	0,54	0,48	40,4
34	Stérile	Métasédiment	9,61	0,37	0,05	0,32	0,31	0,20	16,8
35	Stérile	Métasédiment	8,98	0,02	0,04	0,04	0,02	0,01	0,4
36	Stérile	Ultramafique	9,37	0,68	0,1	0,58	0,03	0,01	1,1
37	Stérile	Amphibolite	9,49	0,76	0,21	0,55	0,07	0,02	1,9
38	Stérile	Métasédiment	9,31	0,50	0,11	0,39	0,03	0,01	1,0
39	Stérile	Métasédiment	9,38	1,09	0,19	0,9	0,03	0,02	1,3
40	Stérile	Métasédiment	9,36	1,01	0,12	0,89	0,04	0,02	1,4
41	Stérile	Métasédiment	9,61	0,01	0,04	0,04	0,12	0,08	6,9
42	Stérile	Métasédiment	9,56	0,01	0,04	0,04	0,09	0,06	4,8
43	Stérile	Métasédiment	9,52	0,01	0,04	0,04	0,12	0,08	6,8
44	Stérile	Métasédiment	9,39	0,35	0,07	0,28	0,03	0,01	0,4
45	Stérile	Métasédiment	9,44	0,01	0,04	0,04	0,03	0,01	0,4
46	Stérile	Métasédiment	9,19	0,89	0,13	0,76	1,26	1,21	100,7
47	Stérile	Métasédiment	8,96	0,45	0,07	0,38	0,02	0,01	0,4
48	Stérile	Métasédiment	9,41	0,26	0,04	0,21	0,10	0,07	5,8
49	Stérile	Métasédiment	9,49	1,14	0,2	0,94	0,12	0,08	6,7
50	Stérile	Métasédiment	9,77	0,24	0,04	0,21	0,20	0,16	13,5
51	Stérile	Métasédiment	9,73	0,36	0,09	0,27	0,50	0,40	33,7
52	Stérile	Métasédiment	9,68	0,95	0,16	0,79	0,35	0,22	18,0
53	Stérile	Métasédiment	9,72	0,41	0,08	0,33	0,82	0,67	55,5
54	Stérile	Métasédiment	9,42	1,30	0,26	1,04	0,05	0,02	1,8
55	Stérile	Métasédiment	9,72	0,17	0,09	0,08	2,40	1,24	103,1
56	Stérile	Amphibolite	9,51	0,17	0,05	0,12	1,14	0,79	65,9
57	Stérile	Métasédiment	9,72	0,42	0,07	0,35	2,12	1,28	106,4
58	Stérile	Ultramafique	9,48	0,01	0,04	0,04	0,03	0,03	2,7
59	Stérile	Ultramafique	9,32	0,01	0,04	0,04	0,02	0,01	0,4
60	Stérile	Ultramafique	9,28	0,01	0,04	0,04	0,01	0,01	0,4
61	Stérile	Ultramafique	9,15	0,01	0,04	0,04	0,01	0,01	0,4
62	Stérile	Ultramafique	9,11	0,01	0,04	0,04	0,01	0,01	0,4
63	Stérile	Pegmatite stérile	9,77	0,01	0,04	0,04	0,04	0,02	1,3
64	Stérile	Pegmatite stérile	9,66	0,01	0,04	0,04	0,03	0,01	0,4
65	Stérile	Pegmatite stérile	9,07	0,01	0,04	0,04	0,02	0,01	0,4
66	Stérile	Pegmatite stérile	8,52	0,01	0,04	0,04	0,01	0,01	0,4
67	Stérile	Pegmatite stérile	9,31	0,01	0,04	0,04	0,03	0,03	2,5
68	Stérile	Pegmatite stérile	9,4	0,01	0,04	0,04	0,03	0,03	2,8
69	Stérile	Pegmatite stérile	8,91	0,01	0,04	0,04	0,03	0,01	0,4
70	Stérile	Pegmatite stérile	9,04	0,01	0,04	0,04	0,02	0,01	0,4
71	Stérile	Pegmatite stérile	8,76	0,03	0,04	0,04	0,02	0,01	0,4
72	Stérile	Pegmatite stérile	9,51	0,01	0,04	0,04	0,06	0,03	2,2
73	Stérile	Pegmatite stérile	9,61	0,65	0,16	0,49	0,04	0,01	0,6

Bilan acid-base

# échantillon	Type de matériel	Lithologie	Sobek-NP	Sobek-AP	Sulfure-AP	CO_3-NNP	Sobek-NNP	CO_3-NPR	Sobek-NPR	Classification Sobek
			$kgCaCO_3/t$	$kgCaCO_3/t$	$kgCaCO_3/t$	$kgCaCO_3/t$	$kgCaCO_3/t$	S.U.	S.U.	
1	Stérile	Amphibolite	57,5	25,3	23,1	-13,0	32,2	0,4	2,5	NPAG
2	Stérile	Amphibolite	47,3	40,6	35,0	13,2	6,7	1,4	1,4	PAG
3	Stérile	Amphibolite	58,8	5,8	5,0	15,0	53,0	4,0	11,8	NPAG
4	Stérile	Amphibolite	22,6	0,2	1,2	-0,1	22,4	0,9	18,1	NPAG
5	Stérile	Amphibolite	37,7	22,4	19,4	-16,9	15,3	0,1	1,9	PAG
6	Stérile	Amphibolite	103,0	4,0	3,1	68,6	99,0	23,0	33,0	NPAG
7	Stérile	Amphibolite	53,5	2,9	2,2	12,0	50,6	6,5	24,5	NPAG
8	Stérile	Amphibolite	40,2	3,3	2,5	-1,4	36,9	0,4	16,1	NPAG
9	Stérile	Amphibolite	36,4	2,9	1,9	-0,2	33,5	0,9	19,4	NPAG
10	Stérile	Amphibolite	35,9	16,3	14,4	-13,0	19,6	0,1	2,5	NPAG
11	Stérile	Amphibolite	58,5	7,2	5,6	11,6	51,3	3,1	10,4	NPAG
12	Stérile	Amphibolite	92,4	14,4	12,2	32,3	78,0	3,7	7,6	NPAG
13	Stérile	Amphibolite	55,3	3,1	2,8	11,1	52,2	5,0	19,7	NPAG
14	Stérile	Amphibolite	40,6	3,5	2,5	5,4	37,1	3,2	16,3	NPAG
15	Stérile	Amphibolite	86,2	3,6	2,8	38,5	82,6	14,7	30,7	NPAG
16	Stérile	Métasédiment	63,4	111,1	107,4	-99,0	-47,7	0,1	0,6	PAG
17	Stérile	Amphibolite	74,6	138,3	130,8	-119,0	-63,7	0,1	0,6	PAG
18	Stérile	Amphibolite	47,5	12,3	9,7	-1,0	35,2	0,9	4,9	NPAG
19	Stérile	Pegmatite stérile	33,4	10,6	8,4	-4,0	22,8	0,5	4,0	NPAG
20	Stérile	Amphibolite	121,0	230,7	214,8	-214,3	-109,7	0,0	0,6	PAG
21	Stérile	Amphibolite	66,5	2,0	1,2	29,3	64,5	24,4	53,3	NPAG
22	Stérile	Amphibolite	37,5	1,7	1,2	1,8	35,8	2,4	30,0	NPAG
23	Stérile	Métasédiment	101,0	228,5	223,2	-222,8	-127,5	0,0	0,5	PAG
24	Stérile	Amphibolite	45,0	2,6	1,9	1,5	42,4	1,8	24,0	NPAG
25	Stérile	Métasédiment	36,6	3,9	2,5	0,5	32,7	1,2	14,7	NPAG
26	Stérile	Amphibolite	52,8	3,2	2,5	8,1	49,6	4,2	21,1	NPAG
27	Stérile	Amphibolite	51,8	9,1	8,4	1,7	42,7	1,2	6,1	NPAG
28	Stérile	Amphibolite	33,9	0,7	1,2	-0,8	33,2	0,3	27,2	NPAG
29	Stérile	Amphibolite	41,5	0,3	1,2	12,7	41,2	11,1	33,2	NPAG
30	Stérile	Amphibolite	53,3	1,0	1,2	19,6	52,3	16,7	42,7	NPAG
31	Stérile	Métasédiment	38,9	1,4	1,2	-0,8	37,5	0,3	31,2	NPAG
32	Stérile	Amphibolite	35,9	1,3	1,2	3,7	34,6	3,9	28,8	NPAG
33	Stérile	Amphibolite	62,2	2,9	1,6	38,8	59,3	25,9	39,9	NPAG
34	Stérile	Métasédiment	44,0	11,4	10,0	6,9	32,6	1,7	4,4	NPAG
35	Stérile	Métasédiment	15,1	0,5	1,2	-0,8	14,6	0,3	12,1	NPAG
36	Stérile	Ultramafique	18,6	21,1	18,1	-17,0	-2,5	0,1	1,0	PAG
37	Stérile	Amphibolite	18,9	23,6	17,2	-15,2	-4,7	0,1	1,1	PAG
38	Stérile	Métasédiment	14,7	15,7	12,2	-11,2	-1,0	0,1	1,2	PAG
39	Stérile	Métasédiment	16,2	34,0	28,1	-26,8	-17,8	0,0	0,6	PAG
40	Stérile	Métasédiment	20,3	31,5	27,8	-26,4	-11,2	0,1	0,7	PAG
41	Stérile	Métasédiment	17,9	0,2	1,2	5,7	17,7	5,5	14,3	NPAG
42	Stérile	Métasédiment	16,2	0,2	1,2	3,5	16,0	3,8	13,0	NPAG
43	Stérile	Métasédiment	19,4	0,2	1,2	5,6	19,2	5,5	15,5	NPAG
44	Stérile	Métasédiment	13,8	10,9	8,7	-8,3	2,9	0,0	1,6	PAG
45	Stérile	Métasédiment	15,2	0,2	1,2	-0,8	15,0	0,3	12,2	NPAG
46	Stérile	Métasédiment	16,7	27,8	23,7	77,0	-11,1	4,2	0,7	PAG
47	Stérile	Métasédiment	12,7	14,2	11,9	-11,4	-1,5	0,0	1,1	PAG
48	Stérile	Métasédiment	21,2	8,0	6,6	-0,8	13,2	0,9	3,2	NPAG
49	Stérile	Métasédiment	25,4	35,6	29,3	-22,7	-10,2	0,2	0,9	PAG
50	Stérile	Métasédiment	32,0	7,5	6,6	6,9	24,5	2,1	4,9	NPAG
51	Stérile	Métasédiment	52,8	11,1	8,4	25,3	41,7	4,0	6,3	NPAG
52	Stérile	Métasédiment	39,0	29,7	24,7	-6,6	9,3	0,7	1,6	PAG
53	Stérile	Métasédiment	82,1	12,7	10,3	45,2	69,4	5,4	8,0	NPAG
54	Stérile	Métasédiment	31,4	40,6	32,5	-30,7	-9,2	0,1	1,0	PAG
55	Stérile	Métasédiment	118,0	5,3	2,5	100,6	112,7	41,3	47,3	NPAG
56	Stérile	Amphibolite	86,3	5,2	3,7	62,1	81,1	17,6	23,0	NPAG
57	Stérile	Métasédiment	116,0	13,0	10,9	95,5	103,0	9,7	10,6	NPAG
58	Stérile	Ultramafique	12,6	0,2	1,2	1,4	12,4	2,1	10,1	NPAG
59	Stérile	Ultramafique	12,5	0,2	1,2	-0,8	12,3	0,3	10,0	NPAG
60	Stérile	Ultramafique	8,8	0,2	1,2	-0,8	8,6	0,3	7,0	NPAG
61	Stérile	Ultramafique	7,8	0,2	1,2	-0,8	7,6	0,3	6,2	NPAG
62	Stérile	Ultramafique	8,2	0,2	1,2	-0,8	8,0	0,3	6,6	NPAG
63	Stérile	Pegmatite stérile	10,3	0,2	1,2	0,0	10,1	1,0	8,2	NPAG
64	Stérile	Pegmatite stérile	8,5	0,2	1,2	-0,8	8,3	0,3	6,8	NPAG
65	Stérile	Pegmatite stérile	7,5	0,2	1,2	-0,8	7,3	0,3	6,0	NPAG
66	Stérile	Pegmatite stérile	8,5	0,2	1,2	-0,8	8,3	0,3	6,8	NPAG
67	Stérile	Pegmatite stérile	10,2	0,2	1,2	1,3	10,0	2,0	8,2	NPAG
68	Stérile	Pegmatite stérile	12,0	0,2	1,2	1,6	11,8	2,3	9,6	NPAG
69	Stérile	Pegmatite stérile	11,3	0,2	1,2	-0,8	11,1	0,3	9,1	NPAG
70	Stérile	Pegmatite stérile	9,5	0,2	1,2	-0,8	9,3	0,3	7,6	NPAG
71	Stérile	Pegmatite stérile	8,7	0,9	1,2	-0,8	7,8	0,3	7,0	NPAG
72	Stérile	Pegmatite stérile	13,4	0,2	1,2	0,9	13,2	1,7	10,7	NPAG
73	Stérile	Pegmatite stérile	25,0	20,3	15,3	-14,7	4,7	0,0	1,6	PAG

Bilan acid-base

# échantillon	Type de matériel	Lithologie	pH en pâte	Soufre (total)	SO_4 lixiviable (HCl)	Sulfure	Carbone (total)	Carbonate	CO_3-NP
			Unité pH	%	%S	%S	%C	%C	$kgCaCO_3/t$
74	Minerai	Pegmatite stérile	9,58	0,30	0,04	0,27	0,18	0,12	10,1
75	Minerai	Pegmatite spodumène	9,71	0,10	0,04	0,07	0,28	0,20	16,7
76	Minerai	Pegmatite spodumène	9,44	0,16	0,04	0,15	0,25	0,18	14,8
77	Minerai	Pegmatite spodumène	9,42	0,48	0,09	0,39	0,03	0,01	0,4
78	Minerai	Pegmatite spodumène	9,59	0,01	0,04	0,04	0,03	0,01	0,4
79	Minerai	Pegmatite spodumène	9,26	0,01	0,04	0,04	0,01	0,01	0,4
80	Minerai	Pegmatite spodumène	9,47	0,01	0,04	0,04	0,03	0,01	0,4
81	Minerai	Pegmatite spodumène	9,55	0,01	0,04	0,04	0,03	0,01	0,5
82	Minerai	Pegmatite spodumène	9,34	0,01	0,04	0,04	0,01	0,01	0,4
83	Résidu	Pegmatite traitée	9,23	0,01	0,04	0,04	0,02	0,02	1,6
84	Résidu	Pegmatite traitée	8,72	0,01	0,04	0,04	0,02	0,02	1,2
VIS-CV5-AMP-085	Stérile	Amphibolite	9,76	0,06	0,04	0,05	0,14	0,13	10,8
VIS-CV5-AMP-086	Stérile	Amphibolite	9,73	0,09	0,04	0,08	0,10	0,09	7,8
VIS-CV5-AMP-087	Stérile	Amphibolite	9,7	0,09	0,04	0,06	0,44	0,44	36,7
VIS-CV5-AMP-088	Stérile	Amphibolite	9,45	0,76	0,16	0,6	0,15	0,14	11,8
VIS-CV5-AMP-089	Stérile	Amphibolite	9,48	0,26	0,08	0,18	0,08	0,06	5,2
VIS-CV5-AMP-090	Stérile	Amphibolite	9,44	0,26	0,04	0,24	0,11	0,10	8,0
VIS-CV5-AMP-091	Stérile	Amphibolite	9,72	0,08	0,04	0,06	0,21	0,19	15,8
VIS-CV5-AMP-092	Stérile	Amphibolite	9,38	0,04	0,04	0,03	0,04	0,04	3,4
VIS-CV5-AMP-093	Stérile	Amphibolite	9,45	0,25	0,04	0,2	0,07	0,06	5,2
VIS-CV5-AMP-094	Stérile	Amphibolite	9,84	0,12	0,04	0,1	0,02	0,02	1,5
VIS-CV5-AMP-095	Stérile	Amphibolite	9,8	0,33	0,06	0,27	0,15	0,14	11,5
VIS-CV5-AMP-096	Stérile	Amphibolite	9,73	0,20	0,06	0,14	0,46	0,45	37,5
VIS-CV5-AMP-097	Stérile	Amphibolite	9,64	0,18	0,04	0,16	0,17	0,16	13,5
VIS-CV5-AMP-098	Stérile	Amphibolite	9,48	0,20	0,04	0,19	0,09	0,08	6,8
VIS-CV5-AMP-099	Stérile	Amphibolite	9,84	0,25	0,06	0,19	0,07	0,04	3,5
VIS-CV5-AMP-100	Stérile	Amphibolite	9,31	0,64	0,13	0,51	0,06	0,04	3,7
VIS-CV5-AMP-101	Stérile	Amphibolite	9,04	1,11	0,15	0,97	0,10	0,09	7,8
VIS-CV5-AMP-102	Stérile	Amphibolite	9,62	0,70	0,11	0,6	0,04	0,04	3,0
VIS-CV5-AMP-103	Stérile	Amphibolite	9,33	0,22	0,04	0,19	0,08	0,03	2,7
VIS-CV5-AMP-104	Stérile	Amphibolite	10,02	0,02	0,04	0,02	0,07	0,06	5,0
VIS-CV5-AMP-105	Stérile	Amphibolite	7,17	3,58	0,19	3,39	0,02	0,02	1,9
VIS-CV5-AMP-106	Stérile	Amphibolite	9,96	0,14	0,04	0,1	0,58	0,54	45,4
VIS-CV5-AMP-107	Stérile	Amphibolite	9,87	0,35	0,1	0,25	0,97	0,94	78,4
VIS-CV5-AMP-108	Stérile	Amphibolite	9,66	0,81	0,19	0,62	1,34	1,32	109,9
VIS-CV5-AMP-109	Stérile	Amphibolite	9,45	0,89	0,23	0,66	0,26	0,25	20,5
VIS-CV5-AMP-110	Stérile	Amphibolite	9,82	0,14	0,04	0,12	0,08	0,07	5,8
VIS-CV5-AMP-111	Stérile	Amphibolite	9,61	0,16	0,04	0,13	0,10	0,08	6,5
VIS-CV5-AMP-112	Stérile	Amphibolite	9,97	0,16	0,05	0,11	0,14	0,11	9,3
VIS-CV5-AMP-113	Stérile	Amphibolite	9,67	0,06	0,04	0,04	0,23	0,21	17,8
VIS-CV5-AMP-114	Stérile	Amphibolite	9,6	0,11	0,04	0,09	0,19	0,18	14,8
VIS-CV5-AMP-115	Stérile	Amphibolite	9,07	1,05	0,05	0,99	0,31	0,30	24,7
VIS-CV5-AMP-116	Stérile	Amphibolite	9,99	0,08	0,04	0,06	0,21	0,20	16,5
VIS-CV5-AMP-117	Stérile	Amphibolite	9,95	0,04	0,04	0,04	0,14	0,13	10,7
VIS-CV5-AMP-118	Stérile	Amphibolite	10,08	0,08	0,04	0,08	0,09	0,08	6,3
VIS-CV5-AMP-119	Stérile	Amphibolite	9,75	0,25	0,14	0,11	0,08	0,07	6,0
VIS-CV5-AMP-120	Stérile	Amphibolite	9,81	0,10	0,04	0,08	1,39	1,37	114,1
VIS-CV5-AMP-121	Stérile	Amphibolite	9,96	0,19	0,07	0,13	0,54	0,49	41,2
VIS-CV5-AMP-122	Stérile	Amphibolite	9,46	0,49	0,1	0,38	0,06	0,04	3,7
VIS-CV5-AMP-123	Stérile	Amphibolite	9,54	0,02	0,04	0,02	0,18	0,17	13,8
VIS-CV5-AMP-124	Stérile	Amphibolite	9,89	0,05	0,04	0,04	0,20	0,17	14,0
VIS-CV5-AMP-125	Stérile	Amphibolite	9,76	0,16	0,05	0,11	0,07	0,06	5,2
VIS-CV5-AMP-126	Stérile	Amphibolite	10,09	0,10	0,04	0,07	0,10	0,09	7,8
VIS-CV5-AMP-127	Stérile	Amphibolite	9,96	0,11	0,04	0,08	0,84	0,83	69,0
VIS-CV5-AMP-128	Stérile	Amphibolite	9,81	0,14	0,04	0,11	1,60	1,50	125,4
VIS-CV5-AMP-129	Stérile	Amphibolite	9,71	0,15	0,04	0,15	0,56	0,55	45,9
VIS-CV5-AMP-130	Stérile	Amphibolite	9,83	0,17	0,08	0,1	0,58	0,57	47,5
VIS-CV5-AMP-131	Stérile	Amphibolite	9,75	0,28	0,08	0,2	0,27	0,25	21,2
VIS-CV5-AMP-132	Stérile	Amphibolite	9,9	0,13	0,04	0,09	0,48	0,47	38,9
VIS-CV5-AMP-133	Stérile	Amphibolite	9,45	0,62	0,28	0,33	0,16	0,16	13,0
VIS-CV5-AMP-134	Stérile	Amphibolite	8,98	1,39	0,54	0,85	0,05	0,05	4,3
VIS-CV5-AMP-135	Stérile	Amphibolite	9,69	0,06	0,04	0,02	0,08	0,08	7,0
VIS-CV5-AMP-136	Stérile	Amphibolite	9,94	0,12	0,08	0,04	0,39	0,39	32,7
VIS-CV5-AMP-137	Stérile	Amphibolite	9,77	0,61	0,42	0,18	0,08	0,07	6,0
VIS-CV5-AMP-138	Stérile	Amphibolite	9,88	0,04	0,04	0,01	0,08	0,07	6,2
VIS-CV5-AMP-139	Stérile	Amphibolite	9,92	0,15	0,08	0,07	0,08	0,08	6,7
VIS-CV5-AMP-140	Stérile	Amphibolite	9,13	1,05	0,46	0,59	0,77	0,77	64,0
VIS-CV5-AMP-141	Stérile	Amphibolite	9,26	0,07	0,04	0,02	0,07	0,07	5,8
VIS-CV5-AMP-142	Stérile	Amphibolite	9,74	0,25	0,2	0,05	0,02	0,02	1,5
VIS-CV5-AMP-143	Stérile	Amphibolite	9,65	0,15	0,08	0,07	0,54	0,54	45,0
VIS-CV5-AMP-144	Stérile	Amphibolite	9,74	0,26	0,11	0,15	0,12	0,13	10,5
VIS-CV5-AMP-145	Stérile	Amphibolite	9,78	0,24	0,14	0,09	0,03	0,02	1,8

Bilan acid-base

# échantillon	Type de matériel	Lithologie	Sobek-NP	Sobek-AP	Sulfure-AP	CO_3-NNP	Sobek-NNP	CO_3-NPR	Sobek-NPR	Classification Sobek
			$kgCaCO_3/t$	$kgCaCO_3/t$	$kgCaCO_3/t$	$kgCaCO_3/t$	$kgCaCO_3/t$	S.U.	S.U.	
74	Minerai	Pegmatite stérile	37,4	9,4	8,4	1,7	28,0	1,2	4,4	NPAG
75	Minerai	Pegmatite spodumène	37,4	3,0	2,2	14,5	34,4	7,6	17,1	NPAG
76	Minerai	Pegmatite spodumène	49,2	5,0	4,7	10,1	44,2	3,2	10,5	NPAG
77	Minerai	Pegmatite spodumène	24,2	15,0	12,2	-11,8	9,2	0,0	2,0	PAG
78	Minerai	Pegmatite spodumène	16,5	0,2	1,2	-0,8	16,3	0,3	13,2	NPAG
79	Minerai	Pegmatite spodumène	10,6	0,2	1,2	-0,8	10,4	0,3	8,5	NPAG
80	Minerai	Pegmatite spodumène	18,9	0,2	1,2	-0,8	18,7	0,3	15,1	NPAG
81	Minerai	Pegmatite spodumène	30,9	0,2	1,2	-0,7	30,7	0,4	24,7	NPAG
82	Minerai	Pegmatite spodumène	11,0	0,2	1,2	-0,8	10,8	0,3	8,8	NPAG
83	Résidu	Pegmatite traitée	6,3	0,2	1,2	0,3	6,1	1,3	5,0	NPAG
84	Résidu	Pegmatite traitée	6,0	0,2	1,2	0,0	5,8	1,0	4,8	NPAG
VIS-CV5-AMP-085	Stérile	Amphibolite	19,5	1,8	1,6	9,3	17,7	6,9	12,5	NPAG
VIS-CV5-AMP-086	Stérile	Amphibolite	14,7	2,9	2,5	5,3	11,8	3,1	5,9	NPAG
VIS-CV5-AMP-087	Stérile	Amphibolite	39,8	2,7	1,9	34,8	37,1	19,6	21,3	NPAG
VIS-CV5-AMP-088	Stérile	Amphibolite	17,9	23,6	18,7	-6,9	-5,7	0,6	1,0	PAG
VIS-CV5-AMP-089	Stérile	Amphibolite	15,9	8,2	5,6	-0,4	7,7	0,9	2,8	NPAG
VIS-CV5-AMP-090	Stérile	Amphibolite	16,6	8,0	7,5	0,5	8,6	1,1	2,2	NPAG
VIS-CV5-AMP-091	Stérile	Amphibolite	22,8	2,4	1,9	14,0	20,4	8,5	12,2	NPAG
VIS-CV5-AMP-092	Stérile	Amphibolite	11,3	1,2	0,9	2,5	10,1	3,6	12,1	NPAG
VIS-CV5-AMP-093	Stérile	Amphibolite	13,1	7,8	6,2	-1,1	5,3	0,8	2,1	NPAG
VIS-CV5-AMP-094	Stérile	Amphibolite	8,7	3,8	3,1	-1,6	4,9	0,5	2,8	NPAG
VIS-CV5-AMP-095	Stérile	Amphibolite	18,2	10,2	8,4	3,1	8,0	1,4	2,2	NPAG
VIS-CV5-AMP-096	Stérile	Amphibolite	41,2	6,2	4,4	33,1	35,0	8,6	9,4	NPAG
VIS-CV5-AMP-097	Stérile	Amphibolite	22,1	5,7	5,0	8,5	16,4	2,7	4,4	NPAG
VIS-CV5-AMP-098	Stérile	Amphibolite	14,6	6,1	5,9	0,9	8,5	1,2	2,5	NPAG
VIS-CV5-AMP-099	Stérile	Amphibolite	13,2	7,8	5,9	-2,4	5,4	0,6	2,2	NPAG
VIS-CV5-AMP-100	Stérile	Amphibolite	14,7	20,0	15,9	-12,3	-5,3	0,2	0,9	PAG
VIS-CV5-AMP-101	Stérile	Amphibolite	19,0	34,6	30,3	-22,4	-15,6	0,3	0,6	PAG
VIS-CV5-AMP-102	Stérile	Amphibolite	13,4	21,9	18,7	-15,7	-8,5	0,2	0,7	PAG
VIS-CV5-AMP-103	Stérile	Amphibolite	14,8	6,9	5,9	-3,3	7,9	0,4	2,5	NPAG
VIS-CV5-AMP-104	Stérile	Amphibolite	13,1	0,6	0,6	4,4	12,5	8,0	21,0	NPAG
VIS-CV5-AMP-105	Stérile	Amphibolite	9,3	111,7	105,8	-103,9	-102,4	0,0	0,1	PAG
VIS-CV5-AMP-106	Stérile	Amphibolite	49,1	4,3	3,1	42,2	44,8	14,5	15,7	NPAG
VIS-CV5-AMP-107	Stérile	Amphibolite	79,3	10,9	7,8	70,6	68,4	10,0	10,2	NPAG
VIS-CV5-AMP-108	Stérile	Amphibolite	111,0	25,4	19,4	90,5	85,6	5,7	5,7	NPAG
VIS-CV5-AMP-109	Stérile	Amphibolite	26,2	27,7	20,6	-0,1	-1,5	1,0	1,3	PAG
VIS-CV5-AMP-110	Stérile	Amphibolite	11,3	4,4	3,7	2,1	6,9	1,6	3,0	NPAG
VIS-CV5-AMP-111	Stérile	Amphibolite	15,7	5,0	4,1	2,4	10,7	1,6	3,9	NPAG
VIS-CV5-AMP-112	Stérile	Amphibolite	18,5	4,8	3,4	5,9	13,7	2,7	5,4	NPAG
VIS-CV5-AMP-113	Stérile	Amphibolite	27,9	1,7	1,2	16,6	26,2	14,3	22,3	NPAG
VIS-CV5-AMP-114	Stérile	Amphibolite	25,5	3,5	2,8	12,0	22,0	5,3	9,1	NPAG
VIS-CV5-AMP-115	Stérile	Amphibolite	33,1	32,8	30,9	-6,2	0,3	0,8	1,1	PAG
VIS-CV5-AMP-116	Stérile	Amphibolite	25,3	2,4	1,9	14,6	22,9	8,8	13,5	NPAG
VIS-CV5-AMP-117	Stérile	Amphibolite	20,0	1,3	1,2	9,4	18,7	8,5	16,0	NPAG
VIS-CV5-AMP-118	Stérile	Amphibolite	15,5	2,6	2,5	3,8	12,9	2,5	6,2	NPAG
VIS-CV5-AMP-119	Stérile	Amphibolite	12,4	7,7	3,4	2,6	4,7	1,7	3,6	NPAG
VIS-CV5-AMP-120	Stérile	Amphibolite	115,0	3,2	2,5	111,6	111,8	45,7	46,1	NPAG
VIS-CV5-AMP-121	Stérile	Amphibolite	46,6	6,1	4,1	37,1	40,5	10,2	11,5	NPAG
VIS-CV5-AMP-122	Stérile	Amphibolite	10,3	15,3	11,9	-8,2	-5,0	0,3	0,9	PAG
VIS-CV5-AMP-123	Stérile	Amphibolite	23,6	0,7	0,6	13,2	22,9	22,2	37,8	NPAG
VIS-CV5-AMP-124	Stérile	Amphibolite	23,2	1,6	1,2	12,8	21,6	11,2	18,6	NPAG
VIS-CV5-AMP-125	Stérile	Amphibolite	9,4	4,9	3,4	1,7	4,5	1,5	2,7	NPAG
VIS-CV5-AMP-126	Stérile	Amphibolite	16,0	3,1	2,2	5,7	12,9	3,6	7,3	NPAG
VIS-CV5-AMP-127	Stérile	Amphibolite	73,2	3,4	2,5	66,5	69,8	27,6	29,3	NPAG
VIS-CV5-AMP-128	Stérile	Amphibolite	134,0	4,4	3,4	122,0	129,6	36,5	39,0	NPAG
VIS-CV5-AMP-129	Stérile	Amphibolite	52,0	4,7	4,7	41,2	47,3	9,8	11,1	NPAG
VIS-CV5-AMP-130	Stérile	Amphibolite	54,3	5,4	3,1	44,4	48,9	15,2	17,4	NPAG
VIS-CV5-AMP-131	Stérile	Amphibolite	27,6	8,6	6,2	14,9	19,0	3,4	4,4	NPAG
VIS-CV5-AMP-132	Stérile	Amphibolite	44,7	4,0	2,8	36,0	40,7	13,8	15,9	NPAG
VIS-CV5-AMP-133	Stérile	Amphibolite	22,3	19,2	10,3	2,7	3,1	1,3	2,2	NPAG
VIS-CV5-AMP-134	Stérile	Amphibolite	13,2	43,4	26,5	-22,2	-30,2	0,2	0,5	PAG
VIS-CV5-AMP-135	Stérile	Amphibolite	16,5	1,7	0,6	6,4	14,8	11,2	26,4	NPAG
VIS-CV5-AMP-136	Stérile	Amphibolite	39,1	3,7	1,2	31,4	35,4	26,2	31,3	NPAG
VIS-CV5-AMP-137	Stérile	Amphibolite	17,0	18,9	5,6	0,4	-1,9	1,1	3,0	NPAG
VIS-CV5-AMP-138	Stérile	Amphibolite	15,9	1,3	0,3	5,9	14,6	19,8	50,9	NPAG
VIS-CV5-AMP-139	Stérile	Amphibolite	14,6	4,7	2,2	4,5	9,9	3,1	6,7	NPAG
VIS-CV5-AMP-140	Stérile	Amphibolite	68,1	32,8	18,4	45,6	35,3	3,5	3,7	NPAG
VIS-CV5-AMP-141	Stérile	Amphibolite	15,8	2,1	0,6	5,2	13,7	9,3	25,3	NPAG
VIS-CV5-AMP-142	Stérile	Amphibolite	9,8	7,8	1,6	-0,1	2,0	1,0	6,3	NPAG
VIS-CV5-AMP-143	Stérile	Amphibolite	56,4	4,7	2,2	42,8	51,7	20,6	25,8	NPAG
VIS-CV5-AMP-144	Stérile	Amphibolite	20,2	8,1	4,7	5,8	12,1	2,2	4,3	NPAG
VIS-CV5-AMP-145	Stérile	Amphibolite	12,3	7,4	2,8	-1,0	4,9	0,7	4,4	NPAG

Bilan acid-base

# échantillon	Type de matériel	Lithologie	pH en pâte	Soufre (total)	SO_4 lixiviable (HCl)	Sulfure	Carbone (total)	Carbonate	CO_3-NP
			Unité pH	%	%S	%S	%C	%C	$kgCaCO_3/t$
VIS-CV5-AMP-146	Stérile	Amphibolite	9,75	0,13	0,09	0,04	0,02	0,02	2,0
VIS-CV5-AMP-147	Stérile	Amphibolite	10,17	0,08	0,05	0,03	0,24	0,24	20,2
VIS-CV5-AMP-148	Stérile	Amphibolite	10,12	0,19	0,16	0,03	0,21	0,19	16,2
VIS-CV5-AMP-149	Stérile	Amphibolite	9,92	0,11	0,07	0,04	0,03	0,03	2,7
VIS-CV5-AMP-150	Stérile	Amphibolite	9,67	0,22	0,12	0,1	0,09	0,08	6,7
VIS-CV5-AMP-151	Stérile	Amphibolite	9,92	0,13	0,08	0,05	0,46	0,44	37,0
VIS-CV5-AMP-152	Stérile	Amphibolite	10	0,02	0,04	0,01	0,02	0,02	1,3
VIS-CV5-AMP-153	Stérile	Amphibolite	9,25	0,07	0,05	0,02	0,03	0,03	2,3
VIS-CV5-AMP-154	Stérile	Amphibolite	9,87	0,11	0,05	0,06	0,04	0,02	1,7
VIS-CV5-AMP-155	Stérile	Amphibolite	9,81	0,02	0,04	0,01	0,12	0,09	7,2
VIS-CV5-AMP-156	Stérile	Amphibolite	10,05	0,11	0,04	0,06	1,53	1,50	125,4
VIS-CV5-AMP-157	Stérile	Amphibolite	10,03	0,13	0,05	0,08	0,23	0,21	17,5
VIS-CV5-AMP-158	Stérile	Amphibolite	9,96	0,05	0,04	0,02	0,08	0,05	4,2
VIS-CV5-AMP-159	Stérile	Amphibolite	9,8	0,10	0,05	0,05	0,06	0,03	2,7
VIS-CV5-AMP-160	Stérile	Amphibolite	9,8	0,05	0,04	0,03	0,29	0,28	23,0
VIS-CV5-AMP-161	Stérile	Amphibolite	10,11	0,30	0,16	0,14	0,12	0,10	8,0
VIS-CV5-AMP-162	Stérile	Amphibolite	9,95	0,16	0,06	0,09	0,10	0,07	6,2
VIS-CV5-AMP-163	Stérile	Amphibolite	8,98	4,02	1,05	2,97	0,09	0,05	4,2
VIS-CV5-AMP-164	Stérile	Amphibolite	9,92	0,13	0,06	0,07	0,26	0,23	19,0
VIS-CV5-AMP-165	Stérile	Amphibolite	9,53	0,07	0,04	0,04	0,04	0,02	1,5
VIS-CV5-AMP-166	Stérile	Amphibolite	9,92	0,09	0,06	0,03	0,29	0,26	21,8
VIS-CV5-AMP-167	Stérile	Amphibolite	9,02	0,79	0,1	0,68	0,07	0,04	3,3
VIS-CV5-AMP-168	Stérile	Amphibolite	9,83	0,03	0,04	0,02	0,23	0,21	17,7
VIS-CV5-AMP-169	Stérile	Amphibolite	9,79	0,09	0,05	0,04	0,06	0,02	2,0
VIS-CV5-AMP-170	Stérile	Amphibolite	9,68	0,40	0,18	0,22	0,10	0,07	6,0
VIS-CV5-AMP-171	Stérile	Amphibolite	9,67	0,14	0,07	0,07	0,14	0,10	8,5
VIS-CV5-AMP-172	Stérile	Amphibolite	10,03	0,13	0,07	0,06	0,56	0,53	44,2
VIS-CV5-AMP-173	Stérile	Amphibolite	9,32	0,07	0,04	0,04	0,16	0,13	10,8
VIS-CV5-AMP-174	Stérile	Amphibolite	9,28	0,16	0,06	0,11	0,45	0,43	35,5
VIS-CV5-AMP-175	Stérile	Amphibolite	9,39	0,11	0,05	0,06	0,32	0,29	24,0
VIS-CV5-AMP-176	Stérile	Amphibolite	9,87	0,03	0,04	0,02	0,02	0,02	2,0
VIS-CV5-AMP-177	Stérile	Amphibolite	9,72	0,17	0,07	0,1	0,02	0,02	1,7
VIS-CV5-AMP-178	Stérile	Amphibolite	9,76	0,11	0,04	0,06	0,05	0,05	3,9
VIS-CV5-AMP-179	Stérile	Amphibolite	9,62	0,21	0,1	0,11	0,08	0,05	4,5
VIS-CV5-AMP-180	Stérile	Amphibolite	9,26	0,26	0,11	0,16	0,02	0,02	1,7
VIS-CV5-AMP-181	Stérile	Amphibolite	9,57	0,37	0,13	0,24	0,10	0,09	7,7
VIS-CV5-AMP-182	Stérile	Amphibolite	9,92	0,08	0,04	0,04	0,02	0,02	1,5
VIS-CV5-MS-183	Stérile	Métasédiment	9,98	0,17	0,08	0,09	0,05	0,04	3,7
VIS-CV5-MS-184	Stérile	Métasédiment	9,83	0,42	0,15	0,27	0,13	0,13	10,7
VIS-CV5-MS-185	Stérile	Métasédiment	9,51	0,66	0,14	0,52	0,03	0,02	1,5
VIS-CV5-MS-186	Stérile	Métasédiment	9,42	0,62	0,19	0,42	0,05	0,04	3,3
VIS-CV5-MS-187	Stérile	Métasédiment	9,75	0,90	0,23	0,67	0,32	0,30	24,8
VIS-CV5-MS-188	Stérile	Métasédiment	10,13	0,01	0,04	0,01	0,03	0,03	2,2
VIS-CV5-MS-189	Stérile	Métasédiment	10,08	0,04	0,04	0,01	0,11	0,09	7,7
VIS-CV5-MS-190	Stérile	Métasédiment	10,2	0,01	0,04	0,01	0,06	0,05	4,3
VIS-CV5-MS-191	Stérile	Métasédiment	9,18	0,11	0,07	0,04	0,12	0,11	8,8
VIS-CV5-MS-192	Stérile	Métasédiment	9,83	0,01	0,04	0,01	0,07	0,06	5,3
VIS-CV5-MS-193	Stérile	Métasédiment	9,59	0,01	0,04	0,01	0,06	0,06	4,8
VIS-CV5-MS-194	Stérile	Métasédiment	9,15	0,03	0,04	0,01	0,03	0,03	2,2
VIS-CV5-MS-195	Stérile	Métasédiment	8,31	4,16	0,64	3,52	1,84	1,84	152,9
VIS-CV5-MS-196	Stérile	Métasédiment	8,45	3,16	0,33	2,82	1,53	1,51	126,2
VIS-CV5-MS-197	Stérile	Métasédiment	8,49	4,92	0,68	4,24	1,67	1,60	133,4
VIS-CV5-MS-198	Stérile	Métasédiment	9,42	0,46	0,16	0,29	0,08	0,08	6,3
VIS-CV5-MS-199	Stérile	Métasédiment	9,55	0,26	0,1	0,16	0,04	0,04	3,2
VIS-CV5-MS-200	Stérile	Métasédiment	9,76	0,05	0,04	0,02	0,05	0,05	4,0
VIS-CV5-MS-201	Stérile	Métasédiment	9,16	1,09	0,27	0,82	0,02	0,02	1,5
VIS-CV5-MS-202	Stérile	Métasédiment	5,2	6,34	0,13	6,22	0,03	0,04	3,5
VIS-CV5-MS-203	Stérile	Métasédiment	8,27	0,35	0,12	0,22	0,04	0,05	4,5
VIS-CV5-MS-204	Stérile	Métasédiment	9,57	0,04	0,04	0,02	0,07	0,10	8,2
VIS-CV5-MS-205	Stérile	Métasédiment	10,14	0,19	0,09	0,09	0,01	0,03	2,5
VIS-CV5-MS-206	Stérile	Métasédiment	9,37	0,19	0,06	0,12	0,02	0,02	1,8
VIS-CV5-MS-207	Stérile	Métasédiment	9,1	0,59	0,15	0,44	0,03	0,03	2,7
VIS-CV5-MS-208	Stérile	Métasédiment	10	0,10	0,06	0,04	0,08	0,10	8,5
VIS-CV5-MS-209	Stérile	Métasédiment	9,86	0,12	0,04	0,1	0,06	0,09	7,3
VIS-CV5-MS-210	Stérile	Métasédiment	9,59	0,88	0,17	0,7	0,01	0,05	3,8
VIS-CV5-MS-211	Stérile	Métasédiment	10,24	0,13	0,06	0,06	0,03	0,05	4,0
VIS-CV5-MS-212	Stérile	Métasédiment	9,95	0,30	0,13	0,17	0,07	0,08	6,7
VIS-CV5-MS-213	Stérile	Métasédiment	10,18	0,02	0,04	0,01	0,14	0,14	11,5
VIS-CV5-MS-214	Stérile	Métasédiment	9,69	0,01	0,04	0,01	0,02	0,04	3,2
VIS-CV5-MS-215	Stérile	Métasédiment	10,07	0,18	0,07	0,11	0,06	0,07	6,2
VIS-CV5-MS-216	Stérile	Métasédiment	9,57	0,38	0,1	0,28	0,12	0,14	11,8
VIS-CV5-MS-217	Stérile	Métasédiment	10,04	0,01	0,04	0,01	0,07	0,10	8,0

Bilan acid-base

# échantillon	Type de matériel	Lithologie	Sobek-NP	Sobek-AP	Sulfure-AP	CO_3-NNP	Sobek-NNP	CO_3-NPR	Sobek-NPR	Classification Sobek
			kg$CaCO_3$/t	kg$CaCO_3$/t	kg$CaCO_3$/t	kg$CaCO_3$/t	kg$CaCO_3$/t	S.U.	S.U.	
VIS-CV5-AMP-146	Stérile	Amphibolite	10,3	3,9	1,2	0,8	6,4	1,6	8,2	NPAG
VIS-CV5-AMP-147	Stérile	Amphibolite	30,1	2,4	0,9	19,2	27,7	21,5	32,1	NPAG
VIS-CV5-AMP-148	Stérile	Amphibolite	25,4	6,0	0,9	15,2	19,4	17,3	27,1	NPAG
VIS-CV5-AMP-149	Stérile	Amphibolite	12,5	3,5	1,2	1,4	9,0	2,1	10,0	NPAG
VIS-CV5-AMP-150	Stérile	Amphibolite	17,3	7,0	3,1	3,5	10,3	2,1	5,5	NPAG
VIS-CV5-AMP-151	Stérile	Amphibolite	42,7	4,1	1,6	35,5	38,6	23,7	27,4	NPAG
VIS-CV5-AMP-152	Stérile	Amphibolite	10,2	0,5	0,3	1,0	9,7	4,3	32,7	NPAG
VIS-CV5-AMP-153	Stérile	Amphibolite	16,8	2,2	0,6	1,7	14,6	3,7	26,9	NPAG
VIS-CV5-AMP-154	Stérile	Amphibolite	10,4	3,3	1,9	-0,2	7,1	0,9	5,6	NPAG
VIS-CV5-AMP-155	Stérile	Amphibolite	18,3	0,6	0,3	6,9	17,7	23,0	58,6	NPAG
VIS-CV5-AMP-156	Stérile	Amphibolite	128,0	3,4	1,9	123,5	124,6	67,0	68,3	NPAG
VIS-CV5-AMP-157	Stérile	Amphibolite	27,0	4,0	2,5	15,0	23,0	7,0	10,8	NPAG
VIS-CV5-AMP-158	Stérile	Amphibolite	12,3	1,7	0,6	3,5	10,6	6,7	19,7	NPAG
VIS-CV5-AMP-159	Stérile	Amphibolite	14,0	3,0	1,6	1,1	11,0	1,7	9,0	NPAG
VIS-CV5-AMP-160	Stérile	Amphibolite	32,9	1,6	0,9	22,1	31,3	24,6	35,1	NPAG
VIS-CV5-AMP-161	Stérile	Amphibolite	19,1	9,3	4,4	3,6	9,8	1,8	4,4	NPAG
VIS-CV5-AMP-162	Stérile	Amphibolite	23,3	4,8	2,8	3,4	18,5	2,2	8,3	NPAG
VIS-CV5-AMP-163	Stérile	Amphibolite	14,0	125,5	92,7	-88,5	-111,5	0,0	0,2	PAG
VIS-CV5-AMP-164	Stérile	Amphibolite	28,9	4,0	2,2	16,8	24,9	8,7	13,2	NPAG
VIS-CV5-AMP-165	Stérile	Amphibolite	14,9	2,1	1,2	0,3	12,8	1,2	11,9	NPAG
VIS-CV5-AMP-166	Stérile	Amphibolite	34,3	2,8	0,9	20,9	31,5	23,3	36,6	NPAG
VIS-CV5-AMP-167	Stérile	Amphibolite	18,0	24,6	21,2	-17,9	-6,6	0,2	0,8	PAG
VIS-CV5-AMP-168	Stérile	Amphibolite	29,4	0,8	0,6	17,1	28,6	28,3	47,1	NPAG
VIS-CV5-AMP-169	Stérile	Amphibolite	11,1	2,8	1,2	0,8	8,3	1,6	8,9	NPAG
VIS-CV5-AMP-170	Stérile	Amphibolite	15,6	12,3	6,9	-0,9	3,3	0,9	2,3	NPAG
VIS-CV5-AMP-171	Stérile	Amphibolite	17,4	4,3	2,2	6,3	13,1	3,9	8,0	NPAG
VIS-CV5-AMP-172	Stérile	Amphibolite	50,1	4,0	1,9	42,3	46,1	23,6	26,8	NPAG
VIS-CV5-AMP-173	Stérile	Amphibolite	21,8	2,1	1,2	9,6	19,7	8,7	17,5	NPAG
VIS-CV5-AMP-174	Stérile	Amphibolite	47,8	5,1	3,4	32,1	42,7	10,3	13,9	NPAG
VIS-CV5-AMP-175	Stérile	Amphibolite	30,8	3,6	1,9	22,1	27,2	12,8	16,4	NPAG
VIS-CV5-AMP-176	Stérile	Amphibolite	9,1	0,9	0,6	1,4	8,2	3,2	14,6	NPAG
VIS-CV5-AMP-177	Stérile	Amphibolite	9,9	5,2	3,1	-1,4	4,7	0,6	3,2	NPAG
VIS-CV5-AMP-178	Stérile	Amphibolite	10,9	3,4	1,9	2,0	7,5	2,1	5,8	NPAG
VIS-CV5-AMP-179	Stérile	Amphibolite	16,1	6,5	3,4	1,1	9,6	1,3	4,7	NPAG
VIS-CV5-AMP-180	Stérile	Amphibolite	16,6	8,2	5,0	-3,2	8,4	0,4	3,3	NPAG
VIS-CV5-AMP-181	Stérile	Amphibolite	15,0	11,7	7,5	0,2	3,3	1,0	2,0	NPAG
VIS-CV5-AMP-182	Stérile	Amphibolite	8,6	2,4	1,2	0,3	6,2	1,2	6,9	NPAG
VIS-CV5-MS-183	Stérile	Métasédiment	10,1	5,2	2,8	0,9	4,9	1,3	3,6	NPAG
VIS-CV5-MS-184	Stérile	Métasédiment	19,8	13,0	8,4	2,2	6,8	1,3	2,3	NPAG
VIS-CV5-MS-185	Stérile	Métasédiment	8,4	20,6	16,2	-14,7	-12,2	0,1	0,5	PAG
VIS-CV5-MS-186	Stérile	Métasédiment	8,6	19,2	13,1	-9,8	-10,6	0,3	0,7	PAG
VIS-CV5-MS-187	Stérile	Métasédiment	30,5	28,1	20,9	3,9	2,4	1,2	1,5	PAG
VIS-CV5-MS-188	Stérile	Métasédiment	10,7	0,3	0,3	1,9	10,4	6,9	34,3	NPAG
VIS-CV5-MS-189	Stérile	Métasédiment	14,1	1,3	0,3	7,4	12,8	24,6	45,2	NPAG
VIS-CV5-MS-190	Stérile	Métasédiment	10,4	0,2	0,3	4,0	10,2	13,9	33,3	NPAG
VIS-CV5-MS-191	Stérile	Métasédiment	18,5	3,4	1,2	7,6	15,1	7,1	14,8	NPAG
VIS-CV5-MS-192	Stérile	Métasédiment	12,3	0,2	0,3	5,0	12,1	17,1	39,4	NPAG
VIS-CV5-MS-193	Stérile	Métasédiment	14,2	0,2	0,3	4,5	14,0	15,5	45,5	NPAG
VIS-CV5-MS-194	Stérile	Métasédiment	14,1	0,9	0,3	1,9	13,2	6,9	45,2	NPAG
VIS-CV5-MS-195	Stérile	Métasédiment	138,0	129,8	109,9	43,0	8,2	1,4	1,3	PAG
VIS-CV5-MS-196	Stérile	Métasédiment	119,0	98,6	88,0	38,2	20,4	1,4	1,4	PAG
VIS-CV5-MS-197	Stérile	Métasédiment	121,0	153,6	132,3	1,1	-32,6	1,0	0,9	PAG
VIS-CV5-MS-198	Stérile	Métasédiment	14,6	14,3	9,1	-2,7	0,3	0,7	1,6	PAG
VIS-CV5-MS-199	Stérile	Métasédiment	10,0	8,2	5,0	-1,8	1,8	0,6	2,0	NPAG
VIS-CV5-MS-200	Stérile	Métasédiment	8,5	1,5	0,6	3,4	7,0	6,4	13,6	NPAG
VIS-CV5-MS-201	Stérile	Métasédiment	6,8	34,0	25,6	-24,1	-27,2	0,1	0,3	PAG
VIS-CV5-MS-202	Stérile	Métasédiment	5,7	197,9	194,1	-190,6	-192,2	0,0	0,0	PAG
VIS-CV5-MS-203	Stérile	Métasédiment	4,7	10,8	6,9	-2,4	-6,1	0,7	0,7	PAG
VIS-CV5-MS-204	Stérile	Métasédiment	13,7	1,2	0,6	7,5	12,5	13,1	21,9	NPAG
VIS-CV5-MS-205	Stérile	Métasédiment	6,3	5,8	2,8	-0,3	0,5	0,9	2,2	NPAG
VIS-CV5-MS-206	Stérile	Métasédiment	10,3	5,8	3,7	-1,9	4,5	0,5	2,7	NPAG
VIS-CV5-MS-207	Stérile	Métasédiment	6,9	18,4	13,7	-11,1	-11,5	0,2	0,5	PAG
VIS-CV5-MS-208	Stérile	Métasédiment	8,0	3,0	1,2	7,3	5,0	6,8	6,4	NPAG
VIS-CV5-MS-209	Stérile	Métasédiment	12,1	3,8	3,1	4,2	8,3	2,4	3,9	NPAG
VIS-CV5-MS-210	Stérile	Métasédiment	5,9	27,4	21,8	-18,0	-21,5	0,2	0,3	PAG
VIS-CV5-MS-211	Stérile	Métasédiment	6,0	4,0	1,9	2,1	2,0	2,1	3,2	NPAG
VIS-CV5-MS-212	Stérile	Métasédiment	9,0	9,5	5,3	1,4	-0,5	1,3	1,7	PAG
VIS-CV5-MS-213	Stérile	Métasédiment	18,2	0,5	0,3	11,2	17,7	36,9	58,3	NPAG
VIS-CV5-MS-214	Stérile	Métasédiment	8,3	0,3	0,3	2,9	8,0	10,2	26,6	NPAG
VIS-CV5-MS-215	Stérile	Métasédiment	13,7	5,6	3,4	2,7	8,1	1,8	4,0	NPAG
VIS-CV5-MS-216	Stérile	Métasédiment	21,5	11,9	8,7	3,1	9,6	1,4	2,5	NPAG
VIS-CV5-MS-217	Stérile	Métasédiment	11,6	0,3	0,3	7,7	11,3	25,6	37,2	NPAG

Bilan acid-base

# échantillon	Type de matériel	Lithologie	pH en pâte	Soufre (total)	SO_4 lixiviable (HCl)	Sulfure	Carbone (total)	Carbonate	CO_3-NP
			Unité pH	%	%S	%S	%C	%C	$kgCaCO_3/t$
VIS-CV5-MS-218	Stérile	Métasédiment	10,14	0,01	0,04	0,01	0,06	0,09	7,2
VIS-CV5-MS-219	Stérile	Métasédiment	10,05	0,01	0,04	0,01	0,16	0,17	14,3
VIS-CV5-MS-220	Stérile	Métasédiment	9,17	0,92	0,45	0,47	0,01	0,03	2,8
VIS-CV5-MS-221	Stérile	Métasédiment	9,63	0,95	0,4	0,56	0,19	0,18	14,8
VIS-CV5-MS-222	Stérile	Métasédiment	9,54	0,05	0,04	0,03	0,07	0,09	7,7
VIS-CV5-MS-223	Stérile	Métasédiment	9,75	0,19	0,09	0,1	0,10	0,03	2,3
VIS-CV5-MS-224	Stérile	Métasédiment	9,23	0,49	0,16	0,33	0,01	0,01	1,1
VIS-CV5-MS-225	Stérile	Métasédiment	9,59	0,01	0,04	0,01	0,04	0,04	3,0
VIS-CV5-MS-226	Stérile	Métasédiment	9,67	0,17	0,08	0,09	0,54	0,53	44,5
VIS-CV5-MS-227	Stérile	Métasédiment	8,54	1,76	0,37	1,4	0,03	0,02	2,0
VIS-CV5-MS-228	Stérile	Métasédiment	10	0,04	0,04	0,01	0,03	0,03	2,5
VIS-CV5-MS-229	Stérile	Métasédiment	8,99	2,01	0,41	1,6	0,11	0,09	7,7
VIS-CV5-MS-230	Stérile	Métasédiment	9,59	0,29	0,08	0,2	0,13	0,11	9,0
VIS-CV5-MS-231	Stérile	Métasédiment	8,57	1,06	0,26	0,8	0,02	0,02	1,5
VIS-CV5-MS-232	Stérile	Métasédiment	9,57	0,09	0,04	0,05	0,01	0,01	1,2
VIS-CV5-MS-233	Stérile	Métasédiment	9,48	0,01	0,04	0,01	0,01	0,01	1,1
VIS-CV5-MS-234	Stérile	Métasédiment	9,84	0,31	0,11	0,2	0,10	0,10	7,9
VIS-CV5-MS-235	Stérile	Métasédiment	10	0,02	0,04	0,01	0,04	0,02	1,8
VIS-CV5-MS-236	Stérile	Métasédiment	9,68	0,01	0,04	0,01	0,06	0,04	3,2
VIS-CV5-MS-237	Stérile	Métasédiment	9,64	0,01	0,04	0,01	0,02	0,02	1,7
VIS-CV5-MS-238	Stérile	Métasédiment	9,9	0,03	0,04	0,02	0,11	0,10	8,2
VIS-CV5-MS-239	Stérile	Métasédiment	9,59	0,55	0,1	0,45	0,10	0,08	6,8
VIS-CV5-MS-240	Stérile	Métasédiment	10,12	0,12	0,08	0,04	0,04	0,02	1,7
VIS-CV5-MS-241	Stérile	Métasédiment	10,01	0,17	0,07	0,1	0,02	0,02	1,7
VIS-CV5-MS-242	Stérile	Métasédiment	9,98	0,03	0,04	0,02	0,10	0,08	6,7
VIS-CV5-MS-243	Stérile	Métasédiment	9,76	0,01	0,04	0,01	0,06	0,04	3,2
VIS-CV5-MS-244	Stérile	Métasédiment	10,18	0,01	0,04	0,01	0,10	0,09	7,3
VIS-CV5-MS-245	Stérile	Métasédiment	10,05	0,01	0,04	0,01	0,06	0,04	3,3
VIS-CV5-MS-246	Stérile	Métasédiment	10,06	0,01	0,04	0,01	0,03	0,02	1,5
VIS-CV5-MS-247	Stérile	Métasédiment	10,2	0,10	0,07	0,02	0,02	0,02	1,7
VIS-CV5-MS-248	Stérile	Métasédiment	9,99	0,01	0,04	0,01	0,18	0,17	14,0
VIS-CV5-MS-249	Stérile	Métasédiment	10,22	0,01	0,04	0,01	0,08	0,06	5,3
VIS-CV5-MS-250	Stérile	Métasédiment	9,14	0,65	0,19	0,46	0,24	0,21	17,5
VIS-CV5-MS-251	Stérile	Métasédiment	9,59	0,18	0,05	0,13	0,03	0,02	1,3
VIS-CV5-MS-252	Stérile	Métasédiment	9,51	0,01	0,04	0,01	0,05	0,03	2,8
VIS-CV5-MS-253	Stérile	Métasédiment	7,5	5,08	0,97	4,11	0,04	0,04	3,0
VIS-CV5-MS-254	Stérile	Métasédiment	9,79	0,02	0,04	0,01	0,05	0,02	1,7
VIS-CV5-MS-255	Stérile	Métasédiment	9,92	0,20	0,04	0,15	0,07	0,04	3,0
VIS-CV5-MS-256	Stérile	Métasédiment	9,75	0,49	0,12	0,37	0,04	0,01	1,0
VIS-CV5-MS-257	Stérile	Métasédiment	9,54	0,09	0,08	0,01	0,04	0,02	1,7
VIS-CV5-MS-258	Stérile	Métasédiment	9,85	0,02	0,04	0,01	0,04	0,02	2,0
VIS-CV5-PEG-259	Stérile	Pegmatite stérile	9,79	0,07	0,04	0,02	0,13	0,10	8,2
VIS-CV5-PEG-260	Stérile	Pegmatite stérile	9,3	0,01	0,04	0,01	0,04	0,02	1,5
VIS-CV5-PEG-261	Stérile	Pegmatite stérile	9,65	0,01	0,04	0,01	0,03	0,01	0,8
VIS-CV5-PEG-262	Stérile	Pegmatite stérile	10,09	0,01	0,04	0,01	0,02	0,02	2,0
VIS-CV5-PEG-263	Stérile	Pegmatite stérile	10,01	0,01	0,04	0,01	0,02	0,02	1,7
VIS-CV5-PEG-264	Stérile	Pegmatite stérile	10,58	0,01	0,04	0,01	0,03	0,01	1,0
VIS-CV5-PEG-265	Stérile	Pegmatite stérile	10,47	0,01	0,04	0,01	0,04	0,04	3,0
VIS-CV5-PEG-266	Stérile	Pegmatite stérile	9,47	0,01	0,04	0,01	0,04	0,04	2,9
VIS-CV5-PEG-267	Stérile	Pegmatite stérile	9,01	0,01	0,04	0,01	0,04	0,04	3,2
VIS-CV5-PEG-268	Stérile	Pegmatite stérile	9,42	0,01	0,04	0,01	0,04	0,04	3,1
VIS-CV5-PEG-269	Stérile	Pegmatite stérile	10,12	0,01	0,04	0,01	0,04	0,04	3,1
VIS-CV5-PEG-270	Stérile	Pegmatite stérile	10,17	0,01	0,04	0,01	0,09	0,07	5,5
VIS-CV5-PEG-271	Stérile	Pegmatite stérile	10,09	0,01	0,04	0,01	0,01	0,01	0,8
VIS-CV5-PEG-272	Stérile	Pegmatite stérile	10,05	0,01	0,04	0,01	0,02	0,02	1,3
VIS-CV5-PEG-273	Stérile	Pegmatite stérile	10,18	0,01	0,04	0,01	0,02	0,02	1,7
VIS-CV5-PEG-274	Stérile	Pegmatite stérile	9,74	0,01	0,04	0,01	0,10	0,08	7,0
VIS-CV5-PEG-275	Stérile	Pegmatite stérile	10,3	0,01	0,04	0,01	0,02	0,02	1,6
VIS-CV5-PEG-276	Stérile	Pegmatite stérile	10,01	0,01	0,04	0,01	0,02	0,02	1,3
VIS-CV5-PEG-277	Stérile	Pegmatite stérile	10,02	0,01	0,04	0,01	0,02	0,02	2,0
VIS-CV5-PEG-278	Stérile	Pegmatite stérile	9,68	0,01	0,04	0,01	0,02	0,02	1,7
VIS-CV5-UM-279	Stérile	Ultramafique	9,5	0,57	0,24	0,33	2,56	2,50	208,4
VIS-CV5-UM-280	Stérile	Ultramafique	9,48	0,02	0,04	0,01	0,45	0,39	32,7
VIS-CV5-UM-281	Stérile	Ultramafique	9,92	0,31	0,11	0,2	0,09	0,04	3,7
VIS-CV5-UM-282	Stérile	Ultramafique	9,3	0,04	0,04	0,02	0,04	0,04	3,2
VIS-CV5-UM-283	Stérile	Ultramafique	9,54	0,23	0,05	0,18	2,71	2,64	220,1
VIS-CV5-UM-284	Stérile	Ultramafique	9,58	0,09	0,04	0,06	2,13	2,08	173,4
VIS-CV5-UM-285	Stérile	Ultramafique	9,3	0,05	0,04	0,02	0,06	0,01	1,2
VIS-CV5-UM-286	Stérile	Ultramafique	9,56	0,04	0,04	0,01	0,14	0,09	7,7
VIS-CV5-UM-287	Stérile	Ultramafique	9,34	0,15	0,04	0,1	0,31	0,27	22,5
VIS-CV5-UM-288	Stérile	Ultramafique	9,68	0,03	0,04	0,01	0,04	0,04	3,2
VIS-CV5-UM-289	Stérile	Ultramafique	9,56	0,03	0,04	0,01	0,05	0,05	4,0

Bilan acid-base

# échantillon	Type de matériel	Lithologie	Sobek-NP	Sobek-AP	Sulfure-AP	CO_3-NNP	Sobek-NNP	CO_3-NPR	Sobek-NPR	Classification Sobek
			$kgCaCO_3/t$	$kgCaCO_3/t$	$kgCaCO_3/t$	$kgCaCO_3/t$	$kgCaCO_3/t$	S.U.	S.U.	
VIS-CV5-MS-218	Stérile	Métasédiment	11,0	0,2	0,3	6,9	10,8	23,0	35,2	NPAG
VIS-CV5-MS-219	Stérile	Métasédiment	20,2	0,2	0,3	14,0	20,0	45,9	64,7	NPAG
VIS-CV5-MS-220	Stérile	Métasédiment	6,7	28,8	14,7	-11,8	-22,1	0,2	0,5	PAG
VIS-CV5-MS-221	Stérile	Métasédiment	17,6	29,7	17,5	-2,6	-12,1	0,8	1,0	PAG
VIS-CV5-MS-222	Stérile	Métasédiment	12,4	1,6	0,9	6,7	10,8	8,2	13,2	NPAG
VIS-CV5-MS-223	Stérile	Métasédiment	6,1	5,9	3,1	-0,8	0,2	0,7	2,0	PAG
VIS-CV5-MS-224	Stérile	Métasédiment	5,1	15,2	10,3	-9,2	-10,1	0,1	0,5	PAG
VIS-CV5-MS-225	Stérile	Métasédiment	7,3	0,4	0,3	2,7	6,9	9,6	23,4	NPAG
VIS-CV5-MS-226	Stérile	Métasédiment	46,7	5,3	2,8	41,7	41,4	15,8	16,6	NPAG
VIS-CV5-MS-227	Stérile	Métasédiment	10,7	54,9	43,7	-41,7	-44,2	0,0	0,2	PAG
VIS-CV5-MS-228	Stérile	Métasédiment	10,5	1,2	0,3	2,2	9,3	8,0	33,6	NPAG
VIS-CV5-MS-229	Stérile	Métasédiment	15,5	62,7	49,9	-42,3	-47,2	0,2	0,3	PAG
VIS-CV5-MS-230	Stérile	Métasédiment	17,0	9,0	6,2	2,8	8,0	1,4	2,7	NPAG
VIS-CV5-MS-231	Stérile	Métasédiment	5,8	33,1	25,0	-23,5	-27,3	0,1	0,2	PAG
VIS-CV5-MS-232	Stérile	Métasédiment	8,7	2,7	1,6	-0,4	6,0	0,7	5,6	NPAG
VIS-CV5-MS-233	Stérile	Métasédiment	11,5	0,2	0,3	0,8	11,3	3,5	36,8	NPAG
VIS-CV5-MS-234	Stérile	Métasédiment	6,3	9,6	6,2	1,7	-3,3	1,3	1,0	PAG
VIS-CV5-MS-235	Stérile	Métasédiment	10,2	0,5	0,3	1,5	9,7	5,9	32,7	NPAG
VIS-CV5-MS-236	Stérile	Métasédiment	10,7	0,2	0,3	2,9	10,5	10,2	34,3	NPAG
VIS-CV5-MS-237	Stérile	Métasédiment	6,4	0,2	0,3	1,4	6,2	5,3	20,5	NPAG
VIS-CV5-MS-238	Stérile	Métasédiment	17,1	1,0	0,6	7,5	16,1	13,1	27,4	NPAG
VIS-CV5-MS-239	Stérile	Métasédiment	18,1	17,0	14,0	-7,2	1,1	0,5	1,3	PAG
VIS-CV5-MS-240	Stérile	Métasédiment	8,6	3,7	1,2	0,4	4,9	1,3	6,9	NPAG
VIS-CV5-MS-241	Stérile	Métasédiment	6,9	5,3	3,1	-1,5	1,6	0,5	2,2	NPAG
VIS-CV5-MS-242	Stérile	Métasédiment	15,2	1,0	0,6	6,0	14,2	10,7	24,3	NPAG
VIS-CV5-MS-243	Stérile	Métasédiment	10,3	0,4	0,3	2,9	9,9	10,2	33,0	NPAG
VIS-CV5-MS-244	Stérile	Métasédiment	18,2	0,2	0,3	7,0	18,0	23,5	58,3	NPAG
VIS-CV5-MS-245	Stérile	Métasédiment	13,9	0,2	0,3	3,0	13,7	10,7	44,5	NPAG
VIS-CV5-MS-246	Stérile	Métasédiment	6,6	0,2	0,3	1,2	6,4	4,8	21,1	NPAG
VIS-CV5-MS-247	Stérile	Métasédiment	7,2	3,0	0,6	1,1	4,2	2,8	11,5	NPAG
VIS-CV5-MS-248	Stérile	Métasédiment	22,9	0,2	0,3	13,7	22,7	44,9	73,4	NPAG
VIS-CV5-MS-249	Stérile	Métasédiment	14,5	0,2	0,3	5,0	14,3	17,1	46,5	NPAG
VIS-CV5-MS-250	Stérile	Métasédiment	25,2	20,4	14,4	3,2	4,8	1,2	1,8	PAG
VIS-CV5-MS-251	Stérile	Métasédiment	10,6	5,6	4,1	-2,7	5,0	0,3	2,6	NPAG
VIS-CV5-MS-252	Stérile	Métasédiment	12,7	0,2	0,3	2,5	12,5	9,1	40,7	NPAG
VIS-CV5-MS-253	Stérile	Métasédiment	6,3	158,6	128,3	-125,3	-152,3	0,0	0,0	PAG
VIS-CV5-MS-254	Stérile	Métasédiment	9,7	0,5	0,3	1,4	9,2	5,3	31,1	NPAG
VIS-CV5-MS-255	Stérile	Métasédiment	9,7	6,1	4,7	-1,7	3,6	0,6	2,1	NPAG
VIS-CV5-MS-256	Stérile	Métasédiment	8,5	15,3	11,5	-10,5	-6,8	0,1	0,7	PAG
VIS-CV5-MS-257	Stérile	Métasédiment	3,5	2,7	0,3	1,4	0,8	5,3	11,2	NPAG
VIS-CV5-MS-258	Stérile	Métasédiment	10,8	0,7	0,3	1,7	10,1	6,4	34,6	NPAG
VIS-CV5-PEG-259	Stérile	Pegmatite stérile	13,0	2,1	0,6	7,5	10,9	13,1	20,8	NPAG
VIS-CV5-PEG-260	Stérile	Pegmatite stérile	3,6	0,2	0,3	1,2	3,4	4,8	11,5	NPAG
VIS-CV5-PEG-261	Stérile	Pegmatite stérile	4,3	0,2	0,3	0,5	4,1	2,7	13,8	NPAG
VIS-CV5-PEG-262	Stérile	Pegmatite stérile	3,7	0,2	0,3	1,7	3,5	6,4	11,9	NPAG
VIS-CV5-PEG-263	Stérile	Pegmatite stérile	2,5	0,2	0,3	1,4	2,3	5,6	8,0	NPAG
VIS-CV5-PEG-264	Stérile	Pegmatite stérile	3,3	0,2	0,3	0,7	3,1	3,2	10,6	NPAG
VIS-CV5-PEG-265	Stérile	Pegmatite stérile	3,1	0,2	0,3	2,7	2,9	9,6	9,9	NPAG
VIS-CV5-PEG-266	Stérile	Pegmatite stérile	3,8	0,2	0,3	2,6	3,6	9,3	12,2	NPAG
VIS-CV5-PEG-267	Stérile	Pegmatite stérile	3,2	0,2	0,3	2,9	3,0	10,1	10,3	NPAG
VIS-CV5-PEG-268	Stérile	Pegmatite stérile	4,5	0,2	0,3	2,8	4,3	9,9	14,4	NPAG
VIS-CV5-PEG-269	Stérile	Pegmatite stérile	3,1	0,2	0,3	2,8	2,9	9,9	9,9	NPAG
VIS-CV5-PEG-270	Stérile	Pegmatite stérile	10,1	0,2	0,3	5,2	9,9	17,6	32,4	NPAG
VIS-CV5-PEG-271	Stérile	Pegmatite stérile	1,8	0,2	0,3	0,5	1,6	2,7	5,8	NPAG
VIS-CV5-PEG-272	Stérile	Pegmatite stérile	3,1	0,2	0,3	1,0	2,9	4,3	9,9	NPAG
VIS-CV5-PEG-273	Stérile	Pegmatite stérile	2,8	0,2	0,3	1,4	2,6	5,6	9,0	NPAG
VIS-CV5-PEG-274	Stérile	Pegmatite stérile	20,8	0,2	0,3	6,7	20,6	22,4	66,6	NPAG
VIS-CV5-PEG-275	Stérile	Pegmatite stérile	2,6	0,2	0,3	1,3	2,4	5,1	8,3	NPAG
VIS-CV5-PEG-276	Stérile	Pegmatite stérile	2,1	0,2	0,3	1,0	1,9	4,3	6,7	NPAG
VIS-CV5-PEG-277	Stérile	Pegmatite stérile	5,7	0,2	0,3	1,7	5,5	6,4	18,3	NPAG
VIS-CV5-PEG-278	Stérile	Pegmatite stérile	6,3	0,2	0,3	1,4	6,1	5,3	20,2	NPAG
VIS-CV5-UM-279	Stérile	Ultramafique	198,0	17,7	10,3	198,1	180,3	20,2	19,2	NPAG
VIS-CV5-UM-280	Stérile	Ultramafique	45,7	0,7	0,3	32,4	45,0	104,7	146,4	NPAG
VIS-CV5-UM-281	Stérile	Ultramafique	14,2	9,6	6,2	-2,6	4,6	0,6	2,3	NPAG
VIS-CV5-UM-282	Stérile	Ultramafique	14,6	1,1	0,6	2,6	13,5	5,2	23,4	NPAG
VIS-CV5-UM-283	Stérile	Ultramafique	218,0	7,2	5,6	214,5	210,8	39,2	38,8	NPAG
VIS-CV5-UM-284	Stérile	Ultramafique	174,0	2,7	1,9	171,5	171,3	92,6	92,9	NPAG
VIS-CV5-UM-285	Stérile	Ultramafique	12,9	1,5	0,6	0,5	11,4	1,9	20,7	NPAG
VIS-CV5-UM-286	Stérile	Ultramafique	14,2	1,3	0,3	7,4	12,9	24,6	45,5	NPAG
VIS-CV5-UM-287	Stérile	Ultramafique	36,8	4,7	3,1	19,4	32,1	7,2	11,8	NPAG
VIS-CV5-UM-288	Stérile	Ultramafique	11,4	0,8	0,3	2,9	10,6	10,4	36,5	NPAG
VIS-CV5-UM-289	Stérile	Ultramafique	13,7	0,8	0,3	3,7	12,9	12,8	43,9	NPAG

Bilan acid-base

# échantillon	Type de matériel	Lithologie	pH en pâte	Soufre (total)	SO_4 lixiviable (HCl)	Sulfure	Carbone (total)	Carbonate	CO_3-NP
			Unité pH	%	%S	%S	%C	%C	$kgCaCO_3/t$
VIS-CV5-UM-290	Stérile	Ultramafique	9,64	0,55	0,22	0,32	0,27	0,22	18,3
VIS-CV5-UM-291	Stérile	Ultramafique	9,5	0,14	0,08	0,06	0,75	0,71	59,4
VIS-CV5-UM-292	Stérile	Ultramafique	9,6	0,06	0,06	0,01	0,36	0,32	26,5
VIS-CV5-UM-293	Stérile	Ultramafique	9,54	0,17	0,09	0,08	0,11	0,06	5,3
VIS-CV5-UM-294	Stérile	Ultramafique	9,38	0,08	0,05	0,04	0,31	0,27	22,7
VIS-CV5-UM-295	Stérile	Ultramafique	9,79	0,04	0,04	0,01	0,07	0,04	3,3
VIS-CV5-UM-296	Stérile	Ultramafique	9,77	0,02	0,04	0,02	0,11	0,07	6,2
VIS-CV5-UM-297	Stérile	Ultramafique	9,56	0,17	0,07	0,1	0,07	0,04	3,3
VIS-CV5-UM-298	Stérile	Ultramafique	9,65	0,04	0,04	0,04	0,04	0,03	2,3
VIS-CV5-UM-299	Stérile	Ultramafique	9,46	0,09	0,04	0,1	0,47	0,45	37,2
VIS-CV5-UM-300	Stérile	Ultramafique	9,54	0,04	0,04	0,04	0,16	0,14	11,7
VIS-CV5-UM-301	Stérile	Ultramafique	9,78	0,10	0,04	0,09	0,05	0,04	3,5
VIS-CV5-UM-302	Stérile	Ultramafique	9,98	0,33	0,06	0,27	0,25	0,23	19,0
VIS-CV5-UM-303	Stérile	Ultramafique	9,57	0,19	0,05	0,15	0,09	0,07	6,0
VIS-CV5-UM-304	Stérile	Ultramafique	9,7	0,07	0,04	0,05	0,17	0,15	12,8
VIS-CV5-UM-305	Stérile	Ultramafique	9,95	0,06	0,04	0,05	0,34	0,33	27,5
VIS-CV5-UM-306	Stérile	Ultramafique	9,72	0,13	0,04	0,09	0,11	0,09	7,5
VIS-CV5-UM-307	Stérile	Ultramafique	9,75	0,39	0,1	0,28	0,05	0,04	3,2
VIS-CV5-UM-308	Stérile	Ultramafique	9,72	0,12	0,04	0,09	0,09	0,07	5,8
VIS-CV5-UM-309	Stérile	Ultramafique	9,74	0,04	0,04	0,03	0,44	0,44	36,5
VIS-CV5-UM-310	Stérile	Ultramafique	10,05	0,03	0,04	0,02	0,34	0,35	28,8
VIS-CV5-UM-311	Stérile	Ultramafique	9,69	0,09	0,04	0,06	0,55	0,54	44,7
VIS-CV5-UM-312	Stérile	Ultramafique	9,75	0,02	0,04	0,01	0,05	0,04	3,0
VIS-CV5-UM-313	Stérile	Ultramafique	9,62	0,12	0,04	0,08	0,63	0,62	52,0
VIS-CV5-UM-314	Stérile	Ultramafique	10,07	0,06	0,04	0,05	0,21	0,21	17,5
VIS-CV5-UM-315	Stérile	Ultramafique	9,8	0,08	0,04	0,08	0,11	0,10	8,0
VIS-CV5-UM-316	Stérile	Ultramafique	9,59	0,26	0,15	0,12	2,84	2,74	228,4
VIS-CV5-UM-317	Stérile	Ultramafique	9,72	0,09	0,04	0,07	0,15	0,15	12,3
VIS-CV5-UM-318	Stérile	Ultramafique	9,77	0,04	0,04	0,03	0,14	0,12	10,0
VIS-CV5-UM-319	Stérile	Ultramafique	9,51	0,19	0,09	0,1	2,36	2,28	190,1
VIS-CV5-UM-320	Stérile	Ultramafique	10,11	0,02	0,04	0,01	0,14	0,13	10,8
VIS-CV5-UM-321	Stérile	Ultramafique	10,13	0,02	0,04	0,01	0,32	0,32	27,0
VIS-CV5-UM-322	Stérile	Ultramafique	9,54	0,08	0,04	0,06	0,27	0,26	22,0
VIS-CV5-UM-323	Stérile	Ultramafique	9,83	0,04	0,04	0,04	0,44	0,45	37,2
VIS-CV5-UM-324	Stérile	Ultramafique	9,9	0,04	0,04	0,02	0,26	0,24	20,2
VIS-CV5-UM-325	Stérile	Ultramafique	9,65	0,01	0,04	0,01	0,10	0,09	7,5
VIS-CV5-UM-326	Stérile	Ultramafique	8,68	0,38	0,11	0,27	0,07	0,05	4,2
VIS-CV5-SP-327	Minerai	Pegmatite spodumène	9,87	0,01	0,04	0,01	0,02	0,02	1,7
VIS-CV5-SP-328	Minerai	Pegmatite spodumène	9,85	0,01	0,04	0,01	0,02	0,02	1,8
VIS-CV5-SP-329	Minerai	Pegmatite spodumène	10,3	0,01	0,04	0,01	0,01	0,01	1,1
VIS-CV5-SP-330	Minerai	Pegmatite spodumène	9,96	0,01	0,04	0,01	0,01	0,01	1,2
VIS-CV5-SP-331	Minerai	Pegmatite spodumène	10,24	0,01	0,04	0,01	0,02	0,02	1,7
VIS-CV5-SP-332	Minerai	Pegmatite spodumène	10,1	0,01	0,04	0,01	0,02	0,02	1,4
VIS-CV5-SP-333	Minerai	Pegmatite spodumène	10,02	0,01	0,04	0,01	0,01	0,01	1,1
VIS-CV5-SP-334	Minerai	Pegmatite spodumène	9,76	0,01	0,04	0,01	0,02	0,02	1,4
VIS-CV5-SP-335	Minerai	Pegmatite spodumène	9,23	0,01	0,04	0,01	0,02	0,02	1,5
VIS-CV5-SP-336	Minerai	Pegmatite spodumène	9,49	0,01	0,04	0,01	0,02	0,02	1,6
VIS-CV5-SP-337	Minerai	Pegmatite spodumène	10,02	0,01	0,04	0,01	0,01	0,01	0,9
VIS-CV5-SP-338	Minerai	Pegmatite spodumène	9,91	0,01	0,04	0,01	0,02	0,02	1,6
VIS-CV5-SP-339	Minerai	Pegmatite spodumène	10,06	0,01	0,04	0,01	0,02	0,02	1,5
VIS-CV5-SP-340	Minerai	Pegmatite spodumène	9,93	0,01	0,04	0,01	0,04	0,04	3,4
VIS-CV5-SP-341	Minerai	Pegmatite spodumène	9,85	0,01	0,04	0,01	0,04	0,04	3,4
VIS-CV5-SP-342	Minerai	Pegmatite spodumène	9,26	0,01	0,04	0,01	0,03	0,03	2,2
VIS-CV5-SP-343	Minerai	Pegmatite spodumène	9,81	0,01	0,04	0,01	0,09	0,08	6,5
CV5-MAG-C	Résidu	Magnétique	9,71	0,10	0,06	0,04	0,12	0,10	8,5
CV5-DMS-MID	Résidu	Middlings	9,96	0,03	0,04	0,01	0,07	0,03	2,7
CV5-FLO-C	Résidu	Flottation	10,35	0,01	0,04	0,01	0,02	0,02	1,4
CV5-MAG-F	Résidu	Magnétique	9,78	0,08	0,04	0,04	0,12	0,09	7,5
CV5-MID-F	Résidu	Middlings	9,89	0,02	0,04	0,01	0,06	0,04	3,5
CV5-FLO-F	Résidu	Flottation	10,29	0,01	0,04	0,01	0,02	0,02	1,8
CV5-BYP-CP	Résidu	Bypass	10	0,03	0,04	0,01	0,14	0,05	4,2

Bilan acid-base

# échantillon	Type de matériel	Lithologie	Sobek-NP	Sobek-AP	Sulfure-AP	CO_3-NNP	Sobek-NNP	CO_3-NPR	Sobek-NPR	Classification Sobek
			$kgCaCO_3/t$	$kgCaCO_3/t$	$kgCaCO_3/t$	$kgCaCO_3/t$	$kgCaCO_3/t$	S.U.	S.U.	
VIS-CV5-UM-290	Stérile	Ultramafique	29,8	17,0	10,0	8,4	12,8	1,8	3,0	NPAG
VIS-CV5-UM-291	Stérile	Ultramafique	69,9	4,3	1,9	57,5	65,6	31,7	37,3	NPAG
VIS-CV5-UM-292	Stérile	Ultramafique	29,6	2,0	0,3	26,2	27,6	84,9	94,8	NPAG
VIS-CV5-UM-293	Stérile	Ultramafique	18,9	5,3	2,5	2,8	13,6	2,1	7,6	NPAG
VIS-CV5-UM-294	Stérile	Ultramafique	41,3	2,5	1,2	21,4	38,8	18,2	33,1	NPAG
VIS-CV5-UM-295	Stérile	Ultramafique	13,0	1,2	0,3	3,0	11,8	10,7	41,6	NPAG
VIS-CV5-UM-296	Stérile	Ultramafique	16,6	0,6	0,6	5,5	16,0	9,9	26,6	NPAG
VIS-CV5-UM-297	Stérile	Ultramafique	16,6	5,3	3,1	0,2	11,3	1,1	5,3	NPAG
VIS-CV5-UM-298	Stérile	Ultramafique	12,2	1,2	1,2	1,1	11,0	1,9	9,8	NPAG
VIS-CV5-UM-299	Stérile	Ultramafique	47,5	2,9	3,1	34,1	44,6	11,9	15,2	NPAG
VIS-CV5-UM-300	Stérile	Ultramafique	26,8	1,2	1,2	10,4	25,6	9,3	21,5	NPAG
VIS-CV5-UM-301	Stérile	Ultramafique	10,3	3,0	2,8	0,7	7,3	1,2	3,7	NPAG
VIS-CV5-UM-302	Stérile	Ultramafique	25,5	10,4	8,4	10,6	15,1	2,3	3,0	NPAG
VIS-CV5-UM-303	Stérile	Ultramafique	16,6	6,1	4,7	1,3	10,5	1,3	3,5	NPAG
VIS-CV5-UM-304	Stérile	Ultramafique	18,0	2,2	1,6	11,3	15,8	8,2	11,5	NPAG
VIS-CV5-UM-305	Stérile	Ultramafique	32,6	1,9	1,6	26,0	30,7	17,6	20,9	NPAG
VIS-CV5-UM-306	Stérile	Ultramafique	13,5	4,0	2,8	4,7	9,5	2,7	4,8	NPAG
VIS-CV5-UM-307	Stérile	Ultramafique	11,0	12,1	8,7	-5,6	-1,1	0,4	1,3	PAG
VIS-CV5-UM-308	Stérile	Ultramafique	14,9	3,7	2,8	3,0	11,2	2,1	5,3	NPAG
VIS-CV5-UM-309	Stérile	Ultramafique	41,8	1,3	0,9	35,6	40,5	39,0	44,6	NPAG
VIS-CV5-UM-310	Stérile	Ultramafique	34,5	1,0	0,6	28,2	33,5	46,2	55,3	NPAG
VIS-CV5-UM-311	Stérile	Ultramafique	48,4	2,9	1,9	42,8	45,5	23,9	25,8	NPAG
VIS-CV5-UM-312	Stérile	Ultramafique	12,5	0,6	0,3	2,7	11,9	9,6	40,0	NPAG
VIS-CV5-UM-313	Stérile	Ultramafique	48,8	3,6	2,5	49,5	45,2	20,8	19,5	NPAG
VIS-CV5-UM-314	Stérile	Ultramafique	22,9	1,8	1,6	15,9	21,1	11,2	14,7	NPAG
VIS-CV5-UM-315	Stérile	Ultramafique	17,8	2,6	2,5	5,5	15,2	3,2	7,1	NPAG
VIS-CV5-UM-316	Stérile	Ultramafique	138,0	8,2	3,7	224,7	129,8	61,0	36,8	NPAG
VIS-CV5-UM-317	Stérile	Ultramafique	18,1	2,7	2,2	10,2	15,4	5,6	8,3	NPAG
VIS-CV5-UM-318	Stérile	Ultramafique	18,3	1,3	0,9	9,1	17,0	10,7	19,5	NPAG
VIS-CV5-UM-319	Stérile	Ultramafique	105,0	5,9	3,1	187,0	99,1	60,9	33,6	NPAG
VIS-CV5-UM-320	Stérile	Ultramafique	18,5	0,5	0,3	10,5	18,0	34,7	59,3	NPAG
VIS-CV5-UM-321	Stérile	Ultramafique	28,6	0,5	0,3	26,7	28,1	86,5	91,6	NPAG
VIS-CV5-UM-322	Stérile	Ultramafique	27,3	2,5	1,9	20,1	24,8	11,8	14,6	NPAG
VIS-CV5-UM-323	Stérile	Ultramafique	43,2	1,3	1,2	35,9	41,9	29,8	34,6	NPAG
VIS-CV5-UM-324	Stérile	Ultramafique	26,5	1,2	0,6	19,6	25,3	32,3	42,4	NPAG
VIS-CV5-UM-325	Stérile	Ultramafique	18,0	0,2	0,3	7,2	17,8	24,0	57,7	NPAG
VIS-CV5-UM-326	Stérile	Ultramafique	10,4	11,9	8,4	-4,3	-1,5	0,5	1,2	PAG
VIS-CV5-SP-327	Minerai	Pegmatite spodumène	3,5	0,2	0,3	1,4	3,3	5,3	11,2	NPAG
VIS-CV5-SP-328	Minerai	Pegmatite spodumène	2,3	0,2	0,3	1,5	2,1	5,9	7,4	NPAG
VIS-CV5-SP-329	Minerai	Pegmatite spodumène	2,7	0,2	0,3	0,8	2,5	3,5	8,7	NPAG
VIS-CV5-SP-330	Minerai	Pegmatite spodumène	2,6	0,2	0,3	0,9	2,4	3,7	8,3	NPAG
VIS-CV5-SP-331	Minerai	Pegmatite spodumène	2,9	0,2	0,3	1,4	2,7	5,6	9,3	NPAG
VIS-CV5-SP-332	Minerai	Pegmatite spodumène	2,9	0,2	0,3	1,1	2,7	4,5	9,3	NPAG
VIS-CV5-SP-333	Minerai	Pegmatite spodumène	2,8	0,2	0,3	0,8	2,6	3,5	9,0	NPAG
VIS-CV5-SP-334	Minerai	Pegmatite spodumène	1,4	0,2	0,3	1,1	1,2	4,5	4,5	NPAG
VIS-CV5-SP-335	Minerai	Pegmatite spodumène	2,5	0,2	0,3	1,2	2,3	4,8	8,0	NPAG
VIS-CV5-SP-336	Minerai	Pegmatite spodumène	2,2	0,2	0,3	1,3	2,0	5,1	7,0	NPAG
VIS-CV5-SP-337	Minerai	Pegmatite spodumène	2,4	0,2	0,3	0,6	2,2	2,9	7,7	NPAG
VIS-CV5-SP-338	Minerai	Pegmatite spodumène	2,1	0,2	0,3	1,3	1,9	5,1	6,7	NPAG
VIS-CV5-SP-339	Minerai	Pegmatite spodumène	2,4	0,2	0,3	1,2	2,2	4,8	7,7	NPAG
VIS-CV5-SP-340	Minerai	Pegmatite spodumène	2,5	0,2	0,3	3,1	2,3	10,9	8,0	NPAG
VIS-CV5-SP-341	Minerai	Pegmatite spodumène	2,5	0,2	0,3	3,1	2,3	10,9	8,0	NPAG
VIS-CV5-SP-342	Minerai	Pegmatite spodumène	2,5	0,2	0,3	1,9	2,3	6,9	8,0	NPAG
VIS-CV5-SP-343	Minerai	Pegmatite spodumène	11,0	0,2	0,3	6,2	10,8	20,8	35,2	NPAG
CV5-MAG-C	Résidu	Magnétique	19,5	3,1	1,2	7,3	16,4	6,8	15,6	NPAG
CV5-DMS-MID	Résidu	Middlings	9,4	0,9	0,3	2,4	8,5	8,5	30,1	NPAG
CV5-FLO-C	Résidu	Flottation	3,3	0,2	0,3	1,1	3,1	4,5	10,6	NPAG
CV5-MAG-F	Résidu	Magnétique	21,6	2,4	1,2	6,3	19,2	6,0	17,3	NPAG
CV5-MID-F	Résidu	Middlings	9,4	0,6	0,3	3,2	8,8	11,2	30,1	NPAG
CV5-FLO-F	Résidu	Flottation	3,8	0,2	0,3	1,5	3,6	5,9	12,2	NPAG
CV5-BYP-CP	Résidu	Bypass	10,1	1,0	0,3	3,9	9,1	13,4	32,4	NPAG

Annexe C : Résultats des essais de lixiviation

Essais SPLP

# échantillon	Type de matériel	Lithologie	pH final	pH	Conductivité	Alkalinité	Acidité	Chlore	Mercure	Argent
		Unité	pH unit	pH unit	µS/cm	$mgCaCO_3/l$	$mgCaCO_3/l$	mg/l	mg/l	mg/l
		CVAA - Effet aigu						320	0,0014	0,00004
		D019/MDMER								
1	Stérile	Amphibolite	9,45	8,4	58	22	<2,0	<20,0	<0,00001	<0,00005
2	Stérile	Amphibolite	9,25	8,01	60	20	<2,0	<20,0	<0,00001	<0,00005
3	Stérile	Amphibolite	9,51	8,31	54	25	<2,0	<20,0	<0,00001	<0,00005
4	Stérile	Amphibolite	9,57	8,49	41	16	<2,0	<20,0	<0,00001	<0,00005
5	Stérile	Amphibolite	9,47	8,22	59	20	<2,0	<20,0	<0,00001	<0,00005
6	Stérile	Amphibolite	9,51	7,76	47	22	<2,0	<20,0	<0,00001	<0,00005
7	Stérile	Amphibolite	9,53	8,49	56	23	<2,0	<20,0	<0,00001	<0,00005
8	Stérile	Amphibolite	9,57	8,42	53	21	<2,0	<20,0	<0,00001	<0,00005
9	Stérile	Amphibolite	9,66	8,66	51	21	<2,0	<20,0	<0,00001	<0,00005
10	Stérile	Amphibolite	9,44	8,21	51	16	<2,0	<20,0	<0,00001	<0,00005
11	Stérile	Amphibolite	9,66	8,54	50	21	<2,0	<20,0	<0,00001	<0,00005
12	Stérile	Amphibolite	9,64	8,66	52	21	<2,0	<20,0	<0,00001	<0,00005
13	Stérile	Amphibolite	9,59	8,07	56	22	<2,0	<20,0	<0,00001	<0,00005
14	Stérile	Amphibolite	9,61	8,32	56	21	<2,0	<20,0	<0,00001	<0,00005
15	Stérile	Amphibolite	9,62	8,44	53	22	<2,0	<20,0	<0,00001	<0,00005
16	Stérile	Métasédiment	9,1	7,8	85	21	<2,0	<20,0	<0,00001	<0,00005
17	Stérile	Amphibolite	8,42	7,88	92	22	<2,0	<20,0	<0,00001	<0,00005
18	Stérile	Amphibolite	9,35	8,19	57	21	<2,0	<20,0	<0,00001	<0,00005
19	Stérile	Pegmatite stérile	9,47	7,91	54	21	<2,0	<20,0	<0,00001	<0,00005
20	Stérile	Amphibolite	7,71	7,66	196	26	<2,0	<20,0	<0,00001	<0,00005
21	Stérile	Amphibolite	9,57	8,23	54	24	<2,0	<20,0	<0,00001	<0,00005
22	Stérile	Amphibolite	9,52	8,35	54	23	<2,0	<20,0	<0,00001	<0,00005
23	Stérile	Métasédiment	8,26	7,73	131	17	<2,0	<20,0	<0,00001	<0,00005
24	Stérile	Amphibolite	9,53	8,19	52	22	<2,0	<20,0	<0,00001	<0,00005
25	Stérile	Métasédiment	9,32	8,44	53	20	<2,0	<20,0	<0,00001	<0,00005
26	Stérile	Amphibolite	9,51	8,43	50	21	<2,0	<20,0	<0,00001	<0,00005
27	Stérile	Amphibolite	9,33	8,07	67	23	<2,0	<20,0	<0,00001	<0,00005
28	Stérile	Amphibolite	---	8,05	50	21	<2,0	<20,0	<0,00001	<0,0005
29	Stérile	Amphibolite	---	8,14	64	29	<2,0	<20,0	<0,00001	<0,0005
30	Stérile	Amphibolite	---	8,91	48	22	<2,0	<20,0	<0,00001	<0,0005
31	Stérile	Métasédiment	9,44	8,02	52	20	<2,0	<20,0	<0,00001	<0,00005
32	Stérile	Amphibolite	9,6	8,29	52	23	<2,0	<20,0	<0,00001	<0,00005
33	Stérile	Amphibolite	9,51	8,28	53	22	<2,0	<20,0	<0,00011	<0,00005
34	Stérile	Métasédiment	9,49	7,91	50	22	<2,0	<20,0	<0,00001	<0,00005
35	Stérile	Métasédiment	9,57	7,88	50	23	<2,0	<20,0	<0,00002	<0,00005
36	Stérile	Ultramafique	9,46	8,44	55	25	<2,0	<20,0	<0,00001	<0,00005
37	Stérile	Amphibolite	9,24	7,87	66	25	<2,0	<20,0	<0,00001	<0,00005
38	Stérile	Métasédiment	8,75	7,18	27	6	<2,0	<20,0	<0,00001	<0,00005
39	Stérile	Métasédiment	9,14	7,62	55	17	<2,0	<20,0	<0,00001	<0,00005
40	Stérile	Métasédiment	9,23	7,76	51	18	<2,0	<20,0	<0,00001	<0,00005
41	Stérile	Métasédiment	9,26	7,68	51	16	<2,0	<20,0	<0,00001	<0,00005
42	Stérile	Métasédiment	9	7,66	72	18	<2,0	<20,0	<0,00001	<0,00005
43	Stérile	Métasédiment	8,98	7,78	78	21	<2,0	<20,0	<0,00001	<0,00005
44	Stérile	Métasédiment	9,12	7,84	45	21	<2,0	<20,0	<0,00001	<0,00005
45	Stérile	Métasédiment	9,23	7,75	45	18	<2,0	<20,0	<0,00001	<0,00005
46	Stérile	Métasédiment	9,29	7,82	48	21	<2,0	<20,0	<0,00001	<0,00005
47	Stérile	Métasédiment	9,1	7,67	53	17	<2,0	<20,0	<0,00001	<0,00005
48	Stérile	Métasédiment	---	8,52	52	24	<2,0	<20,0	<0,00001	<0,0005
49	Stérile	Métasédiment	9,1	7,82	49	21	<2,0	<20,0	<0,00001	<0,00005
50	Stérile	Métasédiment	8,97	7,73	73	22	<2,0	<20,0	<0,00001	<0,00005
51	Stérile	Métasédiment	8,89	7,73	48	13	<2,0	<20,0	<0,00001	<0,00005
52	Stérile	Métasédiment	9,25	8	50	22	<2,0	<20,0	<0,00001	<0,00005
53	Stérile	Métasédiment	9,35	7,84	54	21	<2,0	<20,0	<0,00001	<0,00005
54	Stérile	Métasédiment	---	8,43	50	21	<2,0	<20,0	<0,00001	<0,0005
55	Stérile	Métasédiment	9,32	7,88	49	21	<2,0	<20,0	<0,00001	<0,00005
56	Stérile	Amphibolite	9,44	8,44	50	23	<2,0	<20,0	<0,00001	<0,00005
57	Stérile	Métasédiment	9,43	7,77	51	21	<2,0	<20,0	<0,00001	<0,00005
58	Stérile	Ultramafique	9,53	8,25	59	26	<2,0	<20,0	<0,00001	<0,00005
59	Stérile	Ultramafique	9,27	8,65	52	23	<2,0	<20,0	<0,00001	<0,00005
60	Stérile	Ultramafique	9,53	9,15	64	32	<2,0	<20,0	<0,00001	<0,00005
61	Stérile	Ultramafique	9,42	8,14	49	22	<2,0	<20,0	<0,00001	<0,00005
62	Stérile	Ultramafique	9,47	9,01	61	42	<2,0	<20,0	<0,00001	<0,00005
63	Stérile	Pegmatite stérile	8,83	7,99	43	16	<2,0	<20,0	<0,00001	<0,00005
64	Stérile	Pegmatite stérile	8,8	7,58	37	13	<2,0	<20,0	<0,00001	<0,00005
65	Stérile	Pegmatite stérile	8,55	7,64	28	9	<2,0	<20,0	<0,00001	<0,00005
66	Stérile	Pegmatite stérile	8,24	7,24	24	7	<2,0	<20,0	<0,00001	<0,00005
67	Stérile	Pegmatite stérile	7,23	7,05	19	4	<2,0	<20,0	<0,00001	<0,00005
68	Stérile	Pegmatite stérile	---	7,74	30	11	<2,0	<20,0	<0,00001	<0,0005
69	Stérile	Pegmatite stérile	9,3	7,5	52	16	<2,0	<20,0	<0,00001	<0,00005
70	Stérile	Pegmatite stérile	9	7,69	46	17	<2,0	<20,0	<0,00001	<0,00005

Essais SPLP

# échantillon	Type de matériel	Lithologie	Aluminum	Arsenic	Bore	Baryum	Beryllium	Bismuth	Calcium	Cadmium
		Unité	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
		CVAA - Effet aigu	0,28	0,34	28	0,108	0,001			0,0002
		D019/MDMER		0,10						
1	Stérile	Amphibolite	0,933	0,001	0,007	0,00374	<0,000007	0,00002	6,11	<0,000003
2	Stérile	Amphibolite	0,815	0,01	0,01	0,00119	<0,000007	<0,00001	7,1	<0,000003
3	Stérile	Amphibolite	1,03	0,0011	0,003	0,00191	<0,000007	<0,00001	7,89	<0,000003
4	Stérile	Amphibolite	0,797	0,0139	0,005	0,0002	0,000011	0,00004	4,99	<0,000003
5	Stérile	Amphibolite	0,729	0,119	0,01	0,00073	<0,000007	<0,00001	7,84	<0,000003
6	Stérile	Amphibolite	0,976	0,0005	<0,002	0,00027	<0,000007	<0,00001	8,02	<0,000003
7	Stérile	Amphibolite	0,849	0,0069	0,005	0,00034	<0,000007	<0,00001	7,9	<0,000003
8	Stérile	Amphibolite	1,1	0,0007	0,005	0,00021	<0,000007	0,00002	7,55	<0,000003
9	Stérile	Amphibolite	1,13	0,0009	0,003	0,00017	<0,000007	0,00002	7,66	<0,000003
10	Stérile	Amphibolite	0,855	0,0063	0,008	0,00036	<0,000007	<0,00001	7,35	<0,000003
11	Stérile	Amphibolite	0,954	0,0136	0,012	0,00036	<0,000007	<0,00001	7,28	<0,000003
12	Stérile	Amphibolite	1,14	0,0027	0,006	0,00027	<0,000007	0,00002	7,94	<0,000003
13	Stérile	Amphibolite	0,758	0,0228	0,011	0,00023	0,000016	<0,00001	7,01	<0,000003
14	Stérile	Amphibolite	0,858	0,0282	0,005	0,00019	<0,000007	<0,00001	7,09	<0,000003
15	Stérile	Amphibolite	1,03	0,0026	0,01	0,00039	<0,000007	<0,00001	7,36	<0,000003
16	Stérile	Métasédiment	0,662	0,0009	0,004	0,004	<0,000007	<0,00001	11,1	0,000004
17	Stérile	Amphibolite	0,601	0,0014	0,003	0,00456	<0,000007	<0,00001	11,6	<0,000003
18	Stérile	Amphibolite	0,987	0,0245	0,006	0,00057	0,000008	<0,00001	7,82	<0,000003
19	Stérile	Pegmatite stérile	1,14	0,0011	0,003	0,00036	<0,000007	<0,00001	8,05	<0,000003
20	Stérile	Amphibolite	0,01	0,0002	0,004	0,08432	<0,000007	0,00002	26,7	<0,000003
21	Stérile	Amphibolite	0,88	0,0266	0,006	0,00531	<0,000007	<0,00001	7,12	<0,000003
22	Stérile	Amphibolite	0,627	0,101	0,006	0,00021	<0,000007	<0,00001	7,3	<0,000003
23	Stérile	Métasédiment	0,028	0,0004	0,006	0,00494	<0,000007	<0,00001	17,8	<0,000003
24	Stérile	Amphibolite	1,15	0,0025	0,003	0,01002	<0,000007	<0,00001	6,1	<0,000003
25	Stérile	Métasédiment	0,542	0,0239	0,062	0,00816	<0,000007	<0,00001	5,53	<0,000003
26	Stérile	Amphibolite	1,04	0,0013	0,007	0,00056	<0,000007	<0,00001	7,38	<0,000003
27	Stérile	Amphibolite	0,712	0,0096	0,01	0,00043	<0,000007	<0,00001	9,18	0,000008
28	Stérile	Amphibolite	0,53	0,043	<0,02	0,0008	<0,00007	<0,0001	8	0,00005
29	Stérile	Amphibolite	0,53	0,04	<0,02	0,0009	<0,00007	<0,0001	9,8	0,00004
30	Stérile	Amphibolite	0,69	0,002	<0,02	0,0008	<0,00007	<0,0001	7,8	0,00003
31	Stérile	Métasédiment	1,2	0,0451	0,011	0,00148	0,000011	<0,00001	5,39	<0,000003
32	Stérile	Amphibolite	0,926	0,0024	0,003	0,001	<0,000007	<0,00001	7,62	<0,000003
33	Stérile	Amphibolite	0,891	0,0038	0,005	0,00122	<0,000007	<0,00001	7,89	<0,000003
34	Stérile	Métasédiment	1,12	0,0523	0,009	0,00134	0,000008	<0,00001	5,67	<0,000003
35	Stérile	Métasédiment	1,05	0,0095	0,005	0,00285	<0,000007	<0,00001	5,34	<0,000003
36	Stérile	Ultramafique	0,078	0,343	0,076	0,00259	<0,000007	<0,00001	6,85	<0,000003
37	Stérile	Amphibolite	0,799	0,819	0,094	0,00057	0,000013	<0,00001	10,5	<0,000003
38	Stérile	Métasédiment	0,285	0,0047	0,007	0,00064	0,00006	<0,00001	2	<0,000003
39	Stérile	Métasédiment	0,672	0,0392	0,005	0,00095	<0,000007	<0,00001	7,49	<0,000003
40	Stérile	Métasédiment	0,838	0,0094	0,009	0,00107	<0,000007	<0,00001	7,32	<0,000003
41	Stérile	Métasédiment	0,686	0,0018	0,009	0,00091	<0,000007	<0,00001	6,43	<0,000003
42	Stérile	Métasédiment	0,6	0,0014	0,006	0,00106	<0,000007	<0,00001	10,4	<0,000003
43	Stérile	Métasédiment	0,738	0,001	0,011	0,00198	<0,000007	<0,00001	10,1	<0,000003
44	Stérile	Métasédiment	0,929	0,0039	0,002	0,00209	0,000042	<0,00001	6,8	<0,000003
45	Stérile	Métasédiment	0,906	0,0014	0,002	0,00238	<0,000007	<0,00001	6,38	<0,000003
46	Stérile	Métasédiment	0,956	0,0019	0,002	0,00294	<0,000007	<0,00001	6,47	<0,000003
47	Stérile	Métasédiment	0,703	0,0023	0,002	0,00478	<0,000007	<0,00001	6,26	<0,000003
48	Stérile	Métasédiment	0,67	0,012	<0,02	0,0008	<0,00007	<0,0001	7,9	< 0.00003
49	Stérile	Métasédiment	0,895	0,0194	0,01	0,00109	<0,000007	<0,00001	4,73	<0,000003
50	Stérile	Métasédiment	0,788	0,0621	0,004	0,0009	<0,000007	<0,00001	8,93	<0,000003
51	Stérile	Métasédiment	0,641	0,0085	0,003	0,00081	<0,000007	<0,00001	6,17	<0,000003
52	Stérile	Métasédiment	0,874	0,0024	0,005	0,00128	<0,000007	<0,00001	7,49	<0,000003
53	Stérile	Métasédiment	0,768	0,87	<0,002	0,00772	<0,000007	<0,00001	6,34	<0,000003
54	Stérile	Métasédiment	0,74	0,018	0,02	0,0008	<0,00007	<0,0001	7,3	< 0.00003
55	Stérile	Métasédiment	0,261	0,0809	0,002	0,00318	<0,000007	<0,00001	7,33	<0,000003
56	Stérile	Amphibolite	0,688	0,008	0,007	0,00304	<0,000007	<0,00001	6,95	<0,000003
57	Stérile	Métasédiment	0,47	0,0024	0,006	0,00563	<0,000007	<0,00001	7,14	<0,000003
58	Stérile	Ultramafique	0,042	0,3	0,027	0,00052	<0,000007	<0,00001	7,35	<0,000003
59	Stérile	Ultramafique	0,162	0,173	0,005	0,00029	<0,000007	<0,00001	7,1	<0,000003
60	Stérile	Ultramafique	0,013	0,241	0,016	0,00098	<0,000007	<0,00001	6,46	<0,000003
61	Stérile	Ultramafique	0,125	0,0266	0,065	0,00022	<0,000007	<0,00001	7,46	<0,000003
62	Stérile	Ultramafique	0,01	1,17	0,012	0,00083	<0,000007	<0,00001	7,93	<0,000003
63	Stérile	Pegmatite stérile	0,675	0,0571	<0,02	0,00018	0,000187	0,00133	5,86	<0,000003
64	Stérile	Pegmatite stérile	0,721	0,0708	0,009	0,00051	0,00009	<0,00001	4,23	<0,000003
65	Stérile	Pegmatite stérile	0,442	0,0437	0,006	0,00126	0,000066	0,00022	3,44	<0,000003
66	Stérile	Pegmatite stérile	0,311	0,0501	0,007	0,00022	0,000123	0,00006	2,26	<0,000003
67	Stérile	Pegmatite stérile	0,164	0,0091	0,005	0,00016	0,00008	0,00026	1,2	<0,000003
68	Stérile	Pegmatite stérile	0,4	0,066	<0,02	0,0008	0,00016	0,0004	4,5	< 0.00003
69	Stérile	Pegmatite stérile	0,754	0,0301	0,016	0,00024	0,000546	0,0008	6,34	<0,000003
70	Stérile	Pegmatite stérile	0,529	0,0314	0,007	0,00025	0,000545	0,00016	7,09	0,000031

Essais SPLP

# échantillon	Type de matériel	Lithologie	Cobalt	Chrome	Cuivre	Fer	Potassium	Lithium	Magnésium	Manganèse
		Unité	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
		CVAA - Effet aigu	0,370	0,016	0,0016	3,4		0,9100		0,551
		D019/MDMER			0,100	3,0				
1	Stérile	Amphibolite	0,000026	0,00025	0,0002	0,028	6,04	0,0504	0,575	0,00114
2	Stérile	Amphibolite	0,000037	0,00028	0,0002	0,047	2,5	0,0421	0,955	0,00121
3	Stérile	Amphibolite	0,000014	<0,00008	0,0002	0,016	1,33	0,0189	0,72	0,00109
4	Stérile	Amphibolite	0,000061	0,00048	0,0008	0,069	0,474	0,0252	1,18	0,00173
5	Stérile	Amphibolite	0,000035	0,00037	0,0002	0,023	1,22	0,0852	1,04	0,00135
6	Stérile	Amphibolite	0,000007	0,00024	<0,0002	0,007	0,254	0,0118	0,696	0,00141
7	Stérile	Amphibolite	0,000025	<0,00008	0,0003	0,011	0,868	0,0147	0,931	0,00074
8	Stérile	Amphibolite	0,000061	0,0003	0,0004	0,08	0,199	0,0134	0,947	0,00185
9	Stérile	Amphibolite	0,000042	0,00025	0,0003	0,055	0,355	0,0017	0,792	0,00141
10	Stérile	Amphibolite	0,000034	0,00009	0,0003	0,066	0,408	0,0153	0,849	0,001
11	Stérile	Amphibolite	0,000014	<0,00008	<0,0002	0,01	0,523	0,0283	0,847	0,00055
12	Stérile	Amphibolite	0,000035	0,00019	0,0004	0,026	0,692	0,0048	0,838	0,00142
13	Stérile	Amphibolite	0,000013	<0,00008	0,0003	0,013	0,843	0,0302	0,659	0,00039
14	Stérile	Amphibolite	0,000013	<0,00008	<0,0002	0,01	0,197	0,0099	0,703	0,00051
15	Stérile	Amphibolite	0,000008	<0,00008	<0,0002	<0,007	0,912	0,0103	0,8	0,00071
16	Stérile	Métasédiment	0,000037	<0,00008	<0,0002	0,024	3,19	0,0555	0,789	0,00387
17	Stérile	Amphibolite	0,000037	0,00013	<0,0002	0,024	4,82	0,0353	0,77	0,00222
18	Stérile	Amphibolite	0,000034	0,00021	<0,0002	0,034	1,24	0,0238	0,876	0,00097
19	Stérile	Pegmatite stérile	0,000044	0,0004	0,0007	0,034	0,192	0,0045	0,625	0,0017
20	Stérile	Amphibolite	0,000514	<0,00008	<0,0002	0,007	10,5	0,0637	1,35	0,0358
21	Stérile	Amphibolite	0,000011	0,00014	<0,0002	0,008	2,45	0,0108	0,823	0,00056
22	Stérile	Amphibolite	0,000015	0,00026	<0,0002	0,013	0,369	0,0328	1,08	0,00043
23	Stérile	Métasédiment	0,000397	<0,00008	<0,0002	0,007	2,7	0,0367	2,22	0,04418
24	Stérile	Amphibolite	0,000027	0,00011	0,0003	0,065	3,47	0,0089	0,489	0,00093
25	Stérile	Métasédiment	0,000024	0,00084	<0,0002	0,024	5,28	0,0308	0,84	0,00044
26	Stérile	Amphibolite	0,000014	0,00022	<0,0002	0,037	0,586	0,0248	0,851	0,00079
27	Stérile	Amphibolite	0,000021	0,00018	<0,0002	0,016	0,693	0,0102	0,76	0,00098
28	Stérile	Amphibolite	0,00005	<0,0008	0,002	<0,07	0,94	0,046	0,79	0,0017
29	Stérile	Amphibolite	0,00004	<0,0008	<0,002	<0,07	2,2	0,08	0,84	0,0008
30	Stérile	Amphibolite	0,00004	<0,0008	<0,002	<0,07	0,85	0,019	0,58	0,0007
31	Stérile	Métasédiment	0,000034	<0,00008	<0,0002	0,051	5,09	0,109	0,394	0,00172
32	Stérile	Amphibolite	0,000014	<0,00008	<0,0002	0,017	0,881	0,0084	0,822	0,00078
33	Stérile	Amphibolite	0,000007	<0,00008	<0,0002	0,008	1,14	0,0196	0,661	0,0008
34	Stérile	Métasédiment	0,000039	<0,00008	<0,0002	0,047	4,78	0,133	0,355	0,00153
35	Stérile	Métasédiment	0,000018	0,00011	0,0007	0,038	6,01	0,0814	0,425	0,00123
36	Stérile	Ultramafique	0,00002	0,00388	<0,0002	0,007	0,66	0,019	2,42	0,0002
37	Stérile	Amphibolite	0,000021	<0,00008	<0,0002	0,007	2,22	0,0739	0,692	0,0014
38	Stérile	Métasédiment	0,000032	<0,00008	0,0003	0,042	1,39	0,0485	0,374	0,00352
39	Stérile	Métasédiment	0,00002	0,00012	<0,0002	0,02	1,96	0,0548	0,766	0,0012
40	Stérile	Métasédiment	0,000018	<0,00008	<0,0002	0,021	1,62	0,0674	0,369	0,00107
41	Stérile	Métasédiment	0,000017	<0,00008	<0,0002	0,016	2,48	0,0278	0,532	0,00095
42	Stérile	Métasédiment	0,00002	<0,00008	0,0004	0,012	2,61	0,0283	0,923	0,00281
43	Stérile	Métasédiment	0,000012	<0,00008	<0,0002	0,014	4,31	0,0399	0,725	0,00109
44	Stérile	Métasédiment	0,000018	0,00015	0,0003	0,015	2,3	0,0299	0,177	0,00114
45	Stérile	Métasédiment	0,000027	0,00023	<0,0002	0,032	3,29	0,0027	0,164	0,00155
46	Stérile	Métasédiment	0,000018	0,00011	<0,0002	0,028	4,48	0,0037	0,182	0,00134
47	Stérile	Métasédiment	0,000045	<0,00008	<0,0002	0,051	4,81	0,0108	0,532	0,00185
48	Stérile	Métasédiment	0,00004	<0,0008	0,002	<0,07	0,22	0,047	0,88	0,0004
49	Stérile	Métasédiment	0,000025	<0,00008	0,0004	0,045	6,49	0,207	0,435	0,0015
50	Stérile	Métasédiment	0,000056	<0,00008	<0,0002	0,011	4,48	0,08	0,587	0,00117
51	Stérile	Métasédiment	0,000018	<0,00008	<0,0002	0,014	1,66	0,0363	0,597	0,0025
52	Stérile	Métasédiment	0,000011	<0,00008	<0,0002	0,019	2,84	0,0368	0,535	0,00138
53	Stérile	Métasédiment	0,000011	<0,00008	<0,0002	0,027	5,94	0,0324	0,359	0,00172
54	Stérile	Métasédiment	0,00004	<0,0008	<0,002	0,13	2,33	0,056	0,33	0,0017
55	Stérile	Métasédiment	0,000019	0,00141	<0,0002	0,008	0,824	0,0077	1,51	0,00049
56	Stérile	Amphibolite	0,000013	<0,00008	0,0003	0,007	3,81	0,0267	0,696	0,0008
57	Stérile	Métasédiment	0,000018	0,00015	<0,0002	0,019	3,31	0,0301	0,802	0,00084
58	Stérile	Ultramafique	0,000016	0,00293	<0,0002	<0,007	0,455	0,0099	3,18	0,00018
59	Stérile	Ultramafique	0,000022	0,00326	<0,0002	0,016	0,394	0,0141	2,19	0,00065
60	Stérile	Ultramafique	0,000016	0,00261	<0,0002	<0,007	1,7	0,0295	4,85	0,00044
61	Stérile	Ultramafique	0,000008	0,00037	<0,0002	<0,007	0,319	0,0025	1,8	0,00041
62	Stérile	Ultramafique	0,00003	0,00278	<0,0002	<0,007	0,333	0,0018	3,6	0,00036
63	Stérile	Pegmatite stérile	0,000015	0,00017	<0,0002	<0,007	2,49	0,009	0,114	0,00383
64	Stérile	Pegmatite stérile	0,000008	<0,00008	<0,0002	<0,007	3,79	0,0629	0,139	0,00914
65	Stérile	Pegmatite stérile	0,00002	<0,00008	<0,0002	<0,007	2,92	0,0242	0,082	0,01122
66	Stérile	Pegmatite stérile	0,000039	0,00009	<0,0002	<0,007	2,26	0,0172	0,063	0,00675
67	Stérile	Pegmatite stérile	0,000039	0,00012	<0,0002	<0,007	2,8	0,0055	0,054	0,00566
68	Stérile	Pegmatite stérile	0,00004	0,0008	<0,002	<0,07	1,86	0,045	0,05	0,0276
69	Stérile	Pegmatite stérile	0,000016	<0,00008	0,0003	<0,007	0,987	0,0394	0,164	0,00207
70	Stérile	Pegmatite stérile	0,000083	<0,00008	0,0036	<0,01	0,922	0,0186	0,249	0,00329

Essais SPLP

# échantillon	Type de matériel	Lithologie	Molybdenum	Sodium	Nickel	Phosphore réactif total	Plomb	Antimoine	Sélénium	Etain
		Unité	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
		CVAA - Effet aigu	29		0,067		0,004	0,31	0,062	
		D019/MDMER			0,250		0,080			
1	Stérile	Amphibolite	0,00011	0,79	0,0002	0,012	<0,00009	0,0009	0,00008	<0,00006
2	Stérile	Amphibolite	0,00058	1,7	0,0003	0,009	<0,00009	0,0051	0,00037	<0,00006
3	Stérile	Amphibolite	0,00014	1,05	0,0001	0,008	<0,00009	0,0009	0,00012	<0,00006
4	Stérile	Amphibolite	0,00025	1,19	0,0002	0,017	0,00021	0,0017	<0,00004	0,00007
5	Stérile	Amphibolite	0,00013	0,91	0,0003	0,013	<0,00009	0,0334	0,00014	<0,00006
6	Stérile	Amphibolite	0,0002	0,77	<0,0001	0,012	<0,00009	0,0009	0,0001	<0,00006
7	Stérile	Amphibolite	<0,00049	1,48	0,0002	0,008	<0,00009	0,0038	0,00034	<0,00006
8	Stérile	Amphibolite	0,00014	1,5	0,0003	0,011	<0,00009	0,0009	0,00014	<0,00006
9	Stérile	Amphibolite	0,0001	1,12	0,0003	0,014	<0,00009	0,0009	0,00007	<0,00006
10	Stérile	Amphibolite	0,00031	1,07	0,0002	0,021	<0,00009	0,0056	0,00027	<0,00006
11	Stérile	Amphibolite	0,00012	0,91	0,0001	0,006	<0,00009	0,0099	0,00011	<0,00006
12	Stérile	Amphibolite	0,00027	1,14	0,0005	0,01	<0,00009	0,0012	0,00016	<0,00006
13	Stérile	Amphibolite	0,00017	2,04	0,0001	0,008	<0,00009	0,0062	0,00005	<0,00006
14	Stérile	Amphibolite	<0,00044	2,63	0,0001	0,006	<0,00009	0,0052	0,00008	<0,00006
15	Stérile	Amphibolite	0,00016	1,22	<0,0001	0,005	<0,00009	0,0015	0,00019	<0,00006
16	Stérile	Métasédiment	0,00079	1,55	0,0004	0,009	0,00074	0,0039	0,00028	<0,00006
17	Stérile	Amphibolite	0,00037	1,16	0,0005	0,006	<0,00009	0,0172	0,00005	<0,00006
18	Stérile	Amphibolite	0,00072	1,29	0,0002	0,006	<0,00009	0,0087	0,00031	<0,00006
19	Stérile	Pegmatite stérile	0,00019	1,41	0,0004	0,008	<0,00009	0,0009	0,0001	<0,00006
20	Stérile	Amphibolite	0,00029	0,96	0,0046	0,004	<0,00009	0,0009	0,00018	<0,00006
21	Stérile	Amphibolite	0,00017	0,84	<0,0001	0,009	<0,00009	0,0009	0,00009	<0,00006
22	Stérile	Amphibolite	<0,00048	1,87	0,0002	0,02	<0,00009	0,0083	0,00005	<0,00006
23	Stérile	Métasédiment	0,00134	1,62	0,0036	0,003	<0,00009	0,0036	0,00024	<0,00006
24	Stérile	Amphibolite	0,00031	1,5	0,0002	0,024	<0,00009	0,0009	<0,00004	<0,00006
25	Stérile	Métasédiment	0,00054	0,54	0,0002	0,011	<0,00009	0,0016	<0,00004	<0,00006
26	Stérile	Amphibolite	<0,00045	1	0,0002	0,007	<0,00009	0,0014	0,00006	<0,00006
27	Stérile	Amphibolite	<0,00042	2,6	0,0002	0,012	<0,00009	0,0036	0,00059	<0,00006
28	Stérile	Amphibolite	0,001	1,2	0,001	0,019	<0,0009	0,033	0,0015	<0,00006
29	Stérile	Amphibolite	0,0007	1,7	0,001	0,015	<0,0009	0,072	0,0012	<0,00006
30	Stérile	Amphibolite	<0,0004	1,3	0,001	0,01	<0,0009	0,009	0,0008	<0,00006
31	Stérile	Métasédiment	0,00037	1,25	0,0002	0,032	<0,00009	0,0061	<0,00004	<0,00006
32	Stérile	Amphibolite	0,00038	1,17	0,0001	0,009	<0,00009	0,0009	<0,00004	<0,00006
33	Stérile	Amphibolite	<0,00043	1,21	0,0001	0,009	<0,00009	0,0017	0,00006	<0,00006
34	Stérile	Métasédiment	0,00029	1,13	0,0003	0,019	<0,00009	0,0102	0,00006	<0,00006
35	Stérile	Métasédiment	0,00023	0,83	0,0001	0,022	<0,00009	0,0011	0,00007	<0,00006
36	Stérile	Ultramafique	0,00032	0,81	0,0003	0,008	<0,00009	0,144	0,00006	<0,00006
37	Stérile	Amphibolite	0,0031	0,73	0,0004	0,023	<0,00009	0,156	0,00029	<0,00006
38	Stérile	Métasédiment	0,00072	2,2	<0,0001	0,012	<0,00009	0,0026	0,00006	0,00007
39	Stérile	Métasédiment	0,00093	1,55	0,0002	0,008	0,0001	0,0223	0,00023	<0,00006
40	Stérile	Métasédiment	0,00062	2,16	0,0001	0,006	<0,00009	0,0165	0,00005	<0,00006
41	Stérile	Métasédiment	0,00068	2,1	0,0002	0,007	<0,00009	0,0009	0,00005	<0,00006
42	Stérile	Métasédiment	0,00085	1,73	0,0002	0,006	<0,00009	0,001	0,00008	<0,00006
43	Stérile	Métasédiment	0,0009	2,07	0,0002	0,007	<0,00009	0,0009	0,00006	<0,00006
44	Stérile	Métasédiment	0,00035	1,75	0,0002	0,024	<0,00009	0,0009	<0,00004	<0,00006
45	Stérile	Métasédiment	0,00034	1,51	0,0002	0,03	<0,00009	0,0009	<0,00004	<0,00006
46	Stérile	Métasédiment	0,00022	1,41	<0,0001	0,021	<0,00009	0,0009	<0,00004	<0,00006
47	Stérile	Métasédiment	0,00056	1,42	0,0002	0,012	0,00013	0,0009	0,00036	<0,00006
48	Stérile	Métasédiment	0,0007	1,8	0,001	0,003	<0,0009	<0,009	0,0004	<0,00006
49	Stérile	Métasédiment	0,00027	0,89	0,0002	0,013	<0,00009	0,0054	0,00004	<0,00006
50	Stérile	Métasédiment	0,00169	1,56	0,0004	0,006	<0,00009	0,0733	0,00133	<0,00006
51	Stérile	Métasédiment	0,00086	2,2	0,0002	0,012	<0,00009	0,003	0,00021	<0,00006
52	Stérile	Métasédiment	0,0006	1,18	0,0002	0,012	<0,00009	0,0011	<0,00004	<0,00006
53	Stérile	Métasédiment	0,00034	0,94	<0,0001	0,016	<0,00009	0,0009	<0,00004	<0,00006
54	Stérile	Métasédiment	0,0005	1,3	0,001	0,025	<0,0009	0,021	0,0004	<0,00006
55	Stérile	Métasédiment	0,00028	0,52	0,0003	0,007	<0,00009	0,0011	0,00005	<0,00006
56	Stérile	Amphibolite	0,00019	0,83	0,0002	0,005	<0,00009	0,0009	0,00011	<0,00006
57	Stérile	Métasédiment	0,00031	0,98	0,0002	0,009	<0,00009	0,0009	0,00008	<0,00006
58	Stérile	Ultramafique	0,00017	0,81	0,0004	0,012	<0,00009	0,0818	0,00007	<0,00006
59	Stérile	Ultramafique	0,00019	0,79	0,0003	0,009	<0,00009	0,0043	0,0002	<0,00006
60	Stérile	Ultramafique	0,00034	0,31	0,0006	0,007	<0,00009	0,124	0,00004	<0,00006
61	Stérile	Ultramafique	0,00028	0,49	0,0002	0,005	<0,00009	0,01	0,00004	<0,00006
62	Stérile	Ultramafique	0,00061	0,18	0,0009	0,01	<0,00009	0,38	0,0001	<0,00006
63	Stérile	Pegmatite stérile	0,00126	2,3	0,0002	0,045	<0,00009	0,0062	0,00009	<0,00006
64	Stérile	Pegmatite stérile	<0,00042	1,01	0,0002	0,092	<0,00009	0,006	0,00004	0,00013
65	Stérile	Pegmatite stérile	0,00078	0,91	0,0002	0,08	<0,00009	0,0051	0,00004	<0,00006
66	Stérile	Pegmatite stérile	0,00056	1,44	0,0003	0,063	<0,00009	0,0042	0,00004	0,0001
67	Stérile	Pegmatite stérile	0,00055	1,23	0,0004	0,07	<0,00009	0,0018	0,00004	<0,00006
68	Stérile	Pegmatite stérile	<0,0004	0,8	<0,001	0,077	<0,0009	0,012	0,0004	0,00008
69	Stérile	Pegmatite stérile	0,00073	2,82	0,0003	0,061	<0,00009	0,0039	0,00006	0,00011
70	Stérile	Pegmatite stérile	0,00088	2,26	0,0003	0,052	<0,00009	0,0057	0,00077	0,00011

Essais SPLP

# échantillon	Type de matériel	Lithologie	Strontium	Titane	Thorium	Uranium	Vanadium	Zinc
		Unité	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
		CVAA - Effet aigu	40		0,047	0,017	0,11	0,02
		D019/MDMER						0,40
1	Stérile	Amphibolite	0,0123	0,00196	<0,000005	<0,000002	0,00619	<0,002
2	Stérile	Amphibolite	0,0172	0,00197	<0,000005	0,000008	0,00405	<0,002
3	Stérile	Amphibolite	0,00823	<0,0005	<0,000005	0,000006	0,00787	<0,002
4	Stérile	Amphibolite	0,00474	0,00202	<0,000005	0,000029	0,00423	<0,002
5	Stérile	Amphibolite	0,0129	0,00064	0,00003	0,000003	0,00406	<0,002
6	Stérile	Amphibolite	0,00825	0,00007	<0,000005	0,000039	0,0057	<0,002
7	Stérile	Amphibolite	0,0124	0,00026	<0,000005	0,00003	0,00662	<0,002
8	Stérile	Amphibolite	0,00734	0,00306	<0,000005	<0,00002	0,00507	<0,002
9	Stérile	Amphibolite	0,00405	0,00209	<0,000005	<0,000002	0,00578	<0,002
10	Stérile	Amphibolite	0,00734	0,00217	<0,000005	0,000013	0,00483	<0,002
11	Stérile	Amphibolite	0,00882	0,00031	<0,000005	0,000002	0,00515	<0,002
12	Stérile	Amphibolite	0,0105	0,00084	<0,000005	0,000023	0,00623	<0,002
13	Stérile	Amphibolite	0,0296	0,00069	0,000009	0,000005	0,00867	<0,002
14	Stérile	Amphibolite	0,00868	0,0004	<0,000005	0,000004	0,00968	<0,002
15	Stérile	Amphibolite	0,00909	0,00019	<0,000005	0,000031	0,00599	<0,002
16	Stérile	Métasédiment	0,0149	0,00095	<0,000005	0,000011	0,00061	<0,002
17	Stérile	Amphibolite	0,0146	0,00089	<0,000005	0,000004	0,00072	<0,002
18	Stérile	Amphibolite	0,0112	0,00106	<0,000005	0,000025	0,00688	<0,002
19	Stérile	Pegmatite stérile	0,0097	0,00166	<0,000005	0,000004	0,00596	<0,002
20	Stérile	Amphibolite	0,02	<0,00005	<0,000005	0,000003	0,00002	<0,002
21	Stérile	Amphibolite	0,0133	0,00028	<0,000005	0,00001	0,0049	<0,002
22	Stérile	Amphibolite	0,015	0,00056	<0,000005	0,000008	0,00592	<0,002
23	Stérile	Métasédiment	0,0213	0,00008	<0,000005	0,00002	0,00005	<0,002
24	Stérile	Amphibolite	0,0133	0,00241	<0,000005	0,000057	0,0038	<0,002
25	Stérile	Métasédiment	0,0125	0,00138	0,000007	0,000015	0,00338	<0,002
26	Stérile	Amphibolite	0,00609	0,00051	<0,000005	0,000002	0,00482	<0,002
27	Stérile	Amphibolite	0,017	0,00061	<0,000005	0,000041	0,00975	<0,002
28	Stérile	Amphibolite	0,0135	0,0012	<0,00005	0,00004	0,00483	<0,02
29	Stérile	Amphibolite	0,0363	0,0006	<0,00005	<0,00002	0,00422	<0,02
30	Stérile	Amphibolite	0,0111	0,0005	<0,00005	<0,00002	0,00588	<0,02
31	Stérile	Métasédiment	0,0167	0,00442	0,000127	0,000073	0,00541	<0,002
32	Stérile	Amphibolite	0,00682	0,00042	<0,000005	0,000011	0,00717	<0,002
33	Stérile	Amphibolite	0,00754	0,00027	<0,000005	0,000008	0,00733	<0,002
34	Stérile	Métasédiment	0,00769	0,0029	0,000192	0,000052	0,00305	<0,002
35	Stérile	Métasédiment	0,00693	0,00287	0,000005	0,000032	0,00357	<0,002
36	Stérile	Ultramafique	0,0142	0,00009	0,000033	0,000002	0,00506	<0,002
37	Stérile	Amphibolite	0,0115	0,00034	0,000195	0,000088	0,00367	<0,002
38	Stérile	Métasédiment	0,00734	0,00238	0,000039	0,000018	0,00125	<0,002
39	Stérile	Métasédiment	0,0131	0,00091	0,000021	0,000003	0,00294	<0,002
40	Stérile	Métasédiment	0,012	0,00128	<0,000005	0,000049	0,0028	<0,002
41	Stérile	Métasédiment	0,014	0,00083	<0,000005	<0,000002	0,00229	<0,002
42	Stérile	Métasédiment	0,0184	0,0008	<0,000005	<0,000002	0,00085	<0,002
43	Stérile	Métasédiment	0,0207	0,00071	<0,000005	<0,000002	0,00147	<0,002
44	Stérile	Métasédiment	0,0102	0,00163	<0,000005	0,000237	0,00485	<0,002
45	Stérile	Métasédiment	0,0116	0,00278	<0,000005	0,000273	0,00502	<0,002
46	Stérile	Métasédiment	0,012	0,00228	<0,000005	0,000282	0,00505	<0,002
47	Stérile	Métasédiment	0,00622	0,00402	<0,000005	0,000044	0,00192	<0,002
48	Stérile	Métasédiment	0,0204	<0,0005	<0,00005	<0,00002	0,00996	<0,02
49	Stérile	Métasédiment	0,0108	0,00317	0,000375	0,000012	0,00372	<0,002
50	Stérile	Métasédiment	0,0074	0,00098	0,000042	0,000066	0,00188	<0,002
51	Stérile	Métasédiment	0,00954	0,001	<0,000005	0,000003	0,00288	<0,002
52	Stérile	Métasédiment	0,0102	0,00112	<0,000005	0,000053	0,00279	<0,002
53	Stérile	Métasédiment	0,00856	0,00178	<0,000005	0,000036	0,00337	<0,002
54	Stérile	Métasédiment	0,00691	<0,0005	<0,00005	0,00005	0,00276	<0,02
55	Stérile	Métasédiment	0,00521	0,0002	<0,000005	0,000002	0,00385	<0,002
56	Stérile	Amphibolite	0,0103	0,0002	<0,000005	0,000017	0,00611	<0,002
57	Stérile	Métasédiment	0,0151	0,0007	0,000012	<0,000002	0,00472	<0,002
58	Stérile	Ultramafique	0,0188	<0,00005	0,000017	<0,000002	0,00432	<0,002
59	Stérile	Ultramafique	0,0303	0,00027	0,000005	<0,000002	0,00716	<0,002
60	Stérile	Ultramafique	0,0112	<0,00005	0,000201	<0,000002	0,0027	<0,002
61	Stérile	Ultramafique	0,0215	<0,00005	<0,000005	<0,000002	0,0034	<0,002
62	Stérile	Ultramafique	0,00811	<0,00005	0,000011	0,000012	0,00411	<0,002
63	Stérile	Pegmatite stérile	0,00526	<0,00005	0,000136	0,00343	0,00047	<0,002
64	Stérile	Pegmatite stérile	0,00378	0,00016	0,000375	0,000937	0,0001	<0,002
65	Stérile	Pegmatite stérile	0,0048	0,00007	0,000245	0,000428	0,00011	<0,002
66	Stérile	Pegmatite stérile	0,00281	0,00008	0,000216	0,000443	0,00016	<0,002
67	Stérile	Pegmatite stérile	0,00231	0,00006	0,000277	0,000073	0,00011	<0,002
68	Stérile	Pegmatite stérile	0,00574	0,0005	0,00018	0,0011	0,00011	<0,02
69	Stérile	Pegmatite stérile	0,00926	0,00007	0,000057	0,002184	0,00031	<0,002
70	Stérile	Pegmatite stérile	0,0103	0,00006	0,00007	0,001253	0,00077	<0,002

Essais SPLP

# échantillon	Type de matériel	Lithologie	pH final	pH	Conductivité	Alkalinité	Acidité	Chlore	Mercure	Argent
		Unité	pH unit	pH unit	µS/cm	$mgCaCO_3/l$	$mgCaCO_3/l$	mg/l	mg/l	mg/l
		CVAA - Effet aigu						320	0,0014	0,00004
		D019/MDMER								
71	Stérile	Pegmatite stérile	---	7,07	21	6	<2,0	<20,0	<0,00001	<0,0005
72	Stérile	Pegmatite stérile	---	8,15	39	17	<2,0	<20,0	<0,00001	<0,0005
73	Stérile	Pegmatite stérile	8,41	6,87	22	6	<2,0	<20,0	<0,00001	<0,00005
74	Minerai	Pegmatite spodumène	8,01	7,04	20	5	<2,0	<20,0	<0,00001	<0,00005
75	Minerai	Pegmatite spodumène	8,94	7,81	32	13	<2,0	<20,0	<0,00001	<0,00005
76	Minerai	Pegmatite spodumène	9,15	7,78	48	21	<2,0	<20,0	<0,00001	<0,00005
77	Minerai	Pegmatite spodumène	8,12	7,37	27	10	<2,0	<20,0	<0,00001	<0,00005
78	Minerai	Pegmatite spodumène	---	8,39	42	17	<2,0	<21,0	<0,00001	<0,0005
79	Minerai	Pegmatite spodumène	7,82	7,08	26	8	<2,0	<20,0	<0,00001	<0,00005
80	Stérile	Pegmatite stérile	8,43	7,35	36	13	<2,0	<20,0	<0,00001	<0,00005
81	Minerai	Pegmatite spodumène	7,78	7,27	25	8	<2,0	<20,0	<0,00001	<0,0005
82	Minerai	Pegmatite spodumène	9,21	8,05	49	23	<2,0	<20,0	<0,00001	<0,00005
83	Résidu	Résidu DMS	8,17	6,46	21	4	<2,0	<20,0	0,00002	<0,0005
84	Résidu	Résidu DMS	7,88	6,75	16	4	<2,0	<20,0	<0,00001	<0,0005
VIS-CV5-AMP-085	Stérile	Amphibolite		8,61	63,0	33,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-086	Stérile	Amphibolite		8,25	62,0	30,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-087	Stérile	Amphibolite		8,57	61,0	29,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-088	Stérile	Amphibolite		8,17	59,0	27,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-089	Stérile	Amphibolite		8,25	63,0	28,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-090	Stérile	Amphibolite		8,33	69,0	29,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-091	Stérile	Amphibolite		8,19	61,0	30,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-092	Stérile	Amphibolite		8,03	42,0	21,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-093	Stérile	Amphibolite		8,42	71,0	29,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-094	Stérile	Amphibolite		8,00	58,0	26,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-095	Stérile	Amphibolite		8,20	58,0	29,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-096	Stérile	Amphibolite		8,01	57,0	28,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-097	Stérile	Amphibolite		8,04	63,0	28,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-098	Stérile	Amphibolite		7,97	67,0	27,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-099	Stérile	Amphibolite		8,09	60,0	27,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-100	Stérile	Amphibolite		9,07	90,0	29,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-101	Stérile	Amphibolite		7,96	86,0	28,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-102	Stérile	Amphibolite		9,00	61,0	27,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-103	Stérile	Amphibolite		8,17	70,0	28,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-104	Stérile	Amphibolite		9,09	58,0	37,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-105	Stérile	Amphibolite		6,04	141,0	3,0	<14,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-106	Stérile	Amphibolite		9,07	59,0	29,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-107	Stérile	Amphibolite		8,99	62,0	39,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-108	Stérile	Amphibolite		8,67	60,0	28,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-109	Stérile	Amphibolite		8,70	65,0	30,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-110	Stérile	Amphibolite		8,93	58,0	37,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-111	Stérile	Amphibolite		9,36	63,0	31,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-112	Stérile	Amphibolite		9,32	62,0	31,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-113	Stérile	Amphibolite		8,90	59,0	31,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-114	Stérile	Amphibolite		9,25	59,0	31,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-115	Stérile	Amphibolite		8,88	76,0	27,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-116	Stérile	Amphibolite		9,32	57,0	30,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-117	Stérile	Amphibolite		9,21	62,0	33,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-118	Stérile	Amphibolite		9,45	62,0	32,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-119	Stérile	Amphibolite		8,72	49,0	28,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-120	Stérile	Amphibolite		9,26	62,0	32,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-121	Stérile	Amphibolite		9,24	58,0	32,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-122	Stérile	Amphibolite		8,77	56,0	28,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-123	Stérile	Amphibolite		9,33	60,0	30,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-124	Stérile	Amphibolite		9,09	56,0	30,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-125	Stérile	Amphibolite		8,92	61,0	31,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-126	Stérile	Amphibolite		9,21	61,0	32,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-127	Stérile	Amphibolite		9,15	54,0	28,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-128	Stérile	Amphibolite		8,84	53,0	29,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-129	Stérile	Amphibolite		9,26	59,0	32,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-130	Stérile	Amphibolite		9,11	55,0	30,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-131	Stérile	Amphibolite		9,07	55,0	30,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-132	Stérile	Amphibolite		9,19	61,0	32,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-133	Stérile	Amphibolite		8,25	66,0	26,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-134	Stérile	Amphibolite		7,84	69,0	25,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-135	Stérile	Amphibolite		7,88	67,0	28,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-136	Stérile	Amphibolite		7,86	48,0	21,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-137	Stérile	Amphibolite		7,84	57,0	25,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-138	Stérile	Amphibolite		7,82	60,0	28,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-139	Stérile	Amphibolite		7,94	58,0	26,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-140	Stérile	Amphibolite		8,53	69,0	26,0	<2,0	<20,0	<0,00001	<0,00005

Essais SPLP

# échantillon	Type de matériel	Lithologie	Aluminum	Arsenic	Bore	Baryum	Beryllium	Bismuth	Calcium	Cadmium
		Unité	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
		CVAA - Effet aigu	0,28	0,34	28	0,108	0,001			0,0002
		D019/MDMER		0,10						
71	Stérile	Pegmatite stérile	0,16	0,091	<0,02	0,0008	0,00007	<0,0001	1,8	0,00003
72	Stérile	Pegmatite stérile	0,89	0,016	0,05	0,0008	0,00017	<0,0001	6,6	< 0.00003
73	Stérile	Pegmatite stérile	0,218	0,0225	0,007	0,00038	0,000038	0,00006	2	<0,000003
74	Minerai	Pegmatite spodumène	0,131	0,128	0,009	0,00015	0,000032	0,00001	1,3	<0,000003
75	Minerai	Pegmatite spodumène	0,716	0,0626	0,009	0,00016	0,000238	0,00619	5,48	<0,000003
76	Minerai	Pegmatite spodumène	0,803	0,0139	0,011	0,00039	0,000122	0,00057	6,01	<0,000003
77	Minerai	Pegmatite spodumène	0,505	0,0219	0,009	0,00028	0,00018	0,00018	3,34	<0,000003
78	Minerai	Pegmatite spodumène	0,54	0,033	<0,02	0,0008	0,00013	<0,001	5,8	0,00007
79	Minerai	Pegmatite spodumène	0,419	0,0199	0,004	0,00025	0,000095	0,00021	2,86	<0,000003
80	Stérile	Pegmatite stérile	0,559	0,0532	0,014	0,00033	0,000175	0,00079	4,32	<0,000003
81	Minerai	Pegmatite spodumène	0,19	0,069	<0,02	0,0008	0,00007	0,0001	2,3	< 0.00003
82	Minerai	Pegmatite spodumène	1,23	0,0115	0,01	0,00024	0,000127	0,00015	5,23	<0,000003
83	Résidu	Résidu DMS	0,12	0,016	<0,02	0,00028	0,00007	0,00005	1,6	< 0.00003
84	Résidu	Résidu DMS	0,27	0,012	<0,02	0,00085	0,00008	0,00037	1,2	< 0.00003
VIS-CV5-AMP-085	Stérile	Amphibolite	0,6520	0,0016	0,0270	0,0008	<0,000007	<0,00001	7,0100	0,000004
VIS-CV5-AMP-086	Stérile	Amphibolite	0,6450	0,0028	0,0240	0,0011	<0,000007	<0,00001	6,8400	<0,000003
VIS-CV5-AMP-087	Stérile	Amphibolite	0,5920	0,0021	0,0250	0,0006	<0,000007	<0,00001	7,0100	0,000007
VIS-CV5-AMP-088	Stérile	Amphibolite	0,4710	0,0020	0,0300	0,0008	<0,000007	<0,00001	7,3800	0,000005
VIS-CV5-AMP-089	Stérile	Amphibolite	0,5760	0,0016	0,0270	0,0044	<0,000007	<0,00001	5,8400	<0,000003
VIS-CV5-AMP-090	Stérile	Amphibolite	0,3780	0,0263	0,0330	0,0008	<0,000007	<0,00001	6,7800	<0,000003
VIS-CV5-AMP-091	Stérile	Amphibolite	0,4550	0,0016	0,0290	0,0011	<0,000007	<0,00001	6,5600	<0,000003
VIS-CV5-AMP-092	Stérile	Amphibolite	0,1660	0,0343	0,0280	0,0004	<0,000007	<0,00001	2,8800	<0,000003
VIS-CV5-AMP-093	Stérile	Amphibolite	0,4610	0,0408	0,0280	0,0016	<0,000007	<0,00001	6,8600	<0,000003
VIS-CV5-AMP-094	Stérile	Amphibolite	0,3590	0,0071	0,0290	0,0013	<0,000007	<0,00001	5,4600	<0,000003
VIS-CV5-AMP-095	Stérile	Amphibolite	0,5720	0,0132	0,0250	0,0006	<0,000007	<0,00001	6,4600	<0,000003
VIS-CV5-AMP-096	Stérile	Amphibolite	0,5290	0,0130	0,0250	0,0007	<0,000007	<0,00001	6,7600	<0,000003
VIS-CV5-AMP-097	Stérile	Amphibolite	0,3500	0,0694	0,0280	0,0009	<0,000007	<0,00001	6,4400	<0,000003
VIS-CV5-AMP-098	Stérile	Amphibolite	0,4010	0,0305	0,0310	0,0008	<0,000007	<0,00001	6,6200	<0,000003
VIS-CV5-AMP-099	Stérile	Amphibolite	0,5420	0,0033	0,0280	0,0015	0,000007	<0,00001	6,0100	<0,000003
VIS-CV5-AMP-100	Stérile	Amphibolite	0,2530	0,2270	0,0350	0,0010	0,000014	<0,0001	8,9800	<0,000003
VIS-CV5-AMP-101	Stérile	Amphibolite	0,3110	0,0376	0,0290	0,0015	<0,000007	<0,00001	8,9000	<0,000003
VIS-CV5-AMP-102	Stérile	Amphibolite	0,4840	0,0207	0,0320	0,0019	<0,000007	<0,00001	5,8500	<0,000003
VIS-CV5-AMP-103	Stérile	Amphibolite	0,4060	0,0139	0,0270	0,0017	0,000015	<0,00001	7,5800	0,000004
VIS-CV5-AMP-104	Stérile	Amphibolite	0,5000	0,0406	0,0260	0,0017	0,000022	<0,00001	6,4700	<0,000003
VIS-CV5-AMP-105	Stérile	Amphibolite	0,0010	0,0002	0,0460	0,0086	0,000023	<0,00001	14,1000	0,000025
VIS-CV5-AMP-106	Stérile	Amphibolite	0,3690	0,0442	0,0250	0,0007	<0,000007	<0,00001	6,5800	<0,000003
VIS-CV5-AMP-107	Stérile	Amphibolite	0,3110	0,0138	0,0280	0,0006	<0,000007	<0,00001	7,3100	0,000006
VIS-CV5-AMP-108	Stérile	Amphibolite	0,3730	0,0038	0,0240	0,0006	<0,000007	<0,00001	7,3400	<0,000003
VIS-CV5-AMP-109	Stérile	Amphibolite	0,3360	0,0082	0,0230	0,0007	<0,000007	<0,00001	8,1800	<0,000003
VIS-CV5-AMP-110	Stérile	Amphibolite	0,4880	0,0507	0,0260	0,0013	<0,000007	<0,00001	6,0900	<0,000003
VIS-CV5-AMP-111	Stérile	Amphibolite	0,4220	0,0354	0,0360	0,0007	<0,000007	<0,00001	6,1800	<0,000003
VIS-CV5-AMP-112	Stérile	Amphibolite	0,4970	0,0294	0,0330	0,0006	0,000012	<0,00001	6,4500	<0,000003
VIS-CV5-AMP-113	Stérile	Amphibolite	0,4870	0,1450	0,0400	0,0006	0,000018	<0,00001	5,8500	<0,000003
VIS-CV5-AMP-114	Stérile	Amphibolite	0,4230	0,0654	0,0360	0,0007	<0,000007	<0,00001	6,0600	<0,000003
VIS-CV5-AMP-115	Stérile	Amphibolite	0,3590	0,0543	0,0300	0,0014	<0,000007	<0,00001	8,8700	0,000004
VIS-CV5-AMP-116	Stérile	Amphibolite	0,4410	0,0248	0,0320	0,0005	<0,000007	<0,00001	5,8600	<0,000003
VIS-CV5-AMP-117	Stérile	Amphibolite	0,2250	0,1800	0,0280	0,0006	<0,000007	<0,00001	6,0900	<0,000003
VIS-CV5-AMP-118	Stérile	Amphibolite	0,4100	0,0146	0,0290	0,0007	<0,000007	<0,00001	6,1100	<0,000003
VIS-CV5-AMP-119	Stérile	Amphibolite	0,4960	0,0071	0,0270	0,0018	<0,000007	<0,00001	5,7700	<0,000003
VIS-CV5-AMP-120	Stérile	Amphibolite	0,5790	0,0445	0,0280	0,0006	<0,000007	<0,00001	7,0200	<0,000003
VIS-CV5-AMP-121	Stérile	Amphibolite	0,5970	0,0019	0,0220	0,0003	<0,000007	<0,00001	6,5300	<0,000003
VIS-CV5-AMP-122	Stérile	Amphibolite	0,7300	0,0073	0,0270	0,0017	0,000026	<0,00001	5,8400	<0,000003
VIS-CV5-AMP-123	Stérile	Amphibolite	0,3810	0,0123	0,0300	0,0005	<0,000007	<0,00001	5,8300	<0,000003
VIS-CV5-AMP-124	Stérile	Amphibolite	0,6610	0,0118	0,0260	0,0007	<0,000007	<0,00001	6,3100	<0,000003
VIS-CV5-AMP-125	Stérile	Amphibolite	0,6590	0,0222	0,0300	0,0013	0,000016	<0,00001	6,5000	<0,000003
VIS-CV5-AMP-126	Stérile	Amphibolite	0,7670	0,0399	0,0340	0,0010	0,000028	<0,00001	5,8100	<0,000003
VIS-CV5-AMP-127	Stérile	Amphibolite	0,6000	0,0188	0,0280	0,0004	<0,000007	<0,00001	6,2700	<0,000003
VIS-CV5-AMP-128	Stérile	Amphibolite	0,5730	0,0041	0,0230	0,0004	<0,000007	<0,00001	6,6600	<0,000003
VIS-CV5-AMP-129	Stérile	Amphibolite	0,5780	0,0793	0,0240	0,0005	<0,000007	<0,00001	6,6500	<0,000003
VIS-CV5-AMP-130	Stérile	Amphibolite	0,6820	0,0175	0,0260	0,0004	<0,000007	<0,00001	6,7800	<0,000003
VIS-CV5-AMP-131	Stérile	Amphibolite	0,5910	0,0186	0,0230	0,0006	<0,000007	<0,00001	7,1400	<0,000003
VIS-CV5-AMP-132	Stérile	Amphibolite	0,5340	0,0039	0,0350	0,0006	<0,000007	<0,00001	6,3800	<0,000003
VIS-CV5-AMP-133	Stérile	Amphibolite	0,4670	0,0087	0,0370	0,0009	<0,000007	<0,00001	7,6600	<0,000003
VIS-CV5-AMP-134	Stérile	Amphibolite	0,3610	0,0527	0,0480	0,0006	<0,000007	<0,00001	7,7900	<0,000003
VIS-CV5-AMP-135	Stérile	Amphibolite	0,3640	0,2150	0,0470	0,0012	<0,000007	<0,00001	6,8000	<0,000003
VIS-CV5-AMP-136	Stérile	Amphibolite	0,5530	0,0137	0,0020	0,0003	<0,000007	<0,00001	7,9100	<0,000003
VIS-CV5-AMP-137	Stérile	Amphibolite	0,5060	0,0299	0,0270	0,0008	<0,000007	<0,00001	6,1800	<0,000003
VIS-CV5-AMP-138	Stérile	Amphibolite	0,3830	0,0169	0,0190	0,0007	<0,000007	<0,00001	6,2500	<0,000003
VIS-CV5-AMP-139	Stérile	Amphibolite	0,8510	0,0180	0,0220	0,0019	<0,000007	<0,00001	6,7200	<0,000003
VIS-CV5-AMP-140	Stérile	Amphibolite	0,3500	0,0049	0,0180	0,0006	<0,000007	<0,00001	7,7000	<0,000003

Essais SPLP

# échantillon	Type de matériel	Lithologie	Cobalt	Chrome	Cuivre	Fer	Potassium	Lithium	Magnésium	Manganèse
		Unité	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
		CVAA - Effet aigu	0,370	0,016	0,0016	3,4		0,9100		0,551
		D019/MDMER			0,100	3,0				
71	Stérile	Pegmatite stérile	0,00004	<0,0008	<0,002	<0,07	1,26	0,024	0,13	0,0072
72	Stérile	Pegmatite stérile	0,00004	<0,0008	<0,002	<0,07	1,21	0,018	0,14	0,0016
73	Stérile	Pegmatite stérile	0,000022	<0,00008	<0,0002	<0,007	2,69	0,063	0,022	0,0198
74	Minerai	Pegmatite spodumène	0,000008	<0,00008	<0,0002	<0,007	2,4	0,169	0,031	0,04757
75	Minerai	Pegmatite spodumène	0,000006	<0,00008	<0,0002	<0,007	1,18	0,141	0,072	0,02445
76	Minerai	Pegmatite spodumène	0,000026	<0,0003	<0,0002	0,012	3,12	0,159	0,278	0,00259
77	Minerai	Pegmatite spodumène	0,000007	<0,00008	<0,0002	<0,007	1,81	0,366	0,098	0,06045
78	Minerai	Pegmatite spodumène	0,00004	<0,0008	<0,002	<0,07	1,9	0,131	0,28	0,005
79	Minerai	Pegmatite spodumène	0,00004	<0,00008	<0,0002	0,008	3,51	0,0598	0,103	0,01085
80	Stérile	Pegmatite stérile	0,000073	<0,00008	0,0004	0,017	3,48	0,0493	0,302	0,00948
81	Minerai	Pegmatite spodumène	0,00004	<0,0008	<0,002	<0,07	1,58	0,223	0,05	0,0248
82	Minerai	Pegmatite spodumène	0,000031	<0,00008	0,0003	0,01	5,5	0,103	0,1	0,00281
83	Résidu	Résidu DMS	0,00012	<0,0008	<0,002	<0,07	2,32	0,023	0,06	0,029
84	Résidu	Résidu DMS	0,00006	<0,0008	<0,002	<0,07	1,92	0,018	0,08	0,0105
VIS-CV5-AMP-085	Stérile	Amphibolite	0,0001	0,00052	<0,001	0,132	0,3090	0,0031	0,7990	0,0029
VIS-CV5-AMP-086	Stérile	Amphibolite	0,0001	0,00030	<0,001	0,123	0,8090	0,0074	0,7680	0,0018
VIS-CV5-AMP-087	Stérile	Amphibolite	0,0000	0,00012	<0,001	0,028	0,1910	0,0146	0,6140	0,0006
VIS-CV5-AMP-088	Stérile	Amphibolite	0,0001	0,00056	<0,001	0,154	0,1970	0,0065	0,6530	0,0034
VIS-CV5-AMP-089	Stérile	Amphibolite	0,0000	0,00019	<0,001	0,140	2,4600	0,0069	0,6240	0,0013
VIS-CV5-AMP-090	Stérile	Amphibolite	0,0001	0,00034	<0,001	0,047	0,4530	0,0246	0,7720	0,0014
VIS-CV5-AMP-091	Stérile	Amphibolite	0,0000	<0,00008	<0,001	0,042	0,5440	0,0110	0,5450	0,0011
VIS-CV5-AMP-092	Stérile	Amphibolite	0,0001	0,00104	<0,001	0,104	0,2580	0,0046	1,1300	0,0015
VIS-CV5-AMP-093	Stérile	Amphibolite	0,0001	0,00028	<0,001	0,079	1,5100	0,0562	0,7710	0,0028
VIS-CV5-AMP-094	Stérile	Amphibolite	0,0000	0,00030	<0,001	0,042	0,9630	0,0632	0,6550	0,0013
VIS-CV5-AMP-095	Stérile	Amphibolite	0,0001	0,00062	<0,001	0,078	0,2140	0,0184	0,5400	0,0026
VIS-CV5-AMP-096	Stérile	Amphibolite	0,0000	0,00057	<0,001	0,054	0,2020	0,0182	0,5270	0,0017
VIS-CV5-AMP-097	Stérile	Amphibolite	0,0000	0,00015	<0,001	0,025	0,7780	0,0377	0,5920	0,0009
VIS-CV5-AMP-098	Stérile	Amphibolite	0,0001	0,00050	<0,001	0,140	0,5520	0,0224	0,7800	0,0033
VIS-CV5-AMP-099	Stérile	Amphibolite	0,0001	0,00093	<0,001	0,094	1,1000	0,0445	0,5440	0,0034
VIS-CV5-AMP-100	Stérile	Amphibolite	0,0001	0,00051	<0,001	0,068	2,1900	0,1610	1,3500	0,0030
VIS-CV5-AMP-101	Stérile	Amphibolite	0,0000	<0,00008	<0,001	0,016	1,4200	0,0662	0,9340	0,0006
VIS-CV5-AMP-102	Stérile	Amphibolite	0,0001	0,00026	<0,001	0,112	2,7800	0,1020	0,5490	0,0024
VIS-CV5-AMP-103	Stérile	Amphibolite	0,0001	0,00046	<0,001	0,097	0,9020	0,0440	0,7580	0,0021
VIS-CV5-AMP-104	Stérile	Amphibolite	0,0001	<0,00038	<0,001	0,136	0,7890	0,0476	0,6190	0,0030
VIS-CV5-AMP-105	Stérile	Amphibolite	0,0333	<0,00008	<0,001	2,300	0,4520	0,0556	3,4500	0,3130
VIS-CV5-AMP-106	Stérile	Amphibolite	0,0000	0,00013	<0,001	0,009	0,1630	0,0194	0,5570	0,0006
VIS-CV5-AMP-107	Stérile	Amphibolite	0,0000	0,00256	<0,001	<0,007	0,2480	0,0262	0,4630	0,0002
VIS-CV5-AMP-108	Stérile	Amphibolite	0,0000	<0,00008	<0,001	<0,007	0,1310	0,0271	0,5260	0,0003
VIS-CV5-AMP-109	Stérile	Amphibolite	0,0000	0,00011	<0,001	0,017	0,1550	0,0313	0,5010	0,0007
VIS-CV5-AMP-110	Stérile	Amphibolite	0,0001	0,00071	<0,001	0,189	0,5340	0,0174	0,7610	0,0043
VIS-CV5-AMP-111	Stérile	Amphibolite	0,0000	0,00034	<0,001	0,058	0,6080	0,0256	0,7890	0,0015
VIS-CV5-AMP-112	Stérile	Amphibolite	0,0001	0,00037	<0,001	0,073	0,5660	0,0373	0,4900	0,0017
VIS-CV5-AMP-113	Stérile	Amphibolite	0,0000	0,00013	<0,001	0,031	0,6300	0,0508	0,5350	0,0011
VIS-CV5-AMP-114	Stérile	Amphibolite	0,0000	0,00017	<0,001	0,016	0,5780	0,0189	0,6710	0,0006
VIS-CV5-AMP-115	Stérile	Amphibolite	0,0000	0,00012	<0,001	0,010	0,4130	0,0203	0,9930	0,0006
VIS-CV5-AMP-116	Stérile	Amphibolite	0,0000	0,00040	<0,001	0,046	0,6070	0,0403	0,7300	0,0012
VIS-CV5-AMP-117	Stérile	Amphibolite	0,0002	0,00125	<0,001	0,112	0,4380	0,0282	1,0100	0,0024
VIS-CV5-AMP-118	Stérile	Amphibolite	0,0001	0,00171	<0,001	0,155	0,2830	0,0360	0,9960	0,0036
VIS-CV5-AMP-119	Stérile	Amphibolite	0,0001	<0,00008	<0,001	0,270	0,7500	0,0432	0,4910	0,0035
VIS-CV5-AMP-120	Stérile	Amphibolite	0,0000	<0,00008	<0,001	<0,007	0,5070	0,0260	0,6350	0,0003
VIS-CV5-AMP-121	Stérile	Amphibolite	0,0000	0,00012	<0,001	0,010	0,1250	0,0269	0,5420	0,0003
VIS-CV5-AMP-122	Stérile	Amphibolite	0,0001	0,00070	<0,001	0,213	1,5600	0,0414	0,7740	0,0039
VIS-CV5-AMP-123	Stérile	Amphibolite	0,0000	0,00026	<0,001	0,044	0,3910	0,0342	0,6250	0,0010
VIS-CV5-AMP-124	Stérile	Amphibolite	0,0001	0,00073	<0,001	0,131	0,4710	0,0150	0,8630	0,0034
VIS-CV5-AMP-125	Stérile	Amphibolite	0,0002	0,00108	<0,001	0,204	0,5570	0,0243	0,7450	0,0055
VIS-CV5-AMP-126	Stérile	Amphibolite	0,0001	0,00063	<0,001	0,215	2,5600	0,1150	0,6200	0,0036
VIS-CV5-AMP-127	Stérile	Amphibolite	0,0000	<0,00008	<0,001	0,014	0,3910	0,0328	0,6340	0,0004
VIS-CV5-AMP-128	Stérile	Amphibolite	0,0000	<0,00008	<0,001	0,012	0,1690	0,0305	0,5040	0,0005
VIS-CV5-AMP-129	Stérile	Amphibolite	0,0000	0,00035	<0,001	0,012	0,3420	0,0277	0,6580	0,0004
VIS-CV5-AMP-130	Stérile	Amphibolite	0,0000	0,00013	<0,001	0,009	0,1830	0,0280	0,6350	0,0003
VIS-CV5-AMP-131	Stérile	Amphibolite	0,0000	<0,00008	<0,001	0,020	0,3450	0,0175	0,5560	0,0006
VIS-CV5-AMP-132	Stérile	Amphibolite	0,0000	<0,00008	<0,001	0,012	0,2890	0,0222	0,5220	0,0004
VIS-CV5-AMP-133	Stérile	Amphibolite	0,0000	0,00015	<0,001	0,068	0,4520	0,0274	0,4230	0,0013
VIS-CV5-AMP-134	Stérile	Amphibolite	0,0000	<0,00008	<0,001	0,066	0,1160	0,0155	0,5810	0,0012
VIS-CV5-AMP-135	Stérile	Amphibolite	0,0003	0,00200	<0,001	0,221	0,4560	0,0263	0,9510	0,0049
VIS-CV5-AMP-136	Stérile	Amphibolite	0,0000	<0,00008	<0,001	0,007	0,2090	0,0199	0,5100	0,0009
VIS-CV5-AMP-137	Stérile	Amphibolite	0,0002	0,00102	<0,001	0,308	0,4800	0,0436	0,7960	0,0053
VIS-CV5-AMP-138	Stérile	Amphibolite	0,0001	0,00094	<0,001	0,093	0,3000	0,0275	1,0300	0,0019
VIS-CV5-AMP-139	Stérile	Amphibolite	0,0002	0,00085	<0,001	0,305	0,5740	0,0218	0,6200	0,0069
VIS-CV5-AMP-140	Stérile	Amphibolite	0,0000	0,00010	<0,001	0,012	0,0620	0,0165	0,8280	0,0006

Essais SPLP

# échantillon	Type de matériel	Lithologie	Molybdenum	Sodium	Nickel	Phosphore réactif total	Plomb	Antimoine	Sélénium	Etain
		Unité	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
		CVAA - Effet aigu	29		0,067		0,004	0,31	0,062	
		D019/MDMER			0,250		0,080			
71	Stérile	Pegmatite stérile	0,0006	2	<0,001	0,1	<0,0009	0,013	0,0006	0,00011
72	Stérile	Pegmatite stérile	0,0006	1,4	<0,001	0,025	<0,0009	<0,009	0,0004	0,00017
73	Stérile	Pegmatite stérile	0,00062	0,92	0,0004	0,029	<0,00009	0,006	<0,00004	0,00009
74	Minerai	Pegmatite spodumène	0,00052	0,9	0,0002	0,109	0,00011	0,0241	<0,00004	0,00016
75	Minerai	Pegmatite spodumène	0,0003	1,41	0,0002	0,05	0,00009	0,0125	<0,00004	0,00006
76	Minerai	Pegmatite spodumène	0,0009	1,75	0,0003	0,07	<0,00009	0,0027	0,00005	0,00021
77	Minerai	Pegmatite spodumène	<0,00042	0,93	0,0002	0,203	<0,00009	0,005	<0,00004	0,00018
78	Minerai	Pegmatite spodumène	0,0009	1,6	<0,001	0,091	<0,0009	0,009	0,0011	0,00011
79	Minerai	Pegmatite spodumène	0,00035	0,87	0,0003	0,071	<0,00009	0,0024	<0,00004	0,00012
80	Stérile	Pegmatite stérile	<0,00045	1,57	0,0004	0,069	<0,00009	0,0076	0,0001	0,00018
81	Minerai	Pegmatite spodumène	0,0009	1,7	<0,001	0,068	<0,0009	0,012	<0,0004	0,00009
82	Minerai	Pegmatite spodumène	0,00037	2,72	0,0002	0,039	<0,00009	0,0032	0,00009	0,00027
83	Résidu	Résidu DMS	0,0006	1,5	<0,001	0,044	0,00011	0,009	<0,0004	0,0001
84	Résidu	Résidu DMS	0,0035	1,3	<0,001	0,043	0,00024	0,009	<0,0004	0,00014
VIS-CV5-AMP-085	Stérile	Amphibolite	<0,0004	5,3400	0,0003	0,0030	<0,00009	0,0025	0,00007	<0,00006
VIS-CV5-AMP-086	Stérile	Amphibolite	<0,0004	5,0100	0,0002	0,0060	0,00012	0,0016	0,00013	<0,00006
VIS-CV5-AMP-087	Stérile	Amphibolite	0,0006	4,7600	<0,0001	0,0030	<0,00009	0,0010	0,00009	<0,00006
VIS-CV5-AMP-088	Stérile	Amphibolite	0,0005	5,2000	0,0004	0,0060	<0,00009	0,0010	0,00007	<0,00006
VIS-CV5-AMP-089	Stérile	Amphibolite	<0,0004	5,2500	0,0002	0,0110	<0,00009	0,0009	0,00005	<0,00006
VIS-CV5-AMP-090	Stérile	Amphibolite	<0,0004	5,8700	0,0003	0,0030	0,00012	0,0109	0,00024	<0,00006
VIS-CV5-AMP-091	Stérile	Amphibolite	<0,0004	5,4600	<0,0001	0,0050	<0,00009	0,0009	0,00006	<0,00006
VIS-CV5-AMP-092	Stérile	Amphibolite	<0,0004	4,5100	0,0004	0,0050	<0,00009	0,0013	<0,00004	<0,00006
VIS-CV5-AMP-093	Stérile	Amphibolite	0,0005	5,3100	0,0002	0,0060	<0,00009	0,0248	0,00021	<0,00006
VIS-CV5-AMP-094	Stérile	Amphibolite	0,0008	4,8800	0,0002	0,0030	<0,00009	0,0310	0,00012	<0,00006
VIS-CV5-AMP-095	Stérile	Amphibolite	<0,0004	4,9800	0,0004	0,0030	<0,00009	0,0053	0,00006	0,00024
VIS-CV5-AMP-096	Stérile	Amphibolite	<0,0004	4,5600	0,0003	0,0030	<0,00009	0,0060	0,00006	<0,00006
VIS-CV5-AMP-097	Stérile	Amphibolite	0,0007	5,4100	<0,0001	0,0060	<0,00009	0,0100	0,00010	<0,00006
VIS-CV5-AMP-098	Stérile	Amphibolite	0,0005	5,8500	0,0004	0,0040	<0,00009	0,0105	0,00041	<0,00006
VIS-CV5-AMP-099	Stérile	Amphibolite	<0,0004	4,8800	0,0003	0,0030	<0,00009	0,0046	0,00005	<0,00006
VIS-CV5-AMP-100	Stérile	Amphibolite	0,0014	5,5800	0,0009	0,0100	<0,00009	0,0729	0,00155	0,00029
VIS-CV5-AMP-101	Stérile	Amphibolite	0,0009	5,3100	0,0003	0,0050	<0,00009	0,0187	0,00007	<0,00006
VIS-CV5-AMP-102	Stérile	Amphibolite	0,0005	5,2100	0,0004	0,0140	<0,00009	0,0196	<0,00004	<0,00006
VIS-CV5-AMP-103	Stérile	Amphibolite	0,0036	4,7000	0,0003	0,0050	0,00010	0,0122	0,00058	<0,00006
VIS-CV5-AMP-104	Stérile	Amphibolite	0,0005	4,5800	0,0004	0,0060	<0,00009	0,0081	0,00006	<0,00006
VIS-CV5-AMP-105	Stérile	Amphibolite	<0,0004	4,3200	0,0617	0,0030	<0,00009	0,0009	0,00018	<0,00006
VIS-CV5-AMP-106	Stérile	Amphibolite	0,0011	4,9700	0,0003	0,0050	<0,00009	0,0099	0,00016	<0,00006
VIS-CV5-AMP-107	Stérile	Amphibolite	0,0011	4,7900	0,0002	0,0030	<0,00009	0,0191	0,00008	<0,00006
VIS-CV5-AMP-108	Stérile	Amphibolite	<0,0004	4,3000	<0,0001	0,0030	<0,00009	0,0066	0,00006	<0,00006
VIS-CV5-AMP-109	Stérile	Amphibolite	<0,0004	4,7800	0,0002	0,0030	<0,00009	0,0047	0,00008	<0,00006
VIS-CV5-AMP-110	Stérile	Amphibolite	<0,0004	5,0500	0,0006	0,0040	<0,00009	0,0102	0,00013	0,00020
VIS-CV5-AMP-111	Stérile	Amphibolite	0,0005	5,6500	0,0002	0,0030	<0,00009	0,0141	0,00022	<0,00006
VIS-CV5-AMP-112	Stérile	Amphibolite	<0,0004	5,8500	0,0002	0,0100	0,00028	0,0062	0,00006	0,00021
VIS-CV5-AMP-113	Stérile	Amphibolite	0,0005	5,6300	0,0002	0,0140	0,00011	0,0208	0,00007	<0,00006
VIS-CV5-AMP-114	Stérile	Amphibolite	<0,0004	5,6200	<0,0001	0,0130	0,00011	0,0158	<0,00004	<0,00006
VIS-CV5-AMP-115	Stérile	Amphibolite	<0,0004	4,8500	<0,0001	0,0160	<0,00009	0,0028	0,00015	<0,00006
VIS-CV5-AMP-116	Stérile	Amphibolite	0,0005	5,3700	<0,0001	0,0070	<0,00009	0,0141	0,00008	<0,00006
VIS-CV5-AMP-117	Stérile	Amphibolite	0,0006	6,3700	0,0008	0,0050	<0,00009	0,0229	0,00035	0,00010
VIS-CV5-AMP-118	Stérile	Amphibolite	<0,0004	6,0900	0,0005	0,0090	<0,00009	0,0040	0,00011	0,00020
VIS-CV5-AMP-119	Stérile	Amphibolite	<0,0004	4,3100	<0,0001	0,0120	<0,00009	0,0021	0,00005	<0,00006
VIS-CV5-AMP-120	Stérile	Amphibolite	<0,0004	5,4500	<0,0001	0,0090	<0,00009	0,0414	0,00037	<0,00006
VIS-CV5-AMP-121	Stérile	Amphibolite	<0,0004	4,8400	0,0001	0,0100	<0,00009	0,0009	0,00005	<0,00006
VIS-CV5-AMP-122	Stérile	Amphibolite	<0,0004	4,7600	0,0005	0,0100	<0,00009	0,0164	0,00019	0,00013
VIS-CV5-AMP-123	Stérile	Amphibolite	<0,0004	5,8200	<0,0001	0,0060	<0,00009	0,0054	0,00025	0,00017
VIS-CV5-AMP-124	Stérile	Amphibolite	<0,0004	5,0800	0,0002	0,0130	<0,00009	0,0030	0,00009	<0,00006
VIS-CV5-AMP-125	Stérile	Amphibolite	<0,0004	5,8600	0,0006	0,0060	<0,00009	0,0146	0,00016	<0,00006
VIS-CV5-AMP-126	Stérile	Amphibolite	<0,0004	5,1600	0,0003	0,0050	0,00012	0,0050	0,00009	0,00011
VIS-CV5-AMP-127	Stérile	Amphibolite	<0,0004	5,0400	<0,0001	0,0070	<0,00009	0,0025	0,00006	<0,00006
VIS-CV5-AMP-128	Stérile	Amphibolite	0,0021	4,3400	0,0001	0,0060	<0,00009	0,0020	0,00012	0,00008
VIS-CV5-AMP-129	Stérile	Amphibolite	0,0005	4,8600	0,0002	0,0050	<0,00009	0,0141	0,00020	0,00012
VIS-CV5-AMP-130	Stérile	Amphibolite	<0,0004	4,4800	<0,0001	0,0030	<0,00009	0,0245	0,00006	<0,00006
VIS-CV5-AMP-131	Stérile	Amphibolite	<0,0004	3,9200	<0,0001	0,0030	<0,00009	0,0053	0,00011	<0,00006
VIS-CV5-AMP-132	Stérile	Amphibolite	<0,0004	5,4100	<0,0001	0,0060	0,00013	0,0029	0,00008	<0,00006
VIS-CV5-AMP-133	Stérile	Amphibolite	0,0011	5,1900	<0,0001	0,0030	<0,00009	0,0096	0,00015	0,00068
VIS-CV5-AMP-134	Stérile	Amphibolite	0,0013	5,5300	<0,0001	0,0070	<0,00009	0,0069	0,00019	0,00011
VIS-CV5-AMP-135	Stérile	Amphibolite	0,0014	5,7100	0,0012	0,0050	<0,00009	0,0384	0,00024	0,00104
VIS-CV5-AMP-136	Stérile	Amphibolite	<0,0004	0,7500	<0,0001	0,0030	<0,00009	0,0069	0,00006	0,00010
VIS-CV5-AMP-137	Stérile	Amphibolite	<0,0004	5,0300	0,0006	0,0190	<0,00009	0,0018	0,00007	0,00112
VIS-CV5-AMP-138	Stérile	Amphibolite	0,0005	4,8200	0,0003	0,0060	<0,00009	0,0026	0,00006	0,00024
VIS-CV5-AMP-139	Stérile	Amphibolite	0,0018	4,9200	0,0005	0,0040	<0,00009	0,0140	0,00010	0,00108
VIS-CV5-AMP-140	Stérile	Amphibolite	<0,0004	5,0900	<0,0001	0,0030	<0,00009	0,0028	0,00008	0,00011

Essais SPLP

# échantillon	Type de matériel	Lithologie	Strontium	Titane	Thorium	Uranium	Vanadium	Zinc
		Unité	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
		CVAA - Effet aigu	40		0,047	0,017	0,11	0,02
		D019/MDMER						0,40
71	Stérile	Pegmatite stérile	0,00424	<0,0005	0,00011	0,00039	0,00019	<0,02
72	Stérile	Pegmatite stérile	0,00529	<0,0005	0,0001	0,00069	0,00059	<0,02
73	Stérile	Pegmatite stérile	0,00358	0,00021	0,000182	0,000411	0,00006	<0,002
74	Minerai	Pegmatite spodumène	0,00136	0,00018	0,000419	0,000071	0,00003	<0,002
75	Minerai	Pegmatite spodumène	0,00794	0,0001	0,000157	0,00107	0,00007	<0,002
76	Minerai	Pegmatite spodumène	0,01	0,00012	0,000156	0,00034	0,00024	<0,002
77	Minerai	Pegmatite spodumène	0,00568	0,00017	0,000251	0,000099	0,00004	<0,002
78	Minerai	Pegmatite spodumène	0,0102	<0,0005	0,00016	0,00024	0,00029	<0,02
79	Minerai	Pegmatite spodumène	0,00421	0,00019	0,000242	0,000198	0,00004	<0,002
80	Stérile	Pegmatite stérile	0,0056	0,00027	0,00019	0,000171	0,00059	<0,002
81	Minerai	Pegmatite spodumène	0,00362	<0,0005	0,00012	0,0001	0,00014	<0,02
82	Minerai	Pegmatite spodumène	0,00302	0,00032	0,000353	0,007091	0,00093	<0,002
83	Résidu	Résidu DMS	0,00305	<0,0005	0,00053	0,000624	0,00011	<0,02
84	Résidu	Résidu DMS	0,0028	<0,0005	0,00041	0,000336	0,00017	<0,02
VIS-CV5-AMP-085	Stérile	Amphibolite	0,0084	0,0048	<0,000005	0,000068	0,00615	<0,002
VIS-CV5-AMP-086	Stérile	Amphibolite	0,0075	0,0057	<0,000005	0,000012	0,00556	<0,002
VIS-CV5-AMP-087	Stérile	Amphibolite	0,0078	0,0009	<0,000005	0,000008	0,00413	<0,002
VIS-CV5-AMP-088	Stérile	Amphibolite	0,0078	0,0058	<0,000005	0,000012	0,00379	<0,002
VIS-CV5-AMP-089	Stérile	Amphibolite	0,0124	0,0070	<0,000005	0,000010	0,00324	<0,002
VIS-CV5-AMP-090	Stérile	Amphibolite	0,0212	0,0020	<0,000005	0,000009	0,00530	<0,002
VIS-CV5-AMP-091	Stérile	Amphibolite	0,0065	0,0013	<0,000005	0,000074	0,00492	<0,002
VIS-CV5-AMP-092	Stérile	Amphibolite	0,0054	0,0020	<0,000005	0,000012	0,00110	<0,002
VIS-CV5-AMP-093	Stérile	Amphibolite	0,0102	0,0052	0,000021	0,000030	0,00300	<0,002
VIS-CV5-AMP-094	Stérile	Amphibolite	0,0079	0,0019	0,000013	0,000007	0,00319	<0,002
VIS-CV5-AMP-095	Stérile	Amphibolite	0,0071	0,0034	<0,000005	0,000117	0,00491	<0,002
VIS-CV5-AMP-096	Stérile	Amphibolite	0,0072	0,0020	<0,000005	0,000035	0,00416	<0,002
VIS-CV5-AMP-097	Stérile	Amphibolite	0,0119	0,0013	<0,000005	0,000009	0,00518	<0,002
VIS-CV5-AMP-098	Stérile	Amphibolite	0,0099	0,0050	<0,000005	0,000075	0,00520	<0,002
VIS-CV5-AMP-099	Stérile	Amphibolite	0,0093	0,0061	0,000008	0,000025	0,00422	<0,002
VIS-CV5-AMP-100	Stérile	Amphibolite	0,0106	0,0021	0,000085	0,000146	0,00304	<0,002
VIS-CV5-AMP-101	Stérile	Amphibolite	0,0142	0,0011	0,000008	0,000012	0,00214	<0,002
VIS-CV5-AMP-102	Stérile	Amphibolite	0,0099	0,0099	0,000011	0,000016	0,00273	<0,002
VIS-CV5-AMP-103	Stérile	Amphibolite	0,0150	0,0047	0,000007	0,000051	0,01020	<0,002
VIS-CV5-AMP-104	Stérile	Amphibolite	0,0059	0,0062	0,000021	0,000028	0,00388	<0,002
VIS-CV5-AMP-105	Stérile	Amphibolite	0,0204	0,0001	0,000018	0,000011	0,00001	<0,002
VIS-CV5-AMP-106	Stérile	Amphibolite	0,0073	0,0003	<0,000005	0,000031	0,00345	<0,002
VIS-CV5-AMP-107	Stérile	Amphibolite	0,0108	0,0002	<0,000005	0,000014	0,00324	<0,002
VIS-CV5-AMP-108	Stérile	Amphibolite	0,0062	0,0001	<0,000005	0,000009	0,00242	<0,002
VIS-CV5-AMP-109	Stérile	Amphibolite	0,0055	0,0006	<0,000005	0,000010	0,00261	<0,002
VIS-CV5-AMP-110	Stérile	Amphibolite	0,0081	0,0060	0,000006	0,000033	0,00399	<0,002
VIS-CV5-AMP-111	Stérile	Amphibolite	0,0098	0,0018	<0,000005	0,000015	0,00494	<0,002
VIS-CV5-AMP-112	Stérile	Amphibolite	0,0133	0,0032	0,000006	0,000024	0,00501	<0,002
VIS-CV5-AMP-113	Stérile	Amphibolite	0,0109	0,0031	0,000007	0,000078	0,00647	<0,002
VIS-CV5-AMP-114	Stérile	Amphibolite	0,0204	0,0004	<0,000005	0,000020	0,00557	<0,002
VIS-CV5-AMP-115	Stérile	Amphibolite	0,0269	0,0003	<0,000005	0,000086	0,00307	<0,002
VIS-CV5-AMP-116	Stérile	Amphibolite	0,0082	0,0015	<0,000005	0,000012	0,00355	<0,002
VIS-CV5-AMP-117	Stérile	Amphibolite	0,0118	0,0029	0,000006	0,000014	0,00643	<0,002
VIS-CV5-AMP-118	Stérile	Amphibolite	0,0115	0,0049	0,000007	0,000010	0,00394	<0,002
VIS-CV5-AMP-119	Stérile	Amphibolite	0,0061	0,0079	<0,000005	0,000030	0,00341	<0,002
VIS-CV5-AMP-120	Stérile	Amphibolite	0,0080	0,0001	0,000006	0,000070	0,00556	<0,002
VIS-CV5-AMP-121	Stérile	Amphibolite	0,0070	0,0003	<0,000005	0,000071	0,00441	<0,002
VIS-CV5-AMP-122	Stérile	Amphibolite	0,0064	0,0086	0,000012	0,000021	0,00355	<0,002
VIS-CV5-AMP-123	Stérile	Amphibolite	0,0130	0,0018	<0,000005	0,000025	0,01270	<0,002
VIS-CV5-AMP-124	Stérile	Amphibolite	0,0073	0,0042	<0,000005	0,000044	0,00503	<0,002
VIS-CV5-AMP-125	Stérile	Amphibolite	0,0069	0,0069	0,000008	0,000448	0,00522	<0,002
VIS-CV5-AMP-126	Stérile	Amphibolite	0,0056	0,0072	0,000227	0,000123	0,00423	<0,002
VIS-CV5-AMP-127	Stérile	Amphibolite	0,0069	0,0006	<0,000005	0,000015	0,00560	<0,002
VIS-CV5-AMP-128	Stérile	Amphibolite	0,0087	0,0001	<0,000005	0,000025	0,00428	<0,002
VIS-CV5-AMP-129	Stérile	Amphibolite	0,0096	0,0003	<0,000005	0,000031	0,00592	<0,002
VIS-CV5-AMP-130	Stérile	Amphibolite	0,0103	0,0003	<0,000005	0,000036	0,00569	<0,002
VIS-CV5-AMP-131	Stérile	Amphibolite	0,0085	0,0007	0,000009	0,000033	0,00448	<0,002
VIS-CV5-AMP-132	Stérile	Amphibolite	0,0059	0,0004	<0,000005	0,000016	0,00402	<0,002
VIS-CV5-AMP-133	Stérile	Amphibolite	0,0102	0,0024	<0,000005	0,000084	0,00352	<0,002
VIS-CV5-AMP-134	Stérile	Amphibolite	0,0102	0,0022	<0,000005	0,000141	0,00230	<0,002
VIS-CV5-AMP-135	Stérile	Amphibolite	0,0128	0,0057	0,000008	0,000026	0,00540	<0,002
VIS-CV5-AMP-136	Stérile	Amphibolite	0,0123	0,0002	0,000010	0,000104	0,00353	<0,002
VIS-CV5-AMP-137	Stérile	Amphibolite	0,0049	0,0088	<0,000005	0,000030	0,00506	<0,002
VIS-CV5-AMP-138	Stérile	Amphibolite	0,0106	0,0027	<0,000005	0,000015	0,00271	<0,002
VIS-CV5-AMP-139	Stérile	Amphibolite	0,0076	0,0099	0,000008	0,000015	0,00606	<0,002
VIS-CV5-AMP-140	Stérile	Amphibolite	0,0158	0,0003	<0,000005	0,000019	0,00263	<0,002

Essais SPLP

# échantillon	Type de matériel	Lithologie	pH final	pH	Conductivité	Alkalinité	Acidité	Chlore	Mercure	Argent
		Unité	pH unit	pH unit	µS/cm	$mgCaCO_3/l$	$mgCaCO_3/l$	mg/l	mg/l	mg/l
		CVAA - Effet aigu						320	0,0014	0,00004
		D019/MDMER								
VIS-CV5-AMP-141	Stérile	Amphibolite		8,30	66,0	29,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-142	Stérile	Amphibolite		8,12	46,0	18,0	<2,0	<20,0	0,00010	<0,00005
VIS-CV5-AMP-143	Stérile	Amphibolite		8,37	68,0	28,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-144	Stérile	Amphibolite		8,17	66,0	28,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-145	Stérile	Amphibolite		8,13	57,0	26,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-146	Stérile	Amphibolite		7,90	49,0	2,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-147	Stérile	Amphibolite		8,34	62,0	27,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-148	Stérile	Amphibolite		7,94	60,0	25,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-149	Stérile	Amphibolite		7,81	61,0	24,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-150	Stérile	Amphibolite		8,09	64,0	29,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-151	Stérile	Amphibolite		8,03	65,0	33,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-152	Stérile	Amphibolite		7,92	49,0	21,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-153	Stérile	Amphibolite		8,71	63,0	28,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-154	Stérile	Amphibolite		8,32	50,0	23,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-155	Stérile	Amphibolite		8,45	64,0	27,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-156	Stérile	Amphibolite		8,69	57,0	25,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-157	Stérile	Amphibolite		8,14	61,0	28,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-158	Stérile	Amphibolite		8,22	63,0	27,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-159	Stérile	Amphibolite		8,26	58,0	29,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-160	Stérile	Amphibolite		8,19	72,0	30,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-161	Stérile	Amphibolite		8,21	69,0	29,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-162	Stérile	Amphibolite		8,22	54,0	29,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-163	Stérile	Amphibolite		7,75	74,0	27,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-164	Stérile	Amphibolite		8,21	63,0	28,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-165	Stérile	Amphibolite		8,19	66,0	30,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-166	Stérile	Amphibolite		8,15	61,0	28,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-167	Stérile	Amphibolite		7,89	64,0	28,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-168	Stérile	Amphibolite		9,16	66,0	28,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-169	Stérile	Amphibolite		8,73	63,0	28,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-170	Stérile	Amphibolite		7,96	60,0	26,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-171	Stérile	Amphibolite		8,21	64,0	27,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-172	Stérile	Amphibolite		7,92	48,0	21,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-173	Stérile	Amphibolite		7,89	62,0	27,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-174	Stérile	Amphibolite		7,95	51,0	21,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-175	Stérile	Amphibolite		8,01	63,0	28,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-176	Stérile	Amphibolite		7,83	40,0	15,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-177	Stérile	Amphibolite		7,86	51,0	21,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-178	Stérile	Amphibolite		7,92	59,0	26,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-179	Stérile	Amphibolite		7,92	52,0	23,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-180	Stérile	Amphibolite		9,04	59,0	26,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-181	Stérile	Amphibolite		8,02	57,0	29,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-AMP-182	Stérile	Amphibolite		7,67	44,0	18,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-183	Stérile	Métasédiment		7,85	54,0	28,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-184	Stérile	Métasédiment		7,89	60,0	28,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-185	Stérile	Métasédiment		7,73	56,0	26,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-186	Stérile	Métasédiment		7,82	62,0	27,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-187	Stérile	Métasédiment		7,71	56,0	27,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-188	Stérile	Métasédiment		7,84	54,0	26,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-189	Stérile	Métasédiment		7,29	56,0	29,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-190	Stérile	Métasédiment		7,77	57,0	29,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-191	Stérile	Métasédiment		7,73	58,0	30,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-192	Stérile	Métasédiment		7,52	58,0	29,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-193	Stérile	Métasédiment		7,67	58,0	29,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-194	Stérile	Métasédiment		7,73	57,0	29,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-195	Stérile	Métasédiment		7,59	110,0	37,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-196	Stérile	Métasédiment		7,92	96,0	31,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-197	Stérile	Métasédiment		7,65	81,0	27,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-198	Stérile	Métasédiment		7,86	63,0	28,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-199	Stérile	Métasédiment		7,73	54,0	25,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-200	Stérile	Métasédiment		7,81	60,0	28,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-201	Stérile	Métasédiment		7,61	55,0	18,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-202	Stérile	Métasédiment		5,72	166,0	2,0	<39,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-203	Stérile	Métasédiment		7,61	82,0	28,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-204	Stérile	Métasédiment		7,64	68,0	32,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-205	Stérile	Métasédiment		7,02	40,0	14,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-206	Stérile	Métasédiment		7,13	42,0	17,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-207	Stérile	Métasédiment		7,25	61,0	21,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-208	Stérile	Métasédiment		7,74	58,0	30,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-209	Stérile	Métasédiment		7,57	57,0	28,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-210	Stérile	Métasédiment		7,10	46,0	11,0	<2,0	<20,0	<0,00001	<0,00005

Essais SPLP

# échantillon	Type de matériel	Lithologie	Aluminum	Arsenic	Bore	Baryum	Beryllium	Bismuth	Calcium	Cadmium
		Unité	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
		CVAA - Effet aigu	0,28	0,34	28	0,108	0,001			0,0002
		D019/MDMER		0,10						
VIS-CV5-AMP-141	Stérile	Amphibolite	0,5150	0,0166	0,0210	0,0009	<0,000007	<0,00001	6,2200	<0,000003
VIS-CV5-AMP-142	Stérile	Amphibolite	0,5880	0,0032	0,0210	0,0008	0,000009	<0,00001	4,2800	<0,000003
VIS-CV5-AMP-143	Stérile	Amphibolite	0,4440	0,1300	0,0260	0,0006	<0,000007	<0,00001	8,1900	<0,000003
VIS-CV5-AMP-144	Stérile	Amphibolite	0,6760	0,0124	0,0220	0,0007	<0,000007	<0,00001	7,1800	<0,000003
VIS-CV5-AMP-145	Stérile	Amphibolite	0,7260	0,0040	0,0240	0,0007	<0,000007	<0,00001	6,2600	<0,000003
VIS-CV5-AMP-146	Stérile	Amphibolite	0,5430	0,0214	0,0220	0,0009	<0,000007	<0,00001	5,1000	<0,000003
VIS-CV5-AMP-147	Stérile	Amphibolite	0,3670	0,0047	0,0230	0,0009	<0,000007	<0,00001	6,2900	<0,000003
VIS-CV5-AMP-148	Stérile	Amphibolite	0,3810	0,0089	0,0230	0,0006	<0,000007	<0,00001	7,2700	0,000010
VIS-CV5-AMP-149	Stérile	Amphibolite	0,3080	0,0611	0,0220	0,0008	0,000027	<0,00001	6,6300	<0,000003
VIS-CV5-AMP-150	Stérile	Amphibolite	0,7020	0,0187	0,0220	0,0009	0,000020	<0,00001	7,0300	<0,000003
VIS-CV5-AMP-151	Stérile	Amphibolite	0,4520	0,0155	0,0360	0,0006	0,000007	<0,00001	6,2400	<0,000003
VIS-CV5-AMP-152	Stérile	Amphibolite	0,5740	0,0057	0,0270	0,0010	0,000012	<0,00001	4,0000	0,000005
VIS-CV5-AMP-153	Stérile	Amphibolite	0,1880	0,3930	0,0270	0,0006	0,000012	<0,00001	6,2800	<0,000003
VIS-CV5-AMP-154	Stérile	Amphibolite	0,8460	0,0060	0,0290	0,0020	0,000041	<0,00001	5,1300	<0,000003
VIS-CV5-AMP-155	Stérile	Amphibolite	0,5100	0,1670	0,0240	0,0008	0,000030	<0,00001	6,1100	<0,000003
VIS-CV5-AMP-156	Stérile	Amphibolite	0,3510	0,0173	0,0200	0,0010	<0,000007	<0,00001	7,0000	<0,000003
VIS-CV5-AMP-157	Stérile	Amphibolite	0,5550	0,0049	0,0200	0,0007	<0,000007	<0,00001	6,9300	<0,000003
VIS-CV5-AMP-158	Stérile	Amphibolite	0,3490	0,0017	0,0270	0,0006	<0,000007	<0,00001	6,4200	<0,000003
VIS-CV5-AMP-159	Stérile	Amphibolite	0,4400	0,0768	0,0470	0,0017	0,000061	<0,00001	5,3900	0,000004
VIS-CV5-AMP-160	Stérile	Amphibolite	0,4250	0,1130	0,0320	0,0028	0,000030	<0,00001	5,4100	0,000004
VIS-CV5-AMP-161	Stérile	Amphibolite	0,3450	0,0235	0,0270	0,0016	0,000015	<0,00001	6,4200	0,000192
VIS-CV5-AMP-162	Stérile	Amphibolite	0,7050	0,0058	0,0280	0,0015	<0,000007	<0,00001	6,3000	<0,000003
VIS-CV5-AMP-163	Stérile	Amphibolite	0,3180	0,0437	0,0320	0,0016	<0,000007	<0,00001	7,8200	0,000009
VIS-CV5-AMP-164	Stérile	Amphibolite	0,4290	0,0132	0,0260	0,0005	<0,000007	<0,00001	6,6600	<0,000003
VIS-CV5-AMP-165	Stérile	Amphibolite	0,4450	0,0442	0,0330	0,0006	<0,000007	<0,00001	5,4300	0,000007
VIS-CV5-AMP-166	Stérile	Amphibolite	0,7370	0,0187	0,0230	0,0005	<0,000007	<0,00001	6,8200	<0,000003
VIS-CV5-AMP-167	Stérile	Amphibolite	0,2270	0,0038	0,0330	0,0008	<0,000007	<0,00001	6,2200	<0,000003
VIS-CV5-AMP-168	Stérile	Amphibolite	0,3220	0,0362	0,0320	0,0009	<0,000007	<0,00001	5,9400	<0,000003
VIS-CV5-AMP-169	Stérile	Amphibolite	0,7010	0,0112	0,0230	0,0009	<0,000007	<0,00001	6,2800	<0,000003
VIS-CV5-AMP-170	Stérile	Amphibolite	0,4550	0,0245	0,0210	0,0006	0,000011	<0,00001	6,4300	<0,000003
VIS-CV5-AMP-171	Stérile	Amphibolite	0,4980	0,0178	0,0220	0,0016	<0,000007	<0,00001	6,4600	<0,000003
VIS-CV5-AMP-172	Stérile	Amphibolite	0,7380	0,0037	0,0040	0,0004	0,000007	<0,00001	7,1300	<0,000003
VIS-CV5-AMP-173	Stérile	Amphibolite	0,4420	0,0118	0,0240	0,0005	0,000014	<0,00001	6,4800	<0,000003
VIS-CV5-AMP-174	Stérile	Amphibolite	0,6660	0,0029	0,0020	0,0002	<0,000007	<0,00001	7,7900	<0,000003
VIS-CV5-AMP-175	Stérile	Amphibolite	0,4920	0,0538	0,0250	0,0006	<0,000007	<0,00001	6,2800	<0,000003
VIS-CV5-AMP-176	Stérile	Amphibolite	0,5640	0,0222	0,0230	0,0043	0,000011	<0,00001	2,7700	<0,000003
VIS-CV5-AMP-177	Stérile	Amphibolite	0,4020	0,0382	0,0250	0,0005	0,000009	<0,00001	4,4900	<0,000003
VIS-CV5-AMP-178	Stérile	Amphibolite	0,4910	0,0301	0,0240	0,0008	0,000009	<0,00001	6,1700	0,000060
VIS-CV5-AMP-179	Stérile	Amphibolite	0,7270	0,1180	0,0470	0,0008	0,000013	<0,00001	7,6900	<0,000003
VIS-CV5-AMP-180	Stérile	Amphibolite	0,4310	0,0209	0,0360	0,0009	0,000008	<0,00001	4,6300	0,000004
VIS-CV5-AMP-181	Stérile	Amphibolite	0,4630	0,0054	0,0200	0,0009	<0,000007	<0,00001	6,8300	<0,000003
VIS-CV5-AMP-182	Stérile	Amphibolite	0,4980	0,0059	0,0270	0,0008	0,000008	<0,00001	4,0500	0,000006
VIS-CV5-MS-183	Stérile	Métasédiment	0,4710	0,0125	0,0240	0,0025	<0,000007	<0,00001	5,3300	<0,000003
VIS-CV5-MS-184	Stérile	Métasédiment	0,4610	0,0072	0,0210	0,0046	<0,000007	<0,00001	5,8400	<0,000003
VIS-CV5-MS-185	Stérile	Métasédiment	0,5340	0,0051	0,0270	0,0020	0,000010	<0,00001	5,6200	<0,000003
VIS-CV5-MS-186	Stérile	Métasédiment	0,4830	0,0078	0,0270	0,0018	<0,000007	<0,00001	6,5600	<0,000003
VIS-CV5-MS-187	Stérile	Métasédiment	0,1720	0,0004	0,0210	0,0019	<0,000007	<0,00001	7,0100	<0,000003
VIS-CV5-MS-188	Stérile	Métasédiment	0,4660	0,0132	0,0260	0,0020	0,000019	<0,00001	5,4100	<0,000003
VIS-CV5-MS-189	Stérile	Métasédiment	0,4890	0,0210	0,0270	0,0027	<0,000007	<0,00001	5,7300	<0,000003
VIS-CV5-MS-190	Stérile	Métasédiment	0,5880	0,0024	0,0310	0,0043	<0,000007	<0,00001	4,8700	<0,000003
VIS-CV5-MS-191	Stérile	Métasédiment	0,3480	0,0025	0,0300	0,0008	<0,000007	<0,00001	5,9700	<0,000003
VIS-CV5-MS-192	Stérile	Métasédiment	0,5930	0,0213	0,0370	0,0017	0,000053	<0,00001	5,4700	<0,000003
VIS-CV5-MS-193	Stérile	Métasédiment	0,5000	0,0444	0,0270	0,0010	<0,000007	<0,00001	5,8400	<0,000003
VIS-CV5-MS-194	Stérile	Métasédiment	0,3170	0,0271	0,0330	0,0009	<0,000007	<0,00001	4,7600	<0,000003
VIS-CV5-MS-195	Stérile	Métasédiment	0,0430	0,0025	0,0250	0,0021	<0,000007	<0,00001	13,7000	<0,000003
VIS-CV5-MS-196	Stérile	Métasédiment	0,0880	0,0124	0,0230	0,0017	<0,000007	<0,00001	11,0000	<0,000003
VIS-CV5-MS-197	Stérile	Métasédiment	0,0950	0,0118	0,0250	0,0026	<0,000007	<0,00001	9,7800	<0,000003
VIS-CV5-MS-198	Stérile	Métasédiment	0,3680	0,0061	0,0280	0,0013	0,000053	<0,00001	6,6400	<0,000003
VIS-CV5-MS-199	Stérile	Métasédiment	0,4760	0,0020	0,0250	0,0017	<0,000007	<0,00001	5,7400	<0,000003
VIS-CV5-MS-200	Stérile	Métasédiment	0,5250	0,0742	0,0290	0,0016	0,000041	<0,00001	5,5600	<0,000003
VIS-CV5-MS-201	Stérile	Métasédiment	0,2390	0,0008	0,0270	0,0019	0,000011	<0,00001	5,2300	<0,000003
VIS-CV5-MS-202	Stérile	Métasédiment	1,1500	0,0004	0,0660	0,0062	0,000861	<0,00001	10,8000	0,000069
VIS-CV5-MS-203	Stérile	Métasédiment	0,1350	0,0047	0,0320	0,0011	0,000013	<0,00001	10,9000	<0,000003
VIS-CV5-MS-204	Stérile	Métasédiment	0,5010	0,0582	0,0330	0,0022	0,000013	<0,00001	6,2100	0,000005
VIS-CV5-MS-205	Stérile	Métasédiment	0,4370	0,0112	0,0440	0,0034	0,000055	0,00002	1,1500	<0,000003
VIS-CV5-MS-206	Stérile	Métasédiment	0,4180	0,0062	0,0410	0,0037	0,000015	<0,00001	1,2400	0,000021
VIS-CV5-MS-207	Stérile	Métasédiment	0,2990	0,0046	0,0410	0,0018	0,000011	<0,00001	5,7400	<0,000003
VIS-CV5-MS-208	Stérile	Métasédiment	0,7500	0,0137	0,0260	0,0049	0,000013	<0,00001	5,6100	0,000008
VIS-CV5-MS-209	Stérile	Métasédiment	0,5700	0,0094	0,0250	0,0042	0,000011	<0,00001	5,6600	<0,000003
VIS-CV5-MS-210	Stérile	Métasédiment	0,3070	0,1610	0,0870	0,0039	0,000164	0,00010	2,0500	0,000040

Essais SPLP

# échantillon	Type de matériel	Lithologie	Cobalt	Chrome	Cuivre	Fer	Potassium	Lithium	Magnésium	Manganèse
		Unité	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
		CVAA - Effet aigu	0,370	0,016	0,0016	3,4		0,9100		0,551
		D019/MDMER			0,100	3,0				
VIS-CV5-AMP-141	Stérile	Amphibolite	0,0001	<0,00008	<0,001	0,209	0,4070	0,0114	0,5760	0,0033
VIS-CV5-AMP-142	Stérile	Amphibolite	0,0002	0,00098	<0,001	0,438	0,1380	0,0275	0,6540	0,0080
VIS-CV5-AMP-143	Stérile	Amphibolite	0,0000	<0,00008	<0,001	0,007	0,2510	0,0286	0,4580	0,0003
VIS-CV5-AMP-144	Stérile	Amphibolite	0,0001	0,00035	<0,001	0,124	0,1990	0,0198	0,5970	0,0027
VIS-CV5-AMP-145	Stérile	Amphibolite	0,0002	0,00126	<0,001	0,353	0,1190	0,0208	0,7370	0,0073
VIS-CV5-AMP-146	Stérile	Amphibolite	0,0002	0,00099	<0,001	0,251	0,3220	0,0215	0,8530	0,0051
VIS-CV5-AMP-147	Stérile	Amphibolite	0,0001	0,00073	<0,001	0,088	0,3590	0,0205	0,8030	0,0023
VIS-CV5-AMP-148	Stérile	Amphibolite	0,0000	0,00021	<0,001	0,038	0,6590	0,0240	0,4350	0,0013
VIS-CV5-AMP-149	Stérile	Amphibolite	0,0003	0,00279	<0,001	0,248	0,1590	0,0394	0,9270	0,0067
VIS-CV5-AMP-150	Stérile	Amphibolite	0,0002	0,00103	<0,001	0,188	0,5970	0,0409	0,7350	0,0038
VIS-CV5-AMP-151	Stérile	Amphibolite	0,0000	0,00011	<0,001	0,038	0,2180	0,0185	0,4640	0,0011
VIS-CV5-AMP-152	Stérile	Amphibolite	0,0002	0,00183	<0,001	0,301	0,1220	0,0430	0,7140	0,0116
VIS-CV5-AMP-153	Stérile	Amphibolite	0,0001	0,00092	<0,001	0,061	0,4200	0,0182	0,8700	0,0014
VIS-CV5-AMP-154	Stérile	Amphibolite	0,0002	0,00085	<0,001	0,299	0,7620	0,0200	0,8020	0,0058
VIS-CV5-AMP-155	Stérile	Amphibolite	0,0002	0,00190	<0,001	0,157	1,2700	0,0865	0,8680	0,0038
VIS-CV5-AMP-156	Stérile	Amphibolite	0,0000	<0,00008	<0,001	<0,007	0,2930	0,0215	0,4280	0,0002
VIS-CV5-AMP-157	Stérile	Amphibolite	0,0000	0,00017	<0,001	0,033	0,1160	0,0258	0,5400	0,0008
VIS-CV5-AMP-158	Stérile	Amphibolite	0,0001	0,00026	<0,001	0,126	0,1510	0,0034	0,7560	0,0026
VIS-CV5-AMP-159	Stérile	Amphibolite	0,0002	0,00042	<0,001	0,135	2,0000	0,0610	0,7580	0,0036
VIS-CV5-AMP-160	Stérile	Amphibolite	0,0001	0,00096	<0,001	0,103	3,9600	0,1560	0,7200	0,0036
VIS-CV5-AMP-161	Stérile	Amphibolite	0,0001	0,00078	<0,001	0,108	0,6370	0,0264	0,8780	0,0041
VIS-CV5-AMP-162	Stérile	Amphibolite	0,0001	0,00056	<0,001	0,256	0,3840	0,0346	0,6630	0,0041
VIS-CV5-AMP-163	Stérile	Amphibolite	0,0001	0,00088	<0,001	0,074	0,9700	0,0155	0,9420	0,0012
VIS-CV5-AMP-164	Stérile	Amphibolite	0,0001	0,00021	<0,001	0,058	0,2890	0,0173	0,6010	0,0017
VIS-CV5-AMP-165	Stérile	Amphibolite	0,0000	0,00032	<0,001	0,072	0,5590	0,0873	0,7240	0,0013
VIS-CV5-AMP-166	Stérile	Amphibolite	0,0000	0,00017	<0,001	0,017	0,6530	0,0256	0,6090	0,0004
VIS-CV5-AMP-167	Stérile	Amphibolite	0,0000	0,00009	<0,001	0,016	0,2740	0,0066	0,6110	0,0006
VIS-CV5-AMP-168	Stérile	Amphibolite	0,0000	0,00013	<0,001	0,024	0,7240	0,0253	0,8040	0,0009
VIS-CV5-AMP-169	Stérile	Amphibolite	0,0001	0,00050	<0,001	0,149	0,5180	0,0138	0,8090	0,0032
VIS-CV5-AMP-170	Stérile	Amphibolite	0,0001	0,00014	<0,001	0,094	0,2890	0,0171	0,7280	0,0016
VIS-CV5-AMP-171	Stérile	Amphibolite	0,0001	0,00045	<0,001	0,106	0,6130	0,0464	0,6650	0,0026
VIS-CV5-AMP-172	Stérile	Amphibolite	0,0000	<0,00008	<0,001	0,007	0,2270	0,0278	0,5220	0,0009
VIS-CV5-AMP-173	Stérile	Amphibolite	0,0001	0,00033	<0,001	0,104	0,4730	0,0287	0,6580	0,0024
VIS-CV5-AMP-174	Stérile	Amphibolite	0,0000	<0,00008	<0,001	0,007	0,1060	0,0211	0,4860	0,0009
VIS-CV5-AMP-175	Stérile	Amphibolite	0,0000	0,00013	<0,001	0,020	0,6290	0,0252	0,5660	0,0006
VIS-CV5-AMP-176	Stérile	Amphibolite	0,0002	0,00070	<0,001	0,294	0,5110	0,0331	0,8040	0,0047
VIS-CV5-AMP-177	Stérile	Amphibolite	0,0001	0,00047	<0,001	0,074	0,4340	0,0297	0,5290	0,0018
VIS-CV5-AMP-178	Stérile	Amphibolite	0,0001	0,00039	<0,001	0,094	0,4940	0,0182	0,6200	0,0028
VIS-CV5-AMP-179	Stérile	Amphibolite	0,0000	<0,00008	<0,001	0,007	0,5570	0,0186	0,6520	0,0018
VIS-CV5-AMP-180	Stérile	Amphibolite	0,0001	0,00046	<0,001	0,096	0,4170	0,0595	0,6910	0,0019
VIS-CV5-AMP-181	Stérile	Amphibolite	0,0001	0,00031	<0,001	0,105	0,2640	0,0251	0,6120	0,0024
VIS-CV5-AMP-182	Stérile	Amphibolite	0,0003	0,00138	<0,001	0,372	0,2570	0,0412	0,8890	0,0058
VIS-CV5-MS-183	Stérile	Métasédiment	0,0001	0,00030	<0,001	0,077	1,2900	0,0502	0,3930	0,0018
VIS-CV5-MS-184	Stérile	Métasédiment	0,0000	<0,00008	<0,001	0,078	3,0800	0,0318	0,3090	0,0018
VIS-CV5-MS-185	Stérile	Métasédiment	0,0000	0,00016	<0,001	0,079	0,8030	0,0302	0,5270	0,0019
VIS-CV5-MS-186	Stérile	Métasédiment	0,0001	0,00028	<0,001	0,095	1,1200	0,0367	0,4110	0,0030
VIS-CV5-MS-187	Stérile	Métasédiment	0,0000	0,00011	<0,001	0,049	0,9940	0,0117	0,5580	0,0019
VIS-CV5-MS-188	Stérile	Métasédiment	0,0001	0,00010	<0,001	0,133	2,1600	0,0951	0,3310	0,0030
VIS-CV5-MS-189	Stérile	Métasédiment	0,0001	0,00022	<0,001	0,108	1,6900	0,0704	0,2380	0,0022
VIS-CV5-MS-190	Stérile	Métasédiment	0,0001	0,00033	<0,001	0,198	2,9300	0,0037	0,2660	0,0019
VIS-CV5-MS-191	Stérile	Métasédiment	0,0000	<0,00008	<0,001	0,024	1,2500	0,0198	0,6400	0,0005
VIS-CV5-MS-192	Stérile	Métasédiment	0,0001	0,00013	<0,001	0,094	1,7500	0,0299	0,3050	0,0018
VIS-CV5-MS-193	Stérile	Métasédiment	0,0000	<0,00008	<0,001	0,027	1,5000	0,0538	0,5800	0,0006
VIS-CV5-MS-194	Stérile	Métasédiment	0,0000	0,00008	<0,001	0,020	1,8200	0,0457	1,0800	0,0004
VIS-CV5-MS-195	Stérile	Métasédiment	0,0000	<0,00008	<0,001	<0,007	0,1410	0,0010	0,9410	0,0014
VIS-CV5-MS-196	Stérile	Métasédiment	0,0000	0,00014	<0,001	<0,007	0,6980	0,0013	0,7650	0,0009
VIS-CV5-MS-197	Stérile	Métasédiment	0,0000	<0,00008	<0,001	<0,007	0,7160	0,0011	0,7720	0,0006
VIS-CV5-MS-198	Stérile	Métasédiment	0,0000	0,00015	<0,001	0,039	1,5800	0,0526	0,6690	0,0011
VIS-CV5-MS-199	Stérile	Métasédiment	0,0000	0,00016	<0,001	0,065	1,0900	0,0244	0,4300	0,0019
VIS-CV5-MS-200	Stérile	Métasédiment	0,0001	0,00031	<0,001	0,064	1,3000	0,0598	0,5270	0,0022
VIS-CV5-MS-201	Stérile	Métasédiment	0,0000	0,00016	<0,001	0,065	1,5400	0,0556	0,4880	0,0012
VIS-CV5-MS-202	Stérile	Métasédiment	0,0225	<0,00008	<0,003	16,500	1,3300	0,1330	2,4300	0,2130
VIS-CV5-MS-203	Stérile	Métasédiment	0,0000	0,00025	<0,001	0,016	0,2360	0,0235	0,8140	0,0012
VIS-CV5-MS-204	Stérile	Métasédiment	0,0001	0,00019	<0,001	0,069	2,2400	0,1390	0,5940	0,0046
VIS-CV5-MS-205	Stérile	Métasédiment	0,0002	0,00197	<0,001	0,338	2,3000	0,1500	0,4220	0,0070
VIS-CV5-MS-206	Stérile	Métasédiment	0,0002	0,00041	<0,001	0,341	2,8400	0,0301	0,5670	0,0025
VIS-CV5-MS-207	Stérile	Métasédiment	0,0001	0,00047	<0,001	0,055	1,3900	0,0853	0,5210	0,0048
VIS-CV5-MS-208	Stérile	Métasédiment	0,0001	0,00026	<0,001	0,053	1,6000	0,0370	0,2580	0,0045
VIS-CV5-MS-209	Stérile	Métasédiment	0,0001	0,00057	<0,001	0,107	1,1500	0,0772	0,5410	0,0024
VIS-CV5-MS-210	Stérile	Métasédiment	0,0014	0,00023	<0,002	0,141	2,2300	0,2620	0,5720	0,0226

Essais SPLP

# échantillon	Type de matériel	Lithologie	Molybdenum	Sodium	Nickel	Phosphore réactif total	Plomb	Antimoine	Sélénium	Etain
		Unité	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
		CVAA - Effet aigu	29		0,067		0,004	0,31	0,062	
		D019/MDMER			0,250		0,080			
VIS-CV5-AMP-141	Stérile	Amphibolite	0,0010	6,9100	<0,0001	0,0040	<0,00009	0,0035	0,00006	0,00006
VIS-CV5-AMP-142	Stérile	Amphibolite	0,0006	4,8700	0,0006	0,0150	<0,00009	0,0062	<0,00004	0,00074
VIS-CV5-AMP-143	Stérile	Amphibolite	<0,0004	5,3900	0,0002	0,0030	<0,00009	0,0230	0,00010	0,00063
VIS-CV5-AMP-144	Stérile	Amphibolite	<0,0004	5,4700	0,0002	0,0030	<0,00009	0,0037	0,00004	0,00012
VIS-CV5-AMP-145	Stérile	Amphibolite	0,0021	4,6300	0,0007	0,0060	<0,00009	0,0040	0,00008	<0,00006
VIS-CV5-AMP-146	Stérile	Amphibolite	0,0005	3,5400	0,0008	0,0030	<0,00009	0,0778	0,00008	<0,00006
VIS-CV5-AMP-147	Stérile	Amphibolite	<0,0004	5,3400	0,0002	0,0030	<0,00009	0,0025	0,00009	<0,00006
VIS-CV5-AMP-148	Stérile	Amphibolite	<0,0004	4,7000	0,0003	0,0030	0,00020	0,0032	0,00007	0,00032
VIS-CV5-AMP-149	Stérile	Amphibolite	<0,0004	5,1500	0,0014	0,0030	0,00011	0,0732	0,00029	<0,00006
VIS-CV5-AMP-150	Stérile	Amphibolite	0,0027	5,4400	0,0004	0,0030	<0,00009	0,0065	0,00015	0,00074
VIS-CV5-AMP-151	Stérile	Amphibolite	<0,0004	6,9400	<0,0001	0,0030	<0,00009	0,0026	0,00019	0,00015
VIS-CV5-AMP-152	Stérile	Amphibolite	0,0026	5,3500	0,0006	0,0060	<0,00009	0,0086	<0,00004	0,00007
VIS-CV5-AMP-153	Stérile	Amphibolite	0,0014	5,8400	0,0005	0,0030	<0,00009	0,0377	0,00008	0,00073
VIS-CV5-AMP-154	Stérile	Amphibolite	<0,0004	4,6700	0,0004	0,0050	<0,00009	0,0045	0,00005	0,00015
VIS-CV5-AMP-155	Stérile	Amphibolite	<0,0004	5,5700	0,0010	0,0050	0,00011	0,0278	0,00007	0,00019
VIS-CV5-AMP-156	Stérile	Amphibolite	<0,0004	4,0800	<0,0001	0,0030	<0,00009	0,0181	0,00006	0,00009
VIS-CV5-AMP-157	Stérile	Amphibolite	0,0012	4,4400	<0,0001	0,0030	<0,00009	0,0044	0,00004	0,00039
VIS-CV5-AMP-158	Stérile	Amphibolite	0,0056	5,1300	0,0002	0,0050	<0,00009	0,0009	<0,00004	0,00012
VIS-CV5-AMP-159	Stérile	Amphibolite	0,0007	4,9800	0,0007	0,0050	<0,00009	0,0429	0,00023	0,00010
VIS-CV5-AMP-160	Stérile	Amphibolite	0,0097	5,5100	0,0003	0,0080	0,00011	0,0203	0,00062	0,00022
VIS-CV5-AMP-161	Stérile	Amphibolite	0,0030	5,1800	0,0003	0,0030	0,00039	0,0136	0,00011	0,00017
VIS-CV5-AMP-162	Stérile	Amphibolite	0,0016	5,1000	0,0003	0,0050	0,00009	0,0083	0,00005	0,00012
VIS-CV5-AMP-163	Stérile	Amphibolite	<0,0004	5,3400	0,0010	0,0030	0,00015	0,0564	0,00020	0,00089
VIS-CV5-AMP-164	Stérile	Amphibolite	0,0053	5,0600	<0,0001	0,0030	0,00009	0,0051	0,00015	0,00009
VIS-CV5-AMP-165	Stérile	Amphibolite	0,0028	6,5400	0,0002	0,0040	0,00011	0,0188	0,00010	0,00052
VIS-CV5-AMP-166	Stérile	Amphibolite	<0,0004	4,1100	<0,0001	0,0030	<0,00009	0,0024	0,00005	0,00026
VIS-CV5-AMP-167	Stérile	Amphibolite	0,0007	5,4000	<0,0001	0,0030	<0,00009	0,0013	<0,00004	0,00018
VIS-CV5-AMP-168	Stérile	Amphibolite	0,0047	5,6700	<0,0001	0,0080	<0,00009	0,0091	<0,00004	0,00018
VIS-CV5-AMP-169	Stérile	Amphibolite	0,0044	5,2200	0,0004	0,0030	<0,00009	0,0035	<0,00004	0,00086
VIS-CV5-AMP-170	Stérile	Amphibolite	0,0013	4,4900	0,0001	0,0040	<0,00009	0,0056	0,00012	0,00126
VIS-CV5-AMP-171	Stérile	Amphibolite	0,0067	5,1200	0,0003	0,0030	<0,00009	0,0047	0,00011	0,00015
VIS-CV5-AMP-172	Stérile	Amphibolite	<0,0004	1,0900	<0,0001	0,0030	<0,00009	0,0038	0,00007	0,00027
VIS-CV5-AMP-173	Stérile	Amphibolite	<0,0004	5,1000	0,0002	0,0030	<0,00009	0,0056	0,00009	0,00018
VIS-CV5-AMP-174	Stérile	Amphibolite	<0,0004	0,8000	0,0002	0,0030	<0,00009	<0,0009	0,00007	0,00021
VIS-CV5-AMP-175	Stérile	Amphibolite	<0,0004	4,8700	0,0001	0,0030	<0,00009	0,0219	0,00016	0,00187
VIS-CV5-AMP-176	Stérile	Amphibolite	0,0005	4,2700	0,0010	0,0060	<0,00009	0,0137	0,00004	0,00147
VIS-CV5-AMP-177	Stérile	Amphibolite	0,0005	4,4500	0,0005	0,0070	<0,00009	0,0744	0,00011	0,00008
VIS-CV5-AMP-178	Stérile	Amphibolite	<0,0004	4,6200	0,0004	0,0030	0,00029	0,0093	0,00014	0,00016
VIS-CV5-AMP-179	Stérile	Amphibolite	0,0006	0,6100	0,0001	0,0240	<0,00009	0,0116	0,00013	<0,00006
VIS-CV5-AMP-180	Stérile	Amphibolite	0,0020	6,1400	0,0002	0,0030	0,00029	0,0247	0,00007	0,00012
VIS-CV5-AMP-181	Stérile	Amphibolite	0,0009	4,0700	0,0001	0,0030	0,00012	0,0041	<0,00004	<0,00006
VIS-CV5-AMP-182	Stérile	Amphibolite	<0,0004	4,1200	0,0009	0,0110	<0,00009	0,0112	0,00005	<0,00006
VIS-CV5-MS-183	Stérile	Métasédiment	0,0006	5,2400	0,0002	0,0110	<0,00009	0,0139	0,00004	0,00038
VIS-CV5-MS-184	Stérile	Métasédiment	<0,0004	4,7600	<0,0001	0,0100	<0,00009	0,0009	<0,00004	0,00009
VIS-CV5-MS-185	Stérile	Métasédiment	0,0005	5,3600	<0,0001	0,0100	<0,00009	0,0027	<0,00004	0,00007
VIS-CV5-MS-186	Stérile	Métasédiment	0,0007	5,3700	0,0002	0,0070	0,00018	0,0038	0,00005	<0,00006
VIS-CV5-MS-187	Stérile	Métasédiment	<0,0004	3,5200	0,0001	0,0030	<0,00009	0,0009	<0,00004	<0,00006
VIS-CV5-MS-188	Stérile	Métasédiment	<0,0004	4,5300	0,0001	0,0130	<0,00009	0,0075	<0,00004	<0,00006
VIS-CV5-MS-189	Stérile	Métasédiment	<0,0004	5,0600	0,0002	0,0080	<0,00009	0,0056	<0,00004	0,00009
VIS-CV5-MS-190	Stérile	Métasédiment	<0,0004	5,6100	<0,0001	0,0150	0,00011	<0,0009	<0,00004	0,00011
VIS-CV5-MS-191	Stérile	Métasédiment	0,0017	5,0400	<0,0001	0,0040	0,00275	0,0025	0,00007	<0,00006
VIS-CV5-MS-192	Stérile	Métasédiment	<0,0004	5,3900	<0,0001	0,0090	<0,00009	0,0017	<0,00004	0,00036
VIS-CV5-MS-193	Stérile	Métasédiment	<0,0004	5,3200	<0,0001	0,0050	<0,00009	0,0027	<0,00004	<0,00006
VIS-CV5-MS-194	Stérile	Métasédiment	0,0007	5,1400	<0,0001	0,0030	<0,00009	0,0051	<0,00004	<0,00006
VIS-CV5-MS-195	Stérile	Métasédiment	<0,0004	5,6300	0,0003	0,0030	<0,00009	0,0009	<0,00004	0,00016
VIS-CV5-MS-196	Stérile	Métasédiment	<0,0004	5,8500	0,0004	0,0030	<0,00009	0,0009	<0,00004	<0,00006
VIS-CV5-MS-197	Stérile	Métasédiment	<0,0004	3,7700	0,0003	0,0030	<0,00009	0,0009	0,00006	<0,00006
VIS-CV5-MS-198	Stérile	Métasédiment	0,0005	4,8000	0,0002	0,0050	<0,00009	0,0056	<0,00004	0,00009
VIS-CV5-MS-199	Stérile	Métasédiment	0,0005	4,8200	<0,0001	0,0080	<0,00009	0,0025	<0,00004	0,00007
VIS-CV5-MS-200	Stérile	Métasédiment	0,0011	6,1400	0,0004	0,0060	<0,0002	0,0172	0,00010	0,00013
VIS-CV5-MS-201	Stérile	Métasédiment	0,0006	4,4300	0,0001	0,0030	<0,00009	0,0022	<0,00004	0,00006
VIS-CV5-MS-202	Stérile	Métasédiment	<0,0004	4,8600	0,0537	0,0030	<0,00009	0,0009	0,00020	<0,00006
VIS-CV5-MS-203	Stérile	Métasédiment	0,0033	4,9000	0,0001	0,0030	<0,00009	0,0054	0,00038	<0,00006
VIS-CV5-MS-204	Stérile	Métasédiment	<0,0004	5,6900	0,0002	0,0030	0,00015	0,1190	0,00012	0,00007
VIS-CV5-MS-205	Stérile	Métasédiment	<0,0004	5,1200	0,0038	0,0030	0,00018	0,2250	0,00005	0,00068
VIS-CV5-MS-206	Stérile	Métasédiment	<0,0004	5,2600	0,0006	0,0110	0,00010	0,0047	0,00018	<0,00006
VIS-CV5-MS-207	Stérile	Métasédiment	0,0005	5,0100	0,0002	0,0030	<0,00009	0,0094	0,00005	<0,00006
VIS-CV5-MS-208	Stérile	Métasédiment	0,0006	5,2800	0,0004	0,0030	<0,00019	0,0070	0,00004	0,00009
VIS-CV5-MS-209	Stérile	Métasédiment	<0,0004	5,2500	0,0003	0,0030	<0,00009	0,0085	0,00010	<0,00006
VIS-CV5-MS-210	Stérile	Métasédiment	<0,0004	4,4100	0,0086	0,0030	0,00307	0,8730	0,00062	0,00053

Essais SPLP

# échantillon	Type de matériel	Lithologie	Strontium	Titane	Thorium	Uranium	Vanadium	Zinc
		Unité	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
		CVAA - Effet aigu	40		0,047	0,017	0,11	0,02
		D019/MDMER						0,40
VIS-CV5-AMP-141	Stérile	Amphibolite	0,0140	0,0049	<0,000005	0,000024	0,00738	<0,002
VIS-CV5-AMP-142	Stérile	Amphibolite	0,0037	0,0153	0,000009	0,000015	0,00429	<0,002
VIS-CV5-AMP-143	Stérile	Amphibolite	0,0120	0,0002	<0,000005	0,000021	0,00382	<0,002
VIS-CV5-AMP-144	Stérile	Amphibolite	0,0094	0,0043	<0,000005	0,000396	0,00506	<0,002
VIS-CV5-AMP-145	Stérile	Amphibolite	0,0088	0,0102	<0,000005	0,000025	0,00424	<0,002
VIS-CV5-AMP-146	Stérile	Amphibolite	0,0062	0,0079	0,000006	0,000037	0,00374	<0,002
VIS-CV5-AMP-147	Stérile	Amphibolite	0,0099	0,0022	0,000005	0,000064	0,00500	<0,002
VIS-CV5-AMP-148	Stérile	Amphibolite	0,0063	0,0016	0,000007	0,000087	0,00364	<0,002
VIS-CV5-AMP-149	Stérile	Amphibolite	0,0192	0,0059	0,000015	0,000083	0,00378	<0,002
VIS-CV5-AMP-150	Stérile	Amphibolite	0,0106	0,0048	0,000007	0,000057	0,00440	<0,002
VIS-CV5-AMP-151	Stérile	Amphibolite	0,0073	0,0013	<0,000005	0,000170	0,00593	<0,002
VIS-CV5-AMP-152	Stérile	Amphibolite	0,0048	0,0130	0,000016	0,000032	0,00493	<0,002
VIS-CV5-AMP-153	Stérile	Amphibolite	0,0101	0,0021	0,000005	0,000012	0,00818	<0,002
VIS-CV5-AMP-154	Stérile	Amphibolite	0,0062	0,0095	0,000010	0,000025	0,00477	<0,002
VIS-CV5-AMP-155	Stérile	Amphibolite	0,0083	0,0050	0,000067	0,000104	0,00415	<0,002
VIS-CV5-AMP-156	Stérile	Amphibolite	0,0118	0,0001	<0,000005	0,000013	0,00330	<0,002
VIS-CV5-AMP-157	Stérile	Amphibolite	0,0088	0,0012	<0,000005	0,000008	0,00450	<0,002
VIS-CV5-AMP-158	Stérile	Amphibolite	0,0129	0,0032	<0,000005	0,000011	0,00419	<0,002
VIS-CV5-AMP-159	Stérile	Amphibolite	0,0097	0,0042	0,000060	0,000043	0,00676	<0,002
VIS-CV5-AMP-160	Stérile	Amphibolite	0,0094	0,0042	0,000204	0,000109	0,00802	<0,002
VIS-CV5-AMP-161	Stérile	Amphibolite	0,0107	0,0034	0,000018	0,000055	0,00540	<0,132
VIS-CV5-AMP-162	Stérile	Amphibolite	0,0100	0,0091	0,000008	0,000020	0,00515	<0,002
VIS-CV5-AMP-163	Stérile	Amphibolite	0,0096	0,0013	<0,000005	0,000147	0,00134	<0,002
VIS-CV5-AMP-164	Stérile	Amphibolite	0,0106	0,0022	<0,000005	0,000120	0,00503	<0,002
VIS-CV5-AMP-165	Stérile	Amphibolite	0,0188	0,0035	<0,000005	0,000026	0,00645	<0,002
VIS-CV5-AMP-166	Stérile	Amphibolite	0,0073	0,0006	<0,000005	0,000008	0,00545	<0,002
VIS-CV5-AMP-167	Stérile	Amphibolite	0,0331	0,0014	<0,000005	0,000007	0,00569	<0,002
VIS-CV5-AMP-168	Stérile	Amphibolite	0,0166	0,0006	<0,000005	0,000011	0,00481	<0,002
VIS-CV5-AMP-169	Stérile	Amphibolite	0,0077	0,0055	<0,000005	0,000129	0,00461	<0,002
VIS-CV5-AMP-170	Stérile	Amphibolite	0,0071	0,0030	<0,000005	0,000016	0,00562	<0,002
VIS-CV5-AMP-171	Stérile	Amphibolite	0,0134	0,0052	0,000011	0,000029	0,00424	<0,002
VIS-CV5-AMP-172	Stérile	Amphibolite	0,0083	0,0002	<0,000005	0,000131	0,00463	<0,002
VIS-CV5-AMP-173	Stérile	Amphibolite	0,0099	0,0047	0,000014	0,000138	0,00362	<0,002
VIS-CV5-AMP-174	Stérile	Amphibolite	0,0077	0,0002	<0,000005	0,000315	0,00288	<0,002
VIS-CV5-AMP-175	Stérile	Amphibolite	0,0105	0,0006	<0,000005	0,000055	0,00504	<0,002
VIS-CV5-AMP-176	Stérile	Amphibolite	0,0048	0,0103	0,000006	0,000006	0,00345	<0,002
VIS-CV5-AMP-177	Stérile	Amphibolite	0,0060	0,0029	0,000032	0,000007	0,00352	<0,002
VIS-CV5-AMP-178	Stérile	Amphibolite	0,0063	0,0032	0,000011	0,000041	0,00525	<0,047
VIS-CV5-AMP-179	Stérile	Amphibolite	0,0071	0,0002	0,000012	0,000031	0,00453	<0,002
VIS-CV5-AMP-180	Stérile	Amphibolite	0,0137	0,0057	<0,000005	0,000221	0,00507	<0,002
VIS-CV5-AMP-181	Stérile	Amphibolite	0,0092	0,0038	<0,000005	0,000049	0,00336	<0,002
VIS-CV5-AMP-182	Stérile	Amphibolite	0,0061	0,0130	0,000005	0,000026	0,00359	<0,002
VIS-CV5-MS-183	Stérile	Métasédiment	0,0090	0,0082	0,000010	0,000443	0,00308	<0,002
VIS-CV5-MS-184	Stérile	Métasédiment	0,0103	0,0058	<0,000005	0,000082	0,00171	<0,002
VIS-CV5-MS-185	Stérile	Métasédiment	0,0076	0,0077	<0,000005	0,000037	0,00202	<0,002
VIS-CV5-MS-186	Stérile	Métasédiment	0,0094	0,0076	0,000006	0,000063	0,00188	<0,002
VIS-CV5-MS-187	Stérile	Métasédiment	0,0160	0,0013	<0,000005	0,000071	0,00075	<0,002
VIS-CV5-MS-188	Stérile	Métasédiment	0,0102	0,0103	0,000048	0,000043	0,00178	<0,002
VIS-CV5-MS-189	Stérile	Métasédiment	0,0068	0,0102	0,000016	0,000047	0,00198	<0,002
VIS-CV5-MS-190	Stérile	Métasédiment	0,0064	0,0205	<0,000005	0,000097	0,00355	<0,002
VIS-CV5-MS-191	Stérile	Métasédiment	0,0205	0,0022	<0,000005	0,000024	0,00048	<0,002
VIS-CV5-MS-192	Stérile	Métasédiment	0,0086	0,0123	0,000012	0,000323	0,00281	<0,002
VIS-CV5-MS-193	Stérile	Métasédiment	0,0132	0,0026	0,000009	0,000029	0,00204	<0,002
VIS-CV5-MS-194	Stérile	Métasédiment	0,0202	0,0018	<0,000005	0,000016	0,00120	<0,002
VIS-CV5-MS-195	Stérile	Métasédiment	0,0251	0,0001	<0,000005	0,000340	0,00055	<0,002
VIS-CV5-MS-196	Stérile	Métasédiment	0,0231	0,0001	<0,000005	0,000064	0,00049	<0,002
VIS-CV5-MS-197	Stérile	Métasédiment	0,0194	0,0001	<0,000005	0,000041	0,00053	<0,002
VIS-CV5-MS-198	Stérile	Métasédiment	0,0094	0,0035	0,000008	0,000073	0,00110	<0,002
VIS-CV5-MS-199	Stérile	Métasédiment	0,0078	0,0064	<0,000005	0,000046	0,00147	<0,002
VIS-CV5-MS-200	Stérile	Métasédiment	0,0083	0,0069	0,000010	0,000075	0,00281	<0,002
VIS-CV5-MS-201	Stérile	Métasédiment	0,0095	0,0055	<0,000005	0,000040	0,00045	<0,002
VIS-CV5-MS-202	Stérile	Métasédiment	0,0137	0,0001	0,000020	0,000289	0,00005	<0,015
VIS-CV5-MS-203	Stérile	Métasédiment	0,0112	0,0008	<0,000005	0,000063	0,00016	<0,002
VIS-CV5-MS-204	Stérile	Métasédiment	0,0171	0,0066	0,000052	0,000085	0,00256	<0,002
VIS-CV5-MS-205	Stérile	Métasédiment	0,0022	0,0217	0,000500	0,000213	0,00116	<0,002
VIS-CV5-MS-206	Stérile	Métasédiment	0,0044	0,0203	0,000012	0,000047	0,00210	<0,002
VIS-CV5-MS-207	Stérile	Métasédiment	0,0091	0,0054	0,000030	0,000107	0,00094	<0,002
VIS-CV5-MS-208	Stérile	Métasédiment	0,0109	0,0081	0,000017	0,000305	0,00144	<0,002
VIS-CV5-MS-209	Stérile	Métasédiment	0,0115	0,0070	0,000008	0,000071	0,00403	<0,002
VIS-CV5-MS-210	Stérile	Métasédiment	0,0061	0,0084	0,000741	0,000089	0,00048	<0,004

Essais SPLP

# échantillon	Type de matériel	Lithologie	pH final	pH	Conductivité	Alkalinité	Acidité	Chlore	Mercure	Argent
		Unité	pH unit	pH unit	µS/cm	$mgCaCO_3/l$	$mgCaCO_3/l$	mg/l	mg/l	mg/l
		CVAA - Effet aigu						320	0,0014	0,00004
		D019/MDMER								
VIS-CV5-MS-211	Stérile	Métasédiment		7,59	50,0	22,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-212	Stérile	Métasédiment		7,81	62,0	30,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-213	Stérile	Métasédiment		7,81	56,0	28,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-214	Stérile	Métasédiment		7,99	52,0	25,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-215	Stérile	Métasédiment		8,06	58,0	29,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-216	Stérile	Métasédiment		7,94	58,0	28,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-217	Stérile	Métasédiment		7,87	54,0	31,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-218	Stérile	Métasédiment		7,80	55,0	27,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-219	Stérile	Métasédiment		8,07	62,0	32,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-220	Stérile	Métasédiment		7,72	41,0	15,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-221	Stérile	Métasédiment		8,24	57,0	29,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-222	Stérile	Métasédiment		7,77	54,0	27,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-223	Stérile	Métasédiment		7,46	46,0	25,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-224	Stérile	Métasédiment		7,28	47,0	17,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-225	Stérile	Métasédiment		8,04	52,0	27,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-226	Stérile	Métasédiment		8,13	55,0	27,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-227	Stérile	Métasédiment		7,59	57,0	14,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-228	Stérile	Métasédiment		8,50	52,0	27,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-229	Stérile	Métasédiment		8,44	80,0	28,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-230	Stérile	Métasédiment		8,59	73,0	29,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-231	Stérile	Métasédiment		7,58	61,0	11,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-232	Stérile	Métasédiment		8,00	43,0	16,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-233	Stérile	Métasédiment		8,25	42,0	15,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-234	Stérile	Métasédiment		8,02	52,0	18,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-235	Stérile	Métasédiment		8,98	61,0	27,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-236	Stérile	Métasédiment		8,42	64,0	27,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-237	Stérile	Métasédiment		8,33	48,0	16,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-238	Stérile	Métasédiment		8,23	62,0	29,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-239	Stérile	Métasédiment		8,16	62,0	27,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-240	Stérile	Métasédiment		8,32	64,0	23,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-241	Stérile	Métasédiment		7,88	48,0	17,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-242	Stérile	Métasédiment		8,16	60,0	26,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-243	Stérile	Métasédiment		8,12	58,0	27,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-244	Stérile	Métasédiment		8,38	61,0	28,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-245	Stérile	Métasédiment		8,57	62,0	27,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-246	Stérile	Métasédiment		8,24	56,0	24,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-247	Stérile	Métasédiment		8,38	57,0	31,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-248	Stérile	Métasédiment		8,31	63,0	29,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-249	Stérile	Métasédiment		8,49	59,0	28,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-250	Stérile	Métasédiment		8,05	62,0	28,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-251	Stérile	Métasédiment		8,05	58,0	26,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-252	Stérile	Métasédiment		8,50	63,0	26,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-253	Stérile	Métasédiment		7,58	82,0	15,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-254	Stérile	Métasédiment		8,73	59,0	25,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-255	Stérile	Métasédiment		8,33	61,0	25,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-256	Stérile	Métasédiment		8,13	59,0	26,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-257	Stérile	Métasédiment		7,88	46,0	16,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-MS-258	Stérile	Métasédiment		8,61	58,0	25,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-PEG-259	Stérile	Pegmatite stérile		8,31	58,0	26,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-PEG-260	Stérile	Pegmatite stérile		7,90	39,0	12,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-PEG-261	Stérile	Pegmatite stérile		7,73	40,0	14,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-PEG-262	Stérile	Pegmatite stérile		7,39	26,0	6,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-PEG-263	Stérile	Pegmatite stérile		7,50	24,0	6,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-PEG-264	Stérile	Pegmatite stérile		7,92	41,0	15,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-PEG-265	Stérile	Pegmatite stérile		8,21	55,0	24,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-PEG-266	Stérile	Pegmatite stérile		8,55	56,0	23,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-PEG-267	Stérile	Pegmatite stérile		8,26	47,0	15,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-PEG-268	Stérile	Pegmatite stérile		8,47	61,0	22,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-PEG-269	Stérile	Pegmatite stérile		7,84	38,0	14,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-PEG-270	Stérile	Pegmatite stérile		8,78	53,0	24,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-PEG-271	Stérile	Pegmatite stérile		7,71	28,0	9,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-PEG-272	Stérile	Pegmatite stérile		8,24	35,0	12,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-PEG-273	Stérile	Pegmatite stérile		8,23	40,0	14,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-PEG-274	Stérile	Pegmatite stérile		8,92	59,0	26,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-PEG-275	Stérile	Pegmatite stérile		8,49	44,0	16,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-PEG-276	Stérile	Pegmatite stérile		8,22	37,0	11,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-PEG-277	Stérile	Pegmatite stérile		8,43	51,0	21,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-PEG-278	Stérile	Pegmatite stérile		8,22	33,0	11,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-UM-279	Stérile	Ultramafique		7,90	51,0	28,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-UM-280	Stérile	Ultramafique		7,74	52,0	23,0	<2,0	<20,0	<0,00001	<0,00005

Essais SPLP

# échantillon	Type de matériel	Lithologie	Aluminum	Arsenic	Bore	Baryum	Beryllium	Bismuth	Calcium	Cadmium
		Unité	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
		CVAA - Effet aigu	0,28	0,34	28	0,108	0,001			0,0002
		D019/MDMER		0,10						
VIS-CV5-MS-211	Stérile	Métasédiment	0,5590	0,2700	0,0360	0,0039	0,000028	0,00002	3,1800	0,000006
VIS-CV5-MS-212	Stérile	Métasédiment	0,7210	0,0709	0,0310	0,0034	0,000052	0,00003	5,9800	0,000011
VIS-CV5-MS-213	Stérile	Métasédiment	0,5660	0,0058	0,0240	0,0025	<0,000007	<0,00001	5,3200	<0,000003
VIS-CV5-MS-214	Stérile	Métasédiment	0,5170	0,0127	0,0300	0,0022	0,000036	<0,00001	4,1700	<0,000003
VIS-CV5-MS-215	Stérile	Métasédiment	0,5550	0,0246	0,0260	0,0019	0,000016	<0,00001	5,9000	<0,000003
VIS-CV5-MS-216	Stérile	Métasédiment	0,4210	0,1060	0,0420	0,0011	<0,000007	<0,00001	5,9800	<0,000003
VIS-CV5-MS-217	Stérile	Métasédiment	0,6910	0,0087	0,0240	0,0024	0,000040	<0,00001	5,2400	<0,000003
VIS-CV5-MS-218	Stérile	Métasédiment	0,6370	0,0834	0,0290	0,0029	0,000018	<0,00001	4,9000	<0,000003
VIS-CV5-MS-219	Stérile	Métasédiment	0,5700	0,0572	0,0260	0,0026	<0,000007	<0,00001	5,3000	<0,000003
VIS-CV5-MS-220	Stérile	Métasédiment	0,3260	0,0009	0,0480	0,0030	<0,000007	<0,00001	2,2200	<0,000003
VIS-CV5-MS-221	Stérile	Métasédiment	0,2180	0,0024	0,0220	0,0061	<0,000007	<0,00001	6,4200	<0,000003
VIS-CV5-MS-222	Stérile	Métasédiment	0,6410	0,0054	0,0280	0,0021	0,000029	<0,00001	5,4900	<0,000003
VIS-CV5-MS-223	Stérile	Métasédiment	0,7760	0,0723	0,0350	0,0028	0,000019	<0,00001	3,0500	<0,000003
VIS-CV5-MS-224	Stérile	Métasédiment	0,4530	0,0127	0,0350	0,0026	0,000021	0,00002	2,1700	0,000010
VIS-CV5-MS-225	Stérile	Métasédiment	0,6630	0,0922	0,0270	0,0022	0,000023	<0,00001	5,0100	<0,000003
VIS-CV5-MS-226	Stérile	Métasédiment	0,4370	0,0046	0,0340	0,0005	<0,000007	<0,00001	6,3400	<0,000003
VIS-CV5-MS-227	Stérile	Métasédiment	0,0120	0,0011	0,0360	0,0015	<0,000007	<0,00001	4,7700	<0,000003
VIS-CV5-MS-228	Stérile	Métasédiment	0,4630	0,0624	0,0320	0,0018	0,000008	<0,00001	4,7200	<0,000003
VIS-CV5-MS-229	Stérile	Métasédiment	0,4910	0,0026	0,0220	0,0029	<0,000007	<0,00001	7,7100	<0,000003
VIS-CV5-MS-230	Stérile	Métasédiment	0,4560	0,0241	0,0430	0,0013	0,000037	<0,00001	7,4400	<0,000003
VIS-CV5-MS-231	Stérile	Métasédiment	0,0750	0,0002	0,0290	0,0017	<0,000007	<0,00001	4,3200	<0,000003
VIS-CV5-MS-232	Stérile	Métasédiment	0,5370	0,0267	0,0370	0,0016	0,000080	<0,00001	1,0500	0,000004
VIS-CV5-MS-233	Stérile	Métasédiment	0,6440	0,0210	0,0350	0,0015	0,000066	<0,00001	0,9900	<0,000003
VIS-CV5-MS-234	Stérile	Métasédiment	0,6690	0,0093	0,0290	0,0029	0,000019	0,00004	3,2700	0,000004
VIS-CV5-MS-235	Stérile	Métasédiment	0,6700	0,0262	0,0300	0,0024	0,000020	<0,00001	4,6100	<0,000003
VIS-CV5-MS-236	Stérile	Métasédiment	0,7970	0,0021	0,0250	0,0018	0,000023	<0,00001	4,7200	<0,000003
VIS-CV5-MS-237	Stérile	Métasédiment	0,6900	0,0029	0,0550	0,0032	0,000058	<0,00001	1,6800	<0,000003
VIS-CV5-MS-238	Stérile	Métasédiment	0,6960	0,0140	0,0300	0,0016	<0,000007	<0,00001	5,1800	<0,000003
VIS-CV5-MS-239	Stérile	Métasédiment	0,6250	0,0051	0,0230	0,0009	<0,000007	<0,00001	6,0200	<0,000003
VIS-CV5-MS-240	Stérile	Métasédiment	0,6540	0,0017	0,0230	0,0029	<0,000007	<0,00001	4,4300	<0,000003
VIS-CV5-MS-241	Stérile	Métasédiment	0,5480	0,0070	0,0410	0,0029	0,000060	<0,00001	2,0800	<0,000003
VIS-CV5-MS-242	Stérile	Métasédiment	0,6280	0,0095	0,0250	0,0020	0,000010	<0,00001	5,3900	<0,000003
VIS-CV5-MS-243	Stérile	Métasédiment	0,4610	0,0091	0,0270	0,0009	0,000016	<0,00001	5,4300	<0,000003
VIS-CV5-MS-244	Stérile	Métasédiment	0,7820	0,1050	0,0300	0,0030	0,000014	<0,00001	5,2900	<0,000003
VIS-CV5-MS-245	Stérile	Métasédiment	0,9860	0,0099	0,0290	0,0033	0,000014	<0,00001	4,6200	<0,000003
VIS-CV5-MS-246	Stérile	Métasédiment	0,7470	0,0123	0,0270	0,0029	0,000039	<0,00001	4,2200	<0,000003
VIS-CV5-MS-247	Stérile	Métasédiment	0,7320	0,0446	0,0320	0,0029	0,000023	<0,00001	3,3300	0,000008
VIS-CV5-MS-248	Stérile	Métasédiment	0,6370	0,0192	0,0240	0,0011	<0,000007	<0,00001	5,1300	<0,000003
VIS-CV5-MS-249	Stérile	Métasédiment	0,7290	0,0169	0,0240	0,0026	0,000016	<0,00001	4,6800	<0,000003
VIS-CV5-MS-250	Stérile	Métasédiment	0,3380	0,0033	0,0210	0,0003	<0,000007	<0,00001	6,9200	<0,000003
VIS-CV5-MS-251	Stérile	Métasédiment	0,8060	0,0069	0,0310	0,0025	0,000016	<0,00001	4,7700	<0,000003
VIS-CV5-MS-252	Stérile	Métasédiment	0,4540	0,0127	0,0590	0,0008	0,000102	0,00003	6,1900	<0,000003
VIS-CV5-MS-253	Stérile	Métasédiment	0,0220	0,0005	0,0320	0,0019	<0,000007	<0,00001	8,1400	<0,000003
VIS-CV5-MS-254	Stérile	Métasédiment	0,9160	0,0706	0,0400	0,0042	0,000034	<0,00001	4,3900	<0,000003
VIS-CV5-MS-255	Stérile	Métasédiment	0,8950	0,0407	0,0300	0,0035	0,000015	<0,00001	5,6900	<0,000003
VIS-CV5-MS-256	Stérile	Métasédiment	0,9530	0,0040	0,0330	0,0042	0,000009	<0,00001	4,3900	<0,000003
VIS-CV5-MS-257	Stérile	Métasédiment	0,9200	0,0022	0,0170	0,0015	<0,000007	<0,00001	6,5100	<0,000003
VIS-CV5-MS-258	Stérile	Métasédiment	0,5770	0,0396	0,0340	0,0036	<0,000007	<0,00001	5,0700	<0,000003
VIS-CV5-PEG-259	Stérile	Pegmatite stérile	0,7850	0,0217	0,1040	0,0023	0,000128	<0,00001	6,1100	<0,000003
VIS-CV5-PEG-260	Stérile	Pegmatite stérile	0,4710	0,0130	0,0080	0,0007	0,000106	0,00114	4,2500	<0,000003
VIS-CV5-PEG-261	Stérile	Pegmatite stérile	0,3100	0,0106	0,0460	0,0017	0,000159	0,00013	1,9700	<0,000003
VIS-CV5-PEG-262	Stérile	Pegmatite stérile	0,2070	0,0514	0,0120	0,0008	0,000066	<0,00001	1,8100	0,000005
VIS-CV5-PEG-263	Stérile	Pegmatite stérile	0,1450	0,0176	0,0120	0,0008	0,000075	0,00005	1,0500	0,000005
VIS-CV5-PEG-264	Stérile	Pegmatite stérile	0,4280	0,0420	0,0400	0,0006	0,000220	0,00002	1,6900	<0,000003
VIS-CV5-PEG-265	Stérile	Pegmatite stérile	0,9320	0,0227	0,0270	0,0013	0,000167	0,00002	4,7300	<0,000003
VIS-CV5-PEG-266	Stérile	Pegmatite stérile	0,6410	0,0090	0,0310	0,0015	0,001080	0,00034	4,3300	<0,000003
VIS-CV5-PEG-267	Stérile	Pegmatite stérile	0,6260	0,0094	0,0390	0,0010	0,001580	0,00138	2,7400	0,000004
VIS-CV5-PEG-268	Stérile	Pegmatite stérile	0,3840	0,0063	0,0260	0,0009	0,001320	0,00012	6,1000	<0,000003
VIS-CV5-PEG-269	Stérile	Pegmatite stérile	0,7080	0,0125	0,0430	0,0006	0,000216	0,00012	2,2200	0,000005
VIS-CV5-PEG-270	Stérile	Pegmatite stérile	0,4870	0,0420	0,0190	0,0006	0,000132	<0,00001	6,2200	0,000005
VIS-CV5-PEG-271	Stérile	Pegmatite stérile	0,6590	0,0303	0,0350	0,0009	0,000378	<0,00001	1,8900	0,000011
VIS-CV5-PEG-272	Stérile	Pegmatite stérile	0,6950	0,0120	0,0480	0,0010	0,004850	<0,00001	0,7900	<0,000003
VIS-CV5-PEG-273	Stérile	Pegmatite stérile	0,4050	0,0226	0,0400	0,0016	0,001210	0,00016	1,9300	0,000013
VIS-CV5-PEG-274	Stérile	Pegmatite stérile	0,2960	0,1580	0,0390	0,0006	0,000103	0,00031	6,0600	<0,000003
VIS-CV5-PEG-275	Stérile	Pegmatite stérile	1,1900	0,0083	0,0380	0,0013	0,002530	0,00693	2,8600	0,000010
VIS-CV5-PEG-276	Stérile	Pegmatite stérile	0,7170	0,0495	0,0490	0,0012	0,000311	0,00006	0,8400	0,000011
VIS-CV5-PEG-277	Stérile	Pegmatite stérile	0,8460	0,0270	0,0410	0,0014	0,000276	0,00154	2,8700	0,000004
VIS-CV5-PEG-278	Stérile	Pegmatite stérile	0,6380	0,0062	0,0540	0,0012	0,001045	0,00002	0,6500	<0,000003
VIS-CV5-UM-279	Stérile	Ultramafique	0,0260	0,0369	0,0040	0,0001	<0,000007	<0,00001	6,3100	<0,000003
VIS-CV5-UM-280	Stérile	Ultramafique	0,0380	0,1360	0,0050	0,0002	<0,000007	0,00002	6,4500	<0,000003

Essais SPLP

# échantillon	Type de matériel	Lithologie	Cobalt	Chrome	Cuivre	Fer	Potassium	Lithium	Magnésium	Manganèse
		Unité	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
		CVAA - Effet aigu	0,370	0,016	0,0016	3,4		0,9100		0,551
		D019/MDMER			0,100	3,0				
VIS-CV5-MS-211	Stérile	Métasédiment	0,0004	0,00120	<0,001	0,305	2,6600	0,1240	0,4300	0,0095
VIS-CV5-MS-212	Stérile	Métasédiment	0,0001	0,00036	<0,001	0,119	2,4400	0,1290	0,2860	0,0051
VIS-CV5-MS-213	Stérile	Métasédiment	0,0000	0,00013	<0,001	0,096	3,1100	0,0877	0,3150	0,0020
VIS-CV5-MS-214	Stérile	Métasédiment	0,0000	<0,00008	<0,001	0,146	1,8400	0,0523	0,5220	0,0034
VIS-CV5-MS-215	Stérile	Métasédiment	0,0002	0,00093	<0,001	0,175	0,4940	0,2060	0,7120	0,0027
VIS-CV5-MS-216	Stérile	Métasédiment	0,0000	0,00021	<0,001	0,029	0,6550	0,0754	0,6490	0,0006
VIS-CV5-MS-217	Stérile	Métasédiment	0,0000	<0,00008	<0,001	0,152	1,8500	0,0636	0,2610	0,0040
VIS-CV5-MS-218	Stérile	Métasédiment	0,0000	<0,00008	<0,001	0,180	2,6600	0,0544	0,2700	0,0042
VIS-CV5-MS-219	Stérile	Métasédiment	0,0000	0,00009	<0,001	0,060	3,5800	0,1250	0,3200	0,0014
VIS-CV5-MS-220	Stérile	Métasédiment	0,0001	0,00026	<0,001	0,116	1,9700	0,0044	0,2170	0,0012
VIS-CV5-MS-221	Stérile	Métasédiment	0,0000	0,00020	<0,001	0,068	0,7330	0,0137	0,6290	0,0024
VIS-CV5-MS-222	Stérile	Métasédiment	0,0000	0,00027	<0,001	0,062	1,4600	0,0449	0,3860	0,0025
VIS-CV5-MS-223	Stérile	Métasédiment	0,0002	0,00176	<0,001	0,163	3,0500	0,0787	0,5740	0,0018
VIS-CV5-MS-224	Stérile	Métasédiment	0,0001	0,00045	<0,001	0,107	2,8000	0,0322	0,4880	0,0026
VIS-CV5-MS-225	Stérile	Métasédiment	0,0002	0,00020	<0,001	0,073	0,5490	0,0236	0,4700	0,0011
VIS-CV5-MS-226	Stérile	Métasédiment	0,0000	<0,00008	<0,001	0,015	0,2550	0,0150	0,3960	0,0005
VIS-CV5-MS-227	Stérile	Métasédiment	0,0001	<0,00008	<0,001	0,007	1,2200	0,0491	1,1500	0,0194
VIS-CV5-MS-228	Stérile	Métasédiment	0,0001	0,00162	<0,001	0,172	2,1800	0,0734	0,7200	0,0036
VIS-CV5-MS-229	Stérile	Métasédiment	0,0001	0,00064	<0,001	0,144	1,8300	0,0252	0,6900	0,0036
VIS-CV5-MS-230	Stérile	Métasédiment	0,0002	0,00025	<0,001	0,090	0,5490	0,0129	0,5280	0,0018
VIS-CV5-MS-231	Stérile	Métasédiment	0,0000	0,00039	<0,001	0,053	1,9900	0,0177	0,4740	0,0025
VIS-CV5-MS-232	Stérile	Métasédiment	0,0003	0,00057	<0,001	0,220	1,7700	0,0572	0,6670	0,0053
VIS-CV5-MS-233	Stérile	Métasédiment	0,0002	0,00033	<0,001	0,236	1,6000	0,0670	0,6950	0,0040
VIS-CV5-MS-234	Stérile	Métasédiment	0,0002	0,00044	<0,001	0,237	2,2000	0,0861	0,4090	0,0041
VIS-CV5-MS-235	Stérile	Métasédiment	0,0001	0,00008	<0,001	0,189	1,6200	0,0652	0,3470	0,0044
VIS-CV5-MS-236	Stérile	Métasédiment	0,0000	0,00050	<0,001	0,121	1,1800	0,0052	0,3770	0,0025
VIS-CV5-MS-237	Stérile	Métasédiment	0,0001	0,00058	<0,001	0,135	1,7700	0,0048	0,3690	0,0028
VIS-CV5-MS-238	Stérile	Métasédiment	0,0000	<0,00008	<0,001	0,097	2,4800	0,0700	0,3630	0,0023
VIS-CV5-MS-239	Stérile	Métasédiment	0,0000	0,00022	<0,001	0,058	0,5360	0,0262	0,5110	0,0012
VIS-CV5-MS-240	Stérile	Métasédiment	0,0001	0,00041	<0,001	0,207	2,9400	0,0565	0,3860	0,0069
VIS-CV5-MS-241	Stérile	Métasédiment	0,0002	0,00056	<0,001	0,310	2,9500	0,0981	0,4430	0,0082
VIS-CV5-MS-242	Stérile	Métasédiment	0,0000	0,00017	<0,001	0,095	2,0800	0,0404	0,3060	0,0022
VIS-CV5-MS-243	Stérile	Métasédiment	0,0001	0,00035	<0,001	0,079	0,3210	0,0184	0,5270	0,0016
VIS-CV5-MS-244	Stérile	Métasédiment	0,0002	0,00017	<0,001	0,260	2,8700	0,0721	0,3560	0,0044
VIS-CV5-MS-245	Stérile	Métasédiment	0,0002	0,00026	<0,001	0,444	3,5700	0,1000	0,4390	0,0098
VIS-CV5-MS-246	Stérile	Métasédiment	0,0001	0,00021	<0,001	0,253	1,9600	0,0771	0,3310	0,0074
VIS-CV5-MS-247	Stérile	Métasédiment	0,0002	0,00027	<0,001	0,394	2,7400	0,1800	0,3750	0,0154
VIS-CV5-MS-248	Stérile	Métasédiment	0,0000	<0,00008	<0,001	0,043	2,8800	0,1100	0,3280	0,0008
VIS-CV5-MS-249	Stérile	Métasédiment	0,0001	0,00013	<0,001	0,215	2,7400	0,1630	0,3990	0,0054
VIS-CV5-MS-250	Stérile	Métasédiment	0,0000	<0,00008	<0,001	0,049	0,0890	0,0029	0,3640	0,0006
VIS-CV5-MS-251	Stérile	Métasédiment	0,0001	<0,00008	<0,001	0,137	1,7500	0,0199	0,4610	0,0035
VIS-CV5-MS-252	Stérile	Métasédiment	0,0000	0,00014	<0,001	0,031	0,4290	0,0320	0,4890	0,0009
VIS-CV5-MS-253	Stérile	Métasédiment	0,0000	<0,00008	<0,001	0,008	1,4600	0,0455	0,4210	0,0071
VIS-CV5-MS-254	Stérile	Métasédiment	0,0002	0,00112	<0,001	0,261	3,1900	0,0963	0,5040	0,0077
VIS-CV5-MS-255	Stérile	Métasédiment	0,0001	0,00053	<0,001	0,159	2,0300	0,0655	0,3610	0,0049
VIS-CV5-MS-256	Stérile	Métasédiment	0,0001	0,00088	<0,001	0,303	2,4500	0,0607	0,4380	0,0055
VIS-CV5-MS-257	Stérile	Métasédiment	0,0000	0,00018	<0,001	0,008	1,0400	0,0036	0,1100	0,0006
VIS-CV5-MS-258	Stérile	Métasédiment	0,0004	0,00023	<0,001	0,277	2,3900	0,0105	0,4050	0,0033
VIS-CV5-PEG-259	Stérile	Pegmatite stérile	0,0000	0,00017	<0,001	0,064	0,4330	0,0157	0,3490	0,0017
VIS-CV5-PEG-260	Stérile	Pegmatite stérile	0,0000	0,00022	<0,001	0,026	2,5100	0,0415	0,2900	0,0064
VIS-CV5-PEG-261	Stérile	Pegmatite stérile	0,0001	<0,00008	<0,001	0,122	0,6880	0,0510	0,4400	0,0047
VIS-CV5-PEG-262	Stérile	Pegmatite stérile	0,0000	0,00019	<0,001	0,027	0,4290	0,0284	0,0500	0,0071
VIS-CV5-PEG-263	Stérile	Pegmatite stérile	0,0000	<0,00008	<0,001	0,018	1,0000	0,0308	0,0920	0,0037
VIS-CV5-PEG-264	Stérile	Pegmatite stérile	0,0000	0,00086	<0,001	0,026	0,1080	0,0123	0,0740	0,0027
VIS-CV5-PEG-265	Stérile	Pegmatite stérile	0,0002	0,00012	<0,001	0,046	0,2600	0,0205	0,1440	0,0049
VIS-CV5-PEG-266	Stérile	Pegmatite stérile	0,0001	0,00111	<0,001	0,041	1,7200	0,0334	0,2780	0,0046
VIS-CV5-PEG-267	Stérile	Pegmatite stérile	0,0000	0,00075	<0,001	0,046	1,3000	0,0759	0,2180	0,0253
VIS-CV5-PEG-268	Stérile	Pegmatite stérile	0,0000	0,00040	<0,001	0,038	0,5780	0,0232	0,2660	0,0033
VIS-CV5-PEG-269	Stérile	Pegmatite stérile	0,0000	<0,00008	<0,001	0,046	0,9830	0,0336	0,0970	0,0193
VIS-CV5-PEG-270	Stérile	Pegmatite stérile	0,0005	0,00011	<0,001	0,049	0,0760	0,0105	0,2080	0,0018
VIS-CV5-PEG-271	Stérile	Pegmatite stérile	0,0000	0,00016	<0,001	0,015	1,4800	0,0286	0,1440	0,0103
VIS-CV5-PEG-272	Stérile	Pegmatite stérile	0,0000	0,00016	<0,001	0,065	0,8460	0,0044	0,1700	0,0036
VIS-CV5-PEG-273	Stérile	Pegmatite stérile	0,0000	0,00019	<0,001	0,040	1,5800	0,0096	0,1260	0,0058
VIS-CV5-PEG-274	Stérile	Pegmatite stérile	0,0000	0,00012	<0,001	0,020	0,1250	0,0155	0,5040	0,0005
VIS-CV5-PEG-275	Stérile	Pegmatite stérile	0,0001	<0,00008	<0,001	0,040	1,6300	0,0348	0,1770	0,0106
VIS-CV5-PEG-276	Stérile	Pegmatite stérile	0,0000	<0,00008	<0,001	0,043	2,0100	0,0304	0,1080	0,0059
VIS-CV5-PEG-277	Stérile	Pegmatite stérile	0,0001	0,00017	<0,001	0,019	2,6300	0,0269	0,1540	0,0050
VIS-CV5-PEG-278	Stérile	Pegmatite stérile	0,0001	0,00014	<0,001	0,098	1,0400	0,0040	0,1210	0,0082
VIS-CV5-UM-279	Stérile	Ultramafique	0,0000	0,00096	<0,001	0,007	0,0370	0,0005	3,5700	0,0003
VIS-CV5-UM-280	Stérile	Ultramafique	0,0000	0,00151	<0,001	0,007	0,0420	0,0005	1,9200	0,0006

Essais SPLP

# échantillon	Type de matériel	Lithologie	Molybdenum	Sodium	Nickel	Phosphore réactif total	Plomb	Antimoine	Sélénium	Etain
		Unité	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
		CVAA - Effet aigu	29		0,067		0,004	0,31	0,062	
		D019/MDMER			0,250		0,080			
VIS-CV5-MS-211	Stérile	Métasédiment	<0,0004	5,0700	0,0022	0,0090	0,00040	0,0728	0,00016	0,00013
VIS-CV5-MS-212	Stérile	Métasédiment	0,0039	5,2700	0,0005	0,0050	0,00051	0,0538	0,00013	0,00030
VIS-CV5-MS-213	Stérile	Métasédiment	0,0008	4,6300	0,0001	0,0030	<0,00009	0,0017	<0,00004	<0,00006
VIS-CV5-MS-214	Stérile	Métasédiment	0,0017	5,0400	0,0002	0,0030	0,00012	0,0031	<0,00004	<0,00006
VIS-CV5-MS-215	Stérile	Métasédiment	<0,0004	5,3800	0,0005	0,0170	0,00016	0,0083	0,00012	0,00008
VIS-CV5-MS-216	Stérile	Métasédiment	<0,0004	4,8700	0,0003	0,0030	<0,00009	0,0080	0,00014	<0,00006
VIS-CV5-MS-217	Stérile	Métasédiment	0,0010	5,0900	<0,0001	0,0130	0,00024	0,0023	0,00005	0,00039
VIS-CV5-MS-218	Stérile	Métasédiment	0,0025	5,2000	<0,0001	0,0120	0,00020	0,0030	<0,00004	<0,00006
VIS-CV5-MS-219	Stérile	Métasédiment	0,0064	5,5900	<0,0001	0,0030	<0,00009	0,0107	<0,00004	0,00024
VIS-CV5-MS-220	Stérile	Métasédiment	<0,0004	5,2900	0,0002	0,0030	0,00020	0,0009	<0,00004	0,00007
VIS-CV5-MS-221	Stérile	Métasédiment	<0,0004	4,8700	0,0001	0,0030	<0,00009	0,0009	<0,00004	<0,00006
VIS-CV5-MS-222	Stérile	Métasédiment	0,0005	4,7900	0,0002	0,0030	<0,00009	0,0017	<0,00004	0,00007
VIS-CV5-MS-223	Stérile	Métasédiment	<0,0004	4,3100	0,0012	0,0030	<0,00009	0,0152	0,00007	0,00006
VIS-CV5-MS-224	Stérile	Métasédiment	0,0012	5,3900	0,0005	0,0030	0,00020	0,0209	0,00018	0,00009
VIS-CV5-MS-225	Stérile	Métasédiment	<0,0004	5,2900	0,0004	0,0030	<0,00009	0,0040	<0,00004	0,00023
VIS-CV5-MS-226	Stérile	Métasédiment	<0,0004	4,8400	0,0001	0,0030	<0,00009	0,0027	0,00007	<0,00006
VIS-CV5-MS-227	Stérile	Métasédiment	<0,0004	4,2600	0,0007	0,0030	<0,00009	0,0025	<0,00004	<0,00006
VIS-CV5-MS-228	Stérile	Métasédiment	0,0006	4,7500	0,0007	0,0030	0,00011	0,0069	<0,00004	0,00011
VIS-CV5-MS-229	Stérile	Métasédiment	<0,0004	5,3700	0,0004	0,0030	0,00033	0,0009	0,00016	<0,00006
VIS-CV5-MS-230	Stérile	Métasédiment	0,0027	5,4300	0,0005	0,0200	0,00016	0,0076	0,00045	0,00007
VIS-CV5-MS-231	Stérile	Métasédiment	<0,0004	3,8900	0,0011	0,0030	0,00009	0,0009	<0,00004	<0,00006
VIS-CV5-MS-232	Stérile	Métasédiment	<0,0004	5,4700	0,0008	0,0030	0,00025	0,0459	<0,00004	0,00023
VIS-CV5-MS-233	Stérile	Métasédiment	0,0005	5,7800	0,0003	0,0030	<0,00009	0,0045	<0,00004	0,00009
VIS-CV5-MS-234	Stérile	Métasédiment	<0,0004	5,0600	0,0003	0,0030	0,00027	0,0029	0,00007	0,00007
VIS-CV5-MS-235	Stérile	Métasédiment	0,0008	5,8600	<0,0001	0,0110	0,00030	0,0056	<0,00004	0,00015
VIS-CV5-MS-236	Stérile	Métasédiment	0,0014	6,4300	<0,0001	0,0080	0,00021	0,0009	<0,00004	<0,00006
VIS-CV5-MS-237	Stérile	Métasédiment	0,0014	6,8300	<0,0001	0,0190	0,00011	0,0011	<0,00004	<0,00006
VIS-CV5-MS-238	Stérile	Métasédiment	<0,0004	5,2200	0,0002	0,0060	<0,00009	0,0068	<0,00004	<0,00006
VIS-CV5-MS-239	Stérile	Métasédiment	<0,0004	4,9800	0,0003	0,0050	<0,00009	0,0149	<0,00004	<0,00006
VIS-CV5-MS-240	Stérile	Métasédiment	<0,0004	4,3600	0,0002	0,0030	0,00022	0,0011	<0,00004	<0,00006
VIS-CV5-MS-241	Stérile	Métasédiment	0,0005	5,2400	0,0004	0,0040	0,00017	0,0082	<0,00004	0,00021
VIS-CV5-MS-242	Stérile	Métasédiment	<0,0004	4,7300	0,0001	0,0050	<0,00009	0,0034	<0,00004	<0,00006
VIS-CV5-MS-243	Stérile	Métasédiment	0,0005	5,1400	0,0002	0,0030	<0,00009	0,0028	0,00005	<0,00006
VIS-CV5-MS-244	Stérile	Métasédiment	<0,0004	5,0000	0,0003	0,0120	0,00028	0,0032	<0,00004	0,00014
VIS-CV5-MS-245	Stérile	Métasédiment	<0,0004	5,2300	0,0003	0,0140	0,00043	0,0028	<0,00004	<0,00006
VIS-CV5-MS-246	Stérile	Métasédiment	0,0023	5,3500	0,0002	0,0050	0,00058	0,0036	0,00004	0,00011
VIS-CV5-MS-247	Stérile	Métasédiment	<0,0004	5,6100	0,0002	0,0170	0,00091	0,0140	0,00005	0,00012
VIS-CV5-MS-248	Stérile	Métasédiment	<0,0004	4,8900	<0,0001	0,0050	<0,00009	0,0060	<0,00004	<0,00006
VIS-CV5-MS-249	Stérile	Métasédiment	<0,0004	4,9400	<0,0001	0,0040	0,00019	0,0054	<0,00004	<0,00006
VIS-CV5-MS-250	Stérile	Métasédiment	0,0006	4,7400	<0,0001	0,0060	<0,00009	0,0009	<0,00004	<0,00006
VIS-CV5-MS-251	Stérile	Métasédiment	0,0011	5,1100	0,0002	0,0110	0,00015	0,0014	<0,00004	0,00011
VIS-CV5-MS-252	Stérile	Métasédiment	<0,0004	5,9300	0,0001	0,0290	<0,00009	0,0070	0,00010	0,00011
VIS-CV5-MS-253	Stérile	Métasédiment	0,0005	4,2600	0,0009	0,0030	<0,00009	0,0011	<0,00004	<0,00006
VIS-CV5-MS-254	Stérile	Métasédiment	<0,0004	5,1600	0,0007	0,0050	0,00014	0,0359	0,00008	0,00008
VIS-CV5-MS-255	Stérile	Métasédiment	0,0006	5,0300	0,0004	0,0040	0,00010	0,0152	<0,00004	0,00006
VIS-CV5-MS-256	Stérile	Métasédiment	<0,0004	5,7300	0,0003	0,0070	0,00013	0,0074	<0,00004	0,00048
VIS-CV5-MS-257	Stérile	Métasédiment	<0,0004	1,2700	<0,0001	0,0090	<0,00009	0,0009	<0,00004	<0,00006
VIS-CV5-MS-258	Stérile	Métasédiment	<0,0004	4,6500	0,0004	0,0030	0,00029	0,0012	0,00004	<0,00006
VIS-CV5-PEG-259	Stérile	Pegmatite stérile	<0,0004	5,4000	0,0002	0,0080	0,00018	0,0104	0,00011	<0,00006
VIS-CV5-PEG-260	Stérile	Pegmatite stérile	0,0019	1,2000	<0,0001	0,0670	0,00010	0,0022	<0,00004	0,00019
VIS-CV5-PEG-261	Stérile	Pegmatite stérile	<0,0004	5,3800	<0,0001	0,0180	0,00015	0,0025	<0,00004	0,00088
VIS-CV5-PEG-262	Stérile	Pegmatite stérile	0,0008	2,4600	<0,0001	0,0500	0,00010	0,0076	<0,00004	0,00018
VIS-CV5-PEG-263	Stérile	Pegmatite stérile	<0,0004	2,1900	<0,0001	0,0570	0,00009	0,0076	0,00009	0,00051
VIS-CV5-PEG-264	Stérile	Pegmatite stérile	0,0006	6,7000	<0,0001	0,0460	0,00029	0,0060	<0,00004	0,00092
VIS-CV5-PEG-265	Stérile	Pegmatite stérile	<0,0004	6,0400	<0,0001	0,0360	0,00034	0,0040	<0,00004	0,00091
VIS-CV5-PEG-266	Stérile	Pegmatite stérile	0,0014	6,4900	<0,0001	0,0730	0,00055	0,0020	<0,00004	0,00098
VIS-CV5-PEG-267	Stérile	Pegmatite stérile	0,0012	6,2600	<0,0001	0,2310	0,00033	0,0020	<0,00004	0,00136
VIS-CV5-PEG-268	Stérile	Pegmatite stérile	0,0013	5,8700	<0,0001	0,0830	0,00015	0,0015	<0,00004	0,00027
VIS-CV5-PEG-269	Stérile	Pegmatite stérile	<0,0004	5,6400	<0,0001	0,0570	0,00091	0,0059	<0,00004	0,00084
VIS-CV5-PEG-270	Stérile	Pegmatite stérile	<0,0004	5,0500	0,0002	0,0150	0,00651	0,0018	<0,00004	0,00014
VIS-CV5-PEG-271	Stérile	Pegmatite stérile	<0,0004	4,2800	<0,0001	0,1460	0,00014	0,0044	<0,00004	0,00074
VIS-CV5-PEG-272	Stérile	Pegmatite stérile	<0,0004	6,5400	<0,0001	0,0590	0,00011	0,0028	<0,00004	0,00124
VIS-CV5-PEG-273	Stérile	Pegmatite stérile	<0,0004	5,6000	<0,0001	0,0710	0,00049	0,0035	0,00007	0,00235
VIS-CV5-PEG-274	Stérile	Pegmatite stérile	0,0011	6,8000	<0,0001	0,0430	0,00048	0,0109	0,00005	0,00065
VIS-CV5-PEG-275	Stérile	Pegmatite stérile	<0,0004	6,5900	<0,0001	0,1150	0,00052	0,0026	<0,00004	0,00146
VIS-CV5-PEG-276	Stérile	Pegmatite stérile	<0,0004	6,2700	<0,0001	0,0910	0,00019	0,0066	<0,00004	0,00070
VIS-CV5-PEG-277	Stérile	Pegmatite stérile	<0,0004	6,3600	<0,0001	0,0880	0,00038	0,0029	<0,00004	0,00055
VIS-CV5-PEG-278	Stérile	Pegmatite stérile	<0,0004	5,8200	<0,0001	0,1330	0,00015	0,0010	<0,00004	0,00194
VIS-CV5-UM-279	Stérile	Ultramafique	<0,0004	0,1000	0,0002	0,0050	<0,00009	0,0009	<0,00004	<0,00006
VIS-CV5-UM-280	Stérile	Ultramafique	<0,0004	0,1600	0,0002	0,0060	<0,00009	0,0205	<0,00004	<0,00006

Essais SPLP

# échantillon	Type de matériel	Lithologie	Strontium	Titane	Thorium	Uranium	Vanadium	Zinc
		Unité	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
		CVAA - Effet aigu	40		0,047	0,017	0,11	0,02
		D019/MDMER						0,40
VIS-CV5-MS-211	Stérile	Métasédiment	0,0054	0,0246	0,000159	0,000423	0,00155	<0,002
VIS-CV5-MS-212	Stérile	Métasédiment	0,0088	0,0115	0,000107	0,000399	0,00158	<0,002
VIS-CV5-MS-213	Stérile	Métasédiment	0,0134	0,0086	0,000008	0,000044	0,00156	<0,002
VIS-CV5-MS-214	Stérile	Métasédiment	0,0087	0,0075	0,000041	0,000123	0,00038	<0,002
VIS-CV5-MS-215	Stérile	Métasédiment	0,0177	0,0115	0,000037	0,000030	0,00251	<0,002
VIS-CV5-MS-216	Stérile	Métasédiment	0,0232	0,0015	0,000010	0,000017	0,00254	<0,002
VIS-CV5-MS-217	Stérile	Métasédiment	0,0071	0,0125	0,000114	0,000176	0,00084	<0,002
VIS-CV5-MS-218	Stérile	Métasédiment	0,0077	0,0194	0,000024	0,000258	0,00076	<0,002
VIS-CV5-MS-219	Stérile	Métasédiment	0,0109	0,0063	0,000010	0,000193	0,00272	<0,002
VIS-CV5-MS-220	Stérile	Métasédiment	0,0074	0,0132	0,000006	0,000208	0,00080	<0,002
VIS-CV5-MS-221	Stérile	Métasédiment	0,0067	0,0027	<0,000005	0,000035	0,00099	<0,002
VIS-CV5-MS-222	Stérile	Métasédiment	0,0092	0,0055	0,000028	0,000055	0,00159	<0,002
VIS-CV5-MS-223	Stérile	Métasédiment	0,0042	0,0127	0,000040	0,000029	0,00150	<0,002
VIS-CV5-MS-224	Stérile	Métasédiment	0,0040	0,0130	0,000034	0,000108	0,00077	<0,003
VIS-CV5-MS-225	Stérile	Métasédiment	0,0045	0,0079	0,000008	0,000106	0,00169	<0,002
VIS-CV5-MS-226	Stérile	Métasédiment	0,0160	0,0005	<0,000005	0,000056	0,00318	<0,002
VIS-CV5-MS-227	Stérile	Métasédiment	0,0058	0,0002	0,000011	0,000017	0,00009	<0,002
VIS-CV5-MS-228	Stérile	Métasédiment	0,0056	0,0069	0,000026	0,000029	0,00328	<0,002
VIS-CV5-MS-229	Stérile	Métasédiment	0,0087	0,0039	<0,000005	0,000011	0,00198	<0,002
VIS-CV5-MS-230	Stérile	Métasédiment	0,0117	0,0023	0,000007	0,000275	0,00549	<0,002
VIS-CV5-MS-231	Stérile	Métasédiment	0,0061	0,0024	0,000014	0,000033	0,00017	<0,002
VIS-CV5-MS-232	Stérile	Métasédiment	0,0030	0,0119	0,000051	0,000058	0,00200	<0,002
VIS-CV5-MS-233	Stérile	Métasédiment	0,0035	0,0109	0,000021	0,000024	0,00195	<0,002
VIS-CV5-MS-234	Stérile	Métasédiment	0,0060	0,0146	0,000034	0,000084	0,00134	<0,002
VIS-CV5-MS-235	Stérile	Métasédiment	0,0094	0,0115	0,000051	0,000092	0,00132	<0,002
VIS-CV5-MS-236	Stérile	Métasédiment	0,0059	0,0126	0,000006	0,000092	0,00351	<0,002
VIS-CV5-MS-237	Stérile	Métasédiment	0,0038	0,0086	0,000012	0,000307	0,00339	<0,002
VIS-CV5-MS-238	Stérile	Métasédiment	0,0083	0,0073	0,000014	0,000048	0,00296	<0,002
VIS-CV5-MS-239	Stérile	Métasédiment	0,0094	0,0034	<0,000005	0,000007	0,00319	<0,002
VIS-CV5-MS-240	Stérile	Métasédiment	0,0070	0,0154	0,000017	0,000154	0,00178	<0,002
VIS-CV5-MS-241	Stérile	Métasédiment	0,0046	0,0231	0,000094	0,000147	0,00144	<0,002
VIS-CV5-MS-242	Stérile	Métasédiment	0,0104	0,0065	0,000010	0,000034	0,00203	<0,002
VIS-CV5-MS-243	Stérile	Métasédiment	0,0073	0,0033	0,000005	0,000041	0,00223	<0,002
VIS-CV5-MS-244	Stérile	Métasédiment	0,0062	0,0166	0,000031	0,000037	0,00292	<0,002
VIS-CV5-MS-245	Stérile	Métasédiment	0,0084	0,0395	0,000052	0,000127	0,00533	<0,004
VIS-CV5-MS-246	Stérile	Métasédiment	0,0068	0,0176	0,000129	0,000149	0,00143	<0,002
VIS-CV5-MS-247	Stérile	Métasédiment	0,0071	0,0260	0,000122	0,000117	0,00241	<0,002
VIS-CV5-MS-248	Stérile	Métasédiment	0,0075	0,0031	0,000007	0,000029	0,00146	<0,002
VIS-CV5-MS-249	Stérile	Métasédiment	0,0126	0,0155	0,000037	0,000071	0,00220	<0,002
VIS-CV5-MS-250	Stérile	Métasédiment	0,0048	0,0011	<0,000005	0,000053	0,00027	<0,002
VIS-CV5-MS-251	Stérile	Métasédiment	0,0093	0,0081	0,000028	0,000032	0,00214	<0,002
VIS-CV5-MS-252	Stérile	Métasédiment	0,0088	0,0024	0,000027	0,000069	0,00242	<0,002
VIS-CV5-MS-253	Stérile	Métasédiment	0,0092	0,0002	<0,000005	0,000006	0,00008	<0,002
VIS-CV5-MS-254	Stérile	Métasédiment	0,0154	0,0180	0,000062	0,000103	0,00339	<0,002
VIS-CV5-MS-255	Stérile	Métasédiment	0,0083	0,0124	0,000018	0,000128	0,00306	<0,002
VIS-CV5-MS-256	Stérile	Métasédiment	0,0064	0,0183	0,000013	0,000077	0,00373	<0,002
VIS-CV5-MS-257	Stérile	Métasédiment	0,0100	0,0017	<0,000005	0,001031	0,00270	<0,002
VIS-CV5-MS-258	Stérile	Métasédiment	0,0094	0,0164	0,000020	0,000192	0,00181	<0,002
VIS-CV5-PEG-259	Stérile	Pegmatite stérile	0,0102	0,0044	0,000024	0,000452	0,00113	<0,002
VIS-CV5-PEG-260	Stérile	Pegmatite stérile	0,0080	0,0002	0,000256	0,000113	0,00041	<0,002
VIS-CV5-PEG-261	Stérile	Pegmatite stérile	0,0067	0,0005	0,000118	0,000122	0,00045	<0,002
VIS-CV5-PEG-262	Stérile	Pegmatite stérile	0,0070	0,0001	0,000062	0,025800	0,00018	<0,002
VIS-CV5-PEG-263	Stérile	Pegmatite stérile	0,0049	0,0002	0,000054	0,000381	0,00014	<0,002
VIS-CV5-PEG-264	Stérile	Pegmatite stérile	0,0028	0,0008	0,000030	0,013600	0,00032	<0,002
VIS-CV5-PEG-265	Stérile	Pegmatite stérile	0,0068	0,0006	0,000039	0,019600	0,00012	<0,002
VIS-CV5-PEG-266	Stérile	Pegmatite stérile	0,0086	0,0003	0,000355	0,000144	0,00062	<0,002
VIS-CV5-PEG-267	Stérile	Pegmatite stérile	0,0055	0,0010	0,000358	0,000100	0,00043	<0,002
VIS-CV5-PEG-268	Stérile	Pegmatite stérile	0,0112	0,0002	0,000069	0,000141	0,00025	<0,002
VIS-CV5-PEG-269	Stérile	Pegmatite stérile	0,0056	0,0009	0,000269	0,010200	0,00017	<0,002
VIS-CV5-PEG-270	Stérile	Pegmatite stérile	0,0097	0,0003	0,000015	0,000375	0,00012	<0,002
VIS-CV5-PEG-271	Stérile	Pegmatite stérile	0,0083	0,0005	0,000348	0,000866	0,00012	<0,002
VIS-CV5-PEG-272	Stérile	Pegmatite stérile	0,0019	0,0013	0,000092	0,000840	0,00016	<0,002
VIS-CV5-PEG-273	Stérile	Pegmatite stérile	0,0032	0,0015	0,000284	0,000398	0,00053	<0,002
VIS-CV5-PEG-274	Stérile	Pegmatite stérile	0,0176	0,0002	0,000012	0,000256	0,00131	<0,002
VIS-CV5-PEG-275	Stérile	Pegmatite stérile	0,0047	0,0008	0,000566	0,002070	0,00033	<0,002
VIS-CV5-PEG-276	Stérile	Pegmatite stérile	0,0035	0,0009	0,000301	0,000694	0,00033	<0,002
VIS-CV5-PEG-277	Stérile	Pegmatite stérile	0,0049	0,0003	0,000460	0,000231	0,00023	<0,002
VIS-CV5-PEG-278	Stérile	Pegmatite stérile	0,0018	0,0023	0,000218	0,000530	0,00055	<0,002
VIS-CV5-UM-279	Stérile	Ultramafique	0,0078	0,0001	0,000005	0,000005	0,00100	<0,002
VIS-CV5-UM-280	Stérile	Ultramafique	0,0132	0,0001	0,000006	0,000011	0,00175	<0,002

Essais SPLP

# échantillon	Type de matériel	Lithologie	pH final	pH	Conductivité	Alkalinité	Acidité	Chlore	Mercure	Argent
		Unité	pH unit	pH unit	µS/cm	$mgCaCO_3/l$	$mgCaCO_3/l$	mg/l	mg/l	mg/l
		CVAA - Effet aigu						320	0,0014	0,00004
		D019/MDMER								
VIS-CV5-UM-281	Stérile	Ultramafique		7,75	56,0	20,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-UM-282	Stérile	Ultramafique		7,87	41,0	16,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-UM-283	Stérile	Ultramafique		8,30	50,0	22,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-UM-284	Stérile	Ultramafique		8,04	51,0	23,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-UM-285	Stérile	Ultramafique		7,79	50,0	17,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-UM-286	Stérile	Ultramafique		7,77	50,0	22,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-UM-287	Stérile	Ultramafique		7,74	63,0	22,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-UM-288	Stérile	Ultramafique		7,69	49,0	22,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-UM-289	Stérile	Ultramafique		8,16	50,0	21,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-UM-290	Stérile	Ultramafique		7,92	45,0	23,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-UM-291	Stérile	Ultramafique		8,37	71,0	29,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-UM-292	Stérile	Ultramafique		7,87	49,0	21,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-UM-293	Stérile	Ultramafique		7,89	45,0	21,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-UM-294	Stérile	Ultramafique		7,87	51,0	21,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-UM-295	Stérile	Ultramafique		8,16	46,0	22,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-UM-296	Stérile	Ultramafique		8,04	51,0	22,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-UM-297	Stérile	Ultramafique		7,80	50,0	20,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-UM-298	Stérile	Ultramafique		7,76	46,0	16,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-UM-299	Stérile	Ultramafique		7,80	52,0	21,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-UM-300	Stérile	Ultramafique		7,86	56,0	22,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-UM-301	Stérile	Ultramafique		7,94	51,0	22,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-UM-302	Stérile	Ultramafique		7,86	51,0	20,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-UM-303	Stérile	Ultramafique		7,93	63,0	27,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-UM-304	Stérile	Ultramafique		8,71	73,0	34,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-UM-305	Stérile	Ultramafique		8,28	58,0	25,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-UM-306	Stérile	Ultramafique		8,65	63,0	27,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-UM-307	Stérile	Ultramafique		7,75	64,0	30,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-UM-308	Stérile	Ultramafique		8,05	61,0	25,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-UM-309	Stérile	Ultramafique		8,23	66,0	27,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-UM-310	Stérile	Ultramafique		7,96	68,0	29,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-UM-311	Stérile	Ultramafique		8,26	69,0	29,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-UM-312	Stérile	Ultramafique		8,50	65,0	27,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-UM-313	Stérile	Ultramafique		9,34	63,0	27,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-UM-314	Stérile	Ultramafique		9,46	66,0	36,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-UM-315	Stérile	Ultramafique		8,96	70,0	27,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-UM-316	Stérile	Ultramafique		9,42	75,0	34,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-UM-317	Stérile	Ultramafique		9,25	61,0	33,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-UM-318	Stérile	Ultramafique		9,41	66,0	28,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-UM-319	Stérile	Ultramafique		9,23	73,0	32,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-UM-320	Stérile	Ultramafique		9,31	71,0	30,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-UM-321	Stérile	Ultramafique		9,28	63,0	27,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-UM-322	Stérile	Ultramafique		9,00	65,0	27,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-UM-323	Stérile	Ultramafique		8,93	65,0	27,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-UM-324	Stérile	Ultramafique		9,06	68,0	35,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-UM-325	Stérile	Ultramafique		8,81	64,0	27,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-UM-326	Stérile	Ultramafique		8,74	78,0	32,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-SP-327	Minerai	Pegmatite spodumène		7,75	38,0	14,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-SP-328	Minerai	Pegmatite spodumène		6,96	24,0	7,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-SP-329	Minerai	Pegmatite spodumène		7,09	16,0	4,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-SP-330	Minerai	Pegmatite spodumène		7,20	19,0	5,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-SP-331	Minerai	Pegmatite spodumène		7,23	23,0	6,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-SP-332	Minerai	Pegmatite spodumène		7,19	22,0	6,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-SP-333	Minerai	Pegmatite spodumène		7,31	20,0	5,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-SP-334	Minerai	Pegmatite spodumène		7,34	27,0	7,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-SP-335	Minerai	Pegmatite spodumène		7,90	47,0	20,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-SP-336	Minerai	Pegmatite spodumène		7,15	20,0	5,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-SP-337	Minerai	Pegmatite spodumène		6,95	16,0	3,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-SP-338	Minerai	Pegmatite spodumène		6,98	24,0	7,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-SP-339	Minerai	Pegmatite spodumène		7,24	18,0	5,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-SP-340	Minerai	Pegmatite spodumène		7,64	38,0	14,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-SP-341	Minerai	Pegmatite spodumène		7,63	30,0	10,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-SP-342	Minerai	Pegmatite spodumène		7,91	45,0	17,0	<2,0	<20,0	<0,00001	<0,00005
VIS-CV5-SP-343	Minerai	Pegmatite spodumène		8,54	59,0	27,0	<2,0	<20,0	<0,00001	<0,00005
CV5-MAG-C	Résidu	Magnétique		7,86	47,0	17,0	<2,0	<20,0	<0,00001	<0,00005
CV5-DMS-MID	Résidu	Middlings		7,11	30,0	9,0	<2,0	<20,0	<0,00001	<0,00005
CV5-FLO-C	Résidu	Flottation		7,05	26,0	7,0	<2,0	<20,0	<0,00001	<0,00005
CV5-MAG-F	Résidu	Magnétique		7,93	43,0	16,0	<2,0	<20,0	<0,00001	<0,00005
CV5-MID-F	Résidu	Middlings		7,52	32,0	11,0	<2,0	<20,0	<0,00001	<0,00005
CV5-FLO-F	Résidu	Flottation		7,61	49,0	16,0	<2,0	<20,0	<0,00001	<0,00005
CV5-BYP-CP	Résidu	By-pass		8,33	67,0	27,0	<2,0	<20,0	<0,00001	<0,00005

Essais SPLP

# échantillon	Type de matériel	Lithologie	Aluminum	Arsenic	Bore	Baryum	Beryllium	Bismuth	Calcium	Cadmium
		Unité	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
		CVAA - Effet aigu	0,28	0,34	28	0,108	0,001			0,0002
		D019/MDMER		0,10						
VIS-CV5-UM-281	Stérile	Ultramafique	0,2430	0,6450	0,0070	0,0009	0,000011	0,00003	6,3600	<0,000003
VIS-CV5-UM-282	Stérile	Ultramafique	0,0710	0,4390	0,0020	0,0005	<0,000007	<0,00001	6,0300	<0,000003
VIS-CV5-UM-283	Stérile	Ultramafique	0,0570	0,3840	0,0140	0,0013	<0,000007	<0,00001	6,9700	<0,000003
VIS-CV5-UM-284	Stérile	Ultramafique	0,2110	0,1940	0,0090	0,0013	<0,000007	<0,00001	6,7100	<0,000003
VIS-CV5-UM-285	Stérile	Ultramafique	0,1990	0,2060	0,0020	0,0006	<0,000007	<0,00001	6,8100	<0,000003
VIS-CV5-UM-286	Stérile	Ultramafique	0,0140	2,7500	0,0070	0,0008	<0,000007	<0,00001	6,0100	<0,000003
VIS-CV5-UM-287	Stérile	Ultramafique	0,1790	0,6020	0,0050	0,0005	0,000013	<0,00001	8,6600	<0,000003
VIS-CV5-UM-288	Stérile	Ultramafique	0,1070	0,6440	0,0090	0,0005	0,000017	<0,00001	5,1400	<0,000003
VIS-CV5-UM-289	Stérile	Ultramafique	0,0960	0,4530	0,0080	0,0003	<0,000007	<0,00001	5,4600	<0,000003
VIS-CV5-UM-290	Stérile	Ultramafique	0,0600	0,1320	0,0020	0,0004	<0,000007	<0,00001	6,6000	<0,000003
VIS-CV5-UM-291	Stérile	Ultramafique	0,0370	1,5200	0,0300	0,0009	<0,000007	<0,00001	6,9300	<0,000003
VIS-CV5-UM-292	Stérile	Ultramafique	0,0390	1,0500	0,0020	0,0003	<0,000007	<0,00001	6,8600	<0,000003
VIS-CV5-UM-293	Stérile	Ultramafique	0,0500	0,0401	0,0020	0,0003	<0,000007	<0,00001	6,1000	<0,000003
VIS-CV5-UM-294	Stérile	Ultramafique	0,2500	0,0494	0,0020	0,0004	<0,000007	<0,00001	7,1000	<0,000003
VIS-CV5-UM-295	Stérile	Ultramafique	0,4570	0,0257	0,0030	0,0003	<0,000007	<0,00001	6,6300	<0,000003
VIS-CV5-UM-296	Stérile	Ultramafique	0,3700	0,1210	0,0020	0,0003	<0,000007	<0,00001	7,4400	<0,000003
VIS-CV5-UM-297	Stérile	Ultramafique	0,0280	0,8120	0,0020	0,0005	<0,000007	<0,00001	5,7600	<0,000003
VIS-CV5-UM-298	Stérile	Ultramafique	0,2150	1,0400	0,0090	0,0007	0,000018	<0,00001	3,9800	<0,000003
VIS-CV5-UM-299	Stérile	Ultramafique	0,3060	0,1250	0,0020	0,0004	0,000008	<0,00001	6,9700	<0,000003
VIS-CV5-UM-300	Stérile	Ultramafique	0,2430	0,2130	0,0020	0,0004	<0,000007	<0,00001	7,4400	<0,000003
VIS-CV5-UM-301	Stérile	Ultramafique	0,3790	0,1450	0,0070	0,0004	<0,000007	<0,00001	6,4100	<0,000003
VIS-CV5-UM-302	Stérile	Ultramafique	0,3470	0,0832	0,0080	0,0016	<0,000007	<0,00001	6,8200	<0,000003
VIS-CV5-UM-303	Stérile	Ultramafique	0,4930	0,0475	0,0300	0,0008	0,000053	<0,00001	5,8000	<0,000003
VIS-CV5-UM-304	Stérile	Ultramafique	0,3280	0,2480	0,0270	0,0006	<0,000007	<0,00001	6,8900	<0,000003
VIS-CV5-UM-305	Stérile	Ultramafique	0,2790	0,0785	0,0200	0,0011	<0,000007	<0,00001	5,9000	<0,000003
VIS-CV5-UM-306	Stérile	Ultramafique	0,3240	0,0694	0,0290	0,0011	<0,000007	<0,00001	6,6200	<0,000003
VIS-CV5-UM-307	Stérile	Ultramafique	0,2710	0,7830	0,0620	0,0019	0,000016	0,00003	5,2400	<0,000003
VIS-CV5-UM-308	Stérile	Ultramafique	0,0640	0,5770	0,0310	0,0010	0,000018	0,00002	5,3400	<0,000003
VIS-CV5-UM-309	Stérile	Ultramafique	0,1730	0,0355	0,0270	0,0011	<0,000007	<0,00001	6,2100	<0,000003
VIS-CV5-UM-310	Stérile	Ultramafique	0,1710	0,4600	0,0280	0,0010	<0,000007	<0,00001	6,6900	<0,000003
VIS-CV5-UM-311	Stérile	Ultramafique	0,0630	0,1790	0,0360	0,0008	<0,000007	<0,00001	5,8100	<0,000003
VIS-CV5-UM-312	Stérile	Ultramafique	0,1490	0,0786	0,0330	0,0014	<0,000007	<0,00001	4,1300	<0,000003
VIS-CV5-UM-313	Stérile	Ultramafique	0,0160	0,0443	0,0250	0,0005	<0,000007	<0,00001	5,8900	<0,000003
VIS-CV5-UM-314	Stérile	Ultramafique	0,3220	0,0208	0,0220	0,0009	<0,000007	<0,00001	6,1900	<0,000003
VIS-CV5-UM-315	Stérile	Ultramafique	0,2220	0,2180	0,0270	0,0012	0,000023	<0,00001	6,8700	<0,000003
VIS-CV5-UM-316	Stérile	Ultramafique	0,0050	0,1600	0,0270	0,0006	<0,000007	<0,00001	5,8800	<0,000003
VIS-CV5-UM-317	Stérile	Ultramafique	0,2070	0,1500	0,0230	0,0009	0,000013	<0,00001	6,5900	<0,000003
VIS-CV5-UM-318	Stérile	Ultramafique	0,2640	0,0351	0,0210	0,0009	<0,000007	<0,00001	6,7300	0,000004
VIS-CV5-UM-319	Stérile	Ultramafique	0,0060	0,3030	0,0330	0,0006	<0,000007	<0,00001	6,0400	<0,000003
VIS-CV5-UM-320	Stérile	Ultramafique	0,2810	0,3740	0,0350	0,0011	0,000044	<0,00001	5,1400	<0,000003
VIS-CV5-UM-321	Stérile	Ultramafique	0,3150	0,2210	0,0230	0,0008	0,000022	<0,00001	6,4300	<0,000003
VIS-CV5-UM-322	Stérile	Ultramafique	0,2870	0,0203	0,0210	0,0012	<0,000007	<0,00001	5,9800	<0,000003
VIS-CV5-UM-323	Stérile	Ultramafique	0,1830	0,0906	0,0220	0,0009	<0,000007	<0,00001	6,4100	<0,000003
VIS-CV5-UM-324	Stérile	Ultramafique	0,2450	0,1470	0,0240	0,0007	0,000069	<0,00001	6,5600	<0,000003
VIS-CV5-UM-325	Stérile	Ultramafique	0,1300	0,0917	0,0300	0,0011	0,000027	<0,00001	4,1600	<0,000003
VIS-CV5-UM-326	Stérile	Ultramafique	0,0980	0,0873	0,0660	0,0009	0,000011	<0,00001	5,8600	<0,000003
VIS-CV5-SP-327	Minerai	Pegmatite spodumène	0,6710	0,0524	0,0590	0,0011	0,002730	0,00044	2,2000	<0,000003
VIS-CV5-SP-328	Minerai	Pegmatite spodumène	0,1370	0,0363	0,0040	0,0002	0,000047	<0,00001	2,2100	<0,000003
VIS-CV5-SP-329	Minerai	Pegmatite spodumène	0,0910	0,1180	0,0110	0,0003	0,000063	<0,00001	0,3800	<0,000003
VIS-CV5-SP-330	Minerai	Pegmatite spodumène	0,0980	0,0944	0,0090	0,0002	0,000028	0,00052	0,9000	<0,000006
VIS-CV5-SP-331	Minerai	Pegmatite spodumène	0,1950	0,1530	0,0120	0,0003	0,000027	<0,00001	1,7900	<0,000003
VIS-CV5-SP-332	Minerai	Pegmatite spodumène	0,1200	0,0534	0,0090	0,0002	0,000029	<0,00001	1,8300	<0,000003
VIS-CV5-SP-333	Minerai	Pegmatite spodumène	0,1190	0,1390	0,0180	0,0002	0,000031	<0,00001	0,8000	<0,000003
VIS-CV5-SP-334	Minerai	Pegmatite spodumène	0,2540	0,0188	0,0070	0,0003	0,000027	<0,00001	2,2800	<0,000003
VIS-CV5-SP-335	Minerai	Pegmatite spodumène	1,2100	0,0105	0,0600	0,0030	0,001803	0,00018	1,6200	<0,000003
VIS-CV5-SP-336	Minerai	Pegmatite spodumène	0,0900	0,0683	0,0060	0,0003	0,000011	<0,00001	1,5800	0,000003
VIS-CV5-SP-337	Minerai	Pegmatite spodumène	0,0980	0,0859	0,0150	0,0003	0,000067	0,00002	0,9500	0,000007
VIS-CV5-SP-338	Minerai	Pegmatite spodumène	0,1320	0,0420	0,0060	0,0003	0,000040	0,00052	1,8600	0,000009
VIS-CV5-SP-339	Minerai	Pegmatite spodumène	0,0940	0,0753	0,0100	0,0002	0,000038	0,00001	1,4900	<0,000003
VIS-CV5-SP-340	Minerai	Pegmatite spodumène	0,5560	0,0132	0,0050	0,0003	0,000071	0,00046	4,5200	<0,000003
VIS-CV5-SP-341	Minerai	Pegmatite spodumène	0,4760	0,0076	0,0060	0,0003	0,000076	0,00015	2,4300	0,000004
VIS-CV5-SP-342	Minerai	Pegmatite spodumène	0,6320	0,0121	0,0060	0,0004	0,000044	0,00005	5,9100	<0,000003
VIS-CV5-SP-343	Minerai	Pegmatite spodumène	0,7190	0,0091	0,0300	0,0014	0,000239	0,00019	5,8300	0,000006
CV5-MAG-C	Résidu	Magnétique	0,2640	0,2240	0,0070	0,0003	<0,000007	0,00001	5,6500	<0,000003
CV5-DMS-MID	Résidu	Middlings	0,3270	0,0761	0,0080	0,0005	0,000024	0,00009	2,3200	0,000010
CV5-FLO-C	Résidu	Flottation	0,2300	0,0212	0,0020	0,0003	0,000055	0,00015	1,7200	0,000009
CV5-MAG-F	Résidu	Magnétique	0,5780	0,1140	0,0190	0,0003	<0,000007	<0,00001	5,2400	0,000012
CV5-MID-F	Résidu	Middlings	0,4170	0,0703	0,0030	0,0011	0,000047	0,00004	3,9800	0,000006
CV5-FLO-F	Résidu	Flottation	0,4860	0,0221	0,0320	0,0053	0,000364	0,00049	2,8200	0,000013
CV5-BYP-CP	Résidu	By-pass	0,5300	0,1540	0,0330	0,0013	0,000325	0,00091	5,6300	0,000005

Essais SPLP

# échantillon	Type de matériel	Lithologie	Cobalt	Chrome	Cuivre	Fer	Potassium	Lithium	Magnésium	Manganèse
		Unité	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
		CVAA - Effet aigu	0,370	0,016	0,0016	3,4		0,9100		0,551
		D019/MDMER			0,100	3,0				
VIS-CV5-UM-281	Stérile	Ultramafique	0,0000	0,00105	<0,001	0,023	3,3800	0,1270	0,9230	0,0013
VIS-CV5-UM-282	Stérile	Ultramafique	0,0000	0,00122	<0,001	<0,007	0,1110	0,0005	1,3700	0,0021
VIS-CV5-UM-283	Stérile	Ultramafique	0,0000	0,00158	<0,001	<0,007	0,6970	0,0102	1,5600	0,0010
VIS-CV5-UM-284	Stérile	Ultramafique	0,0000	0,00074	<0,001	<0,007	1,5000	0,0426	1,3800	0,0005
VIS-CV5-UM-285	Stérile	Ultramafique	0,0001	0,00086	<0,001	0,032	0,3920	0,0199	1,4900	0,0009
VIS-CV5-UM-286	Stérile	Ultramafique	0,0001	0,00193	<0,001	0,039	0,6160	0,0035	2,3900	0,0015
VIS-CV5-UM-287	Stérile	Ultramafique	0,0000	0,00035	<0,001	0,008	0,6410	0,0250	1,3800	0,0007
VIS-CV5-UM-288	Stérile	Ultramafique	0,0001	0,00267	<0,001	0,074	3,2700	0,0596	1,4200	0,0023
VIS-CV5-UM-289	Stérile	Ultramafique	0,0000	0,00165	<0,001	0,011	2,0600	0,0380	1,6700	0,0016
VIS-CV5-UM-290	Stérile	Ultramafique	0,0000	0,00050	<0,001	<0,007	0,0860	0,0006	1,5000	0,0019
VIS-CV5-UM-291	Stérile	Ultramafique	0,0000	0,00044	<0,001	<0,007	0,8080	0,0095	1,5400	0,0002
VIS-CV5-UM-292	Stérile	Ultramafique	0,0000	0,00072	<0,001	<0,007	0,2200	0,0007	1,6200	0,0005
VIS-CV5-UM-293	Stérile	Ultramafique	0,0000	0,00050	<0,001	<0,007	0,1020	0,0004	1,5300	0,0002
VIS-CV5-UM-294	Stérile	Ultramafique	0,0000	0,00036	<0,001	<0,007	0,1790	0,0125	1,3400	0,0013
VIS-CV5-UM-295	Stérile	Ultramafique	0,0001	0,00094	<0,001	0,064	0,4400	0,0231	1,1800	0,0034
VIS-CV5-UM-296	Stérile	Ultramafique	0,0001	0,00096	<0,001	0,046	0,4520	0,0198	1,2800	0,0015
VIS-CV5-UM-297	Stérile	Ultramafique	0,0000	0,00299	<0,001	0,013	0,1160	0,0006	2,2200	0,0006
VIS-CV5-UM-298	Stérile	Ultramafique	0,0001	0,00249	<0,001	0,040	4,0200	0,1380	1,0600	0,0008
VIS-CV5-UM-299	Stérile	Ultramafique	0,0000	0,00021	<0,001	<0,007	0,5490	0,0270	0,9590	0,0005
VIS-CV5-UM-300	Stérile	Ultramafique	0,0000	0,00058	<0,001	0,013	0,4250	0,0117	1,4700	0,0004
VIS-CV5-UM-301	Stérile	Ultramafique	0,0000	0,00068	<0,001	0,040	0,4770	0,0170	1,1800	0,0011
VIS-CV5-UM-302	Stérile	Ultramafique	0,0000	0,00036	<0,001	0,014	1,2800	0,0327	0,8260	0,0005
VIS-CV5-UM-303	Stérile	Ultramafique	0,0001	0,00111	<0,001	0,180	0,5800	0,0393	0,6120	0,0036
VIS-CV5-UM-304	Stérile	Ultramafique	0,0001	0,00127	<0,001	0,046	0,4990	0,0148	1,1000	0,0014
VIS-CV5-UM-305	Stérile	Ultramafique	0,0001	0,00089	<0,001	0,052	0,5180	0,0082	0,9640	0,0012
VIS-CV5-UM-306	Stérile	Ultramafique	0,0002	0,00182	<0,001	0,225	0,1780	0,0146	0,9960	0,0047
VIS-CV5-UM-307	Stérile	Ultramafique	0,0005	0,00418	<0,001	0,310	1,2100	0,0793	1,3800	0,0061
VIS-CV5-UM-308	Stérile	Ultramafique	0,0001	0,00252	<0,001	0,084	1,1900	0,0313	1,0700	0,0023
VIS-CV5-UM-309	Stérile	Ultramafique	0,0000	0,00056	<0,001	0,025	0,3560	0,0170	0,8070	0,0009
VIS-CV5-UM-310	Stérile	Ultramafique	0,0001	0,00076	<0,001	0,023	1,2500	0,0323	0,9760	0,0007
VIS-CV5-UM-311	Stérile	Ultramafique	0,0001	0,00048	<0,001	0,020	1,3600	0,0810	1,1900	0,0004
VIS-CV5-UM-312	Stérile	Ultramafique	0,0000	0,00058	<0,001	0,032	1,3800	0,0537	0,9510	0,0008
VIS-CV5-UM-313	Stérile	Ultramafique	0,0000	0,00029	<0,001	<0,007	0,0550	0,0003	1,5100	0,0001
VIS-CV5-UM-314	Stérile	Ultramafique	0,0001	0,00157	<0,001	0,112	0,3630	0,0313	0,9050	0,0027
VIS-CV5-UM-315	Stérile	Ultramafique	0,0004	0,00220	<0,001	0,159	0,4070	0,0169	1,2100	0,0036
VIS-CV5-UM-316	Stérile	Ultramafique	0,0000	0,00064	<0,001	0,007	0,2760	0,0027	2,9600	0,0001
VIS-CV5-UM-317	Stérile	Ultramafique	0,0001	0,00196	<0,001	0,085	0,5130	0,0408	0,9640	0,0019
VIS-CV5-UM-318	Stérile	Ultramafique	0,0002	0,00397	<0,001	0,188	0,4290	0,0122	1,0000	0,0036
VIS-CV5-UM-319	Stérile	Ultramafique	0,0000	0,00079	<0,001	0,007	0,0950	0,0023	1,8900	0,0002
VIS-CV5-UM-320	Stérile	Ultramafique	0,0002	0,00412	<0,001	0,168	3,1200	0,1210	0,8880	0,0052
VIS-CV5-UM-321	Stérile	Ultramafique	0,0001	0,00110	<0,001	0,048	0,3420	0,0206	0,8160	0,0017
VIS-CV5-UM-322	Stérile	Ultramafique	0,0001	0,00130	<0,001	0,077	0,5290	0,0116	0,8940	0,0018
VIS-CV5-UM-323	Stérile	Ultramafique	0,0001	0,00060	<0,001	0,032	1,0100	0,0210	0,9670	0,0009
VIS-CV5-UM-324	Stérile	Ultramafique	0,0001	0,00158	<0,001	0,065	0,3770	0,0129	0,8110	0,0014
VIS-CV5-UM-325	Stérile	Ultramafique	0,0000	0,00081	<0,001	0,052	4,4100	0,0840	0,8180	0,0014
VIS-CV5-UM-326	Stérile	Ultramafique	0,0001	0,00161	<0,001	0,103	0,5110	0,0212	0,6420	0,0010
VIS-CV5-SP-327	Minerai	Pegmatite spodumène	0,0000	0,00037	<0,001	0,038	0,6480	0,0855	0,1980	0,0147
VIS-CV5-SP-328	Minerai	Pegmatite spodumène	0,0000	<0,00008	<0,001	<0,007	0,5620	0,3040	0,0390	0,1450
VIS-CV5-SP-329	Minerai	Pegmatite spodumène	0,0000	0,00010	<0,001	<0,007	0,4630	0,4750	0,0450	0,0411
VIS-CV5-SP-330	Minerai	Pegmatite spodumène	0,0000	<0,00008	<0,001	<0,007	0,8500	0,1870	0,0660	0,0198
VIS-CV5-SP-331	Minerai	Pegmatite spodumène	0,0000	<0,00008	<0,001	<0,007	0,4950	0,4200	0,0590	0,0644
VIS-CV5-SP-332	Minerai	Pegmatite spodumène	0,0000	<0,00008	<0,001	0,008	0,6410	0,2370	0,0800	0,0226
VIS-CV5-SP-333	Minerai	Pegmatite spodumène	0,0000	<0,00008	<0,001	<0,007	0,5990	0,3300	0,0350	0,0135
VIS-CV5-SP-334	Minerai	Pegmatite spodumène	0,0000	<0,00008	<0,001	<0,007	0,7240	0,3340	0,2170	0,0552
VIS-CV5-SP-335	Minerai	Pegmatite spodumène	0,0001	<0,0001	<0,001	0,122	1,7000	0,0867	0,4110	0,0070
VIS-CV5-SP-336	Minerai	Pegmatite spodumène	0,0000	<0,00008	<0,001	<0,007	1,3500	0,2290	0,0440	0,0528
VIS-CV5-SP-337	Minerai	Pegmatite spodumène	0,0001	<0,00008	<0,001	<0,007	0,3710	0,2150	0,0470	0,0932
VIS-CV5-SP-338	Minerai	Pegmatite spodumène	0,0000	<0,00008	<0,001	<0,007	1,7700	0,1100	0,0710	0,0358
VIS-CV5-SP-339	Minerai	Pegmatite spodumène	0,0000	<0,00008	<0,001	<0,007	0,4060	0,1690	0,0410	0,0405
VIS-CV5-SP-340	Minerai	Pegmatite spodumène	0,0000	<0,00008	<0,001	<0,007	0,7050	0,1130	0,0940	0,0315
VIS-CV5-SP-341	Minerai	Pegmatite spodumène	0,0000	<0,00008	<0,001	0,008	1,3300	0,2290	0,1310	0,0292
VIS-CV5-SP-342	Minerai	Pegmatite spodumène	0,0000	<0,00008	<0,001	<0,007	1,0900	0,0967	0,2120	0,0043
VIS-CV5-SP-343	Minerai	Pegmatite spodumène	0,0000	<0,00008	0,004	0,036	1,3000	0,2320	0,2700	0,0096
CV5-MAG-C	Résidu	Magnétique	0,0000	0,00051	<0,001	0,014	1,3300	0,0364	0,9840	0,0036
CV5-DMS-MID	Résidu	Middlings	0,0000	<0,00008	<0,001	0,011	1,5300	0,0713	0,4000	0,0070
CV5-FLO-C	Résidu	Flottation	0,0000	<0,00008	<0,001	0,008	1,4300	0,0194	0,1540	0,0093
CV5-MAG-F	Résidu	Magnétique	0,0000	0,00039	<0,001	0,019	1,4200	0,0623	0,9170	0,0039
CV5-MID-F	Résidu	Middlings	0,0000	0,00060	<0,001	0,020	0,9410	0,0422	0,5790	0,0109
CV5-FLO-F	Résidu	Flottation	0,0001	0,00094	<0,001	0,064	0,6940	0,0266	0,2550	0,0158
CV5-BYP-CP	Résidu	By-pass	0,0002	0,00146	0,002	0,083	0,8480	0,0894	0,5040	0,0102

Essais SPLP

# échantillon	Type de matériel	Lithologie	Molybdenum	Sodium	Nickel	Phosphore réactif total	Plomb	Antimoine	Sélénium	Etain
		Unité	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
		CVAA - Effet aigu	29		0,067		0,004	0,31	0,062	
		D019/MDMER			0,250		0,080			
VIS-CV5-UM-281	Stérile	Ultramafique	<0,0004	0,2400	0,0004	0,0050	<0,00009	0,0900	0,00013	0,00010
VIS-CV5-UM-282	Stérile	Ultramafique	<0,0004	0,1200	0,0004	0,0050	<0,00009	0,2380	<0,00004	<0,00006
VIS-CV5-UM-283	Stérile	Ultramafique	0,0011	0,1900	0,0003	0,0030	<0,00009	0,1060	<0,00004	<0,00006
VIS-CV5-UM-284	Stérile	Ultramafique	<0,0004	0,3400	0,0002	0,0030	<0,00009	0,0955	<0,00004	<0,00006
VIS-CV5-UM-285	Stérile	Ultramafique	<0,0004	0,3000	0,0008	0,0030	<0,00009	0,1340	0,00028	<0,00006
VIS-CV5-UM-286	Stérile	Ultramafique	<0,0004	0,2000	0,0049	0,0030	<0,00009	0,2350	0,00005	0,00007
VIS-CV5-UM-287	Stérile	Ultramafique	0,0006	0,9200	0,0007	0,0060	<0,00009	0,0873	0,00121	0,00007
VIS-CV5-UM-288	Stérile	Ultramafique	<0,0004	0,4900	0,0017	0,0060	<0,00009	0,1120	<0,00004	<0,00006
VIS-CV5-UM-289	Stérile	Ultramafique	<0,0004	0,2700	0,0004	0,0070	<0,00009	0,0788	<0,00004	<0,00006
VIS-CV5-UM-290	Stérile	Ultramafique	<0,0004	0,1600	0,0002	0,0030	<0,00009	0,0664	<0,00004	<0,00006
VIS-CV5-UM-291	Stérile	Ultramafique	<0,0004	4,5700	0,0010	0,0040	<0,00009	0,1660	<0,00004	0,00008
VIS-CV5-UM-292	Stérile	Ultramafique	<0,0004	0,1200	0,0009	0,0030	<0,00009	0,0636	<0,00004	0,00008
VIS-CV5-UM-293	Stérile	Ultramafique	<0,0004	0,1400	<0,0001	0,0030	<0,00009	0,0070	<0,00004	<0,00006
VIS-CV5-UM-294	Stérile	Ultramafique	0,0008	0,2600	<0,0001	0,0030	<0,00009	0,0084	0,00024	<0,00006
VIS-CV5-UM-295	Stérile	Ultramafique	<0,0004	0,5400	0,0003	0,0040	<0,00009	0,0051	0,00006	<0,00006
VIS-CV5-UM-296	Stérile	Ultramafique	<0,0004	0,5100	0,0004	0,0030	<0,00009	0,0083	0,00010	<0,00006
VIS-CV5-UM-297	Stérile	Ultramafique	0,0005	0,2300	0,0006	0,0030	<0,00009	0,0458	0,00008	0,00008
VIS-CV5-UM-298	Stérile	Ultramafique	<0,0004	0,2800	0,0009	0,0060	<0,00009	0,0207	0,00009	0,00016
VIS-CV5-UM-299	Stérile	Ultramafique	0,0012	0,5800	0,0002	0,0030	<0,00009	0,0234	0,00012	<0,00006
VIS-CV5-UM-300	Stérile	Ultramafique	<0,0004	0,3800	0,0003	0,0030	<0,00009	0,0295	0,00019	<0,00006
VIS-CV5-UM-301	Stérile	Ultramafique	<0,0004	0,4700	0,0004	0,0040	<0,00009	0,0446	0,00012	<0,00006
VIS-CV5-UM-302	Stérile	Ultramafique	<0,0004	0,3700	0,0002	0,0030	<0,00009	0,0017	0,00012	<0,00006
VIS-CV5-UM-303	Stérile	Ultramafique	<0,0004	5,8700	0,0009	0,0130	0,00014	0,0433	0,00013	0,00027
VIS-CV5-UM-304	Stérile	Ultramafique	<0,0004	5,0800	0,0008	0,0030	<0,00009	0,0229	0,00015	<0,00006
VIS-CV5-UM-305	Stérile	Ultramafique	<0,0004	4,1900	0,0004	0,0030	<0,00009	0,0046	0,00008	<0,00006
VIS-CV5-UM-306	Stérile	Ultramafique	<0,0004	4,7200	0,0009	0,0050	<0,00009	0,0197	0,00018	<0,00006
VIS-CV5-UM-307	Stérile	Ultramafique	0,0008	4,5300	0,0040	0,0200	0,00012	0,1010	0,00030	0,00022
VIS-CV5-UM-308	Stérile	Ultramafique	<0,0004	4,5200	0,0022	0,0050	<0,00009	0,0289	<0,00004	0,00010
VIS-CV5-UM-309	Stérile	Ultramafique	<0,0004	5,0600	0,0003	0,0030	<0,00009	0,0150	0,00020	<0,00006
VIS-CV5-UM-310	Stérile	Ultramafique	<0,0004	4,6800	0,0005	0,0040	<0,00009	0,0571	0,00007	<0,00006
VIS-CV5-UM-311	Stérile	Ultramafique	0,0005	4,8800	0,0004	0,0030	<0,00009	0,0311	<0,00004	0,00092
VIS-CV5-UM-312	Stérile	Ultramafique	<0,0004	6,6100	0,0004	0,0090	<0,00009	0,0307	<0,00004	0,00008
VIS-CV5-UM-313	Stérile	Ultramafique	<0,0004	4,2700	0,0001	0,0030	<0,00009	0,0096	0,00004	0,00009
VIS-CV5-UM-314	Stérile	Ultramafique	<0,0004	5,2700	0,0006	0,0030	<0,00009	0,0238	0,00005	<0,00006
VIS-CV5-UM-315	Stérile	Ultramafique	<0,0004	5,4400	0,0024	0,0080	<0,00009	0,0078	0,00055	0,00007
VIS-CV5-UM-316	Stérile	Ultramafique	<0,0004	4,6700	0,0003	0,0030	<0,00009	0,0150	<0,00004	0,00008
VIS-CV5-UM-317	Stérile	Ultramafique	<0,0004	4,2500	0,0009	0,0050	<0,00009	0,0144	0,00011	0,00007
VIS-CV5-UM-318	Stérile	Ultramafique	0,0096	4,8100	0,0014	0,0040	<0,00009	0,0040	0,00010	0,00009
VIS-CV5-UM-319	Stérile	Ultramafique	<0,0004	5,7800	0,0004	0,0030	<0,00009	0,1300	<0,00004	0,00019
VIS-CV5-UM-320	Stérile	Ultramafique	<0,0004	5,8200	0,0014	0,0030	<0,00009	0,0212	0,00006	0,00017
VIS-CV5-UM-321	Stérile	Ultramafique	<0,0004	4,9500	0,0005	0,0060	<0,00009	0,0240	0,00011	<0,00006
VIS-CV5-UM-322	Stérile	Ultramafique	<0,0004	5,0400	0,0004	0,0030	<0,00009	0,0056	0,00008	<0,00006
VIS-CV5-UM-323	Stérile	Ultramafique	<0,0004	4,6000	0,0002	0,0030	<0,00009	0,0081	0,00032	0,00008
VIS-CV5-UM-324	Stérile	Ultramafique	<0,0004	5,9500	0,0008	0,0140	<0,00009	0,0212	0,00021	0,00012
VIS-CV5-UM-325	Stérile	Ultramafique	<0,0004	4,5200	0,0003	0,0030	<0,00009	0,0149	<0,00004	0,00010
VIS-CV5-UM-326	Stérile	Ultramafique	0,0006	9,0600	0,0004	0,0030	<0,00009	0,1080	<0,00004	0,00008
VIS-CV5-SP-327	Minerai	Pegmatite spodumène	0,0007	5,2400	0,0002	0,1280	0,00019	0,0104	<0,00004	0,00062
VIS-CV5-SP-328	Minerai	Pegmatite spodumène	0,0012	0,7200	<0,0001	0,1760	<0,00009	0,0139	<0,00004	0,00011
VIS-CV5-SP-329	Minerai	Pegmatite spodumène	0,0006	1,0600	<0,0001	0,1560	<0,00009	0,0749	<0,00004	0,00007
VIS-CV5-SP-330	Minerai	Pegmatite spodumène	0,0008	1,4300	<0,0001	0,0850	<0,00009	0,0299	<0,00004	0,00008
VIS-CV5-SP-331	Minerai	Pegmatite spodumène	0,0007	0,8500	<0,0001	0,1130	<0,00009	0,2820	<0,00004	0,00018
VIS-CV5-SP-332	Minerai	Pegmatite spodumène	0,0007	1,1100	<0,0001	0,0480	<0,00009	0,0133	<0,00004	0,00009
VIS-CV5-SP-333	Minerai	Pegmatite spodumène	0,0005	1,5900	<0,0001	0,0870	<0,00009	0,1050	<0,00004	0,00010
VIS-CV5-SP-334	Minerai	Pegmatite spodumène	0,0008	1,0800	<0,0001	0,0880	<0,00009	0,0055	<0,00004	0,00013
VIS-CV5-SP-335	Minerai	Pegmatite spodumène	<0,0004	7,2300	<0,0001	0,0630	0,00020	0,0033	<0,00004	0,00133
VIS-CV5-SP-336	Minerai	Pegmatite spodumène	<0,0004	0,6000	0,0004	0,1040	<0,00009	0,0274	<0,00004	0,00013
VIS-CV5-SP-337	Minerai	Pegmatite spodumène	<0,0004	1,1900	0,0002	0,1660	<0,00009	0,0156	<0,00004	0,00012
VIS-CV5-SP-338	Minerai	Pegmatite spodumène	<0,0004	0,6300	0,0005	0,1250	<0,00009	0,0082	<0,00004	0,00015
VIS-CV5-SP-339	Minerai	Pegmatite spodumène	<0,0004	1,0900	<0,0001	0,0630	<0,00009	0,0312	<0,00004	0,00012
VIS-CV5-SP-340	Minerai	Pegmatite spodumène	<0,0004	1,3100	<0,0001	0,0680	<0,00009	0,0061	<0,00004	0,00013
VIS-CV5-SP-341	Minerai	Pegmatite spodumène	<0,0004	1,3100	<0,0001	0,0560	<0,00009	0,0022	<0,00004	0,00014
VIS-CV5-SP-342	Minerai	Pegmatite spodumène	<0,0004	0,8400	<0,0001	0,0480	<0,00009	0,0023	<0,00004	0,00015
VIS-CV5-SP-343	Minerai	Pegmatite spodumène	0,0005	4,7600	<0,0001	0,0840	0,00035	0,0022	<0,00004	0,00068
CV5-MAG-C	Résidu	Magnétique	<0,0004	0,8100	0,0003	0,0500	<0,00009	0,0415	<0,00004	0,00006
CV5-DMS-MID	Résidu	Middlings	<0,0004	1,6200	0,0004	0,0300	0,00011	0,0098	<0,00004	0,00009
CV5-FLO-C	Résidu	Flottation	0,0009	2,1600	0,0003	0,0300	<0,00009	0,0054	<0,00004	0,00006
CV5-MAG-F	Résidu	Magnétique	<0,0004	0,6200	0,0004	0,0800	0,00013	0,0235	<0,00004	<0,00006
CV5-MID-F	Résidu	Middlings	<0,0004	0,5200	0,0005	0,0300	<0,00009	0,0137	<0,00004	0,00008
CV5-FLO-F	Résidu	Flottation	<0,0004	6,7500	0,0004	0,0300	0,00106	0,0053	<0,00004	0,00030
CV5-BYP-CP	Résidu	By-pass	0,0013	6,1200	0,0020	0,0500	0,00048	0,0366	0,00009	0,00045

Essais SPLP

# échantillon	Type de matériel	Lithologie	Strontium	Titane	Thorium	Uranium	Vanadium	Zinc
		Unité	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
		CVAA - Effet aigu	40		0,047	0,017	0,11	0,02
		D019/MDMER						0,40
VIS-CV5-UM-281	Stérile	Ultramafique	0,0051	0,0007	0,001140	0,000013	0,00282	<0,002
VIS-CV5-UM-282	Stérile	Ultramafique	0,0045	0,0001	0,000014	0,000018	0,00277	<0,002
VIS-CV5-UM-283	Stérile	Ultramafique	0,0150	0,0001	0,000150	0,000078	0,00298	<0,002
VIS-CV5-UM-284	Stérile	Ultramafique	0,0121	0,0001	0,000213	0,000004	0,00419	<0,002
VIS-CV5-UM-285	Stérile	Ultramafique	0,0113	0,0008	0,000208	0,000021	0,00397	<0,002
VIS-CV5-UM-286	Stérile	Ultramafique	0,0044	0,0001	0,000064	0,000007	0,00333	<0,002
VIS-CV5-UM-287	Stérile	Ultramafique	0,0150	0,0002	0,000080	0,000081	0,00622	<0,002
VIS-CV5-UM-288	Stérile	Ultramafique	0,0247	0,0016	0,000796	0,000165	0,00501	<0,002
VIS-CV5-UM-289	Stérile	Ultramafique	0,0201	0,0002	0,000550	0,000007	0,00378	<0,002
VIS-CV5-UM-290	Stérile	Ultramafique	0,0074	0,0001	0,000020	0,000050	0,00208	<0,002
VIS-CV5-UM-291	Stérile	Ultramafique	0,0133	0,0001	0,000014	0,000017	0,00247	<0,002
VIS-CV5-UM-292	Stérile	Ultramafique	0,0091	0,0001	0,000028	0,000021	0,00289	<0,002
VIS-CV5-UM-293	Stérile	Ultramafique	0,0094	0,0001	0,000036	0,000002	0,00163	<0,002
VIS-CV5-UM-294	Stérile	Ultramafique	0,0114	0,0001	0,000099	0,000007	0,00379	<0,002
VIS-CV5-UM-295	Stérile	Ultramafique	0,0115	0,0017	0,000025	0,000231	0,00406	<0,002
VIS-CV5-UM-296	Stérile	Ultramafique	0,0150	0,0006	0,000017	0,000021	0,00591	<0,002
VIS-CV5-UM-297	Stérile	Ultramafique	0,0121	0,0001	0,000007	0,000005	0,00472	<0,002
VIS-CV5-UM-298	Stérile	Ultramafique	0,0088	0,0011	0,000532	0,000015	0,00586	<0,002
VIS-CV5-UM-299	Stérile	Ultramafique	0,0163	0,0002	0,000078	0,000002	0,00462	<0,002
VIS-CV5-UM-300	Stérile	Ultramafique	0,0092	0,0002	0,000068	0,000012	0,00462	<0,002
VIS-CV5-UM-301	Stérile	Ultramafique	0,0086	0,0010	0,000031	0,000008	0,00439	<0,002
VIS-CV5-UM-302	Stérile	Ultramafique	0,0045	0,0004	0,000017	0,000002	0,00247	<0,002
VIS-CV5-UM-303	Stérile	Ultramafique	0,0117	0,0083	0,000027	0,000084	0,00532	<0,002
VIS-CV5-UM-304	Stérile	Ultramafique	0,0112	0,0012	<0,000005	0,000009	0,00376	<0,002
VIS-CV5-UM-305	Stérile	Ultramafique	0,0112	0,0010	<0,000005	0,000019	0,00487	<0,002
VIS-CV5-UM-306	Stérile	Ultramafique	0,0138	0,0049	<0,000005	0,000014	0,00444	<0,002
VIS-CV5-UM-307	Stérile	Ultramafique	0,0111	0,0071	0,000041	0,000096	0,00432	<0,002
VIS-CV5-UM-308	Stérile	Ultramafique	0,0244	0,0015	0,000057	0,000006	0,00242	<0,002
VIS-CV5-UM-309	Stérile	Ultramafique	0,0141	0,0006	<0,000005	0,000007	0,00443	<0,002
VIS-CV5-UM-310	Stérile	Ultramafique	0,0225	0,0008	0,000008	0,000015	0,00377	<0,002
VIS-CV5-UM-311	Stérile	Ultramafique	0,0104	0,0003	0,000025	0,000005	0,00291	<0,004
VIS-CV5-UM-312	Stérile	Ultramafique	0,0097	0,0015	0,000032	0,000002	0,00168	<0,002
VIS-CV5-UM-313	Stérile	Ultramafique	0,0078	0,0001	<0,000005	0,000006	0,00141	<0,003
VIS-CV5-UM-314	Stérile	Ultramafique	0,0121	0,0026	0,000006	0,000107	0,00412	<0,002
VIS-CV5-UM-315	Stérile	Ultramafique	0,0118	0,0040	0,000006	0,000045	0,00740	<0,002
VIS-CV5-UM-316	Stérile	Ultramafique	0,0076	0,0001	<0,000005	0,000002	0,00182	<0,002
VIS-CV5-UM-317	Stérile	Ultramafique	0,0128	0,0020	0,000017	0,000009	0,00430	<0,002
VIS-CV5-UM-318	Stérile	Ultramafique	0,0117	0,0039	<0,000005	0,000014	0,00625	<0,002
VIS-CV5-UM-319	Stérile	Ultramafique	0,0248	0,0001	<0,000005	0,000002	0,00220	<0,002
VIS-CV5-UM-320	Stérile	Ultramafique	0,0080	0,0040	0,000156	0,000219	0,00390	<0,002
VIS-CV5-UM-321	Stérile	Ultramafique	0,0093	0,0008	<0,000005	0,000150	0,00465	<0,002
VIS-CV5-UM-322	Stérile	Ultramafique	0,0113	0,0021	<0,000005	0,000008	0,00414	<0,002
VIS-CV5-UM-323	Stérile	Ultramafique	0,0113	0,0007	<0,000005	0,000011	0,00576	<0,002
VIS-CV5-UM-324	Stérile	Ultramafique	0,0095	0,0015	0,000011	0,000040	0,00375	<0,002
VIS-CV5-UM-325	Stérile	Ultramafique	0,0132	0,0018	0,000080	0,000020	0,00410	<0,002
VIS-CV5-UM-326	Stérile	Ultramafique	0,0411	0,0012	<0,000005	0,000002	0,01080	<0,002
VIS-CV5-SP-327	Minerai	Pegmatite spodumène	0,0052	0,0007	0,000140	0,001170	0,00015	<0,002
VIS-CV5-SP-328	Minerai	Pegmatite spodumène	0,0038	0,0001	0,000166	0,000256	0,00007	<0,002
VIS-CV5-SP-329	Minerai	Pegmatite spodumène	0,0015	0,0001	0,000116	0,000636	0,00008	<0,002
VIS-CV5-SP-330	Minerai	Pegmatite spodumène	0,0037	0,0001	0,000118	0,000127	0,00012	<0,002
VIS-CV5-SP-331	Minerai	Pegmatite spodumène	0,0050	0,0001	0,000106	0,000056	0,00005	<0,002
VIS-CV5-SP-332	Minerai	Pegmatite spodumène	0,0062	0,0001	0,000110	0,000206	0,00007	<0,002
VIS-CV5-SP-333	Minerai	Pegmatite spodumène	0,0035	0,0001	0,000153	0,000209	0,00005	<0,002
VIS-CV5-SP-334	Minerai	Pegmatite spodumène	0,0089	0,0001	0,000070	0,000101	0,00008	<0,002
VIS-CV5-SP-335	Minerai	Pegmatite spodumène	0,0074	0,0006	0,000192	0,000423	0,00022	<0,002
VIS-CV5-SP-336	Minerai	Pegmatite spodumène	0,0039	0,0001	0,000332	0,000024	0,00007	<0,002
VIS-CV5-SP-337	Minerai	Pegmatite spodumène	0,0030	0,0001	0,000095	0,001690	0,00008	<0,002
VIS-CV5-SP-338	Minerai	Pegmatite spodumène	0,0022	0,0002	0,000403	0,000065	0,00011	<0,002
VIS-CV5-SP-339	Minerai	Pegmatite spodumène	0,0022	0,0002	0,000096	0,001510	0,00007	<0,002
VIS-CV5-SP-340	Minerai	Pegmatite spodumène	0,0074	0,0001	0,000085	0,003740	0,00013	<0,002
VIS-CV5-SP-341	Minerai	Pegmatite spodumène	0,0030	0,0002	0,000197	0,000059	0,00024	<0,002
VIS-CV5-SP-342	Minerai	Pegmatite spodumène	0,0150	0,0001	0,000078	0,000181	0,00006	<0,002
VIS-CV5-SP-343	Minerai	Pegmatite spodumène	0,0084	0,0004	0,000145	0,000409	0,00015	0,006
CV5-MAG-C	Résidu	Magnétique	0,0076	0,0003	0,000213	0,000042	0,00278	<0,002
CV5-DMS-MID	Résidu	Middlings	0,0038	0,0004	0,000115	0,000093	0,00046	0,007
CV5-FLO-C	Résidu	Flottation	0,0036	0,0001	0,000171	0,000194	0,00007	<0,002
CV5-MAG-F	Résidu	Magnétique	0,0083	0,0005	0,000215	0,000192	0,00219	0,008
CV5-MID-F	Résidu	Middlings	0,0083	0,0005	0,000140	0,000169	0,00071	0,005
CV5-FLO-F	Résidu	Flottation	0,0056	0,0017	0,000124	0,002830	0,00034	0,007
CV5-BYP-CP	Résidu	By-pass	0,0118	0,0023	0,000087	0,003330	0,00125	<0,002

Essais CTEU-9

# échantillon	Type de matériel	Lithologie	pH	Conductivité	Alcalinité	Acidité	Chlore	Sulfate	Mercure	Argent
	Unité		pH unit	µS/cm	$mgCaCO_3/l$	$mgCaCO_3/l$	mg/l	mg/l	mg/l	mg/l
	CVAA - Effet aigu						320	500	0,0014	0,00004
	D019/MDMER									
1	Stérile	Amphibolite	9,1	278	82	<2,0	<20,0	24	<0,00001	<0,00005
2	Stérile	Amphibolite	8,1	331	60	<2,0	<20,0	41	<0,00001	0,0003
3	Stérile	Amphibolite	8,2	185	52	<2,0	<20,0	<20,0	<0,00001	<0,00005
4	Stérile	Amphibolite	9,6	158	71	<2,0	<20,0	<20,0	<0,00001	<0,00005
5	Stérile	Amphibolite	8,0	333	55	<2,0	<20,0	53	<0,00001	0,0002
6	Stérile	Amphibolite	8,3	119	40	<2,0	<20,0	<20,0	<0,00001	<0,00005
7	Stérile	Amphibolite	8,3	175	47	<2,0	<20,0	<20,0	<0,00001	<0,00005
8	Stérile	Amphibolite	8,4	157	45	<2,0	<20,0	<20,0	<0,00001	<0,00005
9	Stérile	Amphibolite	8,6	122	34	<2,0	<20,0	<20,0	<0,00001	<0,00005
10	Stérile	Amphibolite	8,1	252	47	<2,0	<20,0	35	<0,00001	<0,00005
11	Stérile	Amphibolite	8,7	199	60	<2,0	<20,0	<20,0	<0,00001	<0,00005
12	Stérile	Amphibolite	8,1	188	39	<2,0	<20,0	<20,0	<0,00001	<0,00005
13	Stérile	Amphibolite	8,2	198	53	<2,0	<20,0	<20,0	<0,00001	<0,00005
14	Stérile	Amphibolite	8,5	233	54	<2,0	24	<20,0	<0,00001	<0,00005
15	Stérile	Amphibolite	8,7	162	44	<2,0	<20,0	<20,0	<0,00001	<0,00005
16	Stérile	Métasédiment	8,0	502	50	<2,0	<20,0	75	<0,00001	0,0003
17	Stérile	Amphibolite	8,0	573	56	<2,0	<20,0	94	<0,00001	0,0003
18	Stérile	Amphibolite	8,1	255	46	<2,0	<20,0	32	<0,00001	<0,00005
19	Stérile	Pegmatite stérile	8,7	207	41	<2,0	<20,0	<20,0	<0,00001	<0,00005
20	Stérile	Amphibolite	8,1	654	65	<2,0	<20,0	160	<0,00001	0,0001
21	Stérile	Amphibolite	8,6	141	45	<2,0	<20,0	<20,0	<0,00001	<0,00005
22	Stérile	Amphibolite	8,2	210	55	<2,0	<20,0	<20,0	0,00003	<0,00005
23	Stérile	Métasédiment	8,2	836	85	<2,0	<20,0	240	0,00002	<0,00005
24	Stérile	Amphibolite	8,4	179	60	<2,0	<20,0	<20,0	<0,00001	<0,00005
25	Stérile	Métasédiment	8,8	185	57	<2,0	<20,0	<20,0	<0,00001	<0,00005
26	Stérile	Amphibolite	8,6	145	43	<2,0	<20,0	<20,0	<0,00001	<0,00005
27	Stérile	Amphibolite	8,1	333	56	<2,0	20	42	<0,00001	0,0001
28	Stérile	Amphibolite	8,3	274	56	<2,0	<20,0	NA	0,00013	<0,00005
29	Stérile	Amphibolite	8,5	268	88	<2,0	<20,0	NA	0,00006	0,0002
30	Stérile	Amphibolite	8,9	190	62	<2,0	<20,0	NA	<0,00001	<0,00005
31	Stérile	Métasédiment	8,5	234	89	<2,0	<20,0	<20,0	<0,00001	<0,00005
32	Stérile	Amphibolite	8,5	114	47	<2,0	<20,0	<20,0	<0,00001	<0,00005
33	Stérile	Amphibolite	8,4	162	60	<2,0	<20,0	<20,0	<0,00001	<0,00005
34	Stérile	Métasédiment	8,4	237	85	<2,0	<20,0	<20,0	<0,00001	<0,00005
35	Stérile	Métasédiment	8,8	211	89	<2,0	<20,0	<20,0	<0,00001	<0,00005
36	Stérile	Ultramafique	8,5	353	132	<2,0	<20,0	51	<0,00001	<0,00005
37	Stérile	Amphibolite	8,2	334	68	<2,0	<20,0	41	<0,00001	0,0002
38	Stérile	Métasédiment	8,2	247	58	<2,0	<20,0	22	<0,00001	<0,00005
39	Stérile	Métasédiment	7,9	260	65	<2,0	<20,0	43	<0,00001	0,0004
40	Stérile	Métasédiment	8,1	218	75	<2,0	<20,0	20	<0,00001	<0,00005
41	Stérile	Métasédiment	8,0	232	65	<2,0	<20,0	36	<0,00001	0,0001
42	Stérile	Métasédiment	8,0	429	69	<2,0	<20,0	92	<0,00001	0,0002
43	Stérile	Métasédiment	8,0	341	71	<2,0	<20,0	78	<0,00001	0,0001
44	Stérile	Métasédiment	8,5	176	83	<2,0	<20,0	<20,0	<0,00001	<0,00005
45	Stérile	Métasédiment	8,4	173	76	<2,0	<20,0	<20,0	<0,00001	<0,00005
46	Stérile	Métasédiment	8,5	183	85	<2,0	<20,0	<20,0	<0,00001	<0,00005
47	Stérile	Métasédiment	8,0	145	50	<2,0	<20,0	31	<0,00001	0,0001
48	Stérile	Métasédiment	8,3	201	73	<2,0	<20,0	NA	<0,00001	<0,00005
49	Stérile	Métasédiment	8,9	212	96	<2,0	<20,0	<20,0	<0,00001	<0,00005
50	Stérile	Métasédiment	8,1	417	74	<2,0	<20,0	61	<0,00001	0,0005
51	Stérile	Métasédiment	8,0	167	58	<2,0	<20,0	46	<0,00001	0,0002
52	Stérile	Métasédiment	8,1	253	86	<2,0	<20,0	25	<0,00001	0,0001
53	Stérile	Métasédiment	8,1	278	83	<2,0	<20,0	25	<0,00001	<0,00005
54	Stérile	Métasédiment	8,4	277	74	<2,0	<20,0	NA	0,00007	<0,00005
55	Stérile	Métasédiment	8,4	149	47	<2,0	<20,0	<20,0	<0,00001	<0,00005
56	Stérile	Amphibolite	8,1	183	62	<2,0	<20,0	<20,0	<0,00001	<0,00005
57	Stérile	Métasédiment	7,8	200	47	<2,0	<20,0	22	<0,00001	0,0001
58	Stérile	Ultramafique	8,1	281	119	<2,0	<20,0	37	<0,00001	<0,00005
59	Stérile	Ultramafique	8,0	255	76	<2,0	<20,0	36	<0,00001	0,0001
60	Stérile	Ultramafique	8,6	437	191	<2,0	<20,0	30	<0,00001	<0,00005
61	Stérile	Ultramafique	8,4	219	101	<2,0	<20,0	<20,0	<0,00001	<0,00005
62	Stérile	Ultramafique	8,1	521	153	<2,0	23	58	<0,00001	<0,00005
63	Stérile	Pegmatite stérile	9,2	286	104	<2,0	<20,0	<20,0	<0,00001	<0,00005
64	Stérile	Pegmatite stérile	8,3	125	59	<2,0	<20,0	<20,0	<0,00001	<0,00005
65	Stérile	Pegmatite stérile	9,7	266	90	<2,0	<20,0	<20,0	<0,00001	<0,00005
66	Stérile	Pegmatite stérile	9,2	117	73	<2,0	<20,0	<20,0	<0,00001	<0,00005
67	Stérile	Pegmatite stérile	9,7	267	82	<2,0	22	<20,0	<0,00001	<0,00005
68	Stérile	Pegmatite stérile	9,2	234	97	<2,0	<20,0	NA	<0,00001	<0,00005
69	Stérile	Pegmatite stérile	8,7	249	93	<2,0	30	<20,0	<0,00001	<0,00005
70	Stérile	Pegmatite stérile	9,3	117	86	<2,0	30	<20,0	<0,00001	0,0003
71	Stérile	Pegmatite stérile	9,3	224	80	<2,0	21	NA	0,00013	0,0001
72	Stérile	Pegmatite stérile	9,3	224	104	<2,0	<20,0	NA	<0,00001	<0,00005
73	Stérile	Pegmatite stérile	9,2	117	79	<2,0	<20,0	<20,0	<0,00001	<0,00005
74	Minerai	Pegmatite spodumène	9,6	156	96	<2,0	21	<20,0	<0,00001	<0,00005
75	Minerai	Pegmatite spodumène	9,8	155	110	<2,0	20	<20,0	<0,00001	0,0001
76	Minerai	Pegmatite spodumène	8,2	240	82	<2,0	30	<20,0	<0,00001	<0,00005
77	Minerai	Pegmatite spodumène	8,7	179	83	<2,0	29	<20,0	<0,00001	<0,00005
78	Minerai	Pegmatite spodumène	8,6	247	92	<2,0	21	NA	0,00012	<0,00005
79	Minerai	Pegmatite spodumène	9,6	285	93	<2,0	<20,0	<20,0	<0,00001	<0,00005
80	Stérile	Pegmatite stérile	7,9	145	71	<2,0	<20,0	26	<0,00001	0,0003

Essais CTEU-9

# échantillon	Type de matériel	Lithologie	Aluminum	Arsenic	Bore	Baryum	Béryllium	Bismuth	Calcium	Cadmium
		Unité	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
		CVAA - Effet aigu	0,28	0,34	28	0,10807	0,00124			0,00021
		D019/MDMER		0,10						
1	Stérile	Amphibolite	1,000	0,030	0,104	0,00562	0,000016	<0,00001	2,09	0,000006
2	Stérile	Amphibolite	0,331	0,082	0,221	0,00441	<0,000007	<0,00001	12,90	0,000004
3	Stérile	Amphibolite	0,814	0,010	0,078	0,00137	<0,000007	<0,00001	7,37	<0,000003
4	Stérile	Amphibolite	0,734	0,384	0,112	0,00081	0,000017	0,00001	5,70	<0,000003
5	Stérile	Amphibolite	0,248	1,020	0,165	0,00443	<0,000007	<0,00001	16,30	<0,000003
6	Stérile	Amphibolite	0,616	0,003	0,042	0,00033	0,000007	<0,00001	7,18	<0,000003
7	Stérile	Amphibolite	0,309	0,032	0,092	0,00053	<0,000007	<0,00001	7,61	<0,000003
8	Stérile	Amphibolite	0,638	0,007	0,135	0,00047	<0,000007	<0,00001	6,45	<0,000003
9	Stérile	Amphibolite	0,779	0,019	0,065	0,00039	<0,000007	<0,00001	8,41	<0,000003
10	Stérile	Amphibolite	0,210	0,014	0,115	0,00086	<0,000007	<0,00001	17,60	<0,000003
11	Stérile	Amphibolite	0,513	0,079	0,288	0,00072	<0,000007	<0,00001	7,29	0,000004
12	Stérile	Amphibolite	0,451	0,024	0,280	0,00091	<0,000007	<0,00001	8,55	<0,000003
13	Stérile	Amphibolite	0,297	0,228	0,183	0,00097	0,000010	<0,00001	6,52	<0,000003
14	Stérile	Amphibolite	0,397	0,280	0,110	0,00056	<0,000007	<0,00001	6,71	<0,000003
15	Stérile	Amphibolite	0,425	0,030	0,174	0,00079	<0,000007	<0,00001	6,32	<0,000003
16	Stérile	Métasédiment	0,072	0,002	0,085	0,01680	<0,000007	0,00001	35,20	0,000315
17	Stérile	Amphibolite	0,137	0,005	0,093	0,01580	<0,000007	<0,00001	44,30	0,000247
18	Stérile	Amphibolite	0,241	0,292	0,157	0,00202	<0,000007	<0,00001	13,00	0,000007
19	Stérile	Pegmatite stérile	0,447	0,027	0,094	0,00054	<0,000007	<0,00001	7,38	<0,000003
20	Stérile	Amphibolite	0,130	0,001	0,067	0,05060	<0,000007	<0,00001	60,00	0,000025
21	Stérile	Amphibolite	0,535	0,609	0,118	0,00164	<0,000007	<0,00001	4,87	0,000004
22	Stérile	Amphibolite	0,260	1,220	0,120	0,00075	0,000012	<0,00001	8,19	0,000007
23	Stérile	Métasédiment	0,040	0,003	0,128	0,01150	<0,000007	<0,00001	92,70	0,000028
24	Stérile	Amphibolite	1,070	0,031	0,063	0,00253	<0,000007	<0,00001	3,93	<0,000003
25	Stérile	Métasédiment	0,136	0,879	0,913	0,00701	<0,000007	0,00001	8,58	<0,000003
26	Stérile	Amphibolite	0,773	0,019	0,192	0,00065	<0,000007	<0,00001	4,72	<0,000003
27	Stérile	Amphibolite	0,159	0,026	0,140	0,00140	<0,000007	<0,00001	15,40	0,000007
28	Stérile	Amphibolite	0,337	0,193	0,363	0,00291	0,000035	0,00007	15,40	0,000005
29	Stérile	Amphibolite	0,378	0,158	0,144	0,00344	0,000014	0,00002	8,34	0,000006
30	Stérile	Amphibolite	0,757	0,013	0,154	0,00072	<0,000007	<0,00001	7,82	<0,000003
31	Stérile	Métasédiment	2,300	0,680	0,187	0,00757	0,000092	<0,00001	1,74	0,000006
32	Stérile	Amphibolite	0,777	0,022	0,076	0,00044	<0,000007	<0,00001	4,51	<0,000003
33	Stérile	Amphibolite	0,753	0,018	0,112	0,00096	<0,000007	<0,00001	5,89	<0,000003
34	Stérile	Métasédiment	2,940	0,604	0,186	0,01180	0,000200	0,00002	2,09	0,000020
35	Stérile	Métasédiment	2,350	0,187	0,118	0,01410	0,000022	0,00001	1,71	0,000010
36	Stérile	Ultramafique	0,007	63,800	0,623	0,00937	<0,000007	<0,00001	14,30	<0,000003
37	Stérile	Amphibolite	0,308	1,130	1,350	0,00535	0,000028	<0,00001	18,80	0,000017
38	Stérile	Métasédiment	0,637	0,037	0,149	0,00110	0,000228	0,00002	4,34	0,000011
39	Stérile	Métasédiment	0,413	0,146	0,107	0,00474	0,000049	0,00001	9,26	0,000067
40	Stérile	Métasédiment	1,030	0,078	0,139	0,00189	<0,000007	<0,00001	4,99	<0,000003
41	Stérile	Métasédiment	0,598	0,024	0,158	0,00288	0,000008	<0,00001	6,70	<0,000003
42	Stérile	Métasédiment	0,262	0,007	0,151	0,00471	0,000032	0,00001	19,50	0,000046
43	Stérile	Métasédiment	0,367	0,007	0,286	0,00498	0,000055	0,00001	16,30	0,000033
44	Stérile	Métasédiment	2,590	0,125	0,051	0,00564	0,000119	0,00001	1,49	0,000003
45	Stérile	Métasédiment	2,370	0,036	0,034	0,00309	0,000026	0,00002	1,81	<0,000003
46	Stérile	Métasédiment	2,920	0,058	0,037	0,00284	0,000011	<0,00001	1,70	0,000004
47	Stérile	Métasédiment	0,913	0,017	0,039	0,00579	<0,000007	0,00002	3,44	0,000009
48	Stérile	Métasédiment	0,320	0,019	0,056	0,00061	0,000018	<0,00001	12,80	0,000003
49	Stérile	Métasédiment	2,070	0,268	0,166	0,00497	0,000072	0,00003	1,03	0,000006
50	Stérile	Métasédiment	0,266	0,087	0,073	0,00561	<0,000007	<0,00001	15,20	0,000106
51	Stérile	Métasédiment	0,852	0,038	0,075	0,00270	0,000032	0,00001	5,64	0,000003
52	Stérile	Métasédiment	0,363	0,008	0,113	0,00437	<0,000007	<0,00001	11,60	0,000005
53	Stérile	Métasédiment	0,561	5,470	0,055	0,01003	0,000046	<0,00001	7,60	<0,000003
54	Stérile	Métasédiment	1,240	0,059	0,288	0,00605	0,000030	0,00001	7,81	0,000022
55	Stérile	Métasédiment	0,034	3,990	0,041	0,00302	<0,000007	<0,00001	8,79	0,000003
56	Stérile	Amphibolite	0,330	0,199	0,123	0,00336	<0,000007	<0,00001	4,20	0,000021
57	Stérile	Métasédiment	0,064	0,008	0,126	0,00651	0,000037	<0,00001	9,17	0,000142
58	Stérile	Ultramafique	0,007	18,000	0,222	0,00229	<0,000007	<0,00001	13,00	<0,000003
59	Stérile	Ultramafique	0,047	3,770	0,039	0,00230	0,000047	<0,00001	14,80	<0,000003
60	Stérile	Ultramafique	0,004	40,300	0,164	0,00806	0,000094	0,00002	12,20	0,000026
61	Stérile	Ultramafique	0,016	1,600	1,150	0,00083	0,000093	<0,00001	9,32	0,000035
62	Stérile	Ultramafique	0,005	49,400	0,232	0,00997	0,000034	<0,00001	21,40	0,000039
63	Stérile	Pegmatite stérile	1,030	0,923	0,653	0,00100	0,001541	0,00248	0,60	0,000010
64	Stérile	Pegmatite stérile	3,620	1,830	0,261	0,00387	0,002100	0,00006	1,04	<0,000003
65	Stérile	Pegmatite stérile	0,789	0,723	0,190	0,00074	0,000295	0,00070	0,51	0,000003
66	Stérile	Pegmatite stérile	0,771	1,080	0,274	0,00051	0,000392	0,00044	0,18	0,000004
67	Stérile	Pegmatite stérile	0,570	0,265	0,170	0,00061	0,000174	0,00050	0,21	0,000004
68	Stérile	Pegmatite stérile	1,920	0,742	0,244	0,00113	0,000220	0,00160	1,88	0,000005
69	Stérile	Pegmatite stérile	1,910	0,850	0,472	0,00178	0,014600	0,00372	0,90	<0,000003
70	Stérile	Pegmatite stérile	0,717	0,611	0,253	0,00074	0,003832	0,00126	0,70	0,000058
71	Stérile	Pegmatite stérile	5,820	3,730	0,471	0,00213	0,001990	0,00027	0,48	0,000017
72	Stérile	Pegmatite stérile	7,390	0,569	1,260	0,00156	0,004290	0,00122	1,33	0,000058
73	Stérile	Pegmatite stérile	1,610	0,499	0,221	0,00089	0,000220	0,00052	0,21	<0,000003
74	Minerai	Pegmatite spodumène	2,330	3,300	0,331	0,00083	0,000580	0,00023	0,30	0,000010
75	Minerai	Pegmatite spodumène	0,830	1,370	0,300	0,00046	0,001730	0,01030	0,38	0,000004
76	Minerai	Pegmatite spodumène	1,280	0,350	0,296	0,00221	0,002850	0,00043	1,47	0,000060
77	Minerai	Pegmatite spodumène	1,610	0,441	0,224	0,00086	0,004290	0,00006	0,85	<0,000003
78	Minerai	Pegmatite spodumène	2,590	0,981	0,393	0,00179	0,002360	0,00117	1,51	0,000021
79	Minerai	Pegmatite spodumène	1,250	0,431	0,191	0,00111	0,000777	0,00031	0,50	0,000009
80	Stérile	Pegmatite stérile	0,751	0,650	0,444	0,00220	0,000935	0,00030	2,90	0,000015

Essais CTEU-9

# échantillon	Type de matériel	Lithologie	Cobalt	Chrome	Cuivre	Fer	Potassium	Lithium	Magnésium	Manganèse
		Unité	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
		CVAA - Effet aigu	0,37000	0,016	0,0016	3,4		0,9100		0,55
		D019/MDMER		0,209	0,100	3,0				
1	Stérile	Amphibolite	0,000183	0,00805	0,002	0,224	62,500	1,360	0,611	0,0075
2	Stérile	Amphibolite	0,000117	0,00196	0,001	0,083	21,900	0,771	5,900	0,0041
3	Stérile	Amphibolite	0,000029	0,00031	0,001	0,009	11,600	0,482	2,420	0,0022
4	Stérile	Amphibolite	0,000303	0,02446	0,001	0,258	3,280	0,690	2,750	0,0145
5	Stérile	Amphibolite	0,000343	0,00367	0,001	0,032	18,800	2,470	8,760	0,0040
6	Stérile	Amphibolite	0,000014	0,00118	0,001	<0,007	1,580	0,464	1,940	0,0017
7	Stérile	Amphibolite	0,000018	0,00105	0,001	0,010	6,130	0,298	2,300	0,0022
8	Stérile	Amphibolite	0,000047	0,00224	0,002	0,057	3,020	0,395	1,830	0,0013
9	Stérile	Amphibolite	0,000030	0,00492	0,001	0,035	0,530	0,068	2,070	0,0010
10	Stérile	Amphibolite	0,000064	0,00027	0,001	0,043	3,270	0,340	6,490	0,0048
11	Stérile	Amphibolite	0,000035	0,00164	0,000	<0,007	6,160	1,030	2,080	0,0009
12	Stérile	Amphibolite	0,000020	0,00144	0,001	<0,007	9,510	0,146	2,150	0,0012
13	Stérile	Amphibolite	0,000053	0,00437	0,001	0,031	9,310	0,457	2,460	0,0011
14	Stérile	Amphibolite	0,000078	0,00257	0,000	0,008	1,800	0,116	2,720	0,0012
15	Stérile	Amphibolite	0,000025	0,00222	0,001	<0,007	8,050	0,247	1,990	0,0009
16	Stérile	Métasédiment	0,000203	<0,00008	0,001	0,012	25,800	1,300	7,750	0,0488
17	Stérile	Amphibolite	0,000320	0,00011	0,001	0,013	41,500	1,100	9,590	0,0411
18	Stérile	Amphibolite	0,000142	0,00179	0,001	0,027	11,100	0,487	4,330	0,0072
19	Stérile	Pegmatite stérile	0,000082	0,00262	0,003	0,022	2,440	0,152	2,280	0,0016
20	Stérile	Amphibolite	0,000502	<0,00008	0,001	0,009	44,000	0,592	16,200	0,0269
21	Stérile	Amphibolite	0,000048	0,00938	0,001	0,008	13,300	0,192	1,860	0,0011
22	Stérile	Amphibolite	0,000188	0,01168	0,001	0,093	3,810	0,684	3,740	0,0025
23	Stérile	Métasédiment	0,001248	<0,00008	0,001	0,012	12,900	0,467	29,200	0,1280
24	Stérile	Amphibolite	0,000076	0,00069	0,001	0,159	11,000	0,075	0,918	0,0022
25	Stérile	Métasédiment	0,000310	0,12200	0,002	0,162	20,000	0,178	7,120	0,0016
26	Stérile	Amphibolite	0,000015	0,00342	0,000	0,013	6,770	0,636	1,400	0,0006
27	Stérile	Amphibolite	0,000074	0,00146	0,001	0,017	6,370	0,116	5,250	0,0045
28	Stérile	Amphibolite	0,000132	0,00207	0,002	0,100	16,800	1,590	7,860	0,0041
29	Stérile	Amphibolite	0,000164	0,00217	0,000	0,116	29,000	1,700	6,350	0,0035
30	Stérile	Amphibolite	0,000052	0,00065	0,004	0,032	8,180	0,415	3,080	0,0019
31	Stérile	Métasédiment	0,000644	0,00191	0,001	0,790	37,900	2,280	0,586	0,0166
32	Stérile	Amphibolite	0,000014	0,00041	0,001	0,015	6,010	0,223	1,520	0,0007
33	Stérile	Amphibolite	0,000029	0,00027	0,001	0,008	7,760	0,366	2,080	0,0017
34	Stérile	Métasédiment	0,001409	0,00063	0,002	1,810	40,300	3,310	0,766	0,0343
35	Stérile	Métasédiment	0,000872	0,00326	0,002	1,440	45,300	1,710	0,752	0,0262
36	Stérile	Ultramafique	0,000932	0,02574	0,000	0,012	5,220	0,348	35,500	0,0007
37	Stérile	Amphibolite	0,000328	0,00053	0,001	0,009	31,100	1,700	6,660	0,0077
38	Stérile	Métasédiment	0,000182	0,00048	0,001	0,287	11,900	0,739	2,070	0,0080
39	Stérile	Métasédiment	0,000215	0,00230	0,001	0,143	24,100	1,200	5,300	0,0065
40	Stérile	Métasédiment	0,000094	0,00064	0,001	0,123	14,500	0,884	1,230	0,0034
41	Stérile	Métasédiment	0,000063	0,00088	0,001	0,105	31,800	0,335	3,420	0,0032
42	Stérile	Métasédiment	0,000043	0,00034	0,000	0,023	30,300	0,443	7,780	0,0121
43	Stérile	Métasédiment	0,000049	0,00056	0,000	0,022	35,500	0,408	5,010	0,0065
44	Stérile	Métasédiment	0,000238	0,00406	0,002	0,254	12,500	0,533	0,262	0,0049
45	Stérile	Métasédiment	0,000090	0,00307	0,002	0,153	17,300	0,015	0,301	0,0024
46	Stérile	Métasédiment	0,000069	0,00251	0,001	0,142	27,300	0,023	0,306	0,0020
47	Stérile	Métasédiment	0,000206	0,00123	0,001	0,414	33,300	0,141	2,140	0,0068
48	Stérile	Métasédiment	0,000150	0,00011	0,000	0,053	2,210	0,362	10,700	0,0047
49	Stérile	Métasédiment	0,000793	0,00206	0,001	0,996	44,800	3,380	0,833	0,0198
50	Stérile	Métasédiment	0,000406	0,00023	0,003	0,034	46,400	1,550	4,510	0,0127
51	Stérile	Métasédiment	0,000225	0,00167	0,001	0,297	16,000	0,705	3,020	0,0069
52	Stérile	Métasédiment	0,000065	0,00090	0,000	0,014	32,100	0,432	4,080	0,0057
53	Stérile	Métasédiment	0,000009	0,00049	0,000	0,033	45,200	0,474	2,290	0,0027
54	Stérile	Métasédiment	0,000190	0,00222	0,002	0,221	36,300	1,960	2,190	0,0057
55	Stérile	Métasédiment	0,000079	0,01934	0,001	0,009	5,690	0,052	6,820	0,0008
56	Stérile	Amphibolite	0,000029	0,00267	0,001	0,016	31,800	0,353	1,550	0,0014
57	Stérile	Métasédiment	0,000061	0,00247	0,002	<0,007	19,300	0,372	3,700	0,0018
58	Stérile	Ultramafique	0,000956	0,03949	0,000	<0,007	4,350	0,083	34,400	0,0010
59	Stérile	Ultramafique	0,000326	0,01177	0,003	0,024	5,540	0,160	16,200	0,0019
60	Stérile	Ultramafique	0,000441	0,00038	0,001	<0,007	14,300	0,281	42,100	0,0015
61	Stérile	Ultramafique	0,000203	0,00269	0,001	<0,007	1,430	0,024	17,400	0,0010
62	Stérile	Ultramafique	0,002068	0,00087	0,002	0,016	2,690	0,029	41,400	0,0027
63	Stérile	Pegmatite stérile	0,000090	0,00726	0,002	0,064	16,200	0,129	0,150	0,0041
64	Stérile	Pegmatite stérile	0,000180	0,00393	0,001	0,120	49,100	1,250	0,290	0,0311
65	Stérile	Pegmatite stérile	0,000026	0,00786	0,002	0,040	43,800	0,310	0,055	0,0052
66	Stérile	Pegmatite stérile	0,000130	0,00783	0,001	0,045	27,000	0,450	0,060	0,0048
67	Stérile	Pegmatite stérile	0,000047	0,00814	0,002	0,038	37,900	0,088	0,034	0,0025
68	Stérile	Pegmatite stérile	0,000294	0,00102	0,001	0,575	42,000	1,690	0,934	0,0125
69	Stérile	Pegmatite stérile	0,000150	0,01460	0,003	0,170	4,590	0,642	0,200	0,0248
70	Stérile	Pegmatite stérile	0,000521	0,01360	0,044	0,142	7,880	0,264	0,145	0,0045
71	Stérile	Pegmatite stérile	0,000201	0,00454	0,002	0,188	16,600	0,871	0,173	0,0172
72	Stérile	Pegmatite stérile	0,001600	0,00260	0,002	0,732	16,300	0,456	0,480	0,0269
73	Stérile	Pegmatite stérile	0,000070	0,00554	0,002	0,060	38,900	1,370	0,040	0,0108
74	Minerai	Pegmatite spodumène	0,000030	0,00227	0,001	0,070	20,600	4,890	0,280	0,0279
75	Minerai	Pegmatite spodumène	0,000014	0,00190	0,001	0,031	9,710	2,900	0,212	0,0065
76	Minerai	Pegmatite spodumène	0,000100	0,00117	0,001	0,090	19,400	3,380	0,300	0,0185
77	Minerai	Pegmatite spodumène	0,000040	0,00134	0,001	0,060	11,600	11,600	0,130	0,0336
78	Minerai	Pegmatite spodumène	0,000381	0,00265	0,002	0,140	19,900	4,090	0,254	0,0287
79	Minerai	Pegmatite spodumène	0,000274	0,00524	0,001	0,588	36,400	1,400	0,332	0,0180
80	Stérile	Pegmatite stérile	0,000180	0,00100	0,002	0,140	33,800	0,955	0,917	0,0093

Essais CTEU-9

# échantillon	Type de matériel	Lithologie	Molybdène	Sodium	Nickel	Phosphore réactif total	Plomb	Antimoine	Sélénium	Etain
		Unité	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
		CVAA - Effet aigu	29,00		0,067		0,004	0,310	0,062	
		D019/MDMER			0,250		0,080			
1	Stérile	Amphibolite	0,0012	9,2	0,0008	0,046	<0,00009	0,003	0,00041	0,00008
2	Stérile	Amphibolite	0,0038	25,8	0,0006	0,039	<0,00009	0,076	0,00453	0,00008
3	Stérile	Amphibolite	0,0032	16,8	0,0002	0,009	<0,00009	0,008	0,00124	<0,00006
4	Stérile	Amphibolite	0,0015	20,6	0,0008	0,105	<0,00009	0,028	0,00050	<0,00006
5	Stérile	Amphibolite	0,0012	15,0	0,0016	0,032	<0,00009	0,589	0,00115	<0,00006
6	Stérile	Amphibolite	0,0010	11,6	<0,0001	0,007	<0,00009	0,003	0,00038	<0,00006
7	Stérile	Amphibolite	0,0013	20,1	0,0002	0,029	<0,00009	0,061	0,00110	0,00007
8	Stérile	Amphibolite	0,0009	19,2	0,0003	0,033	<0,00009	0,009	0,00085	<0,00006
9	Stérile	Amphibolite	0,0007	12,3	0,0002	0,029	<0,00009	0,004	0,00274	<0,00006
10	Stérile	Amphibolite	0,0023	18,2	0,0003	0,039	<0,00009	0,076	0,00313	<0,00006
11	Stérile	Amphibolite	0,0007	24,9	0,0002	0,009	<0,00009	0,269	0,00051	0,00007
12	Stérile	Amphibolite	0,0023	17,1	0,0002	<0,003	<0,00009	0,042	0,00104	0,00007
13	Stérile	Amphibolite	0,0012	22,1	0,0003	0,008	<0,00009	0,165	0,00079	0,00008
14	Stérile	Amphibolite	0,0015	34,7	0,0003	0,011	<0,00009	0,265	0,00172	0,00010
15	Stérile	Amphibolite	0,0010	16,9	0,0002	0,004	<0,00009	0,043	0,00168	<0,00006
16	Stérile	Métasédiment	0,0032	31,3	0,0003	0,007	0,00255	0,032	0,00064	0,00018
17	Stérile	Amphibolite	0,0028	24,7	0,0006	0,007	0,00010	0,146	0,00022	<0,00006
18	Stérile	Amphibolite	0,0116	21,3	0,0004	0,013	<0,00009	0,391	0,00326	0,00007
19	Stérile	Pegmatite stérile	0,0011	29,0	0,0004	0,011	0,00010	0,008	0,00123	0,00014
20	Stérile	Amphibolite	0,0053	18,2	0,0015	0,006	<0,00009	0,004	0,00039	<0,00006
21	Stérile	Amphibolite	0,0011	13,1	0,0003	0,014	<0,00009	0,010	0,00059	0,00009
22	Stérile	Amphibolite	0,0048	25,2	0,0009	0,047	0,00015	0,199	0,00097	0,00012
23	Stérile	Métasédiment	0,0129	35,4	0,0038	<0,003	<0,00009	0,040	0,00196	0,00008
24	Stérile	Amphibolite	0,0022	23,0	0,0003	0,082	<0,00009	0,003	0,00053	0,00008
25	Stérile	Métasédiment	0,0027	4,8	0,0029	0,028	<0,00009	0,067	0,00077	0,00007
26	Stérile	Amphibolite	0,0016	15,8	0,0002	0,011	<0,00009	0,037	0,00038	<0,00006
27	Stérile	Amphibolite	0,0058	40,3	0,0005	0,019	<0,00009	0,029	0,00298	<0,00006
28	Stérile	Amphibolite	0,0141	23,9	0,0004	0,044	0,00011	0,236	0,00251	0,00011
29	Stérile	Amphibolite	0,0067	24,6	0,0003	0,033	0,00014	0,550	0,00206	<0,00006
30	Stérile	Amphibolite	0,0037	26,7	<0,0001	0,022	<0,00009	0,007	0,00111	<0,00006
31	Stérile	Métasédiment	0,0049	13,0	0,0009	0,092	0,00038	0,099	0,00018	0,00052
32	Stérile	Amphibolite	0,0011	13,0	<0,0001	0,019	<0,00009	0,013	0,00069	<0,00006
33	Stérile	Amphibolite	0,0019	18,4	0,0002	0,009	<0,00009	0,034	0,00111	0,00007
34	Stérile	Métasédiment	0,0041	12,8	0,0021	0,095	0,00225	0,186	0,00083	0,00055
35	Stérile	Métasédiment	0,0039	11,3	0,0019	0,114	0,00069	0,014	0,00077	0,00009
36	Stérile	Ultramafique	0,0008	5,9	0,0728	0,017	<0,00009	9,760	0,00065	0,00007
37	Stérile	Amphibolite	0,0231	13,7	0,0014	0,012	<0,00009	3,070	0,00143	0,00012
38	Stérile	Métasédiment	0,0053	37,6	0,0020	0,030	<0,00009	0,039	0,00026	0,00032
39	Stérile	Métasédiment	0,0084	23,1	0,0009	0,032	0,00050	0,265	0,00214	0,00008
40	Stérile	Métasédiment	0,0032	41,8	0,0011	0,012	<0,00009	0,219	0,00045	<0,00006
41	Stérile	Métasédiment	0,0033	27,7	0,0004	0,006	<0,00009	0,010	0,00031	<0,00006
42	Stérile	Métasédiment	0,0031	28,4	0,0002	0,011	<0,00009	0,014	0,00080	0,00007
43	Stérile	Métasédiment	0,0021	26,7	0,0003	0,013	<0,00009	0,009	0,00062	<0,00006
44	Stérile	Métasédiment	0,0022	39,2	0,0007	0,112	0,00025	0,009	0,00023	<0,00006
45	Stérile	Métasédiment	0,0017	31,7	0,0004	0,091	0,00010	0,002	0,00018	<0,00006
46	Stérile	Métasédiment	0,0022	28,0	0,0002	0,044	<0,00009	0,001	0,00026	<0,00006
47	Stérile	Métasédiment	0,0062	31,8	0,0006	0,025	0,00035	0,003	0,00243	<0,00006
48	Stérile	Métasédiment	0,0026	19,0	0,0002	0,016	<0,00009	0,044	0,00099	0,00007
49	Stérile	Métasédiment	0,0040	11,4	0,0008	0,029	0,00024	0,063	0,00008	0,00047
50	Stérile	Métasédiment	0,0157	23,6	0,0005	0,005	<0,00009	0,761	0,00882	<0,00006
51	Stérile	Métasédiment	0,0066	49,6	0,0011	0,032	0,00059	0,035	0,00220	0,00017
52	Stérile	Métasédiment	0,0048	28,4	0,0009	<0,003	<0,00009	0,022	0,00017	<0,00006
53	Stérile	Métasédiment	0,0021	21,2	0,0002	0,037	<0,00009	0,005	<0,00004	<0,00006
54	Stérile	Métasédiment	0,0053	30,0	0,0005	0,049	0,00031	0,233	0,00091	0,00008
55	Stérile	Métasédiment	0,0030	15,5	0,0009	0,008	<0,00009	0,040	0,00017	<0,00006
56	Stérile	Amphibolite	0,0021	13,9	0,0002	0,015	<0,00009	0,004	0,00023	<0,00006
57	Stérile	Métasédiment	0,0022	14,9	0,0003	0,038	<0,00009	0,002	0,00284	<0,00006
58	Stérile	Ultramafique	0,0017	11,4	0,0185	0,012	<0,00009	3,030	0,00035	<0,00006
59	Stérile	Ultramafique	0,0015	13,4	0,0031	0,034	<0,00009	0,097	0,00178	<0,00006
60	Stérile	Ultramafique	0,0028	3,4	0,0577	0,024	<0,00009	15,300	0,00123	<0,00006
61	Stérile	Ultramafique	0,0025	4,2	0,0020	0,013	<0,00009	0,900	0,00073	<0,00006
62	Stérile	Ultramafique	0,0043	3,0	0,1130	0,027	<0,00009	28,800	0,00193	<0,00006
63	Stérile	Pegmatite stérile	0,0061	49,7	0,0007	0,408	0,00050	0,232	0,00058	0,00025
64	Stérile	Pegmatite stérile	0,0034	20,3	0,0007	1,150	0,00069	0,247	0,00034	0,00487
65	Stérile	Pegmatite stérile	0,0025	20,3	0,0003	0,709	0,00068	0,154	0,00018	0,00019
66	Stérile	Pegmatite stérile	0,0026	30,9	0,0003	0,455	0,00041	0,193	0,00026	0,00055
67	Stérile	Pegmatite stérile	0,0038	26,4	0,0004	0,509	0,00026	0,052	0,00005	0,00011
68	Stérile	Pegmatite stérile	0,0017	23,5	0,0004	0,231	0,00061	0,317	0,00044	0,00047
69	Stérile	Pegmatite stérile	0,0073	68,0	0,0004	0,770	0,00070	0,117	0,00029	0,00105
70	Stérile	Pegmatite stérile	0,0065	67,2	0,0003	0,418	0,00114	0,188	0,00218	0,00067
71	Stérile	Pegmatite stérile	0,0047	46,3	0,0004	1,840	0,00114	0,375	0,00071	0,00125
72	Stérile	Pegmatite stérile	0,0023	46,4	0,0016	0,399	0,00802	0,144	0,00256	0,00200
73	Stérile	Pegmatite stérile	0,0085	21,0	<0,0001	0,350	0,00029	0,124	<0,00004	0,00107
74	Minerai	Pegmatite spodumène	0,0012	33,6	0,0007	1,700	0,00035	0,683	<0,00004	0,00277
75	Minerai	Pegmatite spodumène	0,0016	49,9	0,0003	0,429	0,00027	0,452	0,00023	0,00042
76	Minerai	Pegmatite spodumène	0,0030	41,1	0,0003	0,620	0,00046	0,077	0,00017	0,00226
77	Minerai	Pegmatite spodumène	0,0020	20,3	0,0003	1,100	<0,00009	0,140	<0,00004	0,00208
78	Minerai	Pegmatite spodumène	0,0035	41,2	0,0003	1,490	0,00063	0,144	0,00059	0,00142
79	Minerai	Pegmatite spodumène	0,0025	26,9	0,0005	0,849	0,00054	0,122	0,00007	0,00093
80	Stérile	Pegmatite stérile	0,0027	36,1	0,0007	0,141	0,00042	0,208	0,00067	0,00102

Essais CTEU-9

# échantillon	Type de matériel	Lithologie	Strontium	Titane	Thorium	Uranium	Vanadium	Zinc
		Unité	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
		CVAA - Effet aigu	40	0,047	0,017		0,110	0,017
		D019/MDMER						0,400
1	Stérile	Amphibolite	0,00415	0,000009	0,000052	0,0194	0,1170	<0,002
2	Stérile	Amphibolite	0,04060	0,000035	0,000534	0,0037	0,0089	<0,002
3	Stérile	Amphibolite	0,00987	0,000011	0,000053	0,0006	0,0355	<0,002
4	Stérile	Amphibolite	0,00543	0,000021	0,000789	0,0070	0,0944	<0,002
5	Stérile	Amphibolite	0,02780	0,000229	0,000075	0,0009	0,0150	<0,002
6	Stérile	Amphibolite	0,01260	<0,000005	0,000198	0,0001	0,0365	<0,002
7	Stérile	Amphibolite	0,01090	0,000023	0,000444	0,0004	0,0543	<0,002
8	Stérile	Amphibolite	0,00788	0,000008	0,000029	0,0018	0,0745	<0,002
9	Stérile	Amphibolite	0,00584	<0,000005	0,000019	0,0018	0,0906	<0,002
10	Stérile	Amphibolite	0,01680	0,000010	0,000421	0,0014	0,0139	<0,002
11	Stérile	Amphibolite	0,01060	0,000019	0,000025	0,0004	0,0521	<0,002
12	Stérile	Amphibolite	0,01560	0,000008	0,000596	0,0003	0,0405	<0,002
13	Stérile	Amphibolite	0,02090	0,000064	0,000078	0,0012	0,0480	<0,002
14	Stérile	Amphibolite	0,01220	0,000022	0,000079	0,0004	0,0552	<0,002
15	Stérile	Amphibolite	0,01010	0,000023	0,000692	0,0002	0,0433	<0,002
16	Stérile	Métasédiment	0,08600	0,000022	0,000154	0,0006	0,0020	0,036
17	Stérile	Amphibolite	0,07970	0,000011	0,000087	0,0004	0,0027	0,013
18	Stérile	Amphibolite	0,02150	0,000044	0,000550	0,0008	0,0243	<0,002
19	Stérile	Pegmatite stérile	0,01210	<0,000005	0,000030	0,0006	0,0582	<0,002
20	Stérile	Amphibolite	0,10500	0,000006	0,000324	0,0003	0,0009	<0,002
21	Stérile	Amphibolite	0,00901	0,000007	0,000106	0,0002	0,0665	<0,002
22	Stérile	Amphibolite	0,02060	0,000045	0,000530	0,0032	0,0438	<0,002
23	Stérile	Métasédiment	0,13700	0,000020	0,004430	0,0005	0,0008	<0,002
24	Stérile	Amphibolite	0,01210	0,000008	0,001420	0,0085	0,0444	<0,002
25	Stérile	Métasédiment	0,01580	0,000030	0,000266	0,0041	0,0466	<0,002
26	Stérile	Amphibolite	0,00549	0,000017	0,000013	0,0004	0,0513	<0,002
27	Stérile	Amphibolite	0,03430	0,000017	0,001470	0,0007	0,0231	<0,002
28	Stérile	Amphibolite	0,02400	0,000040	0,004320	0,0040	0,0214	<0,002
29	Stérile	Amphibolite	0,03770	0,000055	0,000162	0,0060	0,0121	<0,002
30	Stérile	Amphibolite	0,01200	0,000010	0,000500	0,0014	0,0373	<0,002
31	Stérile	Métasédiment	0,01180	0,000660	0,001680	0,0894	0,0700	0,003
32	Stérile	Amphibolite	0,00427	0,000014	0,000074	0,0006	0,0758	<0,002
33	Stérile	Amphibolite	0,00758	0,000021	0,000066	0,0003	0,0338	<0,002
34	Stérile	Métasédiment	0,00474	0,001050	0,002780	0,1440	0,0333	0,007
35	Stérile	Métasédiment	0,00357	0,000041	0,001980	0,1120	0,0642	0,005
36	Stérile	Ultramafique	0,02800	0,000161	0,000542	0,0007	0,0362	<0,002
37	Stérile	Amphibolite	0,03140	0,001820	0,002770	0,0007	0,0093	<0,002
38	Stérile	Métasédiment	0,01390	0,000191	0,003840	0,0177	0,0105	<0,002
39	Stérile	Métasédiment	0,02790	0,000142	0,001300	0,0066	0,0103	<0,002
40	Stérile	Métasédiment	0,01350	0,000008	0,005380	0,0078	0,0202	<0,002
41	Stérile	Métasédiment	0,02300	<0,000005	0,000261	0,0062	0,0118	<0,002
42	Stérile	Métasédiment	0,05550	0,000024	0,000412	0,0012	0,0033	<0,002
43	Stérile	Métasédiment	0,05090	0,000061	0,000637	0,0017	0,0065	<0,002
44	Stérile	Métasédiment	0,00455	0,000060	0,010800	0,0189	0,1130	<0,002
45	Stérile	Métasédiment	0,00570	0,000010	0,004610	0,0141	0,1030	<0,002
46	Stérile	Métasédiment	0,00505	0,000014	0,005780	0,0122	0,0944	<0,002
47	Stérile	Métasédiment	0,00566	0,000008	0,004260	0,0287	0,0136	0,004
48	Stérile	Métasédiment	0,03510	0,000018	0,000246	0,0011	0,0079	<0,002
49	Stérile	Métasédiment	0,00326	0,001572	0,001320	0,0626	0,0464	<0,002
50	Stérile	Métasédiment	0,02580	0,000266	0,008710	0,0021	0,0044	0,004
51	Stérile	Métasédiment	0,01470	0,000022	0,001160	0,0165	0,0226	<0,002
52	Stérile	Métasédiment	0,02710	<0,000005	0,007760	0,0007	0,0051	<0,002
53	Stérile	Métasédiment	0,01990	0,000009	0,001350	0,0020	0,0217	<0,002
54	Stérile	Métasédiment	0,01380	0,000028	0,007610	0,0165	0,0212	<0,002
55	Stérile	Métasédiment	0,01170	<0,000005	0,000376	0,0002	0,0360	<0,002
56	Stérile	Amphibolite	0,00901	0,000008	0,000420	0,0006	0,0563	<0,002
57	Stérile	Métasédiment	0,02530	0,000008	0,000560	0,0027	0,0292	<0,002
58	Stérile	Ultramafique	0,04950	0,000062	0,000271	0,0001	0,0062	<0,002
59	Stérile	Ultramafique	0,08180	0,000014	0,009680	0,0004	0,0116	<0,002
60	Stérile	Ultramafique	0,02800	0,001059	0,000598	0,0007	0,0048	<0,002
61	Stérile	Ultramafique	0,04350	0,000015	0,000083	0,0007	0,0083	<0,002
62	Stérile	Ultramafique	0,03090	0,000055	0,001240	0,0010	0,0071	<0,002
63	Stérile	Pegmatite stérile	0,00106	0,000963	0,062000	0,0005	0,0077	<0,002
64	Stérile	Pegmatite stérile	0,00197	0,004420	0,023100	0,0046	0,0042	0,004
65	Stérile	Pegmatite stérile	0,00125	0,002150	0,004750	0,0003	0,0032	<0,002
66	Stérile	Pegmatite stérile	0,00065	0,001350	0,026900	0,0005	0,0038	<0,002
67	Stérile	Pegmatite stérile	0,00078	0,001740	0,000963	0,0002	0,0039	<0,002
68	Stérile	Pegmatite stérile	0,00327	0,002250	0,024500	0,0079	0,1380	0,003
69	Stérile	Pegmatite stérile	0,00207	0,000370	0,069400	0,0022	0,0075	<0,002
70	Stérile	Pegmatite stérile	0,00148	0,000547	0,027100	0,0006	0,0100	0,005
71	Stérile	Pegmatite stérile	0,00165	0,001020	0,046400	0,0022	0,0200	0,003
72	Stérile	Pegmatite stérile	0,00210	0,001790	0,081700	0,0072	0,0441	0,032
73	Stérile	Pegmatite stérile	0,00074	0,001180	0,080500	0,0015	0,0028	<0,002
74	Minerai	Pegmatite spodumène	0,00074	0,001860	0,019900	0,0033	0,0024	<0,002
75	Minerai	Pegmatite spodumène	0,00082	0,000600	0,032600	0,0004	0,0028	<0,002
76	Minerai	Pegmatite spodumène	0,00340	0,000950	0,013200	0,0018	0,0027	<0,002
77	Minerai	Pegmatite spodumène	0,00187	0,001000	0,046000	0,0020	0,0012	<0,002
78	Minerai	Pegmatite spodumène	0,00402	0,001410	0,011300	0,0017	0,0108	0,003
79	Minerai	Pegmatite spodumène	0,00144	0,001790	0,055600	0,0148	0,0028	<0,002
80	Stérile	Pegmatite stérile	0,00493	0,001370	0,019500	0,0021	0,0061	<0,002

Essais CTEU-9

# échantillon	Type de matériel	Lithologie	pH	Conductivité	Alcalinité	Acidité	Chlore	Sulfate	Mercure	Argent
		Unité	pH unit	µS/cm	$mgCaCO_3/l$	$mgCaCO_3/l$	mg/l	mg/l	mg/l	mg/l
		CVAA - Effet aigu					320	500	0,0014	0,00004
		D019/MDMER								
81	Minerai	Pegmatite spodumène	9,3	171	77	<2,0	<20,0	NA	0,00007	0,0001
82	Minerai	Pegmatite spodumène	8,5	214	108	<2,0	<20,0	<20,0	<0,00001	<0,00005
83	Résidu	Résidu DMS	9,2	65	179	<2,0	<20,0	<20,0	<0,00001	<0,0005
84	Résidu	Résidu DMS	8,8	61	176	<2,0	20	<20,0	<0,00001	<0,0005
VIS-CV5-AMP-085	Stérile	Amphibolite	9,34	57,00	138,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-086	Stérile	Amphibolite	9,40	59,00	148,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-087	Stérile	Amphibolite	9,40	49,00	134,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-088	Stérile	Amphibolite	8,70	44,00	201,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-089	Stérile	Amphibolite	8,99	61,00	191,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-090	Stérile	Amphibolite	8,65	54,00	296,00	<2,0	<20,0	<30,0	<0,00001	0,00015
VIS-CV5-AMP-091	Stérile	Amphibolite	9,33	50,00	137,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-092	Stérile	Amphibolite	9,45	61,00	112,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-093	Stérile	Amphibolite	9,05	67,00	249,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-094	Stérile	Amphibolite	9,40	55,00	141,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-095	Stérile	Amphibolite	9,22	50,00	149,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-096	Stérile	Amphibolite	9,10	48,00	150,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-097	Stérile	Amphibolite	8,76	58,00	214,00	<2,0	<20,0	<30,0	<0,00001	0,00007
VIS-CV5-AMP-098	Stérile	Amphibolite	8,99	54,00	206,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-099	Stérile	Amphibolite	9,00	62,00	168,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-100	Stérile	Amphibolite	8,51	57,00	542,00	<2,0	<20,0	<30,0	<0,00001	0,00008
VIS-CV5-AMP-101	Stérile	Amphibolite	8,12	70,00	405,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-102	Stérile	Amphibolite	8,70	50,00	235,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-103	Stérile	Amphibolite	8,66	50,00	256,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-104	Stérile	Amphibolite	8,95	69,00	201,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-105	Stérile	Amphibolite	8,86	49,00	269,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-106	Stérile	Amphibolite	5,67	2,00	1270,00	293,00	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-107	Stérile	Amphibolite	8,09	49,00	474,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-108	Stérile	Amphibolite	9,04	71,00	230,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-109	Stérile	Amphibolite	8,12	38,00	236,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-110	Stérile	Amphibolite	8,80	58,00	204,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-111	Stérile	Amphibolite	8,43	62,00	257,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-112	Stérile	Amphibolite	9,07	53,00	171,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-113	Stérile	Amphibolite	8,87	65,00	218,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-114	Stérile	Amphibolite	8,77	56,00	195,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-115	Stérile	Amphibolite	8,32	50,00	376,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-116	Stérile	Amphibolite	8,83	56,00	147,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-117	Stérile	Amphibolite	8,65	51,00	162,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-118	Stérile	Amphibolite	9,05	48,00	137,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-119	Stérile	Amphibolite	9,27	61,00	154,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-120	Stérile	Amphibolite	8,14	47,00	172,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-121	Stérile	Amphibolite	8,21	37,00	120,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-122	Stérile	Amphibolite	8,40	63,00	291,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-123	Stérile	Amphibolite	9,07	70,00	196,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-124	Stérile	Amphibolite	9,33	65,00	176,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-125	Stérile	Amphibolite	8,92	51,00	222,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-126	Stérile	Amphibolite	9,29	64,00	184,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-127	Stérile	Amphibolite	8,13	46,00	145,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-128	Stérile	Amphibolite	9,02	45,00	134,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-129	Stérile	Amphibolite	9,06	51,00	193,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-130	Stérile	Amphibolite	7,94	39,00	122,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-131	Stérile	Amphibolite	8,18	45,00	158,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-132	Stérile	Amphibolite	8,09	45,00	134,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-133	Stérile	Amphibolite	9,11	57,00	237,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-134	Stérile	Amphibolite	8,90	60,00	303,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-135	Stérile	Amphibolite	9,36	64,00	191,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-136	Stérile	Amphibolite	9,41	55,00	140,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-137	Stérile	Amphibolite	9,01	56,00	166,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-138	Stérile	Amphibolite	9,17	57,00	141,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-139	Stérile	Amphibolite	9,02	55,00	162,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-140	Stérile	Amphibolite	8,99	53,00	228,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-141	Stérile	Amphibolite	8,81	74,00	203,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-142	Stérile	Amphibolite	9,20	42,00	148,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-143	Stérile	Amphibolite	8,72	55,00	192,00	<2,0	<20,0	<30,0	<0,00001	<0,00006
VIS-CV5-AMP-144	Stérile	Amphibolite	8,85	49,00	157,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-145	Stérile	Amphibolite	9,16	49,00	143,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-146	Stérile	Amphibolite	9,44	54,00	165,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-147	Stérile	Amphibolite	9,13	42,00	134,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-148	Stérile	Amphibolite	9,02	46,00	120,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-149	Stérile	Amphibolite	8,97	53,00	163,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-150	Stérile	Amphibolite	8,48	51,00	215,00	<2,0	<20,0	<30,0	<0,00001	0,00011
VIS-CV5-AMP-151	Stérile	Amphibolite	8,45	45,00	152,00	<2,0	<20,0	<30,0	<0,00001	<0,00005

Essais CTEU-9

# échantillon	Type de matériel	Lithologie	Aluminum	Arsenic	Bore	Baryum	Béryllium	Bismuth	Calcium	Cadmium
		Unité	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
		CVAA - Effet aigu	0,28	0,34	28	0,10807	0,00124			0,00021
		D019/MDMER		0,10						
81	Minerai	Pegmatite spodumène	5,960	1,560	0,328	0,00107	0,001070	0,00064	0,48	0,000027
82	Minerai	Pegmatite spodumène	5,480	0,132	0,187	0,00299	0,007940	0,00017	1,16	<0,000003
83	Résidu	Résidu DMS	0,610	0,954	0,170	0,00224	0,000410	0,00180	1,20	<0,00003
84	Résidu	Résidu DMS	0,560	0,869	0,130	0,00159	0,000730	0,00183	1,10	<0,00003
VIS-CV5-AMP-085	Stérile	Amphibolite	0,74	0,01	0,10	0,00077	<0,000007	<0,00001	5,28	0,000005
VIS-CV5-AMP-086	Stérile	Amphibolite	0,46	0,02	0,11	0,00151	<0,000007	<0,00001	4,77	0,000005
VIS-CV5-AMP-087	Stérile	Amphibolite	0,76	0,01	0,10	0,00065	<0,000007	<0,00001	4,58	0,000004
VIS-CV5-AMP-088	Stérile	Amphibolite	0,21	0,01	0,10	0,00132	<0,000007	<0,00001	11,90	0,000008
VIS-CV5-AMP-089	Stérile	Amphibolite	0,55	0,00	0,07	0,00511	<0,000007	<0,00001	6,57	0,000008
VIS-CV5-AMP-090	Stérile	Amphibolite	0,14	0,07	0,15	0,00246	0,000014	<0,00001	13,10	0,000007
VIS-CV5-AMP-091	Stérile	Amphibolite	0,67	0,01	0,07	0,00137	<0,000007	<0,00001	4,92	0,000003
VIS-CV5-AMP-092	Stérile	Amphibolite	0,29	0,16	0,05	0,00079	0,000008	<0,00001	3,64	0,000004
VIS-CV5-AMP-093	Stérile	Amphibolite	0,43	0,12	0,11	0,00393	0,000023	<0,00001	7,85	0,000004
VIS-CV5-AMP-094	Stérile	Amphibolite	1,51	0,07	0,09	0,00826	0,000050	<0,00001	2,78	0,000010
VIS-CV5-AMP-095	Stérile	Amphibolite	0,40	0,17	0,09	0,00089	<0,000007	<0,00001	5,76	0,000010
VIS-CV5-AMP-096	Stérile	Amphibolite	0,49	0,38	0,09	0,00132	0,000011	<0,00001	5,84	0,000006
VIS-CV5-AMP-097	Stérile	Amphibolite	0,22	0,40	0,16	0,00231	0,000016	<0,00001	8,32	0,000006
VIS-CV5-AMP-098	Stérile	Amphibolite	0,22	0,12	0,15	0,00168	0,000038	<0,00001	9,64	0,000006
VIS-CV5-AMP-099	Stérile	Amphibolite	0,87	0,03	0,12	0,00316	0,000024	0,000020	3,72	0,000010
VIS-CV5-AMP-100	Stérile	Amphibolite	0,12	0,41	0,16	0,00530	0,000025	0,000140	21,40	0,000029
VIS-CV5-AMP-101	Stérile	Amphibolite	0,13	0,03	0,12	0,00578	0,000012	<0,00001	18,10	0,000006
VIS-CV5-AMP-102	Stérile	Amphibolite	1,77	0,04	0,13	0,00965	0,000074	0,000020	5,05	0,000022
VIS-CV5-AMP-103	Stérile	Amphibolite	0,25	0,04	0,16	0,00484	0,000053	<0,00001	12,50	0,000023
VIS-CV5-AMP-104	Stérile	Amphibolite	0,62	0,55	0,12	0,00455	0,000077	<0,00001	5,21	0,000005
VIS-CV5-AMP-105	Stérile	Amphibolite	0,00	0,00	0,10	0,01560	0,000010	<0,00001	93,40	0,000013
VIS-CV5-AMP-106	Stérile	Amphibolite	0,22	0,25	0,10	0,00095	<0,000007	<0,00001	6,60	<0,000003
VIS-CV5-AMP-107	Stérile	Amphibolite	0,25	0,02	0,15	0,00117	<0,000007	<0,00001	6,52	<0,000003
VIS-CV5-AMP-108	Stérile	Amphibolite	0,63	0,01	0,07	0,00270	0,000017	<0,00001	11,80	<0,000003
VIS-CV5-AMP-109	Stérile	Amphibolite	0,56	0,04	0,07	0,00178	0,000018	<0,00001	15,10	<0,000003
VIS-CV5-AMP-110	Stérile	Amphibolite	0,35	0,29	0,15	0,00537	0,000019	<0,00001	5,86	0,000007
VIS-CV5-AMP-111	Stérile	Amphibolite	0,42	0,24	0,14	0,00318	0,000024	<0,00001	8,71	0,000005
VIS-CV5-AMP-112	Stérile	Amphibolite	0,51	0,20	0,13	0,00265	0,000072	<0,00001	4,84	<0,000003
VIS-CV5-AMP-113	Stérile	Amphibolite	0,21	1,53	0,16	0,00268	0,000042	<0,00001	8,36	0,000007
VIS-CV5-AMP-114	Stérile	Amphibolite	0,31	1,15	0,13	0,00252	0,000072	<0,00001	7,43	<0,000003
VIS-CV5-AMP-115	Stérile	Amphibolite	0,05	0,18	0,12	0,00432	0,000013	<0,00001	25,10	0,000004
VIS-CV5-AMP-116	Stérile	Amphibolite	0,50	0,31	0,18	0,00206	0,000014	<0,00001	3,85	<0,000003
VIS-CV5-AMP-117	Stérile	Amphibolite	0,12	3,29	0,08	0,00190	0,000020	<0,00001	9,20	<0,000003
VIS-CV5-AMP-118	Stérile	Amphibolite	0,36	0,17	0,10	0,00192	0,000009	<0,00001	5,58	0,000004
VIS-CV5-AMP-119	Stérile	Amphibolite	0,87	0,04	0,05	0,00469	0,000018	<0,00001	4,49	<0,000003
VIS-CV5-AMP-120	Stérile	Amphibolite	0,37	0,11	0,08	0,00135	0,000012	<0,00001	7,97	<0,000003
VIS-CV5-AMP-121	Stérile	Amphibolite	0,81	0,01	0,06	0,00064	<0,000007	<0,00001	5,43	<0,000003
VIS-CV5-AMP-122	Stérile	Amphibolite	0,48	0,03	0,11	0,00598	0,000028	0,000020	10,50	0,000012
VIS-CV5-AMP-123	Stérile	Amphibolite	0,25	0,06	0,13	0,00132	0,000071	0,000020	6,09	<0,000003
VIS-CV5-AMP-124	Stérile	Amphibolite	0,58	0,16	0,17	0,00132	0,000014	<0,00001	3,74	<0,000003
VIS-CV5-AMP-125	Stérile	Amphibolite	0,44	0,17	0,13	0,00347	0,000052	<0,00001	8,16	0,000009
VIS-CV5-AMP-126	Stérile	Amphibolite	2,34	0,48	0,16	0,00439	0,000178	0,000050	3,32	0,000020
VIS-CV5-AMP-127	Stérile	Amphibolite	0,90	0,09	0,11	0,00104	0,000008	<0,00001	5,12	<0,000003
VIS-CV5-AMP-128	Stérile	Amphibolite	0,52	0,02	0,07	0,00083	<0,000007	<0,00001	7,36	0,000005
VIS-CV5-AMP-129	Stérile	Amphibolite	0,35	0,19	0,08	0,00138	<0,000007	<0,00001	8,64	<0,000003
VIS-CV5-AMP-130	Stérile	Amphibolite	0,41	0,07	0,08	0,00095	<0,000007	<0,00001	6,31	<0,000003
VIS-CV5-AMP-131	Stérile	Amphibolite	0,90	0,05	0,08	0,00139	<0,000007	<0,00001	6,74	<0,000003
VIS-CV5-AMP-132	Stérile	Amphibolite	0,36	0,01	0,08	0,00473	<0,000007	<0,00001	5,30	<0,000003
VIS-CV5-AMP-133	Stérile	Amphibolite	0,51	0,01	0,13	0,00241	<0,000007	<0,00001	8,07	<0,000003
VIS-CV5-AMP-134	Stérile	Amphibolite	0,28	0,04	0,07	0,00170	<0,000007	<0,00001	15,60	<0,000003
VIS-CV5-AMP-135	Stérile	Amphibolite	0,32	0,89	0,12	0,00154	<0,000007	<0,00001	5,45	0,000004
VIS-CV5-AMP-136	Stérile	Amphibolite	0,78	0,07	0,09	0,00075	<0,000007	<0,00001	4,33	<0,000003
VIS-CV5-AMP-137	Stérile	Amphibolite	0,41	0,95	0,21	0,00139	<0,000007	0,000020	6,29	<0,000003
VIS-CV5-AMP-138	Stérile	Amphibolite	0,77	0,14	0,11	0,00108	0,000011	<0,00001	4,56	<0,000003
VIS-CV5-AMP-139	Stérile	Amphibolite	1,13	0,24	0,21	0,00265	0,000009	<0,00001	4,40	<0,000003
VIS-CV5-AMP-140	Stérile	Amphibolite	0,18	0,01	0,06	0,00108	<0,000007	<0,00001	14,90	<0,000003
VIS-CV5-AMP-141	Stérile	Amphibolite	0,41	0,07	0,09	0,00178	0,000018	<0,00001	7,65	0,000007
VIS-CV5-AMP-142	Stérile	Amphibolite	1,22	0,01	0,06	0,00181	0,000009	0,000020	5,89	0,000008
VIS-CV5-AMP-143	Stérile	Amphibolite	0,24	0,30	0,15	0,00172	<0,000007	<0,00001	10,20	<0,000003
VIS-CV5-AMP-144	Stérile	Amphibolite	0,56	0,07	0,12	0,00106	<0,000007	<0,00001	6,61	<0,000003
VIS-CV5-AMP-145	Stérile	Amphibolite	1,20	0,03	0,11	0,00084	<0,000007	<0,00001	6,30	0,000009
VIS-CV5-AMP-146	Stérile	Amphibolite	0,91	0,24	0,10	0,00192	0,000017	0,000020	4,98	0,000077
VIS-CV5-AMP-147	Stérile	Amphibolite	0,11	0,02	0,10	0,00108	<0,000007	<0,00001	5,18	<0,000003
VIS-CV5-AMP-148	Stérile	Amphibolite	0,95	0,02	0,07	0,00052	<0,000007	<0,00001	4,16	<0,000003
VIS-CV5-AMP-149	Stérile	Amphibolite	0,50	0,56	0,08	0,00148	0,000024	0,000030	6,62	0,000004
VIS-CV5-AMP-150	Stérile	Amphibolite	0,50	0,17	0,16	0,00232	0,000042	0,000020	9,77	0,000004
VIS-CV5-AMP-151	Stérile	Amphibolite	0,20	0,06	0,09	0,00093	<0,000007	<0,00001	6,28	<0,000003

Essais CTEU-9

# échantillon	Type de matériel	Lithologie	Cobalt	Chrome	Cuivre	Fer	Potassium	Lithium	Magnésium	Manganèse
		Unité	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
		CVAA - Effet aigu	0,37000	0,016	0,0016	3,4		0,9100		0,55
		D019/MDMER		0,209	0,100	3,0				
81	Minerai	Pegmatite spodumène	0,000102	0,00512	0,001	0,170	7,340	5,370	0,092	0,0570
82	Minerai	Pegmatite spodumène	0,000390	0,00105	0,002	0,370	25,800	1,220	0,220	0,0593
83	Résidu	Résidu DMS	0,000060	0,00320	0,002	0,070	19,900	0,277	0,660	0,0051
84	Résidu	Résidu DMS	0,000090	0,00230	0,002	0,070	18,500	0,362	0,120	0,0082
VIS-CV5-AMP-085	Stérile	Amphibolite	0,000052	0,00375	0,001	0,240	4,49	0,17	3,28	0,0016
VIS-CV5-AMP-086	Stérile	Amphibolite	0,000144	0,00242	0,001	0,270	9,02	0,14	1,86	0,0033
VIS-CV5-AMP-087	Stérile	Amphibolite	0,000044	0,00097	0,001	0,150	3,07	0,67	1,68	0,0009
VIS-CV5-AMP-088	Stérile	Amphibolite	0,000039	0,00093	0,001	0,160	1,67	0,31	4,51	0,0010
VIS-CV5-AMP-089	Stérile	Amphibolite	0,000240	0,00174	0,001	0,510	11,80	0,05	3,45	0,0028
VIS-CV5-AMP-090	Stérile	Amphibolite	0,000247	0,00222	0,001	0,560	5,57	0,46	6,17	0,0024
VIS-CV5-AMP-091	Stérile	Amphibolite	0,000039	0,00027	0,001	0,320	5,61	0,36	2,12	0,0011
VIS-CV5-AMP-092	Stérile	Amphibolite	0,000410	0,01240	0,001	0,350	2,49	0,06	5,60	0,0028
VIS-CV5-AMP-093	Stérile	Amphibolite	0,000500	0,00214	0,001	2,670	14,10	1,43	3,49	0,0092
VIS-CV5-AMP-094	Stérile	Amphibolite	0,001168	0,01210	0,004	2,960	10,00	1,97	1,69	0,0231
VIS-CV5-AMP-095	Stérile	Amphibolite	0,000143	0,00450	0,001	0,890	2,83	0,86	1,98	0,0027
VIS-CV5-AMP-096	Stérile	Amphibolite	0,000109	0,00265	0,001	1,530	4,54	1,57	2,04	0,0016
VIS-CV5-AMP-097	Stérile	Amphibolite	0,000388	0,00384	0,001	1,010	6,89	0,88	3,12	0,0048
VIS-CV5-AMP-098	Stérile	Amphibolite	0,000291	0,00161	0,001	0,730	4,58	0,36	3,60	0,0047
VIS-CV5-AMP-099	Stérile	Amphibolite	0,000594	0,01060	0,002	1,260	12,90	1,63	1,51	0,0128
VIS-CV5-AMP-100	Stérile	Amphibolite	0,000246	0,00282	0,002	14,200	33,80	6,19	16,10	0,0045
VIS-CV5-AMP-101	Stérile	Amphibolite	0,000116	0,00046	0,001	2,360	16,60	1,76	8,77	0,0038
VIS-CV5-AMP-102	Stérile	Amphibolite	0,001320	0,00428	0,002	2,140	25,10	2,43	2,34	0,0313
VIS-CV5-AMP-103	Stérile	Amphibolite	0,000227	0,00151	0,001	1,340	9,21	1,06	4,97	0,0046
VIS-CV5-AMP-104	Stérile	Amphibolite	0,000510	0,00238	0,001	4,440	11,30	1,74	2,08	0,0096
VIS-CV5-AMP-105	Stérile	Amphibolite	0,001000	0,00030	0,001	0,320	5,10	1,18	59,00	0,2250
VIS-CV5-AMP-106	Stérile	Amphibolite	0,000025	0,00150	0,001	0,410	2,66	0,63	1,70	0,0005
VIS-CV5-AMP-107	Stérile	Amphibolite	0,000015	0,00099	0,001	0,490	3,20	0,95	1,41	0,0003
VIS-CV5-AMP-108	Stérile	Amphibolite	0,000015	0,00071	0,001	1,390	1,97	1,25	2,42	0,0013
VIS-CV5-AMP-109	Stérile	Amphibolite	0,000062	0,00137	0,001	0,370	3,44	1,62	4,31	0,0019
VIS-CV5-AMP-110	Stérile	Amphibolite	0,000159	0,00315	0,001	1,070	10,10	0,85	2,42	0,0040
VIS-CV5-AMP-111	Stérile	Amphibolite	0,000465	0,00487	0,003	1,200	11,10	1,05	5,89	0,0103
VIS-CV5-AMP-112	Stérile	Amphibolite	0,000262	0,00390	0,001	2,930	8,00	1,34	1,85	0,0059
VIS-CV5-AMP-113	Stérile	Amphibolite	0,000439	0,00210	0,001	2,290	6,10	1,47	4,12	0,0067
VIS-CV5-AMP-114	Stérile	Amphibolite	0,000589	0,00509	0,001	0,790	6,19	0,28	3,39	0,0087
VIS-CV5-AMP-115	Stérile	Amphibolite	0,000168	0,00101	0,001	0,440	6,24	0,40	13,70	0,0035
VIS-CV5-AMP-116	Stérile	Amphibolite	0,000197	0,00472	0,001	1,710	10,40	1,49	1,27	0,0055
VIS-CV5-AMP-117	Stérile	Amphibolite	0,000540	0,01490	0,001	1,720	3,74	0,81	3,79	0,0035
VIS-CV5-AMP-118	Stérile	Amphibolite	0,000310	0,01660	0,002	0,560	3,78	1,79	2,48	0,0071
VIS-CV5-AMP-119	Stérile	Amphibolite	0,000547	0,00016	0,001	0,380	8,61	1,07	1,29	0,0087
VIS-CV5-AMP-120	Stérile	Amphibolite	0,000032	0,00104	0,001	0,550	5,25	0,60	2,26	0,0008
VIS-CV5-AMP-121	Stérile	Amphibolite	0,000008	0,00096	0,001	0,180	1,27	0,99	1,18	0,0003
VIS-CV5-AMP-122	Stérile	Amphibolite	0,000291	0,00163	0,001	1,280	23,10	1,20	4,37	0,0060
VIS-CV5-AMP-123	Stérile	Amphibolite	0,000298	0,00355	0,001	1,120	2,62	0,45	2,40	0,0046
VIS-CV5-AMP-124	Stérile	Amphibolite	0,000032	0,00913	0,001	1,050	10,80	0,91	1,68	0,0011
VIS-CV5-AMP-125	Stérile	Amphibolite	0,000674	0,00459	0,002	1,260	7,05	0,62	3,53	0,0120
VIS-CV5-AMP-126	Stérile	Amphibolite	0,000906	0,00541	0,003	6,640	28,70	2,55	1,18	0,0268
VIS-CV5-AMP-127	Stérile	Amphibolite	0,000028	0,00112	0,001	0,400	4,51	1,47	1,17	0,0007
VIS-CV5-AMP-128	Stérile	Amphibolite	0,000013	0,00060	0,001	0,190	1,52	1,17	1,54	0,0007
VIS-CV5-AMP-129	Stérile	Amphibolite	0,000050	0,00092	0,001	0,610	5,63	1,19	3,24	0,0008
VIS-CV5-AMP-130	Stérile	Amphibolite	0,000027	0,00076	0,001	1,270	2,40	1,04	1,66	0,0008
VIS-CV5-AMP-131	Stérile	Amphibolite	0,000033	0,00308	0,001	0,490	7,86	1,60	2,13	0,0008
VIS-CV5-AMP-132	Stérile	Amphibolite	0,000013	0,00048	0,001	0,460	3,95	0,64	1,31	0,0006
VIS-CV5-AMP-133	Stérile	Amphibolite	0,000105	0,00087	0,002	0,480	14,10	1,59	2,80	0,0019
VIS-CV5-AMP-134	Stérile	Amphibolite	0,000103	<0,00008	0,002	0,300	1,31	0,98	10,30	0,0032
VIS-CV5-AMP-135	Stérile	Amphibolite	0,000349	0,03071	0,001	1,520	6,55	1,85	4,19	0,0065
VIS-CV5-AMP-136	Stérile	Amphibolite	0,000017	0,00334	0,001	0,890	3,47	1,28	2,17	0,0004
VIS-CV5-AMP-137	Stérile	Amphibolite	0,000523	0,00471	0,002	0,410	9,76	1,41	2,40	0,0065
VIS-CV5-AMP-138	Stérile	Amphibolite	0,000560	0,01940	0,001	0,440	5,98	0,96	2,54	0,0095
VIS-CV5-AMP-139	Stérile	Amphibolite	0,000607	0,00536	0,003	0,610	10,40	1,07	1,18	0,0129
VIS-CV5-AMP-140	Stérile	Amphibolite	0,000057	0,00014	0,002	0,210	0,52	0,84	8,02	0,0023
VIS-CV5-AMP-141	Stérile	Amphibolite	0,000432	<0,00008	0,001	0,970	3,41	0,19	5,08	0,0114
VIS-CV5-AMP-142	Stérile	Amphibolite	0,000498	0,00535	0,006	0,500	2,55	1,61	2,71	0,0112
VIS-CV5-AMP-143	Stérile	Amphibolite	0,000062	0,00099	0,001	6,080	3,86	1,41	4,84	0,0013
VIS-CV5-AMP-144	Stérile	Amphibolite	0,000112	0,00335	0,001	1,880	3,37	1,32	2,01	0,0030
VIS-CV5-AMP-145	Stérile	Amphibolite	0,000371	0,00781	0,004	0,360	1,89	1,39	2,64	0,0087
VIS-CV5-AMP-146	Stérile	Amphibolite	0,000893	0,00634	0,004	0,790	6,98	1,09	3,35	0,0169
VIS-CV5-AMP-147	Stérile	Amphibolite	0,000068	0,01270	0,001	0,430	4,91	0,93	1,46	0,0026
VIS-CV5-AMP-148	Stérile	Amphibolite	0,000036	0,00414	0,001	0,410	1,90	1,38	1,31	0,0011
VIS-CV5-AMP-149	Stérile	Amphibolite	0,000804	0,02510	0,005	1,640	2,96	2,34	3,96	0,0163
VIS-CV5-AMP-150	Stérile	Amphibolite	0,000465	0,00423	0,003	1,230	8,96	1,61	4,34	0,0088
VIS-CV5-AMP-151	Stérile	Amphibolite	0,000046	0,00237	0,001	0,700	1,95	1,00	2,33	0,0013

Essais CTEU-9

# échantillon	Type de matériel	Lithologie	Molybdène	Sodium	Nickel	Phosphore réactif total	Plomb	Antimoine	Sélénium	Etain
		Unité	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
		CVAA - Effet aigu	29,00		0,067		0,004	0,310	0,062	
		D019/MDMER			0,250		0,080			
81	Minerai	Pegmatite spodumène	0,0044	36,1	<0,0001	1,630	0,00084	0,264	0,00026	0,00240
82	Minerai	Pegmatite spodumène	0,0022	44,1	0,0003	0,280	0,00059	0,056	0,00031	0,01001
83	Résidu	Résidu DMS	0,0018	27,6	0,0010	0,507	0,00080	0,141	0,00040	0,00023
84	Résidu	Résidu DMS	0,0028	27,0	0,0010	0,444	0,00091	0,135	0,00040	0,00025
VIS-CV5-AMP-085	Stérile	Amphibolite	0,0010	12,7	0,0006	0,01	<0,00009	0,03	0,00028	0,00007
VIS-CV5-AMP-086	Stérile	Amphibolite	0,0028	16,3	0,0012	0,03	<0,00009	0,02	0,00036	0,00017
VIS-CV5-AMP-087	Stérile	Amphibolite	0,0019	15,5	0,0002	0,02	<0,00009	0,01	0,00027	<0,00006
VIS-CV5-AMP-088	Stérile	Amphibolite	0,0028	16,2	0,0003	0,02	<0,00009	0,01	0,00018	<0,00006
VIS-CV5-AMP-089	Stérile	Amphibolite	0,0023	16,9	0,0007	0,03	<0,00009	0,00	0,00015	<0,00006
VIS-CV5-AMP-090	Stérile	Amphibolite	0,0025	28,4	0,0012	<0,003	<0,00009	0,14	0,00151	<0,00006
VIS-CV5-AMP-091	Stérile	Amphibolite	0,0011	15,3	<0,0001	0,02	<0,00009	0,00	0,00056	<0,00006
VIS-CV5-AMP-092	Stérile	Amphibolite	0,0020	9,7	0,0019	0,02	<0,00009	0,01	0,00017	0,00017
VIS-CV5-AMP-093	Stérile	Amphibolite	0,0059	19,0	0,0013	0,01	0,00010	0,35	0,00094	<0,00006
VIS-CV5-AMP-094	Stérile	Amphibolite	0,0013	15,0	0,0037	0,05	0,00017	0,22	0,00034	<0,00006
VIS-CV5-AMP-095	Stérile	Amphibolite	0,0023	16,0	0,0010	0,00	0,00061	0,10	0,00018	0,00008
VIS-CV5-AMP-096	Stérile	Amphibolite	0,0040	14,2	0,0004	0,01	<0,00009	0,30	0,00063	<0,00006
VIS-CV5-AMP-097	Stérile	Amphibolite	0,0041	24,7	0,0015	0,01	<0,00009	0,15	0,00082	<0,00006
VIS-CV5-AMP-098	Stérile	Amphibolite	0,0032	19,3	0,0010	0,01	<0,00009	0,15	0,00371	<0,00006
VIS-CV5-AMP-099	Stérile	Amphibolite	0,0049	14,3	0,0019	0,01	0,00023	0,05	0,00017	0,00011
VIS-CV5-AMP-100	Stérile	Amphibolite	0,0183	19,1	0,0020	0,02	<0,00009	0,89	0,00795	0,00011
VIS-CV5-AMP-101	Stérile	Amphibolite	0,0136	19,3	0,0005	0,01	<0,00009	0,19	0,00035	<0,00006
VIS-CV5-AMP-102	Stérile	Amphibolite	0,0040	14,4	0,0037	0,05	0,00024	0,14	0,00012	0,00010
VIS-CV5-AMP-103	Stérile	Amphibolite	0,0363	16,9	0,0005	<0,003	0,00013	0,16	0,00228	<0,00006
VIS-CV5-AMP-104	Stérile	Amphibolite	0,0013	23,8	0,0012	0,01	0,00018	0,17	0,00024	0,00010
VIS-CV5-AMP-105	Stérile	Amphibolite	0,0037	9,7	0,0068	<0,003	<0,00009	0,00	0,00207	<0,00006
VIS-CV5-AMP-106	Stérile	Amphibolite	0,0019	15,1	0,0004	<0,003	<0,00009	0,19	0,00079	<0,00006
VIS-CV5-AMP-107	Stérile	Amphibolite	0,0050	16,0	<0,0001	<0,003	<0,00009	0,23	0,00018	<0,00006
VIS-CV5-AMP-108	Stérile	Amphibolite	0,0008	17,6	0,0003	<0,003	<0,00009	0,11	0,00019	0,00043
VIS-CV5-AMP-109	Stérile	Amphibolite	0,0013	16,3	0,0007	0,01	<0,00009	0,06	0,00033	<0,00006
VIS-CV5-AMP-110	Stérile	Amphibolite	0,0015	21,4	0,0008	0,02	<0,00009	0,17	0,00063	<0,00006
VIS-CV5-AMP-111	Stérile	Amphibolite	0,0051	22,0	0,0017	0,02	<0,00009	0,30	0,00109	<0,00006
VIS-CV5-AMP-112	Stérile	Amphibolite	0,0015	17,6	0,0007	0,02	0,00011	0,08	0,00026	0,00140
VIS-CV5-AMP-113	Stérile	Amphibolite	0,0056	22,3	0,0016	0,01	0,00023	0,68	0,00055	0,00012
VIS-CV5-AMP-114	Stérile	Amphibolite	0,0016	21,9	0,0015	0,01	<0,00009	0,36	0,00035	<0,00006
VIS-CV5-AMP-115	Stérile	Amphibolite	0,0017	16,3	0,0011	<0,003	<0,00009	0,06	0,00066	<0,00006
VIS-CV5-AMP-116	Stérile	Amphibolite	0,0011	13,1	0,0005	<0,003	<0,00009	0,28	0,00019	<0,00006
VIS-CV5-AMP-117	Stérile	Amphibolite	0,0043	14,5	0,0023	0,01	<0,00009	0,52	0,00189	<0,00006
VIS-CV5-AMP-118	Stérile	Amphibolite	0,0008	12,2	0,0013	0,01	<0,00009	0,04	0,00024	<0,00006
VIS-CV5-AMP-119	Stérile	Amphibolite	0,0029	16,8	0,0002	0,03	0,00016	0,05	0,00028	0,00106
VIS-CV5-AMP-120	Stérile	Amphibolite	0,0013	15,6	0,0002	<0,003	<0,00009	0,67	0,00102	<0,00006
VIS-CV5-AMP-121	Stérile	Amphibolite	0,0008	12,3	<0,0001	0,01	<0,00009	0,01	0,00018	<0,00006
VIS-CV5-AMP-122	Stérile	Amphibolite	0,0051	16,9	0,0010	0,01	0,00010	0,29	0,00123	<0,00006
VIS-CV5-AMP-123	Stérile	Amphibolite	0,0028	28,1	0,0009	0,02	<0,00009	0,09	0,00244	0,00023
VIS-CV5-AMP-124	Stérile	Amphibolite	0,0021	20,1	0,0002	<0,003	<0,00009	0,06	0,00029	<0,00006
VIS-CV5-AMP-125	Stérile	Amphibolite	0,0031	25,1	0,0018	0,01	0,00013	0,26	0,00072	<0,00006
VIS-CV5-AMP-126	Stérile	Amphibolite	0,0028	9,3	0,0024	0,02	0,00129	0,10	0,00047	0,00065
VIS-CV5-AMP-127	Stérile	Amphibolite	0,0008	12,5	<0,0001	<0,003	<0,00009	0,06	0,00020	0,00047
VIS-CV5-AMP-128	Stérile	Amphibolite	0,0100	13,2	<0,0001	<0,003	<0,00009	0,04	0,00032	<0,00006
VIS-CV5-AMP-129	Stérile	Amphibolite	0,0065	17,9	0,0002	0,00	<0,00009	0,26	0,00073	<0,00006
VIS-CV5-AMP-130	Stérile	Amphibolite	0,0008	10,0	0,0002	0,01	<0,00009	0,48	0,00016	<0,00006
VIS-CV5-AMP-131	Stérile	Amphibolite	0,0018	13,5	0,0006	<0,003	<0,00009	0,07	0,00020	<0,00006
VIS-CV5-AMP-132	Stérile	Amphibolite	0,0014	15,0	<0,0001	<0,003	<0,00009	0,03	0,00017	0,00007
VIS-CV5-AMP-133	Stérile	Amphibolite	0,0038	19,3	0,0002	<0,003	<0,00009	0,09	0,00031	<0,00006
VIS-CV5-AMP-134	Stérile	Amphibolite	0,0020	21,9	<0,0001	<0,003	<0,00009	0,10	0,00084	<0,00006
VIS-CV5-AMP-135	Stérile	Amphibolite	0,0053	17,6	0,0015	<0,003	0,00010	0,22	0,00043	<0,00006
VIS-CV5-AMP-136	Stérile	Amphibolite	0,0011	12,8	<0,0001	<0,003	<0,00009	0,09	0,00015	0,00066
VIS-CV5-AMP-137	Stérile	Amphibolite	0,0013	12,8	0,0020	0,04	<0,00009	0,03	0,00012	<0,00006
VIS-CV5-AMP-138	Stérile	Amphibolite	0,0028	15,4	0,0019	0,01	<0,00009	0,03	0,00015	0,00010
VIS-CV5-AMP-139	Stérile	Amphibolite	0,0024	17,8	0,0012	0,01	0,00010	0,24	0,00044	0,00015
VIS-CV5-AMP-140	Stérile	Amphibolite	0,0010	12,0	0,0003	<0,003	<0,00009	0,02	0,00027	<0,00006
VIS-CV5-AMP-141	Stérile	Amphibolite	0,0268	22,6	0,0005	<0,003	<0,00009	0,06	0,00050	0,00009
VIS-CV5-AMP-142	Stérile	Amphibolite	0,0008	12,8	0,0012	0,05	<0,00009	0,04	0,00030	<0,00006
VIS-CV5-AMP-143	Stérile	Amphibolite	0,0042	14,5	0,0006	<0,003	<0,00009	0,40	0,00052	0,00058
VIS-CV5-AMP-144	Stérile	Amphibolite	0,0029	13,6	0,0004	<0,003	<0,00009	0,08	0,00009	0,00007
VIS-CV5-AMP-145	Stérile	Amphibolite	0,0140	12,7	0,0011	0,02	<0,00009	0,02	0,00027	0,00007
VIS-CV5-AMP-146	Stérile	Amphibolite	0,0058	16,7	0,0032	0,01	0,00095	0,54	0,00033	0,00018
VIS-CV5-AMP-147	Stérile	Amphibolite	0,0030	12,9	0,0003	<0,003	<0,00009	0,03	0,00026	0,00008
VIS-CV5-AMP-148	Stérile	Amphibolite	0,0010	11,3	<0,0001	<0,003	<0,00009	0,02	0,00011	0,00067
VIS-CV5-AMP-149	Stérile	Amphibolite	0,0012	12,8	0,0036	0,01	0,00031	0,78	0,00060	0,00011
VIS-CV5-AMP-150	Stérile	Amphibolite	0,0115	14,6	0,0017	<0,003	0,00011	0,19	0,00120	0,00011
VIS-CV5-AMP-151	Stérile	Amphibolite	0,0029	15,6	0,0002	<0,003	0,00038	0,06	0,00037	<0,00006

Essais CTEU-9

# échantillon	Type de matériel	Lithologie	Strontium	Titane	Thorium	Uranium	Vanadium	Zinc
		Unité	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
		CVAA - Effet aigu	40	0,047	0,017		0,110	0,017
		D019/MDMER						0,400
81	Minerai	Pegmatite spodumène	0,00134	0,001130	0,057900	0,0036	0,0102	0,005
82	Minerai	Pegmatite spodumène	0,00237	0,001970	0,111000	0,0127	0,0103	0,011
83	Résidu	Résidu DMS	0,00361	0,002500	0,009110	0,0010	0,0029	0,020
84	Résidu	Résidu DMS	0,00335	0,003090	0,019200	0,0009	0,0020	0,020
VIS-CV5-AMP-085	Stérile	Amphibolite	0,00766	0,000006	0,000209	0,0022	0,0508	0,003
VIS-CV5-AMP-086	Stérile	Amphibolite	0,00684	0,000238	0,000117	0,0072	0,0500	<0,002
VIS-CV5-AMP-087	Stérile	Amphibolite	0,00613	<0,000005	0,000021	0,0009	0,0319	<0,002
VIS-CV5-AMP-088	Stérile	Amphibolite	0,01350	<0,000005	0,000082	0,0011	0,0203	<0,002
VIS-CV5-AMP-089	Stérile	Amphibolite	0,01820	0,000008	0,000100	0,0174	0,0127	<0,002
VIS-CV5-AMP-090	Stérile	Amphibolite	0,04680	0,000032	0,000083	0,0033	0,0152	<0,002
VIS-CV5-AMP-091	Stérile	Amphibolite	0,00600	<0,000005	0,000036	0,0029	0,0371	<0,002
VIS-CV5-AMP-092	Stérile	Amphibolite	0,00736	0,000134	0,000035	0,0026	0,0121	<0,002
VIS-CV5-AMP-093	Stérile	Amphibolite	0,01540	0,000079	0,000508	0,0178	0,0166	<0,002
VIS-CV5-AMP-094	Stérile	Amphibolite	0,00533	0,000090	0,000164	0,0594	0,0565	0,007
VIS-CV5-AMP-095	Stérile	Amphibolite	0,00835	<0,000005	0,001060	0,0030	0,0477	0,004
VIS-CV5-AMP-096	Stérile	Amphibolite	0,00910	0,000039	0,000084	0,0031	0,0354	<0,002
VIS-CV5-AMP-097	Stérile	Amphibolite	0,01800	0,000047	0,000328	0,0088	0,0305	<0,002
VIS-CV5-AMP-098	Stérile	Amphibolite	0,01870	0,000016	0,001640	0,0052	0,0234	<0,002
VIS-CV5-AMP-099	Stérile	Amphibolite	0,00795	0,000183	0,000124	0,0268	0,0602	<0,002
VIS-CV5-AMP-100	Stérile	Amphibolite	0,03380	0,000905	0,002800	0,0043	0,0103	<0,002
VIS-CV5-AMP-101	Stérile	Amphibolite	0,03650	0,000045	0,000281	0,0044	0,0051	<0,002
VIS-CV5-AMP-102	Stérile	Amphibolite	0,01250	0,000094	0,000090	0,1360	0,0243	0,007
VIS-CV5-AMP-103	Stérile	Amphibolite	0,02700	0,000042	0,001320	0,0083	0,0267	0,003
VIS-CV5-AMP-104	Stérile	Amphibolite	0,00699	0,000248	0,000713	0,0217	0,0487	<0,002
VIS-CV5-AMP-105	Stérile	Amphibolite	0,09760	0,000011	0,000708	0,0001	0,0001	<0,002
VIS-CV5-AMP-106	Stérile	Amphibolite	0,01030	0,000013	0,000013	0,0005	0,0330	<0,002
VIS-CV5-AMP-107	Stérile	Amphibolite	0,01440	0,000010	0,000063	0,0003	0,0295	<0,002
VIS-CV5-AMP-108	Stérile	Amphibolite	0,01630	0,000017	0,000125	0,0001	0,0094	<0,002
VIS-CV5-AMP-109	Stérile	Amphibolite	0,01290	0,000017	0,000062	0,0010	0,0123	<0,002
VIS-CV5-AMP-110	Stérile	Amphibolite	0,01180	0,000030	0,000064	0,0044	0,0407	<0,002
VIS-CV5-AMP-111	Stérile	Amphibolite	0,02470	0,000193	0,000209	0,0107	0,0265	<0,002
VIS-CV5-AMP-112	Stérile	Amphibolite	0,01330	0,000034	0,000170	0,0152	0,0877	<0,002
VIS-CV5-AMP-113	Stérile	Amphibolite	0,02280	0,000043	0,004330	0,0057	0,0270	<0,002
VIS-CV5-AMP-114	Stérile	Amphibolite	0,05560	0,000035	0,000151	0,0131	0,0396	<0,002
VIS-CV5-AMP-115	Stérile	Amphibolite	0,06710	0,000010	0,001630	0,0007	0,0055	<0,002
VIS-CV5-AMP-116	Stérile	Amphibolite	0,00667	0,000031	0,000315	0,0091	0,0581	<0,002
VIS-CV5-AMP-117	Stérile	Amphibolite	0,01750	0,000048	0,000565	0,0047	0,0696	<0,002
VIS-CV5-AMP-118	Stérile	Amphibolite	0,00895	0,000017	0,000059	0,0164	0,0723	<0,002
VIS-CV5-AMP-119	Stérile	Amphibolite	0,00795	0,000025	0,001750	0,0317	0,0392	<0,002
VIS-CV5-AMP-120	Stérile	Amphibolite	0,01510	0,000051	0,000487	0,0003	0,0242	<0,002
VIS-CV5-AMP-121	Stérile	Amphibolite	0,00811	0,000031	0,000177	0,0004	0,0422	<0,002
VIS-CV5-AMP-122	Stérile	Amphibolite	0,01530	0,000044	0,000527	0,0192	0,0120	0,003
VIS-CV5-AMP-123	Stérile	Amphibolite	0,01640	0,000095	0,000907	0,0067	0,0560	<0,002
VIS-CV5-AMP-124	Stérile	Amphibolite	0,00461	0,000022	0,001060	0,0012	0,0710	<0,002
VIS-CV5-AMP-125	Stérile	Amphibolite	0,01110	0,000023	0,007120	0,0211	0,0387	<0,002
VIS-CV5-AMP-126	Stérile	Amphibolite	0,00406	0,001920	0,002020	0,0697	0,0394	0,003
VIS-CV5-AMP-127	Stérile	Amphibolite	0,00693	0,000023	0,000080	0,0009	0,0375	<0,002
VIS-CV5-AMP-128	Stérile	Amphibolite	0,01220	0,000008	0,000121	0,0001	0,0216	<0,002
VIS-CV5-AMP-129	Stérile	Amphibolite	0,01410	0,000023	0,000253	0,0008	0,0203	<0,002
VIS-CV5-AMP-130	Stérile	Amphibolite	0,00993	0,000017	0,000101	0,0013	0,0398	<0,002
VIS-CV5-AMP-131	Stérile	Amphibolite	0,00661	0,000007	0,000190	0,0016	0,0329	<0,002
VIS-CV5-AMP-132	Stérile	Amphibolite	0,04660	0,000017	0,000032	0,0006	0,0310	<0,002
VIS-CV5-AMP-133	Stérile	Amphibolite	0,00956	0,000016	0,000040	0,0053	0,0210	<0,002
VIS-CV5-AMP-134	Stérile	Amphibolite	0,01970	<0,000005	0,000558	0,0016	0,0039	<0,002
VIS-CV5-AMP-135	Stérile	Amphibolite	0,00804	0,000023	0,000119	0,0068	0,0649	<0,002
VIS-CV5-AMP-136	Stérile	Amphibolite	0,00605	0,000006	0,001550	0,0005	0,0490	<0,002
VIS-CV5-AMP-137	Stérile	Amphibolite	0,00685	0,000021	0,000150	0,0233	0,0608	<0,002
VIS-CV5-AMP-138	Stérile	Amphibolite	0,00768	0,000031	0,000176	0,0123	0,0442	<0,002
VIS-CV5-AMP-139	Stérile	Amphibolite	0,00686	0,000036	0,000093	0,0314	0,0660	<0,002
VIS-CV5-AMP-140	Stérile	Amphibolite	0,03370	<0,000005	0,000105	0,0001	0,0026	<0,002
VIS-CV5-AMP-141	Stérile	Amphibolite	0,02010	0,000011	0,000796	0,0083	0,0184	<0,002
VIS-CV5-AMP-142	Stérile	Amphibolite	0,00462	0,000029	0,000069	0,0388	0,0606	<0,002
VIS-CV5-AMP-143	Stérile	Amphibolite	0,01540	0,000017	0,000293	0,0005	0,0147	<0,002
VIS-CV5-AMP-144	Stérile	Amphibolite	0,01230	<0,000005	0,002360	0,0065	0,0475	<0,002
VIS-CV5-AMP-145	Stérile	Amphibolite	0,01120	<0,000005	0,000234	0,0251	0,0602	<0,002
VIS-CV5-AMP-146	Stérile	Amphibolite	0,00657	0,000028	0,000157	0,0250	0,0397	0,011
VIS-CV5-AMP-147	Stérile	Amphibolite	0,00926	0,000019	0,000113	0,0045	0,0919	<0,002
VIS-CV5-AMP-148	Stérile	Amphibolite	0,00385	0,000006	0,000081	0,0024	0,0713	<0,002
VIS-CV5-AMP-149	Stérile	Amphibolite	0,01250	0,000078	0,001350	0,0239	0,0655	<0,002
VIS-CV5-AMP-150	Stérile	Amphibolite	0,01770	0,000058	0,001510	0,0121	0,0196	<0,002
VIS-CV5-AMP-151	Stérile	Amphibolite	0,00738	0,000011	0,000855	0,0022	0,0555	<0,002

Essais CTEU-9

# échantillon	Type de matériel	Lithologie	pH	Conductivité	Alcalinité	Acidité	Chlore	Sulfate	Mercure	Argent
		Unité	pH unit	µS/cm	$mgCaCO_3/l$	$mgCaCO_3/l$	mg/l	mg/l	mg/l	mg/l
		CVAA - Effet aigu					320	500	0,0014	0,00004
		D019/MDMER								
VIS-CV5-AMP-152	Stérile	Amphibolite	9,61	61,00	132,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-153	Stérile	Amphibolite	9,14	70,00	200,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-154	Stérile	Amphibolite	8,89	63,00	192,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-155	Stérile	Amphibolite	9,24	73,00	218,00	<2,0	<20,0	<30,0	<0,00001	0,00008
VIS-CV5-AMP-156	Stérile	Amphibolite	8,79	43,00	108,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-157	Stérile	Amphibolite	9,15	49,00	134,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-158	Stérile	Amphibolite	9,13	51,00	132,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-159	Stérile	Amphibolite	8,91	61,00	204,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-160	Stérile	Amphibolite	8,86	76,00	244,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-161	Stérile	Amphibolite	8,79	49,00	162,00	<2,0	<20,0	<30,0	<0,00001	0,00007
VIS-CV5-AMP-162	Stérile	Amphibolite	9,06	64,00	175,00	<2,0	<20,0	<30,0	<0,00001	0,00005
VIS-CV5-AMP-163	Stérile	Amphibolite	8,28	62,00	501,00	<2,0	<20,0	<30,0	<0,00001	0,00012
VIS-CV5-AMP-164	Stérile	Amphibolite	8,75	52,00	152,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-165	Stérile	Amphibolite	8,91	76,00	200,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-166	Stérile	Amphibolite	8,98	55,00	134,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-167	Stérile	Amphibolite	8,67	64,00	206,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-168	Stérile	Amphibolite	8,80	59,00	153,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-169	Stérile	Amphibolite	8,93	57,00	164,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-170	Stérile	Amphibolite	8,77	60,00	210,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-171	Stérile	Amphibolite	9,02	55,00	162,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-172	Stérile	Amphibolite	9,39	48,00	132,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-173	Stérile	Amphibolite	9,03	50,00	138,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-174	Stérile	Amphibolite	8,98	41,00	135,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-175	Stérile	Amphibolite	8,82	54,00	222,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-176	Stérile	Amphibolite	9,20	65,00	150,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-177	Stérile	Amphibolite	8,79	56,00	184,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-178	Stérile	Amphibolite	8,93	56,00	169,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-179	Stérile	Amphibolite	8,88	59,00	182,00	<2,0	<20,0	<30,0	<0,00001	0,00013
VIS-CV5-AMP-180	Stérile	Amphibolite	9,23	77,00	193,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-181	Stérile	Amphibolite	8,64	64,00	178,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-AMP-182	Stérile	Amphibolite	9,15	63,00	146,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-MS-183	Stérile	Métasédiment	9,09	84,00	204,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-MS-184	Stérile	Métasédiment	9,05	110,00	445,00	<2,0	<31,0	<30,0	<0,00001	<0,00005
VIS-CV5-MS-185	Stérile	Métasédiment	8,26	67,00	298,00	<2,0	<20,0	<30,0	<0,00001	0,00010
VIS-CV5-MS-186	Stérile	Métasédiment	8,53	73,00	253,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-MS-187	Stérile	Métasédiment	8,31	56,00	219,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-MS-188	Stérile	Métasédiment	9,29	122,00	277,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-MS-189	Stérile	Métasédiment	8,90	106,00	240,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-MS-190	Stérile	Métasédiment	9,20	84,00	181,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-MS-191	Stérile	Métasédiment	8,40	64,00	194,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-MS-192	Stérile	Métasédiment	9,01	77,00	173,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-MS-193	Stérile	Métasédiment	8,83	79,00	194,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-MS-194	Stérile	Métasédiment	8,41	76,00	175,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-MS-195	Stérile	Métasédiment	8,29	104,00	626,00	<2,0	<20,0	<30,0	<0,00001	0,00015
VIS-CV5-MS-196	Stérile	Métasédiment	8,13	96,00	539,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-MS-197	Stérile	Métasédiment	8,08	82,00	484,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-MS-198	Stérile	Métasédiment	8,71	65,00	257,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-MS-199	Stérile	Métasédiment	9,06	63,00	192,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-MS-200	Stérile	Métasédiment	9,16	70,00	208,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-MS-201	Stérile	Métasédiment	8,31	51,00	271,00	<2,0	<20,0	<30,0	<0,00001	0,00007
VIS-CV5-MS-202	Stérile	Métasédiment	4,64	2,00	1280,00	269,00	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-MS-203	Stérile	Métasédiment	8,08	51,00	482,00	<2,0	<20,0	<30,0	<0,00001	0,00008
VIS-CV5-MS-204	Stérile	Métasédiment	9,09	80,00	236,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-MS-205	Stérile	Métasédiment	8,76	69,00	237,00	<2,0	<20,0	<30,0	<0,00001	0,00007
VIS-CV5-MS-206	Stérile	Métasédiment	8,87	48,00	179,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-MS-207	Stérile	Métasédiment	8,35	47,00	343,00	<2,0	<20,0	<30,0	<0,00001	0,00010
VIS-CV5-MS-208	Stérile	Métasédiment	9,31	77,00	187,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-MS-209	Stérile	Métasédiment	8,95	87,00	218,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-MS-210	Stérile	Métasédiment	8,03	33,00	377,00	<2,0	<20,0	<30,0	<0,00001	0,00028
VIS-CV5-MS-211	Stérile	Métasédiment	9,28	85,00	220,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-MS-212	Stérile	Métasédiment	9,06	80,00	241,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-MS-213	Stérile	Métasédiment	9,34	86,00	205,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-MS-214	Stérile	Métasédiment	9,06	66,00	174,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-MS-215	Stérile	Métasédiment	8,99	61,00	162,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-MS-216	Stérile	Métasédiment	8,81	63,00	224,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-MS-217	Stérile	Métasédiment	9,35	84,00	178,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-MS-218	Stérile	Métasédiment	9,47	79,00	178,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-MS-219	Stérile	Métasédiment	9,44	94,00	204,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-MS-220	Stérile	Métasédiment	8,90	49,00	200,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-MS-221	Stérile	Métasédiment	8,68	52,00	152,00	<2,0	<20,0	<30,0	<0,00001	<0,00005

Essais CTEU-9

# échantillon	Type de matériel	Lithologie	Aluminum	Arsenic	Bore	Baryum	Béryllium	Bismuth	Calcium	Cadmium
		Unité	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
		CVAA - Effet aigu	0,28	0,34	28	0,10807	0,00124			0,00021
		D019/MDMER		0,10						
VIS-CV5-AMP-152	Stérile	Amphibolite	1,52	0,12	0,11	0,00202	0,000017	0,000020	4,16	0,000008
VIS-CV5-AMP-153	Stérile	Amphibolite	0,19	0,50	0,12	0,00213	0,000043	<0,00001	9,90	<0,000003
VIS-CV5-AMP-154	Stérile	Amphibolite	0,78	0,06	0,22	0,00224	0,000035	0,000020	4,72	0,000008
VIS-CV5-AMP-155	Stérile	Amphibolite	0,51	3,14	0,13	0,00222	0,000099	0,000030	6,62	0,000013
VIS-CV5-AMP-156	Stérile	Amphibolite	0,33	0,08	0,06	0,00100	0,000007	0,000020	4,73	0,000011
VIS-CV5-AMP-157	Stérile	Amphibolite	0,96	0,05	0,09	0,00061	<0,000007	<0,00001	3,78	<0,000003
VIS-CV5-AMP-158	Stérile	Amphibolite	0,45	0,01	0,07	0,00104	<0,000007	<0,00001	4,77	<0,000003
VIS-CV5-AMP-159	Stérile	Amphibolite	0,85	0,93	0,27	0,00546	0,000283	0,000060	7,25	0,000015
VIS-CV5-AMP-160	Stérile	Amphibolite	0,89	1,21	0,15	0,00939	0,000222	0,000040	4,51	0,000008
VIS-CV5-AMP-161	Stérile	Amphibolite	1,20	0,38	0,10	0,00701	0,000180	0,000030	8,39	0,000022
VIS-CV5-AMP-162	Stérile	Amphibolite	1,12	0,05	0,11	0,00142	<0,000007	0,000020	3,45	0,000009
VIS-CV5-AMP-163	Stérile	Amphibolite	0,04	0,06	0,13	0,00686	<0,000007	<0,00001	33,00	0,000056
VIS-CV5-AMP-164	Stérile	Amphibolite	0,26	0,13	0,12	0,00123	0,000008	<0,00001	6,44	<0,000003
VIS-CV5-AMP-165	Stérile	Amphibolite	0,87	0,28	0,14	0,00157	0,000066	<0,00001	5,17	0,000040
VIS-CV5-AMP-166	Stérile	Amphibolite	0,96	0,19	0,11	0,00105	<0,000007	<0,00001	3,78	0,000004
VIS-CV5-AMP-167	Stérile	Amphibolite	0,06	0,02	0,12	0,00215	<0,000007	<0,00001	12,50	0,000006
VIS-CV5-AMP-168	Stérile	Amphibolite	0,56	0,34	0,16	0,00164	0,000032	<0,00001	4,16	0,000004
VIS-CV5-AMP-169	Stérile	Amphibolite	0,82	0,19	0,15	0,00232	0,000043	0,000020	4,81	0,000007
VIS-CV5-AMP-170	Stérile	Amphibolite	0,40	0,37	0,13	0,00162	0,000238	<0,00001	7,16	<0,000003
VIS-CV5-AMP-171	Stérile	Amphibolite	0,65	0,28	0,09	0,00580	0,000029	<0,00001	4,60	0,000005
VIS-CV5-AMP-172	Stérile	Amphibolite	0,62	0,02	0,11	0,00068	<0,000007	<0,00001	3,66	<0,000003
VIS-CV5-AMP-173	Stérile	Amphibolite	0,86	0,11	0,13	0,00100	0,000060	0,000040	4,22	0,000006
VIS-CV5-AMP-174	Stérile	Amphibolite	0,35	0,01	0,07	0,00075	<0,000007	<0,00001	4,94	0,000012
VIS-CV5-AMP-175	Stérile	Amphibolite	0,16	0,40	0,15	0,00224	0,000026	<0,00001	9,36	0,000004
VIS-CV5-AMP-176	Stérile	Amphibolite	0,89	0,46	0,12	0,00940	0,000010	0,000020	2,88	0,000016
VIS-CV5-AMP-177	Stérile	Amphibolite	1,61	0,49	0,14	0,00281	0,000215	0,000030	5,41	0,000013
VIS-CV5-AMP-178	Stérile	Amphibolite	0,61	0,25	0,14	0,00186	0,000076	0,000020	5,78	0,000006
VIS-CV5-AMP-179	Stérile	Amphibolite	0,62	0,47	0,25	0,00311	0,000132	<0,00001	6,35	0,000048
VIS-CV5-AMP-180	Stérile	Amphibolite	0,18	0,05	0,12	0,00244	0,000010	<0,00001	7,99	0,000012
VIS-CV5-AMP-181	Stérile	Amphibolite	0,53	0,05	0,11	0,00157	0,000010	0,000020	5,17	0,000003
VIS-CV5-AMP-182	Stérile	Amphibolite	1,74	0,27	0,21	0,00284	0,000023	0,000030	7,10	0,000010
VIS-CV5-MS-183	Stérile	Métasédiment	2,11	0,11	0,12	0,01180	0,000018	0,000020	1,55	0,000014
VIS-CV5-MS-184	Stérile	Métasédiment	1,79	0,07	0,09	0,00748	<0,000007	<0,00001	2,77	<0,000003
VIS-CV5-MS-185	Stérile	Métasédiment	0,55	0,01	0,13	0,00344	0,000015	<0,00001	5,82	0,000005
VIS-CV5-MS-186	Stérile	Métasédiment	1,66	0,02	0,15	0,00629	0,000022	0,000020	4,54	0,000010
VIS-CV5-MS-187	Stérile	Métasédiment	0,24	0,00	0,10	0,00227	<0,000007	<0,00001	5,84	0,000007
VIS-CV5-MS-188	Stérile	Métasédiment	8,97	0,13	0,16	0,04780	0,000412	0,000100	1,97	0,000029
VIS-CV5-MS-189	Stérile	Métasédiment	3,42	0,23	0,11	0,01020	0,000048	0,000020	1,83	0,000018
VIS-CV5-MS-190	Stérile	Métasédiment	4,95	0,01	0,08	0,03380	0,000016	0,000040	1,26	0,000017
VIS-CV5-MS-191	Stérile	Métasédiment	0,30	0,00	0,14	0,00234	0,000020	<0,00001	6,28	0,000014
VIS-CV5-MS-192	Stérile	Métasédiment	3,17	0,18	0,22	0,00752	0,000261	0,000060	1,76	0,000014
VIS-CV5-MS-193	Stérile	Métasédiment	0,85	0,24	0,17	0,00244	0,000074	0,000020	3,00	0,000008
VIS-CV5-MS-194	Stérile	Métasédiment	0,29	0,03	0,14	0,00222	0,000027	<0,00001	4,30	0,000004
VIS-CV5-MS-195	Stérile	Métasédiment	0,01	0,00	0,09	0,02620	<0,000007	<0,00001	86,60	0,000010
VIS-CV5-MS-196	Stérile	Métasédiment	0,03	0,01	0,07	0,00995	<0,000007	<0,00001	65,40	0,000015
VIS-CV5-MS-197	Stérile	Métasédiment	0,01	0,04	0,09	0,01860	<0,000007	<0,00001	55,10	0,000015
VIS-CV5-MS-198	Stérile	Métasédiment	0,64	0,03	0,12	0,00497	0,000140	0,000030	6,75	0,000010
VIS-CV5-MS-199	Stérile	Métasédiment	1,20	0,01	0,11	0,00451	0,000017	0,000020	4,22	0,000023
VIS-CV5-MS-200	Stérile	Métasédiment	1,02	0,50	0,15	0,00350	0,000132	0,000030	2,66	0,000030
VIS-CV5-MS-201	Stérile	Métasédiment	0,61	0,00	0,09	0,00540	0,000009	<0,00001	8,10	0,000005
VIS-CV5-MS-202	Stérile	Métasédiment	0,42	0,00	0,16	0,05800	0,000465	<0,00001	70,60	0,000648
VIS-CV5-MS-203	Stérile	Métasédiment	0,04	0,01	0,20	0,00599	<0,000007	<0,00001	39,40	0,000022
VIS-CV5-MS-204	Stérile	Métasédiment	0,93	0,19	0,23	0,00705	0,000088	<0,00001	4,51	0,000014
VIS-CV5-MS-205	Stérile	Métasédiment	10,40	0,91	0,14	0,06090	0,001380	0,002640	1,32	0,000086
VIS-CV5-MS-206	Stérile	Métasédiment	1,63	0,02	0,12	0,01300	0,000021	0,000050	3,64	0,000011
VIS-CV5-MS-207	Stérile	Métasédiment	0,57	0,02	0,27	0,00663	0,000034	<0,00001	9,38	0,000008
VIS-CV5-MS-208	Stérile	Métasédiment	5,63	0,12	0,12	0,04060	0,000210	0,000070	2,36	0,000077
VIS-CV5-MS-209	Stérile	Métasédiment	1,26	0,04	0,20	0,01010	0,000043	<0,00001	2,53	0,000007
VIS-CV5-MS-210	Stérile	Métasédiment	0,67	0,41	0,52	0,01270	0,000245	0,001000	1,98	0,000178
VIS-CV5-MS-211	Stérile	Métasédiment	4,65	1,15	0,15	0,01660	0,000101	0,000130	1,10	0,000041
VIS-CV5-MS-212	Stérile	Métasédiment	3,12	0,80	0,20	0,00949	0,000200	<0,00021	2,20	0,000080
VIS-CV5-MS-213	Stérile	Métasédiment	2,85	0,04	0,09	0,00628	0,000010	<0,00001	1,39	0,000010
VIS-CV5-MS-214	Stérile	Métasédiment	1,63	0,07	0,14	0,00526	0,000167	0,000030	1,93	0,000020
VIS-CV5-MS-215	Stérile	Métasédiment	1,07	0,29	0,11	0,00488	0,000084	0,000040	3,62	0,000071
VIS-CV5-MS-216	Stérile	Métasédiment	0,37	0,56	0,64	0,00274	0,000011	<0,00001	6,52	0,000013
VIS-CV5-MS-217	Stérile	Métasédiment	3,12	0,06	0,12	0,00644	0,000127	0,000030	1,31	0,000026
VIS-CV5-MS-218	Stérile	Métasédiment	5,53	0,31	0,10	0,01770	0,000087	0,000040	1,38	0,000022
VIS-CV5-MS-219	Stérile	Métasédiment	3,31	0,25	0,12	0,01460	0,000054	0,000030	1,45	0,000036
VIS-CV5-MS-220	Stérile	Métasédiment	1,35	0,00	0,13	0,00464	<0,000007	0,000020	4,27	0,000006
VIS-CV5-MS-221	Stérile	Métasédiment	0,22	0,01	0,06	0,00655	<0,000007	<0,00001	5,84	0,000011

Essais CTEU-9

# échantillon	Type de matériel	Lithologie	Cobalt	Chrome	Cuivre	Fer	Potassium	Lithium	Magnésium	Manganèse
		Unité	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
		CVAA - Effet aigu	0,37000	0,016	0,0016	3,4		0,9100		0,55
		D019/MDMER		0,209	0,100	3,0				
VIS-CV5-AMP-152	Stérile	Amphibolite	0,000525	0,01900	0,002	2,040	3,26	2,23	2,01	0,0208
VIS-CV5-AMP-153	Stérile	Amphibolite	0,000268	0,00243	0,001	2,330	4,75	0,68	6,54	0,0035
VIS-CV5-AMP-154	Stérile	Amphibolite	0,000384	0,00615	0,003	0,720	12,60	0,89	2,36	0,0105
VIS-CV5-AMP-155	Stérile	Amphibolite	0,001050	0,04520	0,001	3,140	13,40	2,25	4,99	0,0165
VIS-CV5-AMP-156	Stérile	Amphibolite	0,000023	0,00233	0,001	0,870	3,58	1,04	0,95	0,0001
VIS-CV5-AMP-157	Stérile	Amphibolite	0,000076	0,00317	0,001	0,440	0,94	2,37	0,88	0,0024
VIS-CV5-AMP-158	Stérile	Amphibolite	0,000243	0,00350	0,004	0,170	3,18	0,20	2,12	0,0072
VIS-CV5-AMP-159	Stérile	Amphibolite	0,001000	0,00518	0,005	6,340	17,00	1,71	3,36	0,0171
VIS-CV5-AMP-160	Stérile	Amphibolite	0,000793	0,01360	0,002	8,440	36,20	3,15	2,40	0,0207
VIS-CV5-AMP-161	Stérile	Amphibolite	0,001310	0,01520	0,010	1,560	8,24	0,82	3,42	0,0408
VIS-CV5-AMP-162	Stérile	Amphibolite	0,000177	0,00354	0,002	1,830	11,80	3,46	0,90	0,0037
VIS-CV5-AMP-163	Stérile	Amphibolite	0,000419	0,00043	0,002	0,820	24,80	0,73	16,50	0,0074
VIS-CV5-AMP-164	Stérile	Amphibolite	0,000131	0,00319	0,002	0,880	2,99	0,94	2,00	0,0048
VIS-CV5-AMP-165	Stérile	Amphibolite	0,001040	0,00425	0,001	1,980	5,74	2,01	4,19	0,0146
VIS-CV5-AMP-166	Stérile	Amphibolite	0,000120	0,00182	0,001	1,260	7,69	1,07	0,97	0,0023
VIS-CV5-AMP-167	Stérile	Amphibolite	0,000043	0,00017	0,001	0,850	1,91	0,06	6,91	0,0011
VIS-CV5-AMP-168	Stérile	Amphibolite	0,001960	0,00898	0,003	1,290	9,44	0,73	2,44	0,0134
VIS-CV5-AMP-169	Stérile	Amphibolite	0,000521	0,00695	0,002	0,900	9,38	0,75	1,93	0,0145
VIS-CV5-AMP-170	Stérile	Amphibolite	0,000737	0,00235	0,003	2,100	4,43	0,70	3,86	0,0057
VIS-CV5-AMP-171	Stérile	Amphibolite	0,000690	0,00368	0,001	0,640	10,50	0,95	1,13	0,0118
VIS-CV5-AMP-172	Stérile	Amphibolite	0,000028	0,00129	0,001	0,360	2,22	1,25	0,74	0,0006
VIS-CV5-AMP-173	Stérile	Amphibolite	0,000653	0,00326	0,002	1,000	6,55	0,56	1,30	0,0157
VIS-CV5-AMP-174	Stérile	Amphibolite	0,000022	0,00069	0,001	0,120	0,65	0,55	1,10	0,0006
VIS-CV5-AMP-175	Stérile	Amphibolite	0,000141	0,00225	0,001	0,830	7,40	0,56	3,34	0,0025
VIS-CV5-AMP-176	Stérile	Amphibolite	0,000841	0,00531	0,001	0,710	8,75	1,62	1,52	0,0109
VIS-CV5-AMP-177	Stérile	Amphibolite	0,001540	0,01120	0,007	6,340	6,06	1,36	2,62	0,0310
VIS-CV5-AMP-178	Stérile	Amphibolite	0,000565	0,00548	0,002	1,810	6,90	0,73	2,57	0,0123
VIS-CV5-AMP-179	Stérile	Amphibolite	0,000723	0,00204	0,004	1,850	10,10	0,82	3,60	0,0132
VIS-CV5-AMP-180	Stérile	Amphibolite	0,000177	0,00101	0,001	1,700	2,79	1,11	4,78	0,0032
VIS-CV5-AMP-181	Stérile	Amphibolite	0,000271	0,00347	0,001	1,450	5,74	1,66	3,59	0,0070
VIS-CV5-AMP-182	Stérile	Amphibolite	0,001890	0,01130	0,011	0,570	3,26	1,43	3,85	0,0274
VIS-CV5-MS-183	Stérile	Métasédiment	0,000998	0,00562	0,001	2,050	20,00	2,49	1,21	0,0221
VIS-CV5-MS-184	Stérile	Métasédiment	0,000066	0,00020	0,001	1,440	65,00	2,69	1,23	0,0053
VIS-CV5-MS-185	Stérile	Métasédiment	0,000120	0,00217	0,001	1,490	18,80	1,61	4,18	0,0064
VIS-CV5-MS-186	Stérile	Métasédiment	0,000277	0,00290	0,001	1,400	19,80	1,96	2,27	0,0226
VIS-CV5-MS-187	Stérile	Métasédiment	0,000021	0,00193	0,001	0,240	28,10	0,99	2,38	0,0007
VIS-CV5-MS-188	Stérile	Métasédiment	0,002900	0,00237	0,003	8,780	45,50	5,34	2,44	0,1170
VIS-CV5-MS-189	Stérile	Métasédiment	0,000723	0,00134	0,001	2,700	29,40	2,97	0,68	0,0212
VIS-CV5-MS-190	Stérile	Métasédiment	0,001680	0,00162	0,003	0,690	35,00	0,05	1,26	0,0202
VIS-CV5-MS-191	Stérile	Métasédiment	0,000097	0,00012	0,001	0,690	16,20	0,32	3,50	0,0058
VIS-CV5-MS-192	Stérile	Métasédiment	0,001480	0,00123	0,001	0,660	23,50	0,89	1,09	0,0261
VIS-CV5-MS-193	Stérile	Métasédiment	0,000943	0,00065	0,001	4,510	18,60	1,24	2,27	0,0157
VIS-CV5-MS-194	Stérile	Métasédiment	0,000263	0,00022	0,001	1,020	16,60	0,45	3,46	0,0040
VIS-CV5-MS-195	Stérile	Métasédiment	0,000499	<0,00008	0,002	0,060	1,86	0,05	19,80	0,0393
VIS-CV5-MS-196	Stérile	Métasédiment	0,000763	<0,00008	0,003	0,060	6,44	0,02	18,50	0,0334
VIS-CV5-MS-197	Stérile	Métasédiment	0,000694	0,00011	0,002	0,080	7,46	0,03	13,80	0,0112
VIS-CV5-MS-198	Stérile	Métasédiment	0,000300	0,00142	0,001	1,600	21,50	1,54	3,18	0,0096
VIS-CV5-MS-199	Stérile	Métasédiment	0,000741	0,00217	0,001	0,750	18,70	0,70	2,38	0,0230
VIS-CV5-MS-200	Stérile	Métasédiment	0,001300	0,00288	0,001	1,720	13,70	1,33	1,52	0,0183
VIS-CV5-MS-201	Stérile	Métasédiment	0,000127	0,00081	0,001	1,770	21,60	1,76	3,34	0,0047
VIS-CV5-MS-202	Stérile	Métasédiment	0,000671	<0,00008	0,016	5,250	27,10	2,25	42,80	4,2000
VIS-CV5-MS-203	Stérile	Métasédiment	0,000120	0,00066	0,001	1,200	4,78	0,91	17,70	0,0130
VIS-CV5-MS-204	Stérile	Métasédiment	0,001380	0,00147	0,001	4,690	21,10	3,18	2,12	0,0294
VIS-CV5-MS-205	Stérile	Métasédiment	0,006000	0,04450	0,018	15,300	32,60	5,23	3,72	0,1660
VIS-CV5-MS-206	Stérile	Métasédiment	0,001210	0,00263	0,002	0,840	22,40	0,32	2,80	0,0106
VIS-CV5-MS-207	Stérile	Métasédiment	0,000244	0,00155	0,001	6,440	32,50	3,70	4,28	0,0126
VIS-CV5-MS-208	Stérile	Métasédiment	0,001260	0,00327	0,002	1,490	25,30	1,14	0,86	0,0382
VIS-CV5-MS-209	Stérile	Métasédiment	0,000321	0,00754	0,001	3,300	21,80	3,51	1,07	0,0076
VIS-CV5-MS-210	Stérile	Métasédiment	0,000554	0,00061	0,020	22,900	39,40	9,16	2,54	0,0116
VIS-CV5-MS-211	Stérile	Métasédiment	0,001510	0,00796	0,004	2,530	36,50	3,03	0,90	0,0422
VIS-CV5-MS-212	Stérile	Métasédiment	0,000456	0,00181	0,003	5,190	33,20	3,79	0,58	0,0196
VIS-CV5-MS-213	Stérile	Métasédiment	0,000318	0,00102	0,001	0,840	36,50	2,39	0,52	0,0119
VIS-CV5-MS-214	Stérile	Métasédiment	0,000496	0,00025	0,001	4,230	21,60	1,22	1,58	0,0242
VIS-CV5-MS-215	Stérile	Métasédiment	0,001070	0,00615	0,004	1,030	6,34	3,36	1,67	0,0101
VIS-CV5-MS-216	Stérile	Métasédiment	0,000315	0,00343	0,001	0,670	9,20	1,88	3,49	0,0050
VIS-CV5-MS-217	Stérile	Métasédiment	0,000335	0,00022	0,001	3,160	23,70	2,25	0,54	0,0192
VIS-CV5-MS-218	Stérile	Métasédiment	0,000702	0,00028	0,001	0,840	31,00	1,62	0,87	0,0427
VIS-CV5-MS-219	Stérile	Métasédiment	0,000727	0,00058	0,001	0,920	31,50	3,09	0,72	0,0294
VIS-CV5-MS-220	Stérile	Métasédiment	0,000223	0,00071	0,002	0,700	26,50	0,33	1,11	0,0022
VIS-CV5-MS-221	Stérile	Métasédiment	0,000059	0,00115	0,001	0,200	9,06	0,40	3,26	0,0043

Essais CTEU-9

# échantillon	Type de matériel	Lithologie	Molybdène	Sodium	Nickel	Phosphore réactif total	Plomb	Antimoine	Sélénium	Etain
		Unité	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
		CVAA - Effet aigu	29,00		0,067		0,004	0,310	0,062	
		D019/MDMER			0,250		0,080			
VIS-CV5-AMP-152	Stérile	Amphibolite	0,0033	11,6	0,0013	0,03	<0,00009	0,12	0,00017	0,00028
VIS-CV5-AMP-153	Stérile	Amphibolite	0,0052	17,1	0,0013	<0,003	<0,00009	0,18	0,00047	0,00007
VIS-CV5-AMP-154	Stérile	Amphibolite	0,0087	19,3	0,0012	0,03	0,00061	0,04	0,00098	0,00010
VIS-CV5-AMP-155	Stérile	Amphibolite	0,0042	17,4	0,0059	0,02	0,00046	0,43	0,00025	0,00074
VIS-CV5-AMP-156	Stérile	Amphibolite	0,0015	9,4	<0,0001	<0,003	0,00268	0,24	0,00015	<0,00006
VIS-CV5-AMP-157	Stérile	Amphibolite	0,0008	12,8	0,0002	<0,003	<0,00009	0,08	0,00013	<0,00006
VIS-CV5-AMP-158	Stérile	Amphibolite	0,0008	15,6	0,0005	0,02	<0,00009	0,00	0,00018	<0,00006
VIS-CV5-AMP-159	Stérile	Amphibolite	0,0055	13,1	0,0042	0,01	0,00023	0,82	0,00111	0,00037
VIS-CV5-AMP-160	Stérile	Amphibolite	0,0028	9,2	0,0027	0,01	0,00068	0,36	0,00278	0,00069
VIS-CV5-AMP-161	Stérile	Amphibolite	0,0128	12,3	0,0042	0,02	0,00241	0,28	0,00071	0,00088
VIS-CV5-AMP-162	Stérile	Amphibolite	0,0162	10,5	0,0003	0,01	0,00010	0,26	0,00021	<0,00006
VIS-CV5-AMP-163	Stérile	Amphibolite	0,0097	14,8	0,0046	<0,003	<0,00009	0,91	0,00126	<0,00006
VIS-CV5-AMP-164	Stérile	Amphibolite	0,0065	15,6	0,0004	<0,003	<0,00009	0,15	0,00071	<0,00006
VIS-CV5-AMP-165	Stérile	Amphibolite	0,0012	20,5	0,0021	0,01	0,00268	0,27	0,00050	<0,00006
VIS-CV5-AMP-166	Stérile	Amphibolite	0,0029	12,2	0,0004	<0,003	0,00019	0,05	0,00027	0,00082
VIS-CV5-AMP-167	Stérile	Amphibolite	0,0057	15,7	0,0003	<0,003	<0,00009	0,01	0,00019	0,00135
VIS-CV5-AMP-168	Stérile	Amphibolite	0,0018	16,1	0,0015	0,01	0,00010	0,09	0,00018	<0,00006
VIS-CV5-AMP-169	Stérile	Amphibolite	0,0054	17,5	0,0020	0,01	0,00011	0,14	0,00031	0,00011
VIS-CV5-AMP-170	Stérile	Amphibolite	0,0019	22,7	0,0009	0,01	0,00010	0,15	0,00104	0,00013
VIS-CV5-AMP-171	Stérile	Amphibolite	0,0019	17,7	0,0018	0,01	0,00012	0,06	0,00066	0,00019
VIS-CV5-AMP-172	Stérile	Amphibolite	0,0021	16,6	<0,0001	<0,003	0,00077	0,07	0,00025	<0,00006
VIS-CV5-AMP-173	Stérile	Amphibolite	0,0121	15,9	0,0016	0,01	0,00022	0,06	0,00029	0,00078
VIS-CV5-AMP-174	Stérile	Amphibolite	0,0016	17,1	0,0003	<0,003	<0,00009	0,00	0,00080	<0,00006
VIS-CV5-AMP-175	Stérile	Amphibolite	0,0037	21,2	0,0007	0,00	<0,00009	0,41	0,00096	<0,00006
VIS-CV5-AMP-176	Stérile	Amphibolite	0,0236	15,9	0,0026	0,04	0,00034	0,14	0,00010	0,00010
VIS-CV5-AMP-177	Stérile	Amphibolite	0,0023	20,3	0,0053	0,02	<0,00009	0,43	0,00038	0,00049
VIS-CV5-AMP-178	Stérile	Amphibolite	0,0037	17,5	0,0020	0,01	<0,00009	0,13	0,00062	0,00017
VIS-CV5-AMP-179	Stérile	Amphibolite	0,0057	15,6	0,0025	0,02	0,01140	0,25	0,00057	0,00100
VIS-CV5-AMP-180	Stérile	Amphibolite	0,0108	21,1	0,0009	<0,003	0,00058	0,11	0,00037	<0,00006
VIS-CV5-AMP-181	Stérile	Amphibolite	0,0085	17,4	0,0006	0,01	<0,00009	0,04	0,00015	0,00028
VIS-CV5-AMP-182	Stérile	Amphibolite	0,0014	15,6	0,0038	0,08	<0,00009	0,04	0,00024	<0,00006
VIS-CV5-MS-183	Stérile	Métasédiment	0,0046	20,2	0,0016	0,05	0,00046	0,13	0,00008	<0,00006
VIS-CV5-MS-184	Stérile	Métasédiment	0,0031	31,8	<0,0001	0,05	<0,00009	0,00	0,00006	<0,00006
VIS-CV5-MS-185	Stérile	Métasédiment	0,0069	29,9	0,0003	0,02	0,00023	0,02	0,00049	<0,00006
VIS-CV5-MS-186	Stérile	Métasédiment	0,0061	26,3	0,0005	0,03	0,00066	0,02	0,00041	<0,00006
VIS-CV5-MS-187	Stérile	Métasédiment	0,0056	10,4	<0,0001	0,02	<0,00009	0,00	0,00018	<0,00006
VIS-CV5-MS-188	Stérile	Métasédiment	0,0083	13,3	0,0034	0,10	0,00222	0,11	0,00019	0,00132
VIS-CV5-MS-189	Stérile	Métasédiment	0,0073	22,8	0,0009	0,05	0,00064	0,09	0,00023	0,00018
VIS-CV5-MS-190	Stérile	Métasédiment	0,0030	13,8	0,0018	0,14	0,00090	0,00	0,00016	0,00022
VIS-CV5-MS-191	Stérile	Métasédiment	0,0157	17,9	0,0002	0,01	0,03520	0,02	0,00049	0,00033
VIS-CV5-MS-192	Stérile	Métasédiment	0,0059	17,1	0,0017	0,06	0,00204	0,02	0,00011	0,00032
VIS-CV5-MS-193	Stérile	Métasédiment	0,0070	19,4	0,0011	0,01	0,00055	0,05	0,00014	0,00031
VIS-CV5-MS-194	Stérile	Métasédiment	0,0088	16,3	0,0003	0,01	0,00010	0,03	0,00022	<0,00006
VIS-CV5-MS-195	Stérile	Métasédiment	0,0031	6,9	0,0136	<0,003	0,00010	0,00	0,00022	0,00010
VIS-CV5-MS-196	Stérile	Métasédiment	0,0033	7,1	0,0170	<0,003	<0,00009	0,00	0,00020	<0,00006
VIS-CV5-MS-197	Stérile	Métasédiment	0,0032	11,8	0,0232	<0,003	<0,00009	0,00	0,00022	0,00007
VIS-CV5-MS-198	Stérile	Métasédiment	0,0050	20,6	0,0008	0,02	0,00024	0,07	0,00017	0,00012
VIS-CV5-MS-199	Stérile	Métasédiment	0,0042	18,2	0,0014	0,02	0,00084	0,02	0,00019	0,00009
VIS-CV5-MS-200	Stérile	Métasédiment	0,0119	24,4	0,0023	0,02	0,00171	0,23	0,00060	0,00016
VIS-CV5-MS-201	Stérile	Métasédiment	0,0080	18,4	0,0002	0,01	0,00019	0,01	0,00011	0,00016
VIS-CV5-MS-202	Stérile	Métasédiment	0,0009	17,1	0,0034	<0,003	0,00028	0,00	0,00244	<0,00006
VIS-CV5-MS-203	Stérile	Métasédiment	0,0523	20,3	0,0006	<0,003	<0,00009	0,05	0,00463	0,00012
VIS-CV5-MS-204	Stérile	Métasédiment	0,0053	16,7	0,0018	0,01	0,00190	2,13	0,00068	0,00011
VIS-CV5-MS-205	Stérile	Métasédiment	0,0044	10,9	0,0350	0,17	0,00564	1,63	0,00169	0,01695
VIS-CV5-MS-206	Stérile	Métasédiment	0,0040	13,6	0,0023	0,04	0,00060	0,04	0,00151	0,00014
VIS-CV5-MS-207	Stérile	Métasédiment	0,0088	18,0	0,0005	0,01	0,00015	0,08	0,00025	0,00033
VIS-CV5-MS-208	Stérile	Métasédiment	0,0117	18,2	0,0023	0,04	0,00362	0,08	0,00016	0,00030
VIS-CV5-MS-209	Stérile	Métasédiment	0,0042	16,0	0,0009	0,03	0,00022	0,09	0,00042	<0,00006
VIS-CV5-MS-210	Stérile	Métasédiment	0,0056	11,9	0,0013	0,02	0,00885	11,20	0,00936	0,00117
VIS-CV5-MS-211	Stérile	Métasédiment	0,0046	12,1	0,0056	0,09	0,00195	0,47	0,00146	0,00055
VIS-CV5-MS-212	Stérile	Métasédiment	0,0351	13,4	0,0013	0,05	0,00276	0,70	0,00086	0,00074
VIS-CV5-MS-213	Stérile	Métasédiment	0,0123	12,0	0,0008	0,03	0,00031	0,02	0,00028	0,00011
VIS-CV5-MS-214	Stérile	Métasédiment	0,0186	16,7	0,0007	0,02	0,00037	0,03	0,00015	0,00018
VIS-CV5-MS-215	Stérile	Métasédiment	0,0029	15,0	0,0022	0,18	0,00079	0,11	0,00044	0,00021
VIS-CV5-MS-216	Stérile	Métasédiment	0,0031	23,0	0,0016	0,02	0,00028	0,10	0,00095	<0,00006
VIS-CV5-MS-217	Stérile	Métasédiment	0,0094	13,8	0,0002	0,07	0,00077	0,02	0,00015	0,00043
VIS-CV5-MS-218	Stérile	Métasédiment	0,0122	12,0	0,0003	0,12	0,00164	0,02	0,00011	0,00021
VIS-CV5-MS-219	Stérile	Métasédiment	0,0417	12,1	0,0006	0,04	0,00049	0,21	0,00013	0,00016
VIS-CV5-MS-220	Stérile	Métasédiment	0,0030	13,8	0,0003	0,03	0,00033	0,00	0,00022	<0,00006
VIS-CV5-MS-221	Stérile	Métasédiment	0,0061	16,3	0,0002	0,02	0,00013	0,00	0,00015	<0,00006

Essais CTEU-9

# échantillon	Type de matériel	Lithologie	Strontium	Titane	Thorium	Uranium	Vanadium	Zinc
		Unité	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
		CVAA - Effet aigu	40	0,047	0,017		0,110	0,017
		D019/MDMER						0,400
VIS-CV5-AMP-152	Stérile	Amphibolite	0,00644	0,000084	0,000290	0,0419	0,0924	<0,002
VIS-CV5-AMP-153	Stérile	Amphibolite	0,02910	0,000020	0,000116	0,0054	0,0177	<0,002
VIS-CV5-AMP-154	Stérile	Amphibolite	0,00805	0,000039	0,000386	0,0171	0,0535	0,003
VIS-CV5-AMP-155	Stérile	Amphibolite	0,01170	0,000352	0,004490	0,0162	0,0535	<0,002
VIS-CV5-AMP-156	Stérile	Amphibolite	0,00958	0,000016	0,000024	0,0001	0,0477	<0,002
VIS-CV5-AMP-157	Stérile	Amphibolite	0,00505	0,000006	0,000030	0,0063	0,0713	<0,002
VIS-CV5-AMP-158	Stérile	Amphibolite	0,00752	0,000010	0,000116	0,0153	0,0735	<0,002
VIS-CV5-AMP-159	Stérile	Amphibolite	0,01190	0,000536	0,003410	0,0283	0,0520	0,007
VIS-CV5-AMP-160	Stérile	Amphibolite	0,01070	0,001440	0,009460	0,0247	0,0654	<0,002
VIS-CV5-AMP-161	Stérile	Amphibolite	0,01710	0,000112	0,000833	0,0983	0,0740	0,004
VIS-CV5-AMP-162	Stérile	Amphibolite	0,00687	0,000163	0,000149	0,0113	0,0663	<0,002
VIS-CV5-AMP-163	Stérile	Amphibolite	0,05360	0,000023	0,031300	0,0003	0,0016	<0,002
VIS-CV5-AMP-164	Stérile	Amphibolite	0,00876	0,000012	0,000810	0,0099	0,0679	<0,002
VIS-CV5-AMP-165	Stérile	Amphibolite	0,01730	0,000036	0,000027	0,0244	0,0285	0,005
VIS-CV5-AMP-166	Stérile	Amphibolite	0,00571	0,000025	0,000074	0,0058	0,0493	<0,002
VIS-CV5-AMP-167	Stérile	Amphibolite	0,07850	0,000221	0,000124	0,0018	0,0100	<0,002
VIS-CV5-AMP-168	Stérile	Amphibolite	0,01060	0,000023	0,000285	0,0201	0,0595	<0,002
VIS-CV5-AMP-169	Stérile	Amphibolite	0,00765	0,000035	0,002360	0,0231	0,0578	<0,002
VIS-CV5-AMP-170	Stérile	Amphibolite	0,00884	0,000047	0,001210	0,0142	0,0409	<0,002
VIS-CV5-AMP-171	Stérile	Amphibolite	0,00986	0,000059	0,000105	0,0354	0,0427	<0,002
VIS-CV5-AMP-172	Stérile	Amphibolite	0,00488	0,000006	0,000793	0,0011	0,0500	<0,002
VIS-CV5-AMP-173	Stérile	Amphibolite	0,00671	0,000093	0,000621	0,0392	0,0559	<0,002
VIS-CV5-AMP-174	Stérile	Amphibolite	0,00830	<0,000005	0,001028	0,0009	0,0369	<0,002
VIS-CV5-AMP-175	Stérile	Amphibolite	0,01670	0,000028	0,000780	0,0034	0,0272	<0,002
VIS-CV5-AMP-176	Stérile	Amphibolite	0,00468	0,000053	0,000156	0,0325	0,0605	0,004
VIS-CV5-AMP-177	Stérile	Amphibolite	0,00756	0,000177	0,000067	0,0784	0,0646	0,003
VIS-CV5-AMP-178	Stérile	Amphibolite	0,00801	0,000029	0,001350	0,0162	0,0481	<0,002
VIS-CV5-AMP-179	Stérile	Amphibolite	0,00773	0,000050	0,000394	0,0154	0,0231	0,006
VIS-CV5-AMP-180	Stérile	Amphibolite	0,03190	0,000010	0,000022	0,0038	0,0106	<0,002
VIS-CV5-AMP-181	Stérile	Amphibolite	0,00859	0,000008	0,000202	0,0085	0,0198	<0,002
VIS-CV5-AMP-182	Stérile	Amphibolite	0,01250	0,000031	0,000321	0,0620	0,0967	0,003
VIS-CV5-MS-183	Stérile	Métasédiment	0,00453	0,000084	0,000856	0,0715	0,0821	0,006
VIS-CV5-MS-184	Stérile	Métasédiment	0,00793	0,000011	0,000506	0,0200	0,0299	<0,002
VIS-CV5-MS-185	Stérile	Métasédiment	0,01240	0,000018	0,000298	0,0147	0,0170	<0,002
VIS-CV5-MS-186	Stérile	Métasédiment	0,01010	0,000026	0,001250	0,0896	0,0248	<0,002
VIS-CV5-MS-187	Stérile	Métasédiment	0,01340	<0,000005	0,000499	0,0008	0,0284	<0,002
VIS-CV5-MS-188	Stérile	Métasédiment	0,00638	0,002240	0,002810	0,5720	0,0745	0,014
VIS-CV5-MS-189	Stérile	Métasédiment	0,00400	0,000174	0,003680	0,1010	0,0485	0,004
VIS-CV5-MS-190	Stérile	Métasédiment	0,00305	0,000036	0,001590	0,2610	0,1180	0,008
VIS-CV5-MS-191	Stérile	Métasédiment	0,03430	0,000022	0,000088	0,0076	0,0014	<0,002
VIS-CV5-MS-192	Stérile	Métasédiment	0,00457	0,000122	0,001140	0,1610	0,0476	0,005
VIS-CV5-MS-193	Stérile	Métasédiment	0,01150	0,000201	0,000199	0,0343	0,0167	<0,002
VIS-CV5-MS-194	Stérile	Métasédiment	0,02200	0,000018	0,000061	0,0111	0,0043	<0,002
VIS-CV5-MS-195	Stérile	Métasédiment	0,34800	0,000039	0,000683	0,0001	0,0003	<0,002
VIS-CV5-MS-196	Stérile	Métasédiment	0,31400	0,000011	0,000228	0,0001	0,0004	<0,002
VIS-CV5-MS-197	Stérile	Métasédiment	0,22700	0,000014	0,000247	0,0001	0,0003	<0,002
VIS-CV5-MS-198	Stérile	Métasédiment	0,01480	0,000058	0,003890	0,0268	0,0107	<0,002
VIS-CV5-MS-199	Stérile	Métasédiment	0,01030	0,000019	0,002130	0,0611	0,0147	0,005
VIS-CV5-MS-200	Stérile	Métasédiment	0,00769	0,000049	0,003840	0,0245	0,0343	0,005
VIS-CV5-MS-201	Stérile	Métasédiment	0,01770	0,000016	0,001780	0,0260	0,0085	<0,002
VIS-CV5-MS-202	Stérile	Métasédiment	0,09660	0,000006	0,000054	0,0002	0,0001	0,016
VIS-CV5-MS-203	Stérile	Métasédiment	0,05420	0,000053	0,004900	0,0006	0,0007	<0,002
VIS-CV5-MS-204	Stérile	Métasédiment	0,01670	0,000342	0,002590	0,0435	0,0158	0,003
VIS-CV5-MS-205	Stérile	Métasédiment	0,00337	0,011400	0,004330	0,4840	0,0458	0,027
VIS-CV5-MS-206	Stérile	Métasédiment	0,01020	0,000036	0,000861	0,1050	0,0205	0,005
VIS-CV5-MS-207	Stérile	Métasédiment	0,01750	0,000169	0,001210	0,0264	0,0114	<0,002
VIS-CV5-MS-208	Stérile	Métasédiment	0,01140	0,000180	0,014500	0,1110	0,0331	0,014
VIS-CV5-MS-209	Stérile	Métasédiment	0,00678	0,000052	0,004510	0,0264	0,0657	<0,002
VIS-CV5-MS-210	Stérile	Métasédiment	0,00545	0,002867	0,000210	0,0161	0,0034	0,039
VIS-CV5-MS-211	Stérile	Métasédiment	0,00260	0,000667	0,011400	0,1570	0,0449	0,011
VIS-CV5-MS-212	Stérile	Métasédiment	0,00686	0,000529	0,021300	0,0567	0,0287	0,007
VIS-CV5-MS-213	Stérile	Métasédiment	0,00561	0,000049	0,001290	0,0773	0,0399	0,003
VIS-CV5-MS-214	Stérile	Métasédiment	0,00497	0,000185	0,001210	0,0454	0,0040	0,003
VIS-CV5-MS-215	Stérile	Métasédiment	0,01180	0,000213	0,000402	0,0584	0,0461	0,008
VIS-CV5-MS-216	Stérile	Métasédiment	0,02820	0,000093	0,001140	0,0074	0,0221	<0,002
VIS-CV5-MS-217	Stérile	Métasédiment	0,00280	0,000584	0,011000	0,0939	0,0149	0,005
VIS-CV5-MS-218	Stérile	Métasédiment	0,00393	0,000197	0,010800	0,2150	0,0164	0,008
VIS-CV5-MS-219	Stérile	Métasédiment	0,00535	0,000132	0,010700	0,1330	0,0535	0,004
VIS-CV5-MS-220	Stérile	Métasédiment	0,01030	0,000040	0,016100	0,0306	0,0176	<0,002
VIS-CV5-MS-221	Stérile	Métasédiment	0,00890	0,000013	0,000977	0,0128	0,0239	<0,002

Essais CTEU-9

# échantillon	Type de matériel	Lithologie	pH	Conductivité	Alcalinité	Acidité	Chlore	Sulfate	Mercure	Argent
		Unité	pH unit	µS/cm	$mgCaCO_3/l$	$mgCaCO_3/l$	mg/l	mg/l	mg/l	mg/l
		CVAA - Effet aigu					320	500	0,0014	0,00004
		D019/MDMER								
VIS-CV5-MS-222	Stérile	Métasédiment	9,19	70,00	189,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-MS-223	Stérile	Métasédiment	8,92	66,00	184,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-MS-224	Stérile	Métasédiment	8,18	48,00	247,00	<2,0	<20,0	<30,0	<0,00001	0,00011
VIS-CV5-MS-225	Stérile	Métasédiment	8,94	56,00	147,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-MS-226	Stérile	Métasédiment	8,12	47,00	173,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-MS-227	Stérile	Métasédiment	7,92	57,00	409,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-MS-228	Stérile	Métasédiment	9,47	82,00	204,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-MS-229	Stérile	Métasédiment	8,33	63,00	443,00	<2,0	<20,0	<30,0	<0,00001	0,00026
VIS-CV5-MS-230	Stérile	Métasédiment	8,84	64,00	309,00	<2,0	<20,0	<30,0	<0,00001	0,00040
VIS-CV5-MS-231	Stérile	Métasédiment	8,20	47,00	413,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-MS-232	Stérile	Métasédiment	9,14	83,00	238,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-MS-233	Stérile	Métasédiment	9,09	89,00	209,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-MS-234	Stérile	Métasédiment	9,00	79,00	241,00	<2,0	<20,0	<30,0	<0,00001	0,00008
VIS-CV5-MS-235	Stérile	Métasédiment	9,23	95,00	230,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-MS-236	Stérile	Métasédiment	9,10	85,00	214,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-MS-237	Stérile	Métasédiment	8,93	80,00	206,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-MS-238	Stérile	Métasédiment	9,12	99,00	242,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-MS-239	Stérile	Métasédiment	8,65	66,00	227,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-MS-240	Stérile	Métasédiment	8,76	70,00	220,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-MS-241	Stérile	Métasédiment	9,04	90,00	278,00	<2,0	<20,0	<30,0	<0,00001	0,00008
VIS-CV5-MS-242	Stérile	Métasédiment	9,22	98,00	250,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-MS-243	Stérile	Métasédiment	8,92	75,00	205,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-MS-244	Stérile	Métasédiment	9,62	115,00	267,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-MS-245	Stérile	Métasédiment	9,52	110,00	262,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-MS-246	Stérile	Métasédiment	9,39	80,00	191,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-MS-247	Stérile	Métasédiment	9,53	83,00	192,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-MS-248	Stérile	Métasédiment	9,54	95,00	207,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-MS-249	Stérile	Métasédiment	9,55	96,00	215,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-MS-250	Stérile	Métasédiment	8,83	57,00	169,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-MS-251	Stérile	Métasédiment	9,35	57,00	174,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-MS-252	Stérile	Métasédiment	8,57	66,00	181,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-MS-253	Stérile	Métasédiment	8,31	98,00	744,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-MS-254	Stérile	Métasédiment	8,82	76,00	204,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-MS-255	Stérile	Métasédiment	8,60	76,00	222,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-MS-256	Stérile	Métasédiment	8,53	66,00	207,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-MS-257	Stérile	Métasédiment	8,41	66,00	186,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-MS-258	Stérile	Métasédiment	8,94	71,00	183,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-PEG-259	Stérile	Pegmatite stérile	8,99	67,00	198,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-PEG-260	Stérile	Pegmatite stérile	8,48	56,00	221,00	<2,0	<28,0	<30,0	<0,00001	<0,00005
VIS-CV5-PEG-261	Stérile	Pegmatite stérile	8,49	59,00	186,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-PEG-262	Stérile	Pegmatite stérile	9,30	79,00	230,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-PEG-263	Stérile	Pegmatite stérile	9,19	74,00	217,00	<2,0	21,00	<30,0	<0,00001	<0,00008
VIS-CV5-PEG-264	Stérile	Pegmatite stérile	9,50	73,00	171,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-PEG-265	Stérile	Pegmatite stérile	9,50	81,00	211,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-PEG-266	Stérile	Pegmatite stérile	8,35	48,00	203,00	<2,0	29,00	<30,0	<0,00001	<0,00005
VIS-CV5-PEG-267	Stérile	Pegmatite stérile	8,87	52,00	242,00	<2,0	40,00	<30,0	<0,00001	<0,00005
VIS-CV5-PEG-268	Stérile	Pegmatite stérile	9,07	44,00	230,00	<2,0	47,00	<30,0	<0,00001	<0,00005
VIS-CV5-PEG-269	Stérile	Pegmatite stérile	9,41	74,00	170,00	<2,0	<20,0	<30,0	<0,00001	0,00006
VIS-CV5-PEG-270	Stérile	Pegmatite stérile	9,53	67,00	193,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-PEG-271	Stérile	Pegmatite stérile	9,31	67,00	180,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-PEG-272	Stérile	Pegmatite stérile	9,26	65,00	171,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-PEG-273	Stérile	Pegmatite stérile	9,25	68,00	200,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-PEG-274	Stérile	Pegmatite stérile	9,22	65,00	200,00	<2,0	21,00	<30,0	<0,00001	<0,00005
VIS-CV5-PEG-275	Stérile	Pegmatite stérile	9,57	72,00	187,00	<2,0	<20,0	<30,0	<0,00001	<0,00009
VIS-CV5-PEG-276	Stérile	Pegmatite stérile	8,21	69,00	159,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-PEG-277	Stérile	Pegmatite stérile	9,48	67,00	180,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-PEG-278	Stérile	Pegmatite stérile	9,16	63,00	162,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-UM-279	Stérile	Ultramafique	9,15	91,00	192,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-UM-280	Stérile	Ultramafique	8,60	98,00	235,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-UM-281	Stérile	Ultramafique	8,94	96,00	402,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-UM-282	Stérile	Ultramafique	8,73	104,00	363,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-UM-283	Stérile	Ultramafique	8,43	107,00	381,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-UM-284	Stérile	Ultramafique	8,75	84,00	286,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-UM-285	Stérile	Ultramafique	8,94	57,00	213,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-UM-286	Stérile	Ultramafique	8,69	132,00	355,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-UM-287	Stérile	Ultramafique	8,72	86,00	379,00	<2,0	<20,0	<30,0	<0,00001	0,00013
VIS-CV5-UM-288	Stérile	Ultramafique	9,00	86,00	290,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-UM-289	Stérile	Ultramafique	8,75	80,00	289,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-UM-290	Stérile	Ultramafique	9,02	73,00	188,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-UM-291	Stérile	Ultramafique	9,25	86,00	204,00	<2,0	<20,0	<30,0	<0,00001	<0,00005

Essais CTEU-9

# échantillon	Type de matériel	Lithologie	Aluminum	Arsenic	Bore	Baryum	Béryllium	Bismuth	Calcium	Cadmium
		Unité	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
		CVAA - Effet aigu	0,28	0,34	28	0,10807	0,00124			0,00021
		D019/MDMER		0,10						
VIS-CV5-MS-222	Stérile	Métasédiment	0,87	0,02	0,23	0,00324	0,000106	<0,00001	3,57	0,000007
VIS-CV5-MS-223	Stérile	Métasédiment	2,15	0,81	0,25	0,00890	0,000110	0,000040	2,12	0,000020
VIS-CV5-MS-224	Stérile	Métasédiment	0,71	0,04	0,11	0,00449	0,000038	0,000040	6,09	0,000043
VIS-CV5-MS-225	Stérile	Métasédiment	0,66	0,44	0,17	0,00310	0,000057	0,000020	2,74	0,000014
VIS-CV5-MS-226	Stérile	Métasédiment	0,40	0,04	0,29	0,00058	<0,000007	<0,00001	6,09	0,000003
VIS-CV5-MS-227	Stérile	Métasédiment	0,13	0,00	0,08	0,00585	<0,000007	<0,00001	25,40	0,000021
VIS-CV5-MS-228	Stérile	Métasédiment	0,86	2,16	0,21	0,00281	0,000029	0,000040	2,18	0,000007
VIS-CV5-MS-229	Stérile	Métasédiment	0,13	0,00	0,08	0,01250	<0,000007	<0,00001	26,10	0,000029
VIS-CV5-MS-230	Stérile	Métasédiment	0,21	0,05	0,29	0,00518	0,000026	0,000020	12,00	0,000028
VIS-CV5-MS-231	Stérile	Métasédiment	0,34	0,00	0,08	0,01060	0,000009	0,000020	15,30	0,000006
VIS-CV5-MS-232	Stérile	Métasédiment	0,57	0,12	0,18	0,00326	0,000102	0,000030	2,64	0,000016
VIS-CV5-MS-233	Stérile	Métasédiment	0,69	0,09	0,16	0,00198	0,000087	<0,00001	1,67	0,000009
VIS-CV5-MS-234	Stérile	Métasédiment	2,24	0,09	0,11	0,00737	0,000058	<0,00011	1,30	0,000020
VIS-CV5-MS-235	Stérile	Métasédiment	1,92	0,21	0,15	0,00475	0,000045	0,000030	1,35	0,000018
VIS-CV5-MS-236	Stérile	Métasédiment	1,31	0,01	0,14	0,00285	0,000032	0,000030	1,25	0,000005
VIS-CV5-MS-237	Stérile	Métasédiment	1,71	0,01	0,22	0,00385	0,000062	0,000020	0,86	0,000008
VIS-CV5-MS-238	Stérile	Métasédiment	1,85	0,09	0,18	0,00682	0,000040	0,000020	2,02	0,000010
VIS-CV5-MS-239	Stérile	Métasédiment	0,51	0,02	0,14	0,00303	<0,000007	<0,00001	5,69	0,000005
VIS-CV5-MS-240	Stérile	Métasédiment	0,67	0,01	0,12	0,00390	0,000009	0,000020	2,43	0,000010
VIS-CV5-MS-241	Stérile	Métasédiment	2,85	0,05	0,23	0,02050	0,000186	0,000100	1,66	0,000024
VIS-CV5-MS-242	Stérile	Métasédiment	2,19	0,05	0,15	0,00974	0,000043	<0,00001	1,85	0,000013
VIS-CV5-MS-243	Stérile	Métasédiment	0,80	0,05	0,13	0,00286	0,000075	0,000040	4,05	0,000005
VIS-CV5-MS-244	Stérile	Métasédiment	3,22	0,63	0,11	0,01630	0,000041	0,000060	1,64	0,000016
VIS-CV5-MS-245	Stérile	Métasédiment	2,59	0,04	0,19	0,00783	0,000023	0,000020	1,20	0,000009
VIS-CV5-MS-246	Stérile	Métasédiment	2,63	0,20	0,11	0,01110	0,000193	0,000220	1,28	0,000043
VIS-CV5-MS-247	Stérile	Métasédiment	3,83	0,31	0,11	0,01450	<0,00007	0,000070	1,16	0,000042
VIS-CV5-MS-248	Stérile	Métasédiment	2,41	0,23	0,14	0,00951	0,000023	0,000040	1,90	0,000015
VIS-CV5-MS-249	Stérile	Métasédiment	2,40	0,16	0,14	0,00983	0,000050	0,000020	1,29	0,000019
VIS-CV5-MS-250	Stérile	Métasédiment	0,67	0,00	0,04	0,00092	<0,000007	<0,00001	10,00	0,000003
VIS-CV5-MS-251	Stérile	Métasédiment	1,27	0,02	0,20	0,00543	0,000189	0,000020	3,48	0,000014
VIS-CV5-MS-252	Stérile	Métasédiment	0,61	0,03	0,46	0,00214	0,000681	0,000050	6,66	0,000003
VIS-CV5-MS-253	Stérile	Métasédiment	0,01	0,00	0,11	0,02900	0,000007	<0,00001	85,00	0,000042
VIS-CV5-MS-254	Stérile	Métasédiment	2,29	0,68	0,23	0,01270	0,000293	0,000040	2,41	0,000011
VIS-CV5-MS-255	Stérile	Métasédiment	2,64	0,26	0,14	0,01280	0,000073	0,000020	3,16	0,000093
VIS-CV5-MS-256	Stérile	Métasédiment	2,26	0,02	0,10	0,00842	0,000020	0,000030	2,52	0,000026
VIS-CV5-MS-257	Stérile	Métasédiment	3,40	0,03	0,22	0,01110	<0,000007	<0,00001	2,64	0,000007
VIS-CV5-MS-258	Stérile	Métasédiment	1,94	0,07	0,08	0,01010	<0,000007	0,000030	2,01	0,000013
VIS-CV5-PEG-259	Stérile	Pegmatite stérile	1,79	0,22	0,87	0,00330	0,000289	0,000030	3,81	0,000005
VIS-CV5-PEG-260	Stérile	Pegmatite stérile	0,91	0,23	0,29	0,00169	0,000763	0,001850	3,93	0,000021
VIS-CV5-PEG-261	Stérile	Pegmatite stérile	1,74	0,71	0,18	0,00266	0,000770	0,000670	2,58	0,000062
VIS-CV5-PEG-262	Stérile	Pegmatite stérile	2,38	1,64	0,32	0,00238	0,000585	0,000130	1,03	0,000034
VIS-CV5-PEG-263	Stérile	Pegmatite stérile	3,09	0,56	0,35	0,00419	0,000673	0,000700	0,68	0,000036
VIS-CV5-PEG-264	Stérile	Pegmatite stérile	3,02	0,73	0,30	0,00097	0,000753	0,000230	0,55	0,000018
VIS-CV5-PEG-265	Stérile	Pegmatite stérile	2,24	0,83	0,19	0,00198	0,000313	0,000130	0,93	0,000009
VIS-CV5-PEG-266	Stérile	Pegmatite stérile	1,01	0,17	0,21	0,00187	0,002790	0,000540	2,97	0,000014
VIS-CV5-PEG-267	Stérile	Pegmatite stérile	0,96	0,16	0,23	0,00091	0,003100	0,001350	3,39	0,000021
VIS-CV5-PEG-268	Stérile	Pegmatite stérile	0,97	0,11	0,15	0,00173	0,012500	0,000460	5,19	0,000019
VIS-CV5-PEG-269	Stérile	Pegmatite stérile	3,53	0,38	0,34	0,00106	0,000764	0,001420	1,23	0,000036
VIS-CV5-PEG-270	Stérile	Pegmatite stérile	0,73	0,57	0,10	0,00066	0,000428	0,000050	2,94	0,000004
VIS-CV5-PEG-271	Stérile	Pegmatite stérile	2,67	1,51	0,32	0,00199	0,000738	0,000340	1,17	0,000041
VIS-CV5-PEG-272	Stérile	Pegmatite stérile	4,61	0,55	0,20	0,00187	0,009950	0,000090	1,16	0,000020
VIS-CV5-PEG-273	Stérile	Pegmatite stérile	1,74	0,93	0,27	0,00340	0,001330	0,000560	1,31	0,000050
VIS-CV5-PEG-274	Stérile	Pegmatite stérile	0,45	0,80	0,22	0,00063	0,000870	0,000090	5,60	0,000014
VIS-CV5-PEG-275	Stérile	Pegmatite stérile	1,34	0,25	0,19	0,00097	0,001780	0,006530	0,79	0,000011
VIS-CV5-PEG-276	Stérile	Pegmatite stérile	3,93	1,27	0,22	0,00358	0,000497	0,000620	0,63	0,000010
VIS-CV5-PEG-277	Stérile	Pegmatite stérile	1,82	0,55	0,22	0,00221	0,000410	0,002710	1,21	0,000012
VIS-CV5-PEG-278	Stérile	Pegmatite stérile	4,22	0,08	0,19	0,00402	0,002410	0,000110	0,90	0,000018
VIS-CV5-UM-279	Stérile	Ultramafique	0,04	1,80	0,05	0,00079	<0,000007	<0,00001	5,91	<0,000003
VIS-CV5-UM-280	Stérile	Ultramafique	0,05	33,50	0,06	0,00223	<0,000007	<0,00001	8,94	0,000006
VIS-CV5-UM-281	Stérile	Ultramafique	0,23	18,20	0,16	0,00409	0,000099	0,000060	5,32	0,000013
VIS-CV5-UM-282	Stérile	Ultramafique	0,08	24,90	0,05	0,00496	0,000009	<0,00001	7,34	0,000003
VIS-CV5-UM-283	Stérile	Ultramafique	0,02	53,30	0,17	0,00800	0,000012	<0,00001	21,30	0,000025
VIS-CV5-UM-284	Stérile	Ultramafique	0,03	19,50	0,11	0,00673	0,000017	<0,00001	10,90	0,000009
VIS-CV5-UM-285	Stérile	Ultramafique	0,18	1,32	0,05	0,00177	0,000026	0,000020	10,80	0,000005
VIS-CV5-UM-286	Stérile	Ultramafique	0,02	79,50	0,11	0,00711	0,000012	<0,00001	12,10	<0,000003
VIS-CV5-UM-287	Stérile	Ultramafique	0,04	35,50	0,10	0,00544	0,000047	0,000030	24,90	0,000007
VIS-CV5-UM-288	Stérile	Ultramafique	0,12	25,70	0,13	0,00405	0,000022	0,000020	8,11	<0,000003
VIS-CV5-UM-289	Stérile	Ultramafique	0,61	23,80	0,13	0,00346	0,000032	<0,00001	7,48	0,000021
VIS-CV5-UM-290	Stérile	Ultramafique	0,03	6,11	0,06	0,00294	0,000008	0,000030	6,21	0,000005
VIS-CV5-UM-291	Stérile	Ultramafique	0,12	12,30	0,05	0,00267	<0,000007	0,000020	5,77	<0,000003

Essais CTEU-9

# échantillon	Type de matériel	Lithologie	Cobalt	Chrome	Cuivre	Fer	Potassium	Lithium	Magnésium	Manganèse
		Unité	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
		CVAA - Effet aigu	0,37000	0,016	0,0016	3,4		0,9100		0,55
		D019/MDMER		0,209	0,100	3,0				
VIS-CV5-MS-222	Stérile	Métasédiment	0,000183	0,00205	0,001	2,400	17,20	1,28	1,44	0,0100
VIS-CV5-MS-223	Stérile	Métasédiment	0,002510	0,01860	0,002	0,880	24,60	1,38	1,47	0,0108
VIS-CV5-MS-224	Stérile	Métasédiment	0,000444	0,00104	0,002	1,570	28,70	0,98	2,81	0,0090
VIS-CV5-MS-225	Stérile	Métasédiment	0,000820	0,00110	0,001	0,500	6,71	0,12	1,03	0,0060
VIS-CV5-MS-226	Stérile	Métasédiment	0,000013	0,00125	0,001	0,610	6,67	0,93	2,32	0,0009
VIS-CV5-MS-227	Stérile	Métasédiment	0,000045	0,00012	0,001	0,800	16,90	1,24	20,10	0,0285
VIS-CV5-MS-228	Stérile	Métasédiment	0,001450	0,02190	0,002	1,590	26,50	2,58	1,06	0,0116
VIS-CV5-MS-229	Stérile	Métasédiment	0,000089	0,00054	0,002	0,560	28,20	1,43	13,60	0,0084
VIS-CV5-MS-230	Stérile	Métasédiment	0,000145	0,00173	0,001	1,570	10,40	0,51	5,35	0,0019
VIS-CV5-MS-231	Stérile	Métasédiment	0,000056	0,00073	0,003	2,100	54,30	0,79	8,90	0,0024
VIS-CV5-MS-232	Stérile	Métasédiment	0,000523	0,00249	0,001	2,630	30,40	1,98	2,97	0,0123
VIS-CV5-MS-233	Stérile	Métasédiment	0,000632	0,00122	0,001	2,480	20,80	2,23	2,35	0,0114
VIS-CV5-MS-234	Stérile	Métasédiment	0,000628	0,00288	0,002	1,270	28,30	2,59	0,72	0,0146
VIS-CV5-MS-235	Stérile	Métasédiment	0,000393	0,00030	0,001	2,690	25,00	3,88	0,68	0,0166
VIS-CV5-MS-236	Stérile	Métasédiment	0,000097	0,00345	0,001	0,870	20,20	0,09	0,59	0,0053
VIS-CV5-MS-237	Stérile	Métasédiment	0,000097	0,00668	0,001	0,960	23,90	0,07	0,47	0,0041
VIS-CV5-MS-238	Stérile	Métasédiment	0,000740	0,00072	0,001	2,790	29,60	2,80	1,10	0,0283
VIS-CV5-MS-239	Stérile	Métasédiment	0,000171	0,00276	0,001	0,740	9,81	2,00	3,51	0,0037
VIS-CV5-MS-240	Stérile	Métasédiment	0,000251	0,00293	0,001	1,240	31,30	1,15	0,82	0,0110
VIS-CV5-MS-241	Stérile	Métasédiment	0,001110	0,00527	0,002	2,870	36,60	3,93	1,79	0,0665
VIS-CV5-MS-242	Stérile	Métasédiment	0,000595	0,00230	0,001	2,260	35,60	2,31	0,98	0,0287
VIS-CV5-MS-243	Stérile	Métasédiment	0,000618	0,00750	0,002	1,910	6,54	1,39	3,31	0,0180
VIS-CV5-MS-244	Stérile	Métasédiment	0,001830	0,00111	0,002	2,130	41,10	3,36	1,03	0,0332
VIS-CV5-MS-245	Stérile	Métasédiment	0,000668	0,00108	0,001	3,730	40,50	3,78	0,83	0,0318
VIS-CV5-MS-246	Stérile	Métasédiment	0,000927	0,00085	0,001	3,630	23,50	2,52	0,89	0,0467
VIS-CV5-MS-247	Stérile	Métasédiment	0,000930	0,00059	0,002	3,030	28,40	3,49	0,93	0,0667
VIS-CV5-MS-248	Stérile	Métasédiment	0,001210	0,00085	0,001	1,270	29,10	3,06	0,84	0,0284
VIS-CV5-MS-249	Stérile	Métasédiment	0,000712	0,00097	0,001	2,990	29,10	3,81	0,68	0,0272
VIS-CV5-MS-250	Stérile	Métasédiment	0,000011	<0,00008	0,001	0,280	0,78	0,10	3,22	0,0016
VIS-CV5-MS-251	Stérile	Métasédiment	0,000451	0,00035	0,001	0,650	18,40	0,27	1,57	0,0205
VIS-CV5-MS-252	Stérile	Métasédiment	0,000378	0,00120	0,002	4,120	5,88	1,03	2,62	0,0096
VIS-CV5-MS-253	Stérile	Métasédiment	0,000186	0,00009	0,001	1,320	29,10	0,87	10,90	0,0396
VIS-CV5-MS-254	Stérile	Métasédiment	0,001630	0,00624	0,001	2,520	26,60	1,64	1,18	0,0378
VIS-CV5-MS-255	Stérile	Métasédiment	0,001590	0,00489	0,003	2,910	21,30	2,12	1,13	0,0405
VIS-CV5-MS-256	Stérile	Métasédiment	0,000689	0,00489	0,002	2,380	22,10	1,54	1,05	0,0204
VIS-CV5-MS-257	Stérile	Métasédiment	0,000422	0,00294	0,001	0,450	16,80	0,08	0,38	0,0035
VIS-CV5-MS-258	Stérile	Métasédiment	0,001220	0,00151	0,002	0,740	34,40	0,20	1,01	0,0094
VIS-CV5-PEG-259	Stérile	Pegmatite stérile	0,000100	0,00075	0,001	0,850	7,54	0,51	0,67	0,0027
VIS-CV5-PEG-260	Stérile	Pegmatite stérile	0,000090	0,00312	0,001	2,520	20,00	0,78	0,55	0,0088
VIS-CV5-PEG-261	Stérile	Pegmatite stérile	0,000370	0,00086	0,018	2,630	10,10	1,53	1,26	0,0186
VIS-CV5-PEG-262	Stérile	Pegmatite stérile	0,000062	0,00534	0,001	3,290	1,29	0,79	0,13	0,0199
VIS-CV5-PEG-263	Stérile	Pegmatite stérile	0,000162	0,00150	0,003	3,620	6,56	1,14	0,28	0,0152
VIS-CV5-PEG-264	Stérile	Pegmatite stérile	0,000097	0,00998	0,001	1,160	0,38	0,26	0,09	0,0124
VIS-CV5-PEG-265	Stérile	Pegmatite stérile	0,000468	0,00413	0,002	0,800	1,01	0,39	0,19	0,0139
VIS-CV5-PEG-266	Stérile	Pegmatite stérile	0,000110	0,00267	0,001	2,630	18,80	0,88	0,45	0,0074
VIS-CV5-PEG-267	Stérile	Pegmatite stérile	0,000039	0,00131	0,001	4,570	17,40	1,55	0,40	0,0174
VIS-CV5-PEG-268	Stérile	Pegmatite stérile	0,000204	0,00786	0,002	1,620	7,11	0,48	1,19	0,0155
VIS-CV5-PEG-269	Stérile	Pegmatite stérile	0,000021	0,00395	0,001	2,180	12,40	1,31	0,11	0,0443
VIS-CV5-PEG-270	Stérile	Pegmatite stérile	0,001640	0,00136	0,002	0,880	0,32	0,42	0,98	0,0064
VIS-CV5-PEG-271	Stérile	Pegmatite stérile	0,000072	0,00984	0,002	1,680	18,70	0,52	0,11	0,0320
VIS-CV5-PEG-272	Stérile	Pegmatite stérile	0,000267	0,02560	0,001	0,940	6,98	0,21	0,47	0,0203
VIS-CV5-PEG-273	Stérile	Pegmatite stérile	0,000161	0,00768	0,003	0,870	21,90	0,16	0,20	0,0165
VIS-CV5-PEG-274	Stérile	Pegmatite stérile	0,000350	0,00280	0,001	2,700	0,48	0,54	3,41	0,0079
VIS-CV5-PEG-275	Stérile	Pegmatite stérile	0,000081	0,00525	0,002	1,500	18,90	0,53	0,12	0,0108
VIS-CV5-PEG-276	Stérile	Pegmatite stérile	0,000074	0,00296	0,001	2,530	11,50	0,82	0,13	0,0227
VIS-CV5-PEG-277	Stérile	Pegmatite stérile	0,000152	0,01220	0,003	1,990	26,10	0,59	0,18	0,0130
VIS-CV5-PEG-278	Stérile	Pegmatite stérile	0,000356	0,00125	0,005	2,470	6,36	0,14	0,21	0,0350
VIS-CV5-UM-279	Stérile	Ultramafique	0,000317	0,10500	0,001	0,270	0,18	0,00	16,90	0,0020
VIS-CV5-UM-280	Stérile	Ultramafique	0,000508	0,08390	0,001	0,700	0,24	0,00	21,10	0,0064
VIS-CV5-UM-281	Stérile	Ultramafique	0,000586	0,18000	0,001	17,700	58,20	4,32	7,36	0,0074
VIS-CV5-UM-282	Stérile	Ultramafique	0,001180	0,06680	0,001	1,040	0,87	0,01	27,50	0,0011
VIS-CV5-UM-283	Stérile	Ultramafique	0,000321	0,03040	0,001	2,160	4,01	0,13	29,30	0,0025
VIS-CV5-UM-284	Stérile	Ultramafique	0,000254	0,04060	0,001	3,800	8,39	0,38	17,50	0,0013
VIS-CV5-UM-285	Stérile	Ultramafique	0,001080	0,05770	0,003	1,710	1,38	0,89	9,92	0,0054
VIS-CV5-UM-286	Stérile	Ultramafique	0,000260	0,00659	0,001	2,190	6,02	0,04	30,90	0,0049
VIS-CV5-UM-287	Stérile	Ultramafique	0,000360	0,00707	0,001	2,210	2,86	0,32	19,20	0,0028
VIS-CV5-UM-288	Stérile	Ultramafique	0,001050	0,11000	0,001	1,890	23,00	0,80	13,10	0,0042
VIS-CV5-UM-289	Stérile	Ultramafique	0,003710	0,17500	0,003	0,660	17,60	0,80	17,70	0,0073
VIS-CV5-UM-290	Stérile	Ultramafique	0,000561	0,01190	0,001	1,110	0,38	0,00	13,70	0,0015
VIS-CV5-UM-291	Stérile	Ultramafique	0,000631	0,18500	0,001	0,290	3,83	0,06	14,80	0,0017

Essais CTEU-9

# échantillon	Type de matériel	Lithologie	Molybdène	Sodium	Nickel	Phosphore réactif total	Plomb	Antimoine	Sélénium	Etain
		Unité	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
		CVAA - Effet aigu	29,00		0,067		0,004	0,310	0,062	
		D019/MDMER			0,250		0,080			
VIS-CV5-MS-222	Stérile	Métasédiment	0,0057	19,8	0,0006	0,03	0,00019	0,03	0,00021	0,00012
VIS-CV5-MS-223	Stérile	Métasédiment	0,0115	15,5	0,0081	0,01	0,00062	0,11	0,00060	0,00009
VIS-CV5-MS-224	Stérile	Métasédiment	0,0099	14,8	0,0011	0,01	0,00045	0,24	0,00314	0,00015
VIS-CV5-MS-225	Stérile	Métasédiment	0,0052	22,3	0,0010	0,03	0,00013	0,04	0,00029	0,00009
VIS-CV5-MS-226	Stérile	Métasédiment	0,0043	17,9	<0,0001	<0,003	<0,00009	0,06	0,00032	<0,00006
VIS-CV5-MS-227	Stérile	Métasédiment	0,0105	5,8	<0,0001	<0,003	<0,00009	0,04	0,00065	<0,00006
VIS-CV5-MS-228	Stérile	Métasédiment	0,0014	15,3	0,0043	0,07	0,00037	0,12	0,00020	0,00024
VIS-CV5-MS-229	Stérile	Métasédiment	0,0038	20,1	0,0005	<0,003	<0,00009	0,01	0,00060	<0,00006
VIS-CV5-MS-230	Stérile	Métasédiment	0,0393	30,8	0,0005	0,02	0,00016	0,16	0,00186	0,00008
VIS-CV5-MS-231	Stérile	Métasédiment	0,0083	15,1	0,0002	0,00	<0,00009	0,00	0,00025	<0,00006
VIS-CV5-MS-232	Stérile	Métasédiment	0,0064	16,7	0,0011	0,01	0,00074	0,43	0,00056	0,00041
VIS-CV5-MS-233	Stérile	Métasédiment	0,0067	20,4	0,0008	0,01	<0,00009	0,05	0,00013	<0,00006
VIS-CV5-MS-234	Stérile	Métasédiment	0,0050	16,4	0,0011	0,01	0,00075	0,02	0,00073	0,00010
VIS-CV5-MS-235	Stérile	Métasédiment	0,0070	19,1	0,0003	0,04	0,00086	0,09	0,00018	0,00019
VIS-CV5-MS-236	Stérile	Métasédiment	0,0045	26,3	0,0002	0,04	0,00030	0,00	0,00012	<0,00006
VIS-CV5-MS-237	Stérile	Métasédiment	0,0086	23,2	0,0002	0,08	0,00016	0,00	0,00012	0,00008
VIS-CV5-MS-238	Stérile	Métasédiment	0,0030	16,0	0,0009	0,02	0,00071	0,13	0,00037	0,00014
VIS-CV5-MS-239	Stérile	Métasédiment	0,0037	24,7	0,0007	0,02	<0,00009	0,33	0,00018	<0,00006
VIS-CV5-MS-240	Stérile	Métasédiment	0,0059	16,3	0,0005	0,01	0,00043	0,01	0,00056	<0,00006
VIS-CV5-MS-241	Stérile	Métasédiment	0,0068	18,8	0,0025	0,03	0,00143	0,08	0,00031	0,00065
VIS-CV5-MS-242	Stérile	Métasédiment	0,0071	15,5	0,0011	0,02	0,00059	0,04	0,00016	0,00064
VIS-CV5-MS-243	Stérile	Métasédiment	0,0071	26,3	0,0017	0,01	0,00022	0,07	0,00032	0,00011
VIS-CV5-MS-244	Stérile	Métasédiment	0,0057	10,5	0,0026	0,09	0,00178	0,04	0,00027	0,00011
VIS-CV5-MS-245	Stérile	Métasédiment	0,0031	13,3	0,0008	0,04	0,00089	0,04	0,00019	0,00015
VIS-CV5-MS-246	Stérile	Métasédiment	0,0230	14,2	0,0009	0,04	0,00561	0,08	0,00060	0,00040
VIS-CV5-MS-247	Stérile	Métasédiment	0,0044	12,3	0,0005	0,07	0,00716	0,13	0,00053	0,00054
VIS-CV5-MS-248	Stérile	Métasédiment	0,0046	12,4	0,0012	0,03	0,00105	0,12	0,00010	0,00007
VIS-CV5-MS-249	Stérile	Métasédiment	0,0086	13,1	0,0006	0,04	0,00115	0,08	0,00033	0,00017
VIS-CV5-MS-250	Stérile	Métasédiment	0,0017	16,9	<0,0001	0,01	<0,00009	0,00	0,00020	0,00016
VIS-CV5-MS-251	Stérile	Métasédiment	0,0112	20,9	0,0010	0,03	0,00069	0,02	0,00012	<0,00006
VIS-CV5-MS-252	Stérile	Métasédiment	0,0029	16,6	0,0007	0,03	0,00013	0,12	0,00053	0,00049
VIS-CV5-MS-253	Stérile	Métasédiment	0,0071	18,1	0,0011	<0,003	<0,00009	0,01	0,00035	<0,00006
VIS-CV5-MS-254	Stérile	Métasédiment	0,0059	13,8	0,0037	0,03	0,00062	0,34	0,00048	0,00028
VIS-CV5-MS-255	Stérile	Métasédiment	0,0125	16,0	0,0029	0,03	0,00111	0,20	0,00026	0,00014
VIS-CV5-MS-256	Stérile	Métasédiment	0,0024	14,5	0,0013	0,02	0,00069	0,05	0,00025	<0,00006
VIS-CV5-MS-257	Stérile	Métasédiment	0,0055	22,0	0,0005	0,07	0,00096	0,00	0,00059	0,00007
VIS-CV5-MS-258	Stérile	Métasédiment	0,0059	9,5	0,0014	0,04	0,00055	0,00	0,00010	0,00032
VIS-CV5-PEG-259	Stérile	Pegmatite stérile	0,0015	21,3	0,0002	0,02	0,00033	0,17	0,00156	0,00011
VIS-CV5-PEG-260	Stérile	Pegmatite stérile	0,0233	19,0	<0,0001	0,44	0,00055	0,04	0,00025	0,00065
VIS-CV5-PEG-261	Stérile	Pegmatite stérile	0,0029	22,5	0,0002	0,09	0,00115	0,16	0,00041	0,00273
VIS-CV5-PEG-262	Stérile	Pegmatite stérile	0,0080	42,0	<0,0001	0,78	0,00158	0,19	0,00017	0,00238
VIS-CV5-PEG-263	Stérile	Pegmatite stérile	0,0031	35,9	<0,0001	0,71	0,00056	0,16	0,00139	0,00168
VIS-CV5-PEG-264	Stérile	Pegmatite stérile	0,0043	34,1	<0,0001	0,48	0,00098	0,10	0,00011	0,00220
VIS-CV5-PEG-265	Stérile	Pegmatite stérile	0,0016	40,2	<0,0001	0,34	0,00156	0,13	0,00034	0,00160
VIS-CV5-PEG-266	Stérile	Pegmatite stérile	0,0139	18,1	<0,0001	0,52	0,00324	0,04	0,00020	0,00067
VIS-CV5-PEG-267	Stérile	Pegmatite stérile	0,0131	19,0	<0,0001	0,97	0,00027	0,05	0,00024	0,00098
VIS-CV5-PEG-268	Stérile	Pegmatite stérile	0,0260	31,0	0,0002	0,32	0,00061	0,03	0,00014	0,00128
VIS-CV5-PEG-269	Stérile	Pegmatite stérile	0,0019	22,3	<0,0001	0,64	0,00487	0,17	0,00023	0,00167
VIS-CV5-PEG-270	Stérile	Pegmatite stérile	0,0017	27,4	0,0006	0,05	0,00218	0,04	0,00021	0,00043
VIS-CV5-PEG-271	Stérile	Pegmatite stérile	0,0149	22,2	<0,0001	0,97	0,00090	0,17	0,00016	0,00293
VIS-CV5-PEG-272	Stérile	Pegmatite stérile	0,0026	29,4	0,0003	0,39	0,00092	0,10	0,00022	0,00318
VIS-CV5-PEG-273	Stérile	Pegmatite stérile	0,0095	23,4	0,0004	0,65	0,00157	0,12	0,00085	0,00135
VIS-CV5-PEG-274	Stérile	Pegmatite stérile	0,0264	26,7	0,0011	0,06	0,00482	0,12	0,00028	0,00020
VIS-CV5-PEG-275	Stérile	Pegmatite stérile	0,0012	22,7	0,0002	0,67	0,00065	0,06	0,00021	0,00064
VIS-CV5-PEG-276	Stérile	Pegmatite stérile	0,0008	23,4	<0,0001	0,59	0,00087	0,14	0,00026	0,00167
VIS-CV5-PEG-277	Stérile	Pegmatite stérile	0,0016	16,2	0,0002	0,83	0,00088	0,08	0,00019	0,00067
VIS-CV5-PEG-278	Stérile	Pegmatite stérile	0,0004	27,5	0,0003	1,55	0,00078	0,03	0,00040	0,00423
VIS-CV5-UM-279	Stérile	Ultramafique	0,0007	6,3	0,0028	0,02	<0,00009	0,02	0,00012	<0,00006
VIS-CV5-UM-280	Stérile	Ultramafique	0,0007	7,4	0,0431	0,01	<0,00009	2,34	0,00036	<0,00006
VIS-CV5-UM-281	Stérile	Ultramafique	0,0013	6,5	0,0074	0,02	0,00024	1,69	0,00210	0,00057
VIS-CV5-UM-282	Stérile	Ultramafique	0,0013	19,0	0,0372	0,03	<0,00009	8,02	0,00047	<0,00006
VIS-CV5-UM-283	Stérile	Ultramafique	0,0160	7,8	0,1460	0,01	<0,00009	8,23	0,00089	<0,00006
VIS-CV5-UM-284	Stérile	Ultramafique	0,0040	7,6	0,0249	0,01	<0,00009	5,86	0,00047	<0,00006
VIS-CV5-UM-285	Stérile	Ultramafique	0,0016	7,8	0,0087	0,01	<0,00009	1,00	0,00104	<0,00006
VIS-CV5-UM-286	Stérile	Ultramafique	0,0005	9,2	0,0850	0,03	<0,00009	8,02	0,00078	0,00036
VIS-CV5-UM-287	Stérile	Ultramafique	0,0054	14,2	0,0747	0,03	<0,00009	4,29	0,01009	<0,00006
VIS-CV5-UM-288	Stérile	Ultramafique	0,0028	8,9	0,0136	0,03	<0,00009	2,39	0,00051	<0,00006
VIS-CV5-UM-289	Stérile	Ultramafique	0,0012	6,1	0,0339	0,05	0,00019	2,22	0,00053	0,00007
VIS-CV5-UM-290	Stérile	Ultramafique	0,0004	7,7	0,0112	0,01	<0,00009	3,83	0,00091	0,00012
VIS-CV5-UM-291	Stérile	Ultramafique	0,0007	8,3	0,0140	0,02	<0,00009	1,30	0,00057	<0,00006

Essais CTEU-9

# échantillon	Type de matériel	Lithologie	Strontium	Titane	Thorium	Uranium	Vanadium	Zinc
		Unité	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
		CVAA - Effet aigu	40	0,047	0,017		0,110	0,017
		D019/MDMER						0,400
VIS-CV5-MS-222	Stérile	Métasédiment	0,00872	0,000153	0,003530	0,0239	0,0165	<0,002
VIS-CV5-MS-223	Stérile	Métasédiment	0,00469	0,000197	0,001700	0,0509	0,0353	0,008
VIS-CV5-MS-224	Stérile	Métasédiment	0,01390	0,000145	0,001720	0,0246	0,0060	0,009
VIS-CV5-MS-225	Stérile	Métasédiment	0,00411	0,000254	0,001530	0,0326	0,0099	0,003
VIS-CV5-MS-226	Stérile	Métasédiment	0,01460	0,000026	0,000607	0,0003	0,0441	<0,002
VIS-CV5-MS-227	Stérile	Métasédiment	0,02530	0,000047	0,000740	0,0003	0,0005	<0,002
VIS-CV5-MS-228	Stérile	Métasédiment	0,00262	0,000117	0,000145	0,0422	0,0637	0,003
VIS-CV5-MS-229	Stérile	Métasédiment	0,03720	0,000024	0,000299	0,0005	0,0033	<0,002
VIS-CV5-MS-230	Stérile	Métasédiment	0,02260	0,000093	0,008350	0,0019	0,0236	<0,002
VIS-CV5-MS-231	Stérile	Métasédiment	0,01740	0,000068	0,001910	0,0066	0,0029	<0,002
VIS-CV5-MS-232	Stérile	Métasédiment	0,01220	0,000089	0,000412	0,0150	0,0199	<0,002
VIS-CV5-MS-233	Stérile	Métasédiment	0,00593	0,000049	0,000112	0,0147	0,0148	<0,002
VIS-CV5-MS-234	Stérile	Métasédiment	0,00439	0,000112	0,004360	0,0413	0,0294	0,008
VIS-CV5-MS-235	Stérile	Métasédiment	0,00440	0,000165	0,004150	0,0438	0,0209	<0,002
VIS-CV5-MS-236	Stérile	Métasédiment	0,00445	0,000042	0,002360	0,0074	0,0559	<0,002
VIS-CV5-MS-237	Stérile	Métasédiment	0,00251	0,000042	0,012400	0,0056	0,0883	<0,002
VIS-CV5-MS-238	Stérile	Métasédiment	0,00434	0,000123	0,001750	0,0727	0,0353	0,004
VIS-CV5-MS-239	Stérile	Métasédiment	0,01250	0,000008	0,000082	0,0115	0,0187	<0,002
VIS-CV5-MS-240	Stérile	Métasédiment	0,00500	0,000038	0,000811	0,0305	0,0171	<0,002
VIS-CV5-MS-241	Stérile	Métasédiment	0,00438	0,000482	0,005530	0,1810	0,0314	0,008
VIS-CV5-MS-242	Stérile	Métasédiment	0,00484	0,000119	0,001800	0,0828	0,0388	0,004
VIS-CV5-MS-243	Stérile	Métasédiment	0,00833	0,000039	0,001370	0,0379	0,0241	<0,002
VIS-CV5-MS-244	Stérile	Métasédiment	0,00288	0,000099	0,000825	0,1280	0,0862	0,008
VIS-CV5-MS-245	Stérile	Métasédiment	0,00296	0,000296	0,005840	0,1190	0,0746	0,004
VIS-CV5-MS-246	Stérile	Métasédiment	0,00381	0,000817	0,010800	0,0971	0,0292	0,006
VIS-CV5-MS-247	Stérile	Métasédiment	0,00417	0,000566	0,006890	0,1740	0,0393	0,006
VIS-CV5-MS-248	Stérile	Métasédiment	0,00496	0,000087	0,001770	0,0819	0,0256	0,004
VIS-CV5-MS-249	Stérile	Métasédiment	0,00540	0,000179	0,003110	0,0816	0,0454	0,003
VIS-CV5-MS-250	Stérile	Métasédiment	0,01160	0,000007	0,001640	0,0007	0,0006	<0,002
VIS-CV5-MS-251	Stérile	Métasédiment	0,01050	0,000043	0,000628	0,0609	0,0169	0,003
VIS-CV5-MS-252	Stérile	Métasédiment	0,00995	0,000084	0,001850	0,0205	0,0124	<0,002
VIS-CV5-MS-253	Stérile	Métasédiment	0,10300	0,000022	0,002120	0,0001	0,0002	<0,002
VIS-CV5-MS-254	Stérile	Métasédiment	0,01090	0,000349	0,001380	0,1170	0,0312	0,003
VIS-CV5-MS-255	Stérile	Métasédiment	0,00729	0,000129	0,002870	0,1260	0,0327	0,015
VIS-CV5-MS-256	Stérile	Métasédiment	0,00496	0,000026	0,000634	0,0979	0,0247	0,006
VIS-CV5-MS-257	Stérile	Métasédiment	0,00569	0,000010	0,008790	0,0298	0,0558	<0,002
VIS-CV5-MS-258	Stérile	Métasédiment	0,00422	0,000018	0,000772	0,1050	0,0279	0,006
VIS-CV5-PEG-259	Stérile	Pegmatite stérile	0,00713	0,000150	0,006350	0,0091	0,0140	<0,002
VIS-CV5-PEG-260	Stérile	Pegmatite stérile	0,00842	0,000920	0,001720	0,0011	0,0045	<0,002
VIS-CV5-PEG-261	Stérile	Pegmatite stérile	0,00825	0,000423	0,005070	0,0021	0,0022	0,009
VIS-CV5-PEG-262	Stérile	Pegmatite stérile	0,00320	0,000348	0,436000	0,0015	0,0023	0,003
VIS-CV5-PEG-263	Stérile	Pegmatite stérile	0,00351	0,000222	0,031800	0,0008	0,0053	0,006
VIS-CV5-PEG-264	Stérile	Pegmatite stérile	0,00155	0,000401	0,266000	0,0029	0,0032	<0,002
VIS-CV5-PEG-265	Stérile	Pegmatite stérile	0,00219	0,000349	0,295000	0,0018	0,0022	0,003
VIS-CV5-PEG-266	Stérile	Pegmatite stérile	0,00703	0,000942	0,001600	0,0006	0,0061	<0,002
VIS-CV5-PEG-267	Stérile	Pegmatite stérile	0,00578	0,000915	0,004960	0,0012	0,0026	<0,002
VIS-CV5-PEG-268	Stérile	Pegmatite stérile	0,01470	0,000463	0,006960	0,0012	0,0053	<0,002
VIS-CV5-PEG-269	Stérile	Pegmatite stérile	0,00322	0,001310	0,988000	0,0022	0,0010	0,004
VIS-CV5-PEG-270	Stérile	Pegmatite stérile	0,00544	0,000042	0,019300	0,0007	0,0054	<0,002
VIS-CV5-PEG-271	Stérile	Pegmatite stérile	0,00528	0,002580	0,050700	0,0014	0,0015	0,005
VIS-CV5-PEG-272	Stérile	Pegmatite stérile	0,00326	0,001130	0,054500	0,0047	0,0039	0,004
VIS-CV5-PEG-273	Stérile	Pegmatite stérile	0,00585	0,001420	0,014600	0,0033	0,0085	0,011
VIS-CV5-PEG-274	Stérile	Pegmatite stérile	0,01780	0,000070	0,007830	0,0012	0,0155	<0,002
VIS-CV5-PEG-275	Stérile	Pegmatite stérile	0,00194	0,001650	0,040000	0,0006	0,0032	0,004
VIS-CV5-PEG-276	Stérile	Pegmatite stérile	0,00242	0,001030	0,058200	0,0021	0,0015	0,003
VIS-CV5-PEG-277	Stérile	Pegmatite stérile	0,00284	0,000977	0,008740	0,0007	0,0057	<0,002
VIS-CV5-PEG-278	Stérile	Pegmatite stérile	0,00305	0,000812	0,017400	0,0038	0,0147	0,006
VIS-CV5-UM-279	Stérile	Ultramafique	0,00934	0,000028	0,000107	0,0005	0,0087	<0,002
VIS-CV5-UM-280	Stérile	Ultramafique	0,02690	0,000064	0,000788	0,0002	0,0322	<0,002
VIS-CV5-UM-281	Stérile	Ultramafique	0,00510	0,007850	0,000283	0,0086	0,0781	<0,002
VIS-CV5-UM-282	Stérile	Ultramafique	0,00993	0,000010	0,000162	0,0005	0,0551	<0,002
VIS-CV5-UM-283	Stérile	Ultramafique	0,05450	0,000133	0,001075	0,0004	0,0395	<0,002
VIS-CV5-UM-284	Stérile	Ultramafique	0,02480	0,000192	0,000261	0,0008	0,0609	<0,002
VIS-CV5-UM-285	Stérile	Ultramafique	0,01530	0,000045	0,000505	0,0050	0,0258	<0,002
VIS-CV5-UM-286	Stérile	Ultramafique	0,01540	0,000129	0,000199	0,0003	0,0218	<0,002
VIS-CV5-UM-287	Stérile	Ultramafique	0,05860	0,000076	0,008510	0,0010	0,0505	<0,002
VIS-CV5-UM-288	Stérile	Ultramafique	0,03890	0,001220	0,000681	0,0030	0,0634	<0,002
VIS-CV5-UM-289	Stérile	Ultramafique	0,02670	0,001280	0,000170	0,0160	0,0613	0,003
VIS-CV5-UM-290	Stérile	Ultramafique	0,01030	0,000024	0,000069	0,0003	0,0240	<0,002
VIS-CV5-UM-291	Stérile	Ultramafique	0,01700	0,000057	0,000223	0,0006	0,0327	<0,002

Essais CTEU-9

# échantillon	Type de matériel	Lithologie	pH	Conductivité	Alcalinité	Acidité	Chlore	Sulfate	Mercure	Argent
		Unité	pH unit	µS/cm	$mgCaCO_3/l$	$mgCaCO_3/l$	mg/l	mg/l	mg/l	mg/l
		CVAA - Effet aigu					320	500	0,0014	0,00004
		D019/MDMER								
VIS-CV5-UM-292	Stérile	Ultramafique	8,91	99,00	262,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-UM-293	Stérile	Ultramafique	9,13	68,00	154,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-UM-294	Stérile	Ultramafique	9,30	66,00	162,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-UM-295	Stérile	Ultramafique	9,49	60,00	149,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-UM-296	Stérile	Ultramafique	9,39	57,00	166,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-UM-297	Stérile	Ultramafique	8,60	95,00	350,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-UM-298	Stérile	Ultramafique	8,59	82,00	299,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-UM-299	Stérile	Ultramafique	8,52	69,00	213,00	<2,0	28,00	<30,0	<0,00001	0,00007
VIS-CV5-UM-300	Stérile	Ultramafique	8,43	57,00	233,00	<2,0	<20,0	<30,0	<0,00001	0,00010
VIS-CV5-UM-301	Stérile	Ultramafique	8,87	69,00	196,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-UM-302	Stérile	Ultramafique	8,86	51,00	196,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-UM-303	Stérile	Ultramafique	8,90	79,00	313,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-UM-304	Stérile	Ultramafique	8,71	69,00	225,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-UM-305	Stérile	Ultramafique	8,73	49,00	192,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-UM-306	Stérile	Ultramafique	9,19	56,00	158,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-UM-307	Stérile	Ultramafique	8,65	66,00	316,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-UM-308	Stérile	Ultramafique	8,83	56,00	163,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-UM-309	Stérile	Ultramafique	8,64	50,00	186,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-UM-310	Stérile	Ultramafique	8,60	70,00	250,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-UM-311	Stérile	Ultramafique	8,47	83,00	231,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-UM-312	Stérile	Ultramafique	8,95	77,00	169,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-UM-313	Stérile	Ultramafique	8,90	78,00	164,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-UM-314	Stérile	Ultramafique	9,27	51,00	146,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-UM-315	Stérile	Ultramafique	8,61	51,00	236,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-UM-316	Stérile	Ultramafique	8,78	152,00	358,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-UM-317	Stérile	Ultramafique	9,08	62,00	217,00	<2,0	<20,0	<30,0	<0,00001	<0,00006
VIS-CV5-UM-318	Stérile	Ultramafique	8,02	59,00	230,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-UM-319	Stérile	Ultramafique	8,47	156,00	385,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-UM-320	Stérile	Ultramafique	9,73	84,00	233,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-UM-321	Stérile	Ultramafique	9,36	52,00	149,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-UM-322	Stérile	Ultramafique	9,28	70,00	308,00	<2,0	<20,0	<30,0	<0,00001	0,00011
VIS-CV5-UM-323	Stérile	Ultramafique	9,07	48,00	184,00	<2,0	<20,0	<30,0	<0,00001	0,00005
VIS-CV5-UM-324	Stérile	Ultramafique	9,03	61,00	207,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-UM-325	Stérile	Ultramafique	9,06	73,00	188,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-UM-326	Stérile	Ultramafique	9,11	74,00	226,00	<2,0	<20,0	<30,0	<0,00001	0,00006
VIS-CV5-SP-327	Minerai	Pegmatite spodumène	9,17	92,00	256,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-SP-328	Minerai	Pegmatite spodumène	9,37	101,00	238,00	<2,0	<20,0	<30,0	<0,00001	0,00007
VIS-CV5-SP-329	Minerai	Pegmatite spodumène	9,38	94,00	193,00	<2,0	<20,0	<30,0	<0,00001	0,00015
VIS-CV5-SP-330	Minerai	Pegmatite spodumène	8,71	58,00	150,00	<2,0	<20,0	<30,0	<0,00001	0,00010
VIS-CV5-SP-331	Minerai	Pegmatite spodumène	9,58	135,00	277,00	<2,0	<20,0	<30,0	<0,00001	0,00005
VIS-CV5-SP-332	Minerai	Pegmatite spodumène	9,46	106,00	226,00	<2,0	<20,0	<30,0	<0,00001	0,00011
VIS-CV5-SP-333	Minerai	Pegmatite spodumène	9,03	99,00	237,00	<2,0	<20,0	<30,0	<0,00001	0,00007
VIS-CV5-SP-334	Minerai	Pegmatite spodumène	9,28	92,00	227,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-SP-335	Minerai	Pegmatite spodumène	8,38	71,00	253,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-SP-336	Minerai	Pegmatite spodumène	8,87	88,00	242,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-SP-337	Minerai	Pegmatite spodumène	8,83	81,00	184,00	<2,0	<20,0	<30,0	<0,00001	0,00025
VIS-CV5-SP-338	Minerai	Pegmatite spodumène	9,05	78,00	186,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-SP-339	Minerai	Pegmatite spodumène	9,53	103,00	219,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-SP-340	Minerai	Pegmatite spodumène	9,42	95,00	199,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-SP-341	Minerai	Pegmatite spodumène	8,84	85,00	210,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-SP-342	Minerai	Pegmatite spodumène	8,54	68,00	227,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
VIS-CV5-SP-343	Minerai	Pegmatite spodumène	9,17	92,00	256,00	<2,0	<20,0	<30,0	<0,00001	<0,00005
CV5-MAG-C	Résidu	CV5-MAG-C	9,25	207,00	87,00	<2,0	<20,0	<20,0	<0,00001	<0,00005
CV5-DMS-MID	Résidu	CV5-DMS-MID	9,39	191,00	88,00	<2,0	<20,0	<20,0	<0,00001	<0,00005
CV5-FLO-C	Résidu	CV5-FLO-C	9,33	169,00	72,00	<2,0	<20,0	<20,0	<0,00001	0,00006
CV5-MAG-F	Résidu	CV5-MAG-F	9,16	177,00	71,00	<2,0	<20,0	<20,0	<0,00001	<0,00005
CV5-MID-F	Résidu	CV5-MID-F	9,29	165,00	69,00	<2,0	<20,0	<20,0	<0,00001	<0,00005
CV5-FLO-F	Résidu	CV5-FLO-F	9,51	194,00	76,00	<2,0	24,00	<20,0	<0,00001	0,00012
CV5-BYP-CP	Résidu	CV5-BYP-CP	9,42	210,00	98,00	<2,0	<20,0	<20,0	<0,00001	<0,00005

Essais CTEU-9

# échantillon	Type de matériel	Lithologie	Aluminum	Arsenic	Bore	Baryum	Béryllium	Bismuth	Calcium	Cadmium
		Unité	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
		CVAA - Effet aigu	0,28	0,34	28	0,10807	0,00124			0,00021
		D019/MDMER		0,10						
VIS-CV5-UM-292	Stérile	Ultramafique	0,04	43,10	0,06	0,00237	0,000012	<0,00001	9,62	0,000004
VIS-CV5-UM-293	Stérile	Ultramafique	0,18	3,85	0,05	0,00116	0,000021	0,000030	4,34	0,000009
VIS-CV5-UM-294	Stérile	Ultramafique	0,26	0,19	0,04	0,00060	<0,000007	<0,00001	5,13	0,000004
VIS-CV5-UM-295	Stérile	Ultramafique	0,45	0,47	0,09	0,00103	0,000014	<0,00001	4,27	0,000008
VIS-CV5-UM-296	Stérile	Ultramafique	0,20	2,15	0,08	0,00127	0,000024	0,000020	7,18	<0,000003
VIS-CV5-UM-297	Stérile	Ultramafique	0,06	42,20	0,06	0,00429	0,000014	<0,00001	11,10	0,000007
VIS-CV5-UM-298	Stérile	Ultramafique	0,06	14,50	0,17	0,00397	0,000007	0,000020	6,06	0,000008
VIS-CV5-UM-299	Stérile	Ultramafique	0,22	1,61	0,08	0,00178	0,000040	0,000030	8,93	0,000013
VIS-CV5-UM-300	Stérile	Ultramafique	0,11	4,34	0,06	0,00147	<0,000007	0,000060	9,18	0,000009
VIS-CV5-UM-301	Stérile	Ultramafique	0,21	3,36	0,14	0,00195	0,000020	0,000020	7,22	0,000014
VIS-CV5-UM-302	Stérile	Ultramafique	0,29	1,46	0,15	0,00164	0,000010	0,000020	4,82	0,000003
VIS-CV5-UM-303	Stérile	Ultramafique	0,17	0,25	0,16	0,00218	0,000078	<0,00001	7,88	0,000006
VIS-CV5-UM-304	Stérile	Ultramafique	0,19	7,63	0,12	0,00255	<0,000007	<0,00001	11,10	<0,000003
VIS-CV5-UM-305	Stérile	Ultramafique	0,10	3,26	0,13	0,00253	0,000015	<0,00001	10,00	0,000006
VIS-CV5-UM-306	Stérile	Ultramafique	0,66	0,09	0,08	0,00096	0,000007	<0,00001	4,71	0,000033
VIS-CV5-UM-307	Stérile	Ultramafique	0,16	11,50	0,42	0,00509	0,000022	0,000030	9,07	0,000006
VIS-CV5-UM-308	Stérile	Ultramafique	0,09	9,42	0,12	0,00237	0,000014	<0,00001	7,37	<0,000003
VIS-CV5-UM-309	Stérile	Ultramafique	0,13	0,35	0,10	0,00181	0,000012	<0,00001	7,23	<0,000003
VIS-CV5-UM-310	Stérile	Ultramafique	0,11	17,40	0,12	0,00384	<0,000007	<0,00001	10,80	<0,000003
VIS-CV5-UM-311	Stérile	Ultramafique	0,05	29,70	0,14	0,00517	<0,000007	<0,00001	10,50	<0,000003
VIS-CV5-UM-312	Stérile	Ultramafique	0,56	1,72	0,10	0,00420	0,000010	<0,00001	2,96	<0,000003
VIS-CV5-UM-313	Stérile	Ultramafique	0,04	8,52	0,06	0,00178	<0,000007	<0,00001	6,11	<0,000003
VIS-CV5-UM-314	Stérile	Ultramafique	0,24	0,44	0,11	0,00118	0,000013	<0,00001	3,91	<0,000003
VIS-CV5-UM-315	Stérile	Ultramafique	0,07	1,22	0,13	0,00221	0,000008	<0,00001	13,40	<0,000003
VIS-CV5-UM-316	Stérile	Ultramafique	0,01	58,90	0,17	0,00606	<0,000007	0,000020	13,80	<0,000003
VIS-CV5-UM-317	Stérile	Ultramafique	0,23	2,57	0,11	0,00211	0,000023	<0,00001	6,75	0,000008
VIS-CV5-UM-318	Stérile	Ultramafique	0,28	1,12	0,09	0,00216	0,000028	0,000040	12,90	0,000010
VIS-CV5-UM-319	Stérile	Ultramafique	0,01	96,10	0,17	0,00737	<0,000007	<0,00001	23,70	<0,000003
VIS-CV5-UM-320	Stérile	Ultramafique	0,35	2,93	0,21	0,00305	0,000062	0,000060	3,39	0,000003
VIS-CV5-UM-321	Stérile	Ultramafique	0,37	2,81	0,11	0,00225	0,000044	<0,00001	4,96	0,000004
VIS-CV5-UM-322	Stérile	Ultramafique	0,15	0,20	0,07	0,00270	<0,000007	<0,00001	9,20	<0,000003
VIS-CV5-UM-323	Stérile	Ultramafique	0,09	0,38	0,10	0,00207	0,000010	<0,00001	8,30	<0,000003
VIS-CV5-UM-324	Stérile	Ultramafique	0,33	3,02	0,12	0,00248	0,000537	0,000030	9,09	<0,000003
VIS-CV5-UM-325	Stérile	Ultramafique	0,12	5,09	0,09	0,00245	0,000029	<0,00001	4,38	<0,000003
VIS-CV5-UM-326	Stérile	Ultramafique	0,27	0,80	0,32	0,00147	0,000050	<0,00001	6,07	<0,000003
VIS-CV5-SP-327	Minerai	Pegmatite spodumène	1,88	0,32	0,32	0,00223	0,001190	0,000400	3,22	0,000017
VIS-CV5-SP-328	Minerai	Pegmatite spodumène	6,10	0,95	0,26	0,00303	0,001600	0,000360	0,97	0,000030
VIS-CV5-SP-329	Minerai	Pegmatite spodumène	7,98	2,66	0,39	0,00768	0,001370	0,001050	0,93	0,000042
VIS-CV5-SP-330	Minerai	Pegmatite spodumène	3,69	1,19	0,29	0,00427	0,000951	0,056100	0,89	0,000059
VIS-CV5-SP-331	Minerai	Pegmatite spodumène	6,99	4,05	0,42	0,00438	0,000468	0,000070	0,75	0,000029
VIS-CV5-SP-332	Minerai	Pegmatite spodumène	4,71	1,79	0,30	0,00437	0,000542	0,001400	0,78	0,000021
VIS-CV5-SP-333	Minerai	Pegmatite spodumène	5,82	3,54	0,53	0,00326	0,000289	0,000200	0,40	0,000006
VIS-CV5-SP-334	Minerai	Pegmatite spodumène	5,75	0,48	0,23	0,00700	0,001100	0,000100	1,21	0,000043
VIS-CV5-SP-335	Minerai	Pegmatite spodumène	0,78	0,15	0,34	0,00162	0,000906	0,000170	1,63	0,000013
VIS-CV5-SP-336	Minerai	Pegmatite spodumène	3,94	1,82	0,29	0,00202	0,000460	0,003370	1,00	0,000016
VIS-CV5-SP-337	Minerai	Pegmatite spodumène	7,12	1,43	0,40	0,00177	0,000500	0,000930	0,45	0,000031
VIS-CV5-SP-338	Minerai	Pegmatite spodumène	2,77	0,96	0,25	0,00091	0,000286	0,009650	0,61	0,000017
VIS-CV5-SP-339	Minerai	Pegmatite spodumène	5,98	1,43	0,37	0,00155	0,000319	0,000140	0,50	0,000011
VIS-CV5-SP-340	Minerai	Pegmatite spodumène	3,66	0,28	0,29	0,00052	0,000232	0,001180	0,71	0,000014
VIS-CV5-SP-341	Minerai	Pegmatite spodumène	1,29	0,18	0,23	0,00117	0,001010	0,001120	0,85	0,000015
VIS-CV5-SP-342	Minerai	Pegmatite spodumène	0,66	0,55	0,29	0,00089	0,000266	0,000360	2,57	0,000004
VIS-CV5-SP-343	Minerai	Pegmatite spodumène	1,88	0,32	0,32	0,00223	0,001190	0,000400	3,22	0,000017
CV5-MAG-C	Résidu	CV5-MAG-C	0,08600	11,70	0,19	0,00226	0,000014	0,000020	6,93	0,000011
CV5-DMS-MID	Résidu	CV5-DMS-MID	1,23000	1,03	0,21	0,00228	0,000604	0,004290	1,26	0,000028
CV5-FLO-C	Résidu	CV5-FLO-C	1,82000	1,68	0,14	0,00165	0,000493	0,003240	0,91	0,000020
CV5-MAG-F	Résidu	CV5-MAG-F	0,40500	4,85	0,48	0,00140	0,000105	0,000150	3,43	0,000015
CV5-MID-F	Résidu	CV5-MID-F	1,69000	1,94	0,20	0,00342	0,000904	0,003070	2,02	0,000025
CV5-FLO-F	Résidu	CV5-FLO-F	2,36000	0,95	0,14	0,00254	0,001110	0,003700	1,14	0,000027
CV5-BYP-CP	Résidu	CV5-BYP-CP	0,59	2,88	0,22	0,00268	0,000380	0,000840	3,09	0,000043

Essais CTEU-9

# échantillon	Type de matériel	Lithologie	Cobalt	Chrome	Cuivre	Fer	Potassium	Lithium	Magnésium	Manganèse
		Unité	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
		CVAA - Effet aigu	0,37000	0,016	0,0016	3,4		0,9100		0,55
		D019/MDMER		0,209	0,100	3,0				
VIS-CV5-UM-292	Stérile	Ultramafique	0,000959	0,08270	0,001	0,510	0,76	0,00	22,40	0,0010
VIS-CV5-UM-293	Stérile	Ultramafique	0,001180	0,08720	0,001	0,970	0,48	0,01	12,40	0,0040
VIS-CV5-UM-294	Stérile	Ultramafique	0,000093	0,09830	0,001	0,910	0,71	0,83	8,76	0,0008
VIS-CV5-UM-295	Stérile	Ultramafique	0,000367	0,04650	0,002	1,040	5,57	2,03	2,43	0,0077
VIS-CV5-UM-296	Stérile	Ultramafique	0,000365	0,04460	0,002	2,990	4,18	1,66	3,74	0,0089
VIS-CV5-UM-297	Stérile	Ultramafique	0,001190	0,13600	0,001	0,800	0,40	0,01	28,90	0,0015
VIS-CV5-UM-298	Stérile	Ultramafique	0,000154	0,15700	0,002	6,380	33,10	2,57	7,88	0,0014
VIS-CV5-UM-299	Stérile	Ultramafique	0,000578	0,03500	0,001	1,800	2,54	0,96	9,36	0,0157
VIS-CV5-UM-300	Stérile	Ultramafique	0,000628	0,12400	0,001	1,150	3,06	0,55	10,40	0,0028
VIS-CV5-UM-301	Stérile	Ultramafique	0,000559	0,07250	0,003	0,760	6,86	1,15	4,88	0,0059
VIS-CV5-UM-302	Stérile	Ultramafique	0,000084	0,02600	0,001	0,270	15,00	1,50	3,10	0,0009
VIS-CV5-UM-303	Stérile	Ultramafique	0,000194	0,00676	0,001	2,700	10,80	1,20	4,92	0,0032
VIS-CV5-UM-304	Stérile	Ultramafique	0,000999	0,05840	0,003	0,310	7,97	0,71	6,51	0,0056
VIS-CV5-UM-305	Stérile	Ultramafique	0,000286	0,04020	0,001	1,100	10,70	0,48	4,66	0,0033
VIS-CV5-UM-306	Stérile	Ultramafique	0,000151	0,13400	0,001	0,270	4,10	1,32	5,13	0,0027
VIS-CV5-UM-307	Stérile	Ultramafique	0,000747	0,02210	0,004	3,760	27,80	2,63	11,20	0,0054
VIS-CV5-UM-308	Stérile	Ultramafique	0,000251	0,03550	0,001	1,210	9,49	0,33	6,35	0,0023
VIS-CV5-UM-309	Stérile	Ultramafique	0,000200	0,04860	0,001	1,450	4,84	1,02	3,81	0,0036
VIS-CV5-UM-310	Stérile	Ultramafique	0,000590	0,08390	0,001	1,570	20,10	1,42	6,18	0,0037
VIS-CV5-UM-311	Stérile	Ultramafique	0,000553	0,01160	0,001	1,270	10,30	0,57	14,00	0,0023
VIS-CV5-UM-312	Stérile	Ultramafique	0,001130	0,09340	0,001	0,350	18,90	1,04	4,24	0,0063
VIS-CV5-UM-313	Stérile	Ultramafique	0,000478	0,06710	0,001	0,410	0,37	0,01	13,80	0,0016
VIS-CV5-UM-314	Stérile	Ultramafique	0,000191	0,04380	0,001	1,210	7,21	2,32	1,54	0,0045
VIS-CV5-UM-315	Stérile	Ultramafique	0,000177	0,04180	0,001	1,570	7,48	1,20	6,23	0,0018
VIS-CV5-UM-316	Stérile	Ultramafique	0,000528	0,00474	0,001	1,870	2,75	0,02	35,10	0,0010
VIS-CV5-UM-317	Stérile	Ultramafique	0,000507	0,11400	0,001	1,490	9,41	2,93	6,07	0,0034
VIS-CV5-UM-318	Stérile	Ultramafique	0,000806	0,08300	0,003	1,130	6,51	0,92	4,69	0,0082
VIS-CV5-UM-319	Stérile	Ultramafique	0,000454	0,00295	0,001	0,980	0,88	0,02	37,80	0,0017
VIS-CV5-UM-320	Stérile	Ultramafique	0,000416	0,20900	0,002	7,730	32,30	3,33	2,40	0,0112
VIS-CV5-UM-321	Stérile	Ultramafique	0,000298	0,08380	0,001	1,590	9,58	1,28	1,84	0,0066
VIS-CV5-UM-322	Stérile	Ultramafique	0,000114	0,08880	0,001	1,280	11,90	2,30	13,00	0,0013
VIS-CV5-UM-323	Stérile	Ultramafique	0,000144	0,03520	0,001	1,420	9,87	0,98	3,23	0,0026
VIS-CV5-UM-324	Stérile	Ultramafique	0,000843	0,06710	0,002	2,560	5,41	0,82	4,49	0,0067
VIS-CV5-UM-325	Stérile	Ultramafique	0,000379	0,12000	0,001	2,660	22,90	0,91	6,60	0,0028
VIS-CV5-UM-326	Stérile	Ultramafique	0,000436	0,00527	0,001	3,070	1,74	0,09	2,15	0,0032
VIS-CV5-SP-327	Minerai	Pegmatite spodumène	0,000208	0,00162	0,001	8,830	21,10	6,25	0,64	0,0407
VIS-CV5-SP-328	Minerai	Pegmatite spodumène	0,000111	0,00474	0,002	9,000	5,84	9,73	0,15	0,1640
VIS-CV5-SP-329	Minerai	Pegmatite spodumène	0,000155	0,00428	0,002	6,210	1,42	7,49	0,23	0,1530
VIS-CV5-SP-330	Minerai	Pegmatite spodumène	0,000126	0,01550	0,002	6,900	3,37	3,22	0,24	0,0850
VIS-CV5-SP-331	Minerai	Pegmatite spodumène	0,000081	0,00327	0,001	10,600	2,99	12,60	0,19	0,1160
VIS-CV5-SP-332	Minerai	Pegmatite spodumène	0,000067	0,00256	0,001	5,920	4,05	6,98	0,25	0,0732
VIS-CV5-SP-333	Minerai	Pegmatite spodumène	0,000041	0,00116	0,001	11,500	1,38	7,17	0,12	0,0354
VIS-CV5-SP-334	Minerai	Pegmatite spodumène	0,000235	0,00244	0,006	5,720	8,93	7,41	0,55	0,1350
VIS-CV5-SP-335	Minerai	Pegmatite spodumène	0,000042	0,00037	0,001	3,980	20,10	2,33	0,65	0,0059
VIS-CV5-SP-336	Minerai	Pegmatite spodumène	0,000064	0,00190	0,001	9,530	16,00	7,67	0,18	0,0577
VIS-CV5-SP-337	Minerai	Pegmatite spodumène	0,000048	0,00579	0,001	4,420	1,55	4,16	0,06	0,0536
VIS-CV5-SP-338	Minerai	Pegmatite spodumène	0,000026	0,00690	0,001	5,150	13,50	3,04	0,08	0,0177
VIS-CV5-SP-339	Minerai	Pegmatite spodumène	0,000021	0,00262	0,001	5,150	2,54	5,54	0,07	0,0279
VIS-CV5-SP-340	Minerai	Pegmatite spodumène	0,000017	0,00224	0,001	1,890	5,46	2,65	0,06	0,0131
VIS-CV5-SP-341	Minerai	Pegmatite spodumène	0,000045	0,00263	0,001	2,250	8,68	3,06	0,13	0,0157
VIS-CV5-SP-342	Minerai	Pegmatite spodumène	0,000024	0,00078	0,001	3,660	13,80	3,12	0,44	0,0085
VIS-CV5-SP-343	Minerai	Pegmatite spodumène	0,000208	0,00162	0,001	8,830	21,10	6,25	0,64	0,0407
CV5-MAG-C	Résidu	CV5-MAG-C	0,000391	0,09100	0,001	0,113	14,10	1,27	10,60	0,0026
CV5-DMS-MID	Résidu	CV5-DMS-MID	0,000361	0,01190	0,001	0,288	10,90	2,37	0,57	0,0180
CV5-FLO-C	Résidu	CV5-FLO-C	0,000082	0,00395	0,001	0,086	10,30	0,59	0,14	0,0311
CV5-MAG-F	Résidu	CV5-MAG-F	0,000714	0,02790	0,001	0,246	23,80	2,18	2,90	0,0150
CV5-MID-F	Résidu	CV5-MID-F	0,001160	0,02780	0,002	0,710	15,40	1,71	1,74	0,0427
CV5-FLO-F	Résidu	CV5-FLO-F	0,000214	0,01040	0,002	0,245	12,00	0,82	0,32	0,0289
CV5-BYP-CP	Résidu	CV5-BYP-CP	0,000549	0,02290	0,003	0,251	10,70	2,16	2,35	0,0149

Essais CTEU-9

# échantillon	Type de matériel	Lithologie	Molybdène	Sodium	Nickel	Phosphore réactif total	Plomb	Antimoine	Sélénium	Etain
		Unité	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
		CVAA - Effet aigu	29,00		0,067		0,004	0,310	0,062	
		D019/MDMER			0,250		0,080			
VIS-CV5-UM-292	Stérile	Ultramafique	0,0004	7,3	0,0707	0,01	<0,00009	1,49	0,00037	<0,00006
VIS-CV5-UM-293	Stérile	Ultramafique	0,0009	7,3	0,0151	0,01	0,00012	0,46	0,00023	0,00007
VIS-CV5-UM-294	Stérile	Ultramafique	0,0040	6,6	0,0010	<0,003	<0,00009	0,08	0,00063	<0,00006
VIS-CV5-UM-295	Stérile	Ultramafique	0,0021	10,6	0,0019	0,01	<0,00009	0,06	0,00021	<0,00006
VIS-CV5-UM-296	Stérile	Ultramafique	0,0007	11,9	0,0028	0,01	<0,00009	0,16	0,00037	0,00009
VIS-CV5-UM-297	Stérile	Ultramafique	0,0047	8,0	0,0411	0,01	<0,00009	1,48	0,00157	<0,00006
VIS-CV5-UM-298	Stérile	Ultramafique	0,0032	8,1	0,0028	0,03	0,00109	0,43	0,00045	<0,00006
VIS-CV5-UM-299	Stérile	Ultramafique	0,0140	10,3	0,0029	0,02	0,00014	0,35	0,00052	0,00011
VIS-CV5-UM-300	Stérile	Ultramafique	0,0024	9,1	0,0047	0,02	0,00011	0,30	0,00122	0,00010
VIS-CV5-UM-301	Stérile	Ultramafique	0,0144	10,5	0,0035	0,02	0,00013	0,53	0,00055	0,00036
VIS-CV5-UM-302	Stérile	Ultramafique	0,0021	8,2	0,0011	0,01	<0,00009	0,04	0,00387	<0,00006
VIS-CV5-UM-303	Stérile	Ultramafique	0,0073	28,8	0,0016	0,03	0,00013	0,67	0,00084	0,00013
VIS-CV5-UM-304	Stérile	Ultramafique	0,0040	19,0	0,0147	0,01	<0,00009	0,54	0,00075	0,00010
VIS-CV5-UM-305	Stérile	Ultramafique	0,0038	13,1	0,0050	0,01	<0,00009	0,13	0,00081	0,00007
VIS-CV5-UM-306	Stérile	Ultramafique	0,0831	11,5	0,0017	0,01	<0,00009	0,04	0,00111	0,00012
VIS-CV5-UM-307	Stérile	Ultramafique	0,0106	10,9	0,0101	0,06	0,00016	1,37	0,00098	0,00016
VIS-CV5-UM-308	Stérile	Ultramafique	0,0005	10,1	0,0036	0,02	<0,00009	0,59	0,00019	0,00008
VIS-CV5-UM-309	Stérile	Ultramafique	0,0012	19,0	0,0016	0,01	<0,00009	0,26	0,00054	0,00016
VIS-CV5-UM-310	Stérile	Ultramafique	0,0045	15,3	0,0055	0,01	<0,00009	0,69	0,00016	0,00007
VIS-CV5-UM-311	Stérile	Ultramafique	0,0066	9,3	0,0264	0,03	<0,00009	3,50	0,00058	0,00009
VIS-CV5-UM-312	Stérile	Ultramafique	0,0005	14,0	0,0077	0,04	0,00013	0,28	0,00013	0,00016
VIS-CV5-UM-313	Stérile	Ultramafique	0,0004	8,3	0,0115	0,01	0,00010	0,93	0,00021	0,00008
VIS-CV5-UM-314	Stérile	Ultramafique	0,0009	12,4	0,0009	0,01	<0,00009	0,22	0,00024	0,00008
VIS-CV5-UM-315	Stérile	Ultramafique	0,0030	15,2	0,0025	0,02	<0,00009	0,09	0,00169	<0,00006
VIS-CV5-UM-316	Stérile	Ultramafique	0,0013	13,0	0,1290	0,01	<0,00009	3,66	0,00052	0,00011
VIS-CV5-UM-317	Stérile	Ultramafique	0,0097	13,2	0,0042	0,02	<0,00009	0,24	0,00034	0,00011
VIS-CV5-UM-318	Stérile	Ultramafique	0,0127	19,9	0,0090	0,02	<0,00009	0,15	0,00105	0,00011
VIS-CV5-UM-319	Stérile	Ultramafique	0,0004	10,5	0,3690	0,02	<0,00009	6,52	0,00095	<0,00006
VIS-CV5-UM-320	Stérile	Ultramafique	0,0008	10,6	0,0030	0,03	0,00010	0,33	0,00092	0,00019
VIS-CV5-UM-321	Stérile	Ultramafique	0,0006	12,3	0,0019	0,01	0,00046	0,28	0,00023	0,00015
VIS-CV5-UM-322	Stérile	Ultramafique	0,0042	16,8	0,0010	0,01	<0,00009	0,23	0,00068	0,00008
VIS-CV5-UM-323	Stérile	Ultramafique	0,0013	14,8	0,0011	0,01	<0,00009	0,11	0,00091	0,00008
VIS-CV5-UM-324	Stérile	Ultramafique	0,0028	23,0	0,0062	0,04	<0,00009	0,34	0,00061	0,00029
VIS-CV5-UM-325	Stérile	Ultramafique	0,0009	9,6	0,0040	0,02	<0,00009	0,41	0,00012	0,00008
VIS-CV5-UM-326	Stérile	Ultramafique	0,0044	42,9	0,0018	0,01	0,00041	0,92	0,00079	0,00009
VIS-CV5-SP-327	Minerai	Pegmatite spodumène	0,0036	18,9	0,0006	0,47	0,00032	0,09	0,00012	0,00174
VIS-CV5-SP-328	Minerai	Pegmatite spodumène	0,0089	18,4	0,0002	2,58	0,00069	0,57	0,00018	0,00453
VIS-CV5-SP-329	Minerai	Pegmatite spodumène	0,0066	18,2	0,0003	2,51	0,00313	3,84	0,00013	0,00327
VIS-CV5-SP-330	Minerai	Pegmatite spodumène	0,0053	20,1	0,0005	0,93	0,00133	0,45	0,00116	0,00267
VIS-CV5-SP-331	Minerai	Pegmatite spodumène	0,0047	20,3	0,0003	1,98	0,00152	4,60	0,00021	0,00293
VIS-CV5-SP-332	Minerai	Pegmatite spodumène	0,0056	24,4	<0,0001	1,04	0,00082	0,44	0,00015	0,00167
VIS-CV5-SP-333	Minerai	Pegmatite spodumène	0,0032	25,1	0,0002	1,71	0,00043	2,58	0,00005	0,00210
VIS-CV5-SP-334	Minerai	Pegmatite spodumène	0,0027	18,1	0,0011	1,11	0,00198	0,11	0,00014	0,00421
VIS-CV5-SP-335	Minerai	Pegmatite spodumène	0,0013	20,8	<0,0001	0,31	0,00015	0,07	0,00047	0,00103
VIS-CV5-SP-336	Minerai	Pegmatite spodumène	0,0044	15,5	0,0002	1,82	0,00052	0,59	0,00009	0,00264
VIS-CV5-SP-337	Minerai	Pegmatite spodumène	0,0024	23,2	<0,0001	2,43	0,00143	0,27	0,00018	0,00155
VIS-CV5-SP-338	Minerai	Pegmatite spodumène	0,0059	21,6	0,0002	1,90	0,00102	0,19	0,00047	0,00077
VIS-CV5-SP-339	Minerai	Pegmatite spodumène	0,0011	28,9	<0,0001	1,35	0,00087	0,91	0,00021	0,00122
VIS-CV5-SP-340	Minerai	Pegmatite spodumène	0,0049	31,3	<0,0001	1,26	0,00029	0,14	0,00029	0,00065
VIS-CV5-SP-341	Minerai	Pegmatite spodumène	0,0179	27,1	0,0002	0,64	0,00043	0,05	0,00016	0,00055
VIS-CV5-SP-342	Minerai	Pegmatite spodumène	0,0029	21,8	<0,0001	0,61	0,00046	0,13	0,00049	0,00044
VIS-CV5-SP-343	Minerai	Pegmatite spodumène	0,0036	18,9	0,0006	0,47	0,00032	0,09	0,00012	0,00174
CV5-MAG-C	Résidu	CV5-MAG-C	0,0034	12,4	0,0057	4,26	<0,00009	1,61	0,00065	0,00010
CV5-DMS-MID	Résidu	CV5-DMS-MID	0,0157	20,3	0,0020	1,04	0,00098	0,34	0,00013	0,00107
CV5-FLO-C	Résidu	CV5-FLO-C	0,0055	29,7	0,0004	1,42	0,00136	0,31	0,00038	0,00073
CV5-MAG-F	Résidu	CV5-MAG-F	0,0048	11,1	0,0054	2,14	0,00026	0,94	0,00035	0,00143
CV5-MID-F	Résidu	CV5-MID-F	0,0026	18,3	0,0088	1,02	0,00139	0,43	0,00014	0,00198
CV5-FLO-F	Résidu	CV5-FLO-F	0,0057	35,3	0,0011	1,01	0,00234	0,28	0,00039	0,00116
CV5-BYP-CP	Résidu	CV5-BYP-CP	0,0059	23,2	0,0046	1,34	0,00125	0,50	0,00032	0,00080

Essais CTEU-9

# échantillon	Type de matériel	Lithologie	Strontium	Titane	Thorium	Uranium	Vanadium	Zinc
		Unité	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
		CVAA - Effet aigu	40	0,047	0,017		0,110	0,017
		D019/MDMER						0,400
VIS-CV5-UM-292	Stérile	Ultramafique	0,01670	0,000008	0,000172	0,0005	0,0414	<0,002
VIS-CV5-UM-293	Stérile	Ultramafique	0,01030	0,000024	0,000294	0,0008	0,0221	<0,002
VIS-CV5-UM-294	Stérile	Ultramafique	0,00884	0,000011	0,000087	0,0009	0,0217	<0,002
VIS-CV5-UM-295	Stérile	Ultramafique	0,00618	0,000040	0,000206	0,0134	0,0716	<0,002
VIS-CV5-UM-296	Stérile	Ultramafique	0,01340	0,000194	0,000508	0,0073	0,1030	<0,002
VIS-CV5-UM-297	Stérile	Ultramafique	0,03370	0,000030	0,000108	0,0007	0,0361	<0,002
VIS-CV5-UM-298	Stérile	Ultramafique	0,01300	0,000936	0,000452	0,0006	0,0659	<0,002
VIS-CV5-UM-299	Stérile	Ultramafique	0,01840	0,000022	0,000406	0,0033	0,0372	<0,002
VIS-CV5-UM-300	Stérile	Ultramafique	0,01020	0,000036	0,000899	0,0021	0,0365	<0,002
VIS-CV5-UM-301	Stérile	Ultramafique	0,01070	0,000075	0,000593	0,0067	0,0571	<0,002
VIS-CV5-UM-302	Stérile	Ultramafique	0,00539	0,000028	0,000139	0,0012	0,0337	<0,002
VIS-CV5-UM-303	Stérile	Ultramafique	0,01660	0,000222	0,002670	0,0058	0,0217	<0,002
VIS-CV5-UM-304	Stérile	Ultramafique	0,01930	0,000019	0,000193	0,0051	0,0440	<0,002
VIS-CV5-UM-305	Stérile	Ultramafique	0,02000	0,000025	0,000360	0,0035	0,0698	<0,002
VIS-CV5-UM-306	Stérile	Ultramafique	0,00598	<0,000005	0,000007	0,0040	0,0438	<0,002
VIS-CV5-UM-307	Stérile	Ultramafique	0,01490	0,000364	0,004010	0,0101	0,0459	<0,002
VIS-CV5-UM-308	Stérile	Ultramafique	0,04530	0,000271	0,000102	0,0024	0,0273	<0,002
VIS-CV5-UM-309	Stérile	Ultramafique	0,01400	0,000061	0,000269	0,0030	0,0486	<0,002
VIS-CV5-UM-310	Stérile	Ultramafique	0,02450	0,000091	0,000205	0,0049	0,0788	<0,002
VIS-CV5-UM-311	Stérile	Ultramafique	0,02720	0,000156	0,000500	0,0013	0,0401	<0,002
VIS-CV5-UM-312	Stérile	Ultramafique	0,00985	0,000169	0,000050	0,0193	0,0519	<0,002
VIS-CV5-UM-313	Stérile	Ultramafique	0,01300	0,000027	0,000086	0,0005	0,0203	<0,002
VIS-CV5-UM-314	Stérile	Ultramafique	0,00661	0,000049	0,001190	0,0060	0,0881	<0,002
VIS-CV5-UM-315	Stérile	Ultramafique	0,02080	0,000097	0,000908	0,0030	0,0744	<0,002
VIS-CV5-UM-316	Stérile	Ultramafique	0,03940	0,000013	0,000068	0,0003	0,0082	<0,002
VIS-CV5-UM-317	Stérile	Ultramafique	0,01550	0,000158	0,000737	0,0059	0,0488	<0,002
VIS-CV5-UM-318	Stérile	Ultramafique	0,02100	0,000078	0,000471	0,0109	0,0928	<0,002
VIS-CV5-UM-319	Stérile	Ultramafique	0,11200	<0,000005	0,000036	0,0002	0,0085	<0,002
VIS-CV5-UM-320	Stérile	Ultramafique	0,00556	0,000712	0,000521	0,0181	0,0910	<0,002
VIS-CV5-UM-321	Stérile	Ultramafique	0,00822	0,000061	0,002910	0,0042	0,0704	<0,002
VIS-CV5-UM-322	Stérile	Ultramafique	0,02090	0,000147	0,000144	0,0015	0,0134	<0,002
VIS-CV5-UM-323	Stérile	Ultramafique	0,01540	0,000114	0,000179	0,0027	0,0504	<0,002
VIS-CV5-UM-324	Stérile	Ultramafique	0,01460	0,000094	0,002000	0,0104	0,0704	<0,002
VIS-CV5-UM-325	Stérile	Ultramafique	0,01230	0,000426	0,000044	0,0023	0,0405	<0,002
VIS-CV5-UM-326	Stérile	Ultramafique	0,04360	0,000046	0,000025	0,0015	0,0477	<0,002
VIS-CV5-SP-327	Minerai	Pegmatite spodumène	0,00583	0,000651	0,021700	0,0019	0,0056	<0,002
VIS-CV5-SP-328	Minerai	Pegmatite spodumène	0,00317	0,001260	0,026300	0,0037	0,0009	0,005
VIS-CV5-SP-329	Minerai	Pegmatite spodumène	0,00643	0,000877	0,114000	0,0024	0,0016	0,007
VIS-CV5-SP-330	Minerai	Pegmatite spodumène	0,00483	0,000727	0,007790	0,0036	0,0018	0,010
VIS-CV5-SP-331	Minerai	Pegmatite spodumène	0,00299	0,000712	0,026500	0,0017	0,0013	0,005
VIS-CV5-SP-332	Minerai	Pegmatite spodumène	0,00266	0,000515	0,071400	0,0019	0,0012	0,005
VIS-CV5-SP-333	Minerai	Pegmatite spodumène	0,00180	0,000412	0,048400	0,0013	0,0012	0,004
VIS-CV5-SP-334	Minerai	Pegmatite spodumène	0,00624	0,000857	0,030300	0,0024	0,0021	0,008
VIS-CV5-SP-335	Minerai	Pegmatite spodumène	0,00517	0,000291	0,013000	0,0005	0,0016	<0,002
VIS-CV5-SP-336	Minerai	Pegmatite spodumène	0,00293	0,001370	0,008890	0,0029	0,0008	0,004
VIS-CV5-SP-337	Minerai	Pegmatite spodumène	0,00161	0,000764	0,080000	0,0013	0,0009	0,005
VIS-CV5-SP-338	Minerai	Pegmatite spodumène	0,00169	0,000851	0,024400	0,0008	0,0016	<0,002
VIS-CV5-SP-339	Minerai	Pegmatite spodumène	0,00144	0,000621	0,214000	0,0014	0,0017	<0,002
VIS-CV5-SP-340	Minerai	Pegmatite spodumène	0,00119	0,000298	0,209000	0,0005	0,0016	<0,002
VIS-CV5-SP-341	Minerai	Pegmatite spodumène	0,00114	0,000411	0,057600	0,0011	0,0077	<0,002
VIS-CV5-SP-342	Minerai	Pegmatite spodumène	0,00604	0,000333	0,014800	0,0005	0,0012	<0,002
VIS-CV5-SP-343	Minerai	Pegmatite spodumène	0,00583	0,000651	0,021700	0,0019	0,0056	<0,002
CV5-MAG-C	Résidu	CV5-MAG-C	0,01560	0,000168	0,006440	0,0019	0,0660	<0,002
CV5-DMS-MID	Résidu	CV5-DMS-MID	0,00317	0,000462	0,061500	0,0121	0,0244	0,003
CV5-FLO-C	Résidu	CV5-FLO-C	0,00461	0,001650	0,156000	0,0014	0,0031	0,003
CV5-MAG-F	Résidu	CV5-MAG-F	0,00566	0,000345	0,021000	0,0054	0,0422	0,003
CV5-MID-F	Résidu	CV5-MID-F	0,00469	0,000516	0,024200	0,0195	0,0278	0,004
CV5-FLO-F	Résidu	CV5-FLO-F	0,00310	0,002690	0,132000	0,0052	0,0082	0,004
CV5-BYP-CP	Résidu	CV5-BYP-CP	0,00735	0,000310	0,065700	0,0060	0,0356	0,004

Essais TCLP

# échantillon	Type de matériel	Lithologie	pH	Conductivité	Alkalinité	Acidité	Fluoride	Bromide	Chlore	Sulfate	Nitrite
		Unité	Unité pH	µS/cm	$mgCaCO_3/l$	$mgCaCO_3/l$	mg/l	mg/l	mg/l	mg/l	mgN/l
		D019 – Critère risques élevés					150				100
1	Stérile	Amphibolite	5,28	5540	2200	1040	<0,06	<30,0	<20,0	<20,0	<3,0
2	Stérile	Amphibolite	5,07	5090	1780	1470	<0,06	<30,0	<20,0	<20,0	<3,0
3	Stérile	Amphibolite	5,73	6190	2720	496	<0,06	<30,0	<20,0	<20,0	<3,0
4	Stérile	Amphibolite	5	4880	1600	1640	<0,06	<30,0	<20,0	<20,0	<3,0
5	Stérile	Amphibolite	5,11	5160	1830	1440	0,58	<30,0	<20,0	<20,0	<3,0
6	Stérile	Amphibolite	7,14	6660	3270	813	<0,06	<30,0	<20,0	<20,0	<3,0
7	Stérile	Amphibolite	5,69	5990	2680	1370	<0,06	<30,0	<20,0	<20,0	<3,0
8	Stérile	Amphibolite	5,05	4820	1660	2390	0,12	<30,0	<20,0	<20,0	<3,0
9	Stérile	Amphibolite	5,05	5010	1770	1510	<0,06	<30,0	<20,0	<20,0	<3,0
10	Stérile	Amphibolite	5,03	4970	1660	1560	<0,06	<30,0	<20,0	<20,0	<3,0
11	Stérile	Amphibolite	5,79	5920	2800	1270	<0,06	<30,0	<20,0	<20,0	<3,0
12	Stérile	Amphibolite	6,96	6540	3250	911	<0,06	<30,0	<20,0	<20,0	<3,0
13	Stérile	Amphibolite	5,65	5880	2620	1240	<0,06	<30,0	<20,0	<20,0	<3,0
14	Stérile	Amphibolite	5,37	5310	2300	1720	<0,06	<30,0	<20,0	<20,0	<3,0
15	Stérile	Amphibolite	7,11	6590	3240	746	<0,06	<30,0	<20,0	<20,0	<3,0
16	Stérile	Métasédiment	5,22	5100	2070	2000	0,24	<30,0	<20,0	<20,0	<3,0
17	Stérile	Amphibolite	5,16	5070	1910	2150	<0,06	<30,0	<20,0	<20,0	<3,0
18	Stérile	Amphibolite	5,23	5110	2030	1850	<0,06	<30,0	<20,0	<20,0	<3,0
19	Stérile	Pegmatite stérile	5,28	5290	2180	1780	<0,06	<30,0	<20,0	<20,0	<3,0
20	Stérile	Amphibolite	5,1	4930	1770	2240	<0,06	<30,0	<20,0	32	<3,0
21	Stérile	Amphibolite	6,47	6260	3000	1020	<0,06	<30,0	<20,0	<20,0	<3,0
22	Stérile	Amphibolite	5,09	5090	1850	1420	0,32	<30,0	<20,0	<20,0	<3,0
23	Stérile	Métasédiment	5,04	4760	1670	2450	<0,06	<30,0	<20,0	26	<3,0
24	Stérile	Amphibolite	5,07	4790	1820	2330	<0,06	<30,0	<20,0	<20,0	<3,0
25	Stérile	Métasédiment	5,08	4680	1800	2170	<0,06	<30,0	<20,0	<20,0	<3,0
26	Stérile	Amphibolite	5,29	5330	2140	1800	<0,06	<30,0	<20,0	<20,0	<3,0
27	Stérile	Amphibolite	5,33	5380	2220	1660	<0,06	<30,0	<20,0	<20,0	<3,0
28	Stérile	Amphibolite	4,99	4830	1650	1770	4,88	<30,0	<20,0	<20,0	<3,0
29	Stérile	Amphibolite	5,26	5470	2230	1080	0,14	<30,0	<20,0	<20,0	<3,0
30	Stérile	Amphibolite	5,41	5770	2530	821	<0,06	<30,0	<20,0	<20,0	<3,0
31	Stérile	Métasédiment	5,04	4790	1650	2400	2,41	<30,0	<20,0	<20,0	<3,0
32	Stérile	Amphibolite	5,48	5690	2420	1480	<0,06	<30,0	<20,0	<20,0	<3,0
33	Stérile	Amphibolite	6,18	6130	3010	1070	<0,06	<30,0	<20,0	<20,0	<3,0
34	Stérile	Métasédiment	5,05	4710	1720	2340	4,19	<30,0	<20,0	<20,0	<3,0
35	Stérile	Métasédiment	5,11	4950	1820	2070	<0,06	<30,0	<20,0	<20,0	<3,0
36	Stérile	Ultramafique	5,35	5470	2290	1760	0,27	<30,0	<20,0	<20,0	<3,0
37	Stérile	Amphibolite	5,61	5890	2610	1530	2,4	<30,0	<20,0	<20,0	<3,0
38	Stérile	Métasédiment	4,96	4910	1640	1700	0,37	<30,0	<20,0	<20,0	<3,0
39	Stérile	Métasédiment	4,98	4950	1670	1720	1,24	<30,0	<20,0	<20,0	<3,0
40	Stérile	Métasédiment	5,02	5050	1550	1970	0,51	<30,0	<20,0	<20,0	<3,0
41	Stérile	Métasédiment	4,97	4970	1780	1640	<0,06	<30,0	<20,0	<20,0	<3,0
42	Stérile	Métasédiment	4,99	4970	1480	1790	<0,06	<30,0	<20,0	<20,0	<3,0
43	Stérile	Métasédiment	4,99	4970	1680	1660	<0,06	<30,0	<20,0	<20,0	<3,0
44	Stérile	Métasédiment	5,09	5280	1880	1380	<0,06	<30,0	<20,0	<20,0	<3,0
45	Stérile	Métasédiment	5,04	5190	4650	4620	<0,06	<30,0	<20,0	<20,0	<3,0
46	Stérile	Métasédiment	5,13	5380	1960	1340	<0,06	<30,0	<20,0	<20,0	<3,0
47	Stérile	Métasédiment	4,97	4940	1540	1680	<0,06	<30,0	<20,0	<20,0	<3,0
48	Stérile	Métasédiment	5,55	5890	2640	677	<0,06	<30,0	<20,0	<20,0	<3,0
49	Stérile	Métasédiment	4,98	5040	1620	1870	3,67	<30,0	<20,0	<20,0	<3,0
50	Stérile	Métasédiment	5,01	5060	1620	1660	0,32	<30,0	<20,0	<20,0	<3,0
51	Stérile	Métasédiment	4,96	4950	1520	1710	<0,06	<30,0	<20,0	<20,0	<3,0
52	Stérile	Métasédiment	5,11	5340	1890	1390	<0,06	<30,0	<20,0	<20,0	<3,0
53	Stérile	Métasédiment	5,1	5350	1830	1390	0,23	<30,0	<20,0	<20,0	<3,0
54	Stérile	Métasédiment	4,97	4800	1630	1750	2,51	<30,0	<20,0	<20,0	<3,0
55	Stérile	Métasédiment	5,29	5740	2270	964	0,12	<30,0	<20,0	<20,0	<3,0
56	Stérile	Amphibolite	5,7	6600	2910	283	<0,06	<30,0	<20,0	<20,0	<3,0
57	Stérile	Métasédiment	5,76	6440	2800	552	<0,06	<30,0	<20,0	<20,0	<3,0
58	Stérile	Ultramafique	5,58	6200	2640	703	<0,06	<30,0	<20,0	<20,0	<3,0
59	Stérile	Ultramafique	5,03	5120	1690	1580	<0,06	<30,0	<20,0	<20,0	<3,0
60	Stérile	Ultramafique	5,56	6190	2570	654	0,12	<30,0	<20,0	<20,0	<3,0
61	Stérile	Ultramafique	5,77	6450	2820	529	<0,06	<30,0	<20,0	<20,0	<3,0
62	Stérile	Ultramafique	6,56	6790	3160	176	0,16	<30,0	<20,0	<20,0	<3,0
63	Stérile	Pegmatite stérile	4,97	5000	1520	1720	<0,06	<30,0	<20,0	<20,0	<3,0
64	Stérile	Pegmatite stérile	4,95	4910	1540	1850	0,25	<30,0	<20,0	<20,0	<3,0
65	Stérile	Pegmatite stérile	4,94	4920	1520	1710	0,1	<30,0	<20,0	<20,0	<3,0
66	Stérile	Pegmatite stérile	4,94	4900	1480	1780	0,08	<30,0	<20,0	<20,0	<3,0
67	Stérile	Pegmatite stérile	4,94	4880	1450	1870	<0,06	<30,0	<20,0	<20,0	<3,0
68	Stérile	Pegmatite stérile	4,94	4720	1540	1760	0,33	<30,0	<20,0	<20,0	<3,0
69	Stérile	Pegmatite stérile	4,98	5000	1620	1680	0,18	<30,0	<20,0	<20,0	<3,0
70	Stérile	Pegmatite stérile	4,97	4870	1570	1760	0,18	<30,0	<20,0	<20,0	<3,0
71	Stérile	Pegmatite stérile	4,94	4640	1480	1780	0,11	<30,0	<20,0	<20,0	<3,0
72	Stérile	Pegmatite stérile	4,96	4720	1620	1790	0,73	<30,0	<20,0	<20,0	<3,0
73	Minerai	Pegmatite stérile	4,94	4900	1470	1760	0,13	<30,0	<20,0	<20,0	<3,0
74	Minerai	Pegmatite spodumène	4,94	4870	1460	1790	0,21	<30,0	<20,0	<20,0	<3,0
75	Minerai	Pegmatite spodumène	4,95	4950	1490	1800	0,07	<30,0	<20,0	<20,0	<3,0

Essais TCLP

# échantillon	Type de matériel	Lithologie	Nitrate	Nitrate + Nitrite	Phosphore réactif total	Mercure	Argent	Aluminum	Arsenic	Bore
		Unité	mgN/l	mgN/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
		D019 – Critère risques élevés		1000		0,1			5	500
1	Stérile	Amphibolite	<6,0	<6,0	<0,03	<0,00001	<0,0005	0,46	<0,002	<0,02
2	Stérile	Amphibolite	<6,0	<6,0	<0,03	<0,00001	<0,0005	1,1	0,015	0,02
3	Stérile	Amphibolite	<6,0	<6,0	<0,03	<0,00001	<0,0005	0,09	<0,002	<0,02
4	Stérile	Amphibolite	<6,0	<6,0	<0,03	<0,00001	<0,0005	0,84	0,011	<0,02
5	Stérile	Amphibolite	<6,0	<6,0	<0,03	<0,00001	<0,0005	1,31	0,173	<0,02
6	Stérile	Amphibolite	<6,0	<6,0	<0,03	<0,00001	<0,0005	<0,01	<0,002	<0,02
7	Stérile	Amphibolite	<6,0	<6,0	<0,03	<0,00001	<0,0005	0,07	0,002	<0,02
8	Stérile	Amphibolite	<6,0	<6,0	<0,03	<0,00001	<0,0005	1,12	<0,002	<0,02
9	Stérile	Amphibolite	<6,0	<6,0	<0,03	<0,00001	<0,0005	0,99	<0,002	<0,02
10	Stérile	Amphibolite	<6,0	<6,0	<0,03	<0,00001	<0,0005	0,9	0,008	<0,02
11	Stérile	Amphibolite	<6,0	<6,0	<0,03	<0,00001	<0,0005	0,09	0,008	<0,02
12	Stérile	Amphibolite	<6,0	<6,0	<0,03	<0,00001	<0,0005	<0,01	<0,002	<0,02
13	Stérile	Amphibolite	<6,0	<6,0	<0,03	<0,00001	<0,0005	0,15	0,013	0,02
14	Stérile	Amphibolite	<6,0	<6,0	<0,03	<0,00001	<0,0005	0,37	0,007	<0,02
15	Stérile	Amphibolite	<6,0	<6,0	<0,03	<0,00001	<0,0005	<0,01	0,013	<0,02
16	Stérile	Métasédiment	<6,0	<6,0	<0,03	<0,00001	<0,0005	0,82	0,002	<0,02
17	Stérile	Amphibolite	<6,0	<6,0	<0,03	<0,00001	<0,0005	0,56	0,008	<0,02
18	Stérile	Amphibolite	<6,0	<6,0	<0,03	<0,00001	<0,0005	0,72	0,015	<0,02
19	Stérile	Pegmatite stérile	<6,0	<6,0	<0,03	<0,00001	<0,0005	0,51	<0,002	<0,02
20	Stérile	Amphibolite	<6,0	<6,0	<0,03	<0,00001	<0,0005	0,7	<0,002	<0,02
21	Stérile	Amphibolite	<6,0	<6,0	<0,03	<0,00001	<0,0005	<0,01	0,129	<0,02
22	Stérile	Amphibolite	<6,0	<6,0	<0,03	<0,00001	<0,0005	1,17	0,053	<0,02
23	Stérile	Métasédiment	<6,0	<6,0	<0,03	<0,00001	<0,0005	0,77	0,002	<0,02
24	Stérile	Amphibolite	<6,0	<6,0	<0,03	<0,00001	<0,0005	0,91	0,003	<0,02
25	Stérile	Métasédiment	<6,0	<6,0	0,04	<0,00001	<0,0005	0,62	0,179	0,07
26	Stérile	Amphibolite	<6,0	<6,0	<0,03	<0,00001	<0,0005	0,64	<0,002	0,02
27	Stérile	Amphibolite	<6,0	<6,0	<0,03	<0,00001	<0,0005	0,4	0,005	<0,02
28	Stérile	Amphibolite	<6,0	<6,0	<0,03	<0,00001	<0,0005	4,05	0,04	0,04
29	Stérile	Amphibolite	<6,0	<6,0	<0,03	<0,00001	<0,0005	0,53	0,049	<0,02
30	Stérile	Amphibolite	<6,0	<6,0	<0,03	<0,00001	<0,0005	0,3	0,002	<0,02
31	Stérile	Métasédiment	<6,0	<6,0	<0,03	<0,00001	<0,0005	2,93	0,047	0,03
32	Stérile	Amphibolite	<6,0	<6,0	<0,03	<0,00001	<0,0005	0,21	0,003	<0,02
33	Stérile	Amphibolite	<6,0	<6,0	<0,03	<0,00001	<0,0005	<0,01	<0,002	<0,02
34	Stérile	Métasédiment	<6,0	<6,0	<0,03	<0,00001	<0,0005	4,24	0,04	0,03
35	Stérile	Métasédiment	<6,0	<6,0	<0,03	<0,00001	<0,0005	0,83	0,008	<0,02
36	Stérile	Ultramafique	<6,0	<6,0	0,09	<0,00001	<0,0005	0,19	5,80	0,06
37	Stérile	Amphibolite	<6,0	<6,0	<0,03	<0,00001	<0,0005	1,77	0,995	0,13
38	Stérile	Métasédiment	<6,0	<6,0	<0,03	<0,00001	<0,0005	1,21	0,005	<0,02
39	Stérile	Métasédiment	<6,0	<6,0	<0,03	<0,00001	<0,0005	2,18	0,023	<0,02
40	Stérile	Métasédiment	<6,0	<6,0	<0,03	<0,00001	<0,0005	1,72	0,007	<0,02
41	Stérile	Métasédiment	<6,0	<6,0	<0,03	<0,00001	<0,0005	1,19	0,003	<0,02
42	Stérile	Métasédiment	<6,0	<6,0	<0,03	<0,00001	<0,0005	1,15	0,003	<0,02
43	Stérile	Métasédiment	<6,0	<6,0	<0,03	<0,00001	<0,0005	1,38	0,002	0,03
44	Stérile	Métasédiment	<6,0	<6,0	<0,03	<0,00001	<0,0005	0,8	0,007	<0,02
45	Stérile	Métasédiment	<6,0	<6,0	<0,03	<0,00001	<0,0005	0,81	0,004	<0,02
46	Stérile	Métasédiment	<6,0	<6,0	<0,03	<0,00001	<0,0005	0,75	0,004	<0,02
47	Stérile	Métasédiment	<6,0	<6,0	<0,03	<0,00001	<0,0005	0,93	0,002	<0,02
48	Stérile	Métasédiment	<6,0	<6,0	<0,03	<0,00001	<0,0005	0,24	0,009	<0,02
49	Stérile	Métasédiment	<6,0	<6,0	<0,03	<0,00001	<0,0005	4,39	0,029	0,02
50	Stérile	Métasédiment	<6,0	<6,0	<0,03	<0,00001	<0,0005	1,52	0,075	<0,02
51	Stérile	Métasédiment	<6,0	<6,0	<0,03	<0,00001	<0,0005	1,01	0,009	<0,02
52	Stérile	Métasédiment	<6,0	<6,0	<0,03	<0,00001	<0,0005	0,99	0,004	<0,02
53	Stérile	Métasédiment	<6,0	<6,0	0,06	<0,00001	<0,0005	0,69	0,611	<0,02
54	Stérile	Métasédiment	<6,0	<6,0	<0,03	<0,00001	<0,0005	3,18	0,04	0,02
55	Stérile	Métasédiment	<6,0	<6,0	0,06	<0,00001	<0,0005	0,25	1,72	<0,02
56	Stérile	Amphibolite	<6,0	<6,0	<0,03	<0,00001	<0,0005	0,03	0,02	<0,02
57	Stérile	Métasédiment	<6,0	<6,0	<0,03	<0,00001	<0,0005	0,04	0,004	<0,02
58	Stérile	Ultramafique	<6,0	<6,0	<0,03	<0,00001	<0,0005	0,09	1,02	0,04
59	Stérile	Ultramafique	<6,0	<6,0	<0,03	<0,00001	<0,0005	1,01	0,074	<0,02
60	Stérile	Ultramafique	<6,0	<6,0	0,04	<0,00001	<0,0005	0,09	7,58	<0,02
61	Stérile	Ultramafique	<6,0	<6,0	<0,03	<0,00001	<0,0005	0,05	1,76	0,06
62	Stérile	Ultramafique	<6,0	<6,0	0,05	<0,00001	<0,0005	<0,01	4,43	<0,02
63	Stérile	Pegmatite stérile	<6,0	<6,0	0,07	<0,00001	<0,0005	0,69	0,068	0,02
64	Stérile	Pegmatite stérile	<6,0	<6,0	0,24	<0,00001	<0,0005	0,81	0,091	<0,02
65	Stérile	Pegmatite stérile	<6,0	<6,0	0,46	<0,00001	<0,0005	0,44	0,045	<0,02
66	Stérile	Pegmatite stérile	<6,0	<6,0	0,13	<0,00001	<0,0005	0,57	0,063	<0,02
67	Stérile	Pegmatite stérile	<6,0	<6,0	0,08	<0,00001	<0,0005	0,46	0,013	<0,02
68	Stérile	Pegmatite stérile	<6,0	<6,0	0,44	<0,00001	<0,0005	0,48	0,091	<0,02
69	Stérile	Pegmatite stérile	<6,0	<6,0	0,14	<0,00001	<0,0005	0,53	0,036	<0,02
70	Stérile	Pegmatite stérile	<6,0	<6,0	0,13	<0,00001	<0,0005	0,48	0,029	<0,02
71	Stérile	Pegmatite stérile	<6,0	<6,0	0,22	<0,00001	<0,0005	0,55	0,11	<0,02
72	Stérile	Pegmatite stérile	<6,0	<6,0	0,03	<0,00001	<0,0005	1,39	0,034	0,09
73	Minerai	Pegmatite stérile	<6,0	<6,0	0,07	<0,00001	<0,0005	0,66	0,031	<0,02
74	Minerai	Pegmatite spodumène	<6,0	<6,0	0,62	<0,00001	<0,0005	0,59	0,167	<0,02
75	Minerai	Pegmatite spodumène	<6,0	<6,0	0,08	<0,00001	<0,0005	0,56	0,069	<0,02

Essais TCLP

# échantillon	Type de matériel	Lithologie	Barium
		Unité	mg/l
		D019 – Critère risques élevés	100
1	Stérile	Amphibolite	0,261
2	Stérile	Amphibolite	0,0868
3	Stérile	Amphibolite	0,333
4	Stérile	Amphibolite	0,0273
5	Stérile	Amphibolite	0,0435
6	Stérile	Amphibolite	0,0201
7	Stérile	Amphibolite	0,0172
8	Stérile	Amphibolite	0,0124
9	Stérile	Amphibolite	0,00645
10	Stérile	Amphibolite	0,0477
11	Stérile	Amphibolite	0,0251
12	Stérile	Amphibolite	0,0164
13	Stérile	Amphibolite	0,0227
14	Stérile	Amphibolite	0,0129
15	Stérile	Amphibolite	0,0232
16	Stérile	Métasédiment	0,256
17	Stérile	Amphibolite	0,275
18	Stérile	Amphibolite	0,0436
19	Stérile	Pegmatite stérile	0,0168
20	Stérile	Amphibolite	0,744
21	Stérile	Amphibolite	0,455
22	Stérile	Amphibolite	0,0165
23	Stérile	Métasédiment	0,132
24	Stérile	Amphibolite	0,673
25	Stérile	Métasédiment	0,195
26	Stérile	Amphibolite	0,0704
27	Stérile	Amphibolite	0,0238
28	Stérile	Amphibolite	0,0607
29	Stérile	Amphibolite	0,102
30	Stérile	Amphibolite	0,0906
31	Stérile	Métasédiment	0,118
32	Stérile	Amphibolite	0,16
33	Stérile	Amphibolite	0,293
34	Stérile	Métasédiment	0,117
35	Stérile	Métasédiment	0,26
36	Stérile	Ultramafique	0,0543
37	Stérile	Amphibolite	0,0345
38	Stérile	Métasédiment	0,0305
39	Stérile	Métasédiment	0,0547
40	Stérile	Métasédiment	0,0769
41	Stérile	Métasédiment	0,0595
42	Stérile	Métasédiment	0,0845
43	Stérile	Métasédiment	0,217
44	Stérile	Métasédiment	0,19
45	Stérile	Métasédiment	0,288
46	Stérile	Métasédiment	0,483
47	Stérile	Métasédiment	0,313
48	Stérile	Métasédiment	0,0119
49	Stérile	Métasédiment	0,117
50	Stérile	Métasédiment	0,0822
51	Stérile	Métasédiment	0,0577
52	Stérile	Métasédiment	0,16
53	Stérile	Métasédiment	0,5
54	Stérile	Métasédiment	0,0731
55	Stérile	Métasédiment	0,291
56	Stérile	Amphibolite	0,263
57	Stérile	Métasédiment	0,178
58	Stérile	Ultramafique	0,0653
59	Stérile	Ultramafique	0,0179
60	Stérile	Ultramafique	0,022
61	Stérile	Ultramafique	0,00888
62	Stérile	Ultramafique	0,0332
63	Stérile	Pegmatite stérile	0,006
64	Stérile	Pegmatite stérile	0,00557
65	Stérile	Pegmatite stérile	0,00551
66	Stérile	Pegmatite stérile	0,00386
67	Stérile	Pegmatite stérile	0,00394
68	Stérile	Pegmatite stérile	0,0035
69	Stérile	Pegmatite stérile	0,0159
70	Stérile	Pegmatite stérile	0,00546
71	Stérile	Pegmatite stérile	0,00623
72	Stérile	Pegmatite stérile	0,00577
73	Minerai	Pegmatite stérile	0,0117
74	Minerai	Pegmatite spodumène	0,00173
75	Minerai	Pegmatite spodumène	0,00182

Essais TCLP

# échantillon	Type de matériel	Lithologie	Beryllium	Bismuth	Calcium	Cadmium	Cobalt	Chrome	Cuivre	Fer	Potassium
		Unité	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
		D019 – Critère risques élevés				0,5		5			
1	Stérile	Amphibolite	<0,00007	0,00002	235	0,00029	0,00457	0,0085	<0,002	5,89	15,2
2	Stérile	Amphibolite	0,00051	0,00001	75,9	0,00015	0,015	0,0148	<0,002	6,79	6,45
3	Stérile	Amphibolite	<0,00007	<0,00001	464	0,00033	0,00442	<0,0008	<0,002	11,2	11,8
4	Stérile	Amphibolite	0,00016	0,00002	12,5	<0,00003	0,00689	0,0109	0,005	1,85	2,78
5	Stérile	Amphibolite	0,00054	0,00002	110	0,00015	0,0276	0,0141	0,007	2,43	3,27
6	Stérile	Amphibolite	<0,00007	0,00001	690	0,00039	0,00379	<0,0008	<0,002	0,15	1,15
7	Stérile	Amphibolite	<0,00007	0,00002	451	0,00011	0,0132	<0,0008	0,012	1,66	2,04
8	Stérile	Amphibolite	<0,00007	<0,00001	55,5	0,0001	0,0171	0,0067	0,046	2,34	1,19
9	Stérile	Amphibolite	<0,00007	0,00001	61,6	<0,00003	0,00295	0,0068	0,013	2,23	0,89
10	Stérile	Amphibolite	0,00007	<0,00001	46,3	<0,00003	0,00793	0,0031	0,012	3,85	1,75
11	Stérile	Amphibolite	0,00026	<0,00001	500	0,00014	0,00496	0,0008	<0,002	3,31	1,74
12	Stérile	Amphibolite	<0,00007	<0,00001	661	0,00027	0,00318	<0,0008	<0,002	0,55	1,68
13	Stérile	Amphibolite	0,00139	0,00002	432	0,00022	0,00962	0,0011	<0,002	2,03	2,22
14	Stérile	Amphibolite	0,00024	0,00003	309	0,00015	0,0105	0,0044	0,007	3,32	1,03
15	Stérile	Amphibolite	<0,00007	0,00001	668	0,00031	0,00396	<0,0008	<0,002	0,23	2
16	Stérile	Métasédiment	0,00021	0,00007	191	0,0019	0,0122	0,0061	<0,002	14,3	13,1
17	Stérile	Amphibolite	<0,00007	0,00002	145	0,00042	0,0165	0,004	<0,002	29,5	21,7
18	Stérile	Amphibolite	0,00115	<0,00001	209	0,00033	0,0195	0,0057	0,021	1,99	3,28
19	Stérile	Pegmatite stérile	<0,00007	<0,00001	255	0,00025	0,00455	0,0063	0,005	1,74	0,93
20	Stérile	Amphibolite	<0,00007	0,00002	76,6	0,00008	0,0247	0,0088	<0,002	52,9	25,6
21	Stérile	Amphibolite	<0,00007	0,00002	571	0,00023	0,00487	<0,0008	<0,002	5,9	13,3
22	Stérile	Amphibolite	0,00138	<0,00001	94,5	0,00015	0,02442	0,0268	0,003	2,22	1,71
23	Stérile	Métasédiment	0,00045	0,00002	37,6	0,00025	0,04246	0,0081	<0,002	32,1	8,78
24	Stérile	Amphibolite	<0,00007	<0,00001	80,4	0,00017	0,00273	0,0059	<0,002	4,79	14,7
25	Stérile	Métasédiment	0,00009	0,00004	82,4	<0,00003	0,00863	0,0459	<0,002	2,26	8,12
26	Stérile	Amphibolite	0,00007	<0,00001	256	0,00009	0,00373	0,0072	<0,002	3,52	2,01
27	Stérile	Amphibolite	0,00023	0,00002	289	0,00008	0,02698	0,0066	0,012	3,46	2,08
28	Stérile	Amphibolite	0,00513	0,00006	47,3	0,00048	0,0239	0,0097	0,004	2,83	3,23
29	Stérile	Amphibolite	0,00252	<0,00001	244	0,00032	0,0199	0,005	<0,002	3,25	6,74
30	Stérile	Amphibolite	0,00015	0,00003	367	0,00061	0,0036	0,0019	0,009	4,68	3,44
31	Stérile	Métasédiment	0,00106	<0,00001	47,6	0,00012	0,00872	0,0154	<0,002	5,97	10,6
32	Stérile	Amphibolite	<0,00007	0,00002	365	0,00023	0,00395	0,0012	0,004	9,14	6,9
33	Stérile	Amphibolite	<0,00007	0,00002	565	0,00022	0,00468	<0,0008	<0,002	7,43	12,5
34	Stérile	Métasédiment	0,00135	0,00002	47,8	0,00024	0,0111	0,0061	<0,002	8,05	10,1
35	Stérile	Métasédiment	0,00009	<0,00001	109	0,00031	0,00508	0,0071	<0,002	5,39	16,3
36	Stérile	Ultramafique	0,00287	0,00002	210	0,0004	0,0483	0,0422	<0,002	7,02	2,71
37	Stérile	Amphibolite	0,00567	0,00003	429	0,00101	0,03	0,0019	0,016	1,68	4,38
38	Stérile	Métasédiment	0,00751	0,0001	14	0,00078	0,00843	0,0055	0,044	1,84	3,59
39	Stérile	Métasédiment	0,002	0,00006	33,4	0,00061	0,0173	0,0122	<0,002	2,13	4,17
40	Stérile	Métasédiment	0,00058	0,00002	69,3	0,00048	0,012	0,0139	<0,002	4,35	4,36
41	Stérile	Métasédiment	0,00063	0,00005	30,2	0,00043	0,00735	0,0139	<0,002	2,29	5,33
42	Stérile	Métasédiment	0,00034	0,00003	45,5	0,00059	0,00979	0,0084	<0,002	3,31	7,49
43	Stérile	Métasédiment	0,00031	0,00005	43,9	0,00034	0,0119	0,0832	<0,002	5,5	13
44	Stérile	Métasédiment	0,00033	0,00004	139	0,0004	0,00455	0,0131	<0,002	2,21	7,99
45	Stérile	Métasédiment	0,00016	0,00006	100	0,00044	0,00268	0,0142	<0,002	3,06	13,2
46	Stérile	Métasédiment	0,00014	0,00004	170	0,00046	0,00309	0,0146	<0,002	5,3	19,3
47	Stérile	Métasédiment	0,00019	0,00003	18,3	0,00063	0,0175	0,0274	<0,002	5,5	12,8
48	Stérile	Métasédiment	0,00129	0,00002	416	0,00063	0,0138	0,0015	<0,002	1,57	1,24
49	Stérile	Métasédiment	0,00148	0,00005	29,4	0,00054	0,0111	0,0096	<0,002	6,25	12
50	Stérile	Métasédiment	0,00125	0,00025	59,4	0,00108	0,0813	0,0065	0,026	2,46	7,19
51	Stérile	Métasédiment	0,00116	0,00006	20,1	0,00036	0,017	0,0073	0,003	1,74	3,97
52	Stérile	Métasédiment	0,0002	0,00002	161	0,00065	0,00617	0,013	<0,002	4,52	9,07
53	Stérile	Métasédiment	0,00008	0,00004	141	0,00076	0,00443	0,0054	<0,002	4,77	19,6
54	Stérile	Métasédiment	0,00143	0,00013	39,4	0,00054	0,0162	0,0111	<0,002	3,25	5,84
55	Stérile	Métasédiment	0,0001	0,00007	295	0,00051	0,0101	0,0388	<0,002	2,35	5,14
56	Stérile	Amphibolite	0,00009	0,00007	519	0,00053	0,00328	0,0015	<0,002	3,45	10,9
57	Stérile	Métasédiment	0,00011	0,00004	481	0,00067	0,00346	0,0023	<0,002	3,39	6,03
58	Stérile	Ultramafique	0,00071	0,00019	389	0,00044	0,0282	0,0087	<0,002	1,81	3,69
59	Stérile	Ultramafique	0,00021	0,00004	58,9	0,00031	0,0392	0,122	0,026	2,72	1,52
60	Stérile	Ultramafique	0,00173	0,00005	279	0,00047	0,0534	0,0211	<0,002	7,31	3,39
61	Stérile	Ultramafique	0,00051	0,00007	416	0,00048	0,0114	0,0057	<0,002	2,73	0,93
62	Stérile	Ultramafique	0,00085	0,00006	549	0,00042	0,0463	0,0014	<0,002	<0,07	1,46
63	Stérile	Pegmatite stérile	0,00706	0,04465	33,5	0,0009	0,00309	0,0083	0,009	0,11	4,65
64	Stérile	Pegmatite stérile	0,00282	0,00014	12,5	0,0004	0,00225	0,0036	0,003	0,31	6,53
65	Stérile	Pegmatite stérile	0,00169	0,00596	6,9	0,00041	0,00107	0,0045	0,003	0,13	4,16
66	Stérile	Pegmatite stérile	0,00157	0,00263	5,5	0,00033	0,0035	0,0054	0,003	0,07	4,13
67	Stérile	Pegmatite stérile	0,00096	0,00655	3	0,00035	0,00087	0,0061	0,003	<0,07	3,88
68	Stérile	Pegmatite stérile	0,0018	0,0206	11,6	0,00047	0,00042	0,0033	<0,002	0,07	3,92
69	Stérile	Pegmatite stérile	0,01325	0,02216	43,2	0,00058	0,00284	0,0048	0,014	0,12	2,3
70	Stérile	Pegmatite stérile	0,00807	0,00337	30,1	0,00415	0,0126	0,0048	1,84	0,21	1,88
71	Stérile	Pegmatite stérile	0,00458	0,00029	8	0,00047	0,00147	0,0044	0,002	0,16	3,1
72	Stérile	Pegmatite stérile	0,00947	0,0121	34,1	0,00049	0,00422	0,0058	0,003	0,75	2,56
73	Minerai	Pegmatite stérile	0,0022	0,00836	5,2	0,00037	0,00233	0,005	0,006	0,09	4,24
74	Minerai	Pegmatite spodumène	0,00153	0,00114	4,2	0,00041	0,00079	0,0036	<0,002	0,14	2,91
75	Minerai	Pegmatite spodumène	0,00536	0,321	15,4	0,00044	0,00073	0,0036	<0,002	<0,07	2,05

Essais TCLP

# échantillon	Type de matériel	Lithologie	Lithium	Magnésium	Manganèse	Molybdène	Sodium	Nickel	Phosphore	Argent	Antimoine
		Unité	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
		D019 – Critère risques élevés								5	
1	Stérile	Amphibolite	0,092	2,73	2,54	0,0004	1360	0,02	<0,003	0,00092	<0,009
2	Stérile	Amphibolite	0,098	3,48	0,591	<0,0004	1400	0,054	<0,003	0,00955	<0,009
3	Stérile	Amphibolite	0,095	4,01	5,91	0,0009	1440	0,004	0,037	0,0001	<0,009
4	Stérile	Amphibolite	0,061	3,16	0,166	<0,0004	1450	0,009	<0,003	0,00028	<0,009
5	Stérile	Amphibolite	0,165	3,7	0,739	<0,0004	1300	0,312	0,006	0,00076	0,054
6	Stérile	Amphibolite	0,018	4,08	6,86	0,0011	1420	0,009	<0,003	<0,00009	<0,009
7	Stérile	Amphibolite	0,025	3,81	2,79	0,0006	1270	0,028	<0,003	0,00021	<0,009
8	Stérile	Amphibolite	0,027	2,24	0,288	<0,0004	1260	0,032	<0,003	0,00013	<0,009
9	Stérile	Amphibolite	0,004	1,82	0,214	<0,0004	1290	0,009	<0,003	0,00018	<0,009
10	Stérile	Amphibolite	0,033	2,46	0,264	0,0014	1290	0,009	<0,003	0,0003	<0,009
11	Stérile	Amphibolite	0,043	2,69	2,83	<0,0004	1460	0,026	<0,003	0,00022	0,02
12	Stérile	Amphibolite	0,008	2,73	4	<0,0004	1430	0,012	<0,003	<0,00009	<0,009
13	Stérile	Amphibolite	0,07	5,18	3,03	<0,0004	1430	0,021	<0,003	0,00013	<0,009
14	Stérile	Amphibolite	0,025	2,89	1,92	<0,0004	1300	0,019	<0,003	0,00101	<0,009
15	Stérile	Amphibolite	0,019	3,61	4,16	0,0013	1240	0,015	<0,003	0,00012	<0,009
16	Stérile	Métasédiment	0,124	1,91	2,37	<0,0004	1290	0,11	<0,003	0,96	<0,009
17	Stérile	Amphibolite	0,129	1,57	1,92	0,0017	1290	0,201	<0,003	0,0772	0,022
18	Stérile	Amphibolite	0,058	3,27	0,893	0,0005	1390	0,049	<0,003	0,00172	0,013
19	Stérile	Pegmatite stérile	0,011	1,65	1,95	0,0006	1400	0,02	<0,003	0,00012	<0,009
20	Stérile	Amphibolite	0,176	1,63	0,466	<0,0004	1410	0,058	<0,003	0,00105	<0,009
21	Stérile	Amphibolite	0,037	5,95	6,73	<0,0004	1280	0,145	<0,003	<0,00009	<0,009
22	Stérile	Amphibolite	0,099	5,59	0,377	<0,0004	1270	0,066	<0,003	0,00634	<0,009
23	Stérile	Métasédiment	0,085	3,69	0,61	<0,0004	1290	0,127	<0,003	0,00448	<0,009
24	Stérile	Amphibolite	0,038	1,66	0,817	0,001	1300	0,004	<0,003	0,00179	<0,009
25	Stérile	Métasédiment	0,053	3,2	0,23	0,0032	1280	0,244	<0,003	0,00122	<0,009
26	Stérile	Amphibolite	0,052	2,9	1,13	<0,0004	1410	0,013	<0,003	0,00031	<0,009
27	Stérile	Amphibolite	0,021	3,09	1,48	<0,0004	1290	0,054	<0,003	0,00147	<0,009
28	Stérile	Amphibolite	0,103	4,54	0,476	0,0007	1250	0,053	0,07	0,00151	0,014
29	Stérile	Amphibolite	0,182	5,97	1,87	<0,0004	1510	0,087	0,006	0,0139	0,052
30	Stérile	Amphibolite	0,046	3,02	3,28	0,0005	1280	0,005	0,04	0,00055	<0,009
31	Stérile	Métasédiment	0,231	2,21	0,568	0,0041	1270	0,016	<0,003	0,00105	0,01
32	Stérile	Amphibolite	0,035	3,57	3,4	0,0005	1310	0,003	<0,003	0,00011	<0,009
33	Stérile	Amphibolite	0,101	5,01	6,17	0,0014	1340	0,003	<0,003	0,00022	<0,009
34	Stérile	Métasédiment	0,306	2,08	0,62	0,0023	1310	0,022	<0,003	0,00876	0,016
35	Stérile	Métasédiment	0,181	2,09	1,28	0,0012	1280	0,01	<0,003	0,00194	<0,009
36	Stérile	Ultramafique	0,038	49,2	2,07	0,0012	1280	6,62	<0,003	0,00096	1,1
37	Stérile	Amphibolite	0,122	2,51	3,95	0,0025	1420	0,23	<0,003	0,00054	0,205
38	Stérile	Métasédiment	0,135	2,91	0,287	0,0006	1380	0,007	0,01	0,00454	<0,009
39	Stérile	Métasédiment	0,111	3,54	0,414	0,0006	1310	0,07	0,05	0,141	0,02
40	Stérile	Métasédiment	0,123	1,47	0,637	0,0015	1290	0,02	0,06	0,00111	0,011
41	Stérile	Métasédiment	0,064	3,42	0,476	0,0018	1310	0,012	0,07	0,00773	<0,009
42	Stérile	Métasédiment	0,07	2,62	0,914	0,0006	1330	0,021	0,05	0,0364	<0,009
43	Stérile	Métasédiment	0,103	2,3	0,428	0,0009	1270	0,026	0,06	0,00132	<0,009
44	Stérile	Métasédiment	0,1	0,64	1,16	0,0029	1280	0,005	0,08	0,00486	<0,009
45	Stérile	Métasédiment	0,007	0,63	1,31	0,0032	1330	0,005	0,08	0,00402	<0,009
46	Stérile	Métasédiment	0,013	1	2,51	0,0035	1280	0,005	0,06	0,00151	<0,009
47	Stérile	Métasédiment	0,029	1,98	0,345	0,004	1280	0,039	0,06	0,00802	<0,009
48	Stérile	Métasédiment	0,152	7,36	1,85	0,0005	1250	0,01	0,05	0,00048	<0,009
49	Stérile	Métasédiment	0,446	4,34	0,479	0,0017	1290	0,017	0,07	0,00082	<0,009
50	Stérile	Métasédiment	0,15	2,07	0,328	0,0007	1290	0,168	0,05	0,0242	0,091
51	Stérile	Métasédiment	0,072	2,08	0,47	0,0011	1310	0,02	0,04	0,0102	<0,009
52	Stérile	Métasédiment	0,096	2,46	2,65	0,0039	1320	0,015	0,06	0,00804	<0,009
53	Stérile	Métasédiment	0,086	1,59	2,7	0,0025	1300	0,005	0,06	0,00221	<0,009
54	Stérile	Métasédiment	0,144	2,04	0,408	0,001	1280	0,051	0,05	0,00525	0,012
55	Stérile	Métasédiment	0,045	5,27	2,42	0,0014	1330	1,72	0,07	0,00238	0,015
56	Stérile	Amphibolite	0,055	3,76	6,57	0,0005	1270	0,025	0,04	0,00101	<0,009
57	Stérile	Métasédiment	0,046	3,03	4,06	0,0012	1290	0,01	0,05	0,00217	<0,009
58	Stérile	Ultramafique	0,036	40,4	2,72	0,0006	1300	2,46	0,04	0,00124	0,267
59	Stérile	Ultramafique	0,049	17,2	0,698	<0,0004	1320	0,293	0,03	0,00202	<0,009
60	Stérile	Ultramafique	0,057	95,7	2,69	0,0005	1340	9,97	0,05	0,00052	2,27
61	Stérile	Ultramafique	0,022	33	3,06	0,0007	1290	2,65	0,03	0,00037	0,25
62	Stérile	Ultramafique	0,012	20,9	4,64	0,0014	1270	7,15	0,05	0,00015	4,06
63	Stérile	Pegmatite stérile	0,017	0,28	0,27	0,0032	1310	0,003	0,11	0,00533	0,011
64	Stérile	Pegmatite stérile	0,126	0,29	0,559	0,0013	1280	0,003	0,24	0,00368	0,015
65	Stérile	Pegmatite stérile	0,078	0,11	0,532	0,001	1280	0,003	0,45	0,00331	<0,009
66	Stérile	Pegmatite stérile	0,022	0,13	0,0754	0,0018	1280	0,003	0,13	0,00146	<0,009
67	Stérile	Pegmatite stérile	0,007	0,11	0,0359	0,0019	1270	0,003	0,11	0,00214	<0,009
68	Stérile	Pegmatite stérile	0,151	0,11	0,828	0,0022	1310	0,003	0,48	0,00349	0,016
69	Stérile	Pegmatite stérile	0,051	0,39	0,245	0,0013	1310	0,005	0,15	0,00439	<0,009
70	Stérile	Pegmatite stérile	0,026	0,4	0,202	0,0021	1280	0,006	0,15	0,00756	0,009
71	Stérile	Pegmatite stérile	0,037	0,42	0,157	0,0024	1270	0,003	0,24	0,00139	0,015
72	Stérile	Pegmatite stérile	0,032	0,6	0,179	0,0012	1250	0,005	0,07	0,0231	0,01
73	Minerai	Pegmatite stérile	0,116	0,05	0,24	0,0016	1260	0,004	0,08	0,00323	0,009
74	Minerai	Pegmatite spodumène	0,318	0,06	1,15	0,0012	1290	0,003	0,54	0,00083	0,029
75	Minerai	Pegmatite spodumène	0,141	0,13	0,544	0,0036	1300	0,001	0,11	0,00302	0,023

Essais TCLP

# échantillon	Type de matériel	Lithologie	Sélénium	Etain	Strontium	Titane	Thorium	Uranium	Vanadium	Zinc
		Unité	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
		D019 – Critère risques élevés	1					2		
1	Stérile	Amphibolite	<0,0004	<0,00006	0,0956	0,0017	0,00007	0,000054	0,0015	0,03
2	Stérile	Amphibolite	0,0017	<0,00006	0,0815	0,0006	0,00033	0,00116	0,00034	0,04
3	Stérile	Amphibolite	0,0013	<0,00006	0,17	<0,0005	0,00013	0,000084	0,00033	0,03
4	Stérile	Amphibolite	0,0011	<0,00006	0,0161	0,001	0,00012	0,00157	0,00119	0,02
5	Stérile	Amphibolite	<0,0004	<0,00006	0,082	<0,0005	0,00065	0,000167	0,00055	0,03
6	Stérile	Amphibolite	0,001	<0,00006	0,231	<0,0005	<0,00005	0,000166	0,00011	<0,02
7	Stérile	Amphibolite	<0,0004	0,00008	0,132	<0,0005	<0,00005	0,00081	0,00008	<0,02
8	Stérile	Amphibolite	<0,0004	<0,00006	0,0337	0,0006	<0,00005	0,00006	0,00088	0,03
9	Stérile	Amphibolite	0,0007	<0,00006	0,021	0,0007	<0,00005	0,00004	0,0015	<0,02
10	Stérile	Amphibolite	0,0018	<0,00006	0,0294	<0,0005	<0,00005	0,000348	0,00057	0,02
11	Stérile	Amphibolite	0,0007	<0,00006	0,15	<0,0005	0,00006	0,000051	0,00035	<0,02
12	Stérile	Amphibolite	0,0005	0,00007	0,171	<0,0005	<0,00005	0,000091	0,00006	0,02
13	Stérile	Amphibolite	0,001	<0,00006	0,193	<0,0005	0,00006	0,000101	0,00028	<0,02
14	Stérile	Amphibolite	0,0025	0,00016	0,0906	0,0007	<0,00005	0,0001	0,00045	0,02
15	Stérile	Amphibolite	0,0011	0,00008	0,18	<0,0005	<0,00005	0,000082	0,00011	<0,02
16	Stérile	Métasédiment	0,0016	<0,00006	0,0793	<0,0005	0,00077	0,000495	0,0001	1,26
17	Stérile	Amphibolite	0,0011	<0,00006	0,0886	<0,0005	0,00023	0,000118	0,00004	0,22
18	Stérile	Amphibolite	0,0006	<0,00006	0,0792	<0,0005	0,00022	0,00101	0,00047	0,03
19	Stérile	Pegmatite stérile	<0,0004	0,00009	0,104	<0,0005	<0,00005	0,000094	0,00082	0,03
20	Stérile	Amphibolite	<0,0004	<0,00006	0,0451	<0,0005	<0,00005	0,000338	<0,00001	0,03
21	Stérile	Amphibolite	0,0017	0,00015	0,259	<0,0005	0,00012	0,000066	0,00001	0,02
22	Stérile	Amphibolite	0,001	0,00007	0,074	<0,0005	0,00011	0,00171	0,00039	0,03
23	Stérile	Métasédiment	0,0014	<0,00006	0,0529	<0,0005	0,0002	0,00563	0,00004	0,06
24	Stérile	Amphibolite	0,0018	<0,00006	0,0776	0,0009	0,00007	0,00148	0,00191	0,03
25	Stérile	Métasédiment	0,0015	<0,00006	0,054	<0,0005	0,00017	0,0031	0,00086	0,02
26	Stérile	Amphibolite	<0,0004	0,00008	0,0673	<0,0005	<0,00005	0,00002	0,00063	<0,02
27	Stérile	Amphibolite	<0,0004	0,00014	0,113	<0,0005	<0,00005	0,00236	0,0004	0,03
28	Stérile	Amphibolite	0,0064	0,00041	0,0571	0,0059	0,00091	0,01096	0,00063	<0,02
29	Stérile	Amphibolite	0,0008	<0,00006	0,2	0,0006	0,00035	0,000969	0,00018	0,03
30	Stérile	Amphibolite	0,0056	0,00009	0,165	0,0052	0,00014	0,000219	0,00008	0,02
31	Stérile	Métasédiment	0,0018	<0,00006	0,144	0,0015	0,00088	0,00481	0,00362	0,03
32	Stérile	Amphibolite	0,0008	<0,00006	0,146	<0,0005	0,00008	0,000096	0,00046	0,02
33	Stérile	Amphibolite	0,0027	0,00018	0,176	<0,0005	0,00018	0,000041	0,00004	0,02
34	Stérile	Métasédiment	0,0028	<0,00006	0,0532	0,0017	0,00207	0,00429	0,00202	0,04
35	Stérile	Métasédiment	0,0023	<0,00006	0,0491	0,0016	0,00009	0,0028	0,00178	0,03
36	Stérile	Ultramafique	0,0009	0,00007	0,113	<0,0005	0,00053	0,000651	0,00059	0,02
37	Stérile	Amphibolite	0,0004	<0,00006	0,256	<0,0005	0,0019	0,00387	0,00032	0,03
38	Stérile	Métasédiment	0,0004	0,00011	0,0744	<0,0005	0,00038	0,006076	0,00011	<0,02
39	Stérile	Métasédiment	0,0045	0,00011	0,0556	0,0049	0,0004	0,00514	0,00054	0,06
40	Stérile	Métasédiment	0,0062	0,00013	0,0635	0,0055	0,0002	0,00375	0,00093	<0,02
41	Stérile	Métasédiment	0,0057	0,00013	0,0796	0,0056	0,00007	0,00194	0,00041	<0,02
42	Stérile	Métasédiment	0,0051	<0,00006	0,0689	0,0047	0,00011	0,00215	0,00012	0,05
43	Stérile	Métasédiment	0,0037	0,00031	0,0776	0,005	0,0002	0,00175	0,00016	0,02
44	Stérile	Métasédiment	0,0046	0,00008	0,107	0,0078	0,00017	0,00558	0,00261	<0,02
45	Stérile	Métasédiment	0,0052	0,00049	0,0962	0,0055	0,00017	0,00338	0,00408	<0,02
46	Stérile	Métasédiment	0,005	0,00017	0,139	0,0065	0,0002	0,00378	0,00393	<0,02
47	Stérile	Métasédiment	0,0046	0,00009	0,0174	0,0061	0,00011	0,00382	0,00095	0,03
48	Stérile	Métasédiment	0,0064	0,00048	0,232	0,0061	0,00017	0,00193	0,00031	<0,02
49	Stérile	Métasédiment	0,0049	0,00018	0,0629	0,0073	0,0043	0,00555	0,00147	<0,02
50	Stérile	Métasédiment	0,0036	0,00014	0,0399	0,0046	0,00085	0,0159	0,00032	0,29
51	Stérile	Métasédiment	0,003	0,00022	0,0445	0,0042	0,0001	0,00298	0,00062	<0,02
52	Stérile	Métasédiment	0,0048	0,00014	0,0999	0,0058	0,00024	0,00375	0,00056	0,02
53	Stérile	Métasédiment	0,0031	<0,00006	0,0817	0,0037	0,00019	0,00127	0,00252	<0,02
54	Stérile	Métasédiment	0,0056	0,0001	0,0476	0,0052	0,00036	0,00856	0,00064	0,02
55	Stérile	Métasédiment	0,0047	<0,00006	0,103	0,0047	0,00012	0,00209	0,00081	<0,02
56	Stérile	Amphibolite	0,0042	0,00011	0,192	0,0038	0,00019	0,000695	0,00003	<0,02
57	Stérile	Métasédiment	0,0044	0,00013	0,25	0,0038	0,00061	0,00187	0,00024	<0,02
58	Stérile	Ultramafique	0,0029	0,00011	0,243	0,0041	0,00058	0,00107	0,00034	<0,02
59	Stérile	Ultramafique	0,0038	0,00022	0,157	0,0038	0,00053	0,00021	0,00012	<0,02
60	Stérile	Ultramafique	0,0045	0,0002	0,134	0,0036	0,00179	0,000695	0,00038	<0,02
61	Stérile	Ultramafique	0,0039	<0,00006	0,22	0,0044	0,00007	0,000333	0,00036	<0,02
62	Stérile	Ultramafique	0,0035	0,00016	0,218	0,0041	0,00059	0,00156	0,00035	<0,02
63	Stérile	Pegmatite stérile	0,0039	0,00009	0,0305	0,0041	0,0016	0,0167	0,00063	<0,02
64	Stérile	Pegmatite stérile	0,0037	0,00014	0,0227	0,0042	0,00247	0,00669	0,00016	<0,02
65	Stérile	Pegmatite stérile	0,0047	0,00034	0,0175	0,0044	0,00168	0,00283	0,00024	<0,02
66	Stérile	Pegmatite stérile	0,0044	0,00009	0,0149	0,0039	0,00143	0,00826	0,00022	<0,02
67	Stérile	Pegmatite stérile	0,0038	0,00013	0,0118	0,0047	0,0014	0,000886	0,00013	<0,02
68	Stérile	Pegmatite stérile	0,0061	0,00032	0,0216	0,0054	0,00143	0,0075	0,00016	<0,02
69	Stérile	Pegmatite stérile	0,004	0,00013	0,0506	0,004	0,00057	0,0193	0,00019	<0,02
70	Stérile	Pegmatite stérile	0,0052	0,00024	0,0314	0,0048	0,00064	0,0105	0,0004	0,07
71	Stérile	Pegmatite stérile	0,0055	0,00025	0,0337	0,0054	0,00089	0,0153	0,00021	<0,02
72	Stérile	Pegmatite stérile	0,006	0,00026	0,0343	0,0049	0,00072	0,0446	0,00054	0,03
73	Minerai	Pegmatite stérile	0,005	0,00016	0,0187	0,0038	0,00095	0,124	0,00001	<0,02
74	Minerai	Pegmatite spodumène	0,0048	0,0002	0,0126	0,0039	0,00147	0,0129	0,0001	<0,02
75	Minerai	Pegmatite spodumène	0,0042	0,00009	0,026	0,004	0,00081	0,0102	0,00013	<0,02

Essais TCLP

# échantillon	Type de matériel	Lithologie	pH	Conductivité	Alkalinité	Acidité	Fluoride	Bromide	Chlore	Sulfate	Nitrite
		Unité	Unité pH	µS/cm	$mgCaCO_3/l$	$mgCaCO_3/l$	mg/l	mg/l	mg/l	mg/l	mgN/l
		D019 – Critère risques élevés					150				100
76	Minerai	Pegmatite spodumène	4,97	4980	1560	1700	0,15	<30,0	<20,0	<20,0	<3,0
77	Minerai	Pegmatite spodumène	4,95	4960	1570	1830	0,33	<30,0	<20,0	<20,0	<3,0
78	Minerai	Pegmatite spodumène	4,98	4810	1560	1670	0,34	<30,0	<20,0	<20,0	<3,0
79	Minerai	Pegmatite spodumène	4,94	4890	1530	1760	0,11	<30,0	<20,0	<20,0	<3,0
80	Minerai	Pegmatite stérile	4,95	4880	1570	1710	0,12	<30,0	<20,0	<20,0	<3,0
81	Minerai	Pegmatite spodumène	4,93	4660	1180	1740	0,22	<30,0	<20,0	<20,0	<3,0
82	Minerai	Pegmatite spodumène	5,01	5150	1640	1600	0,4	<30,0	<20,0	<20,0	<3,0
83	Résidu	Résidu DMS	4,91	4500	1280	1650	0,1	<30,0	<20,0	<20,0	<3,0
84	Résidu	Résidu DMS	4,91	4630	1300	1660	0,16	<30,0	<20,0	<20,0	<3,0
CV5-MAG-C	Résidu	Magnétique	5,08	5260	1760	1040	1,45	<30,0	<20,0	<20,0	<3,0
CV5-DMS-MID	Résidu	Middlings	4,93	4710	1330	1430	0,30	<30,0	<20,0	<20,0	<3,0
CV5-FLO-C	Résidu	Flottation	4,91	4700	1390	1540	0,10	<30,0	<20,0	<20,0	<3,0
CV5-MAG-F	Résidu	Magnétique fin	4,98	4920	1630	1350	0,38	<30,0	<20,0	<20,0	<3,0
CV5-MID-F	Résidu	Middlings fin	4,92	4750	1390	1450	0,21	<30,0	<20,0	<20,0	<3,0
CV5-FLO-F	Résidu	Flottation fin	4,91	4730	1380	1510	0,12	<30,0	<20,0	<20,0	<3,0
CV5-BYP-CP	Résidu	Bypass	4,96	4860	1550	1390	0,29	<30,0	<20,0	<20,0	<3,0
VIS-CV5-AMP-088	Stérile	Amphibolite	5,11	4720	1530	1300	0,10	<30,0	<50,0	<20,0	<3,0
VIS-CV5-AMP-100	Stérile	Amphibolite	4,98	4490	1260	1560	1,51	<30,0	<50,0	22	<3,0
VIS-CV5-AMP-101	Stérile	Amphibolite	5,16	4840	1630	1170	0,53	<30,0	<50,0	<20,0	<3,0
VIS-CV5-AMP-102	Stérile	Amphibolite	4,97	4340	1200	1640	<0,06	<30,0	<50,0	<20,0	<3,0
VIS-CV5-AMP-105	Stérile	Amphibolite	4,92	4280	1060	1740	0,43	<30,0	<50,0	70	<3,0
VIS-CV5-AMP-109	Stérile	Amphibolite	5,41	5250	2050	783	<0,06	<30,0	<50,0	<20,0	<3,0
VIS-CV5-AMP-115	Stérile	Amphibolite	5,46	5230	2070	665	0,16	<30,0	<50,0	<20,0	<3,0
VIS-CV5-AMP-122	Stérile	Amphibolite	4,98	4360	1260	1550	0,18	<30,0	<50,0	<20,0	<3,0
VIS-CV5-AMP-134	Stérile	Amphibolite	4,97	4400	1220	1610	<0,06	<30,0	<20,0	<20,0	<3,0
VIS-CV5-AMP-163	Stérile	Amphibolite	5,04	4610	1410	1440	0,07	<30,0	<20,0	<20,0	<3,0
VIS-CV5-AMP-167	Stérile	Amphibolite	5,01	4460	1310	1470	0,12	<30,0	<20,0	<20,0	<3,0
VIS-CV5-MS-185	Stérile	Métasédiment	4,96	4760	1440	1610	0,20	<30,0	<20,0	<20,0	<3,0
VIS-CV5-MS-186	Stérile	Métasédiment	4,98	4840	1500	1570	0,15	<30,0	<20,0	<20,0	<3,0
VIS-CV5-MS-187	Stérile	Métasédiment	5,55	5990	2460	617	<0,06	<30,0	<20,0	<20,0	<3,0
VIS-CV5-MS-195	Stérile	Métasédiment	6,12	6040	2900	246	0,11	<30,0	<20,0	24	<3,0
VIS-CV5-MS-196	Stérile	Métasédiment	5,53	5720	2570	573	<0,06	<30,0	<20,0	<20,0	<3,0
VIS-CV5-MS-197	Stérile	Métasédiment	5,91	5890	2800	316	<0,06	<30,0	<20,0	<20,0	<3,0
VIS-CV5-MS-198	Stérile	Métasédiment	4,95	4670	1450	1520	0,67	<30,0	<20,0	<20,0	<3,0
VIS-CV5-MS-201	Stérile	Métasédiment	4,92	4610	1380	1660	0,74	<30,0	<20,0	<20,0	<3,0
VIS-CV5-MS-202	Stérile	Métasédiment	4,90	4800	1260	1740	4,05	<30,0	<20,0	87	<3,0
VIS-CV5-MS-203	Stérile	Métasédiment	4,95	4700	1420	1580	0,13	<30,0	<20,0	<20,0	<3,0
VIS-CV5-MS-207	Stérile	Métasédiment	4,95	4720	1360	1680	4,91	<30,0	<20,0	<20,0	<3,0
VIS-CV5-MS-210	Stérile	Métasédiment	4,91	4520	1340	1680	5,54	<30,0	<20,0	<20,0	<3,0
VIS-CV5-MS-212	Stérile	Métasédiment	4,99	4780	1520	1570	1,71	<30,0	<20,0	<20,0	<3,0
VIS-CV5-MS-220	Stérile	Métasédiment	4,91	4590	1260	1720	2,20	<30,0	<20,0	<20,0	<3,0
VIS-CV5-MS-221	Stérile	Métasédiment	5,07	5050	1670	1300	<0,06	<30,0	<20,0	<20,0	<3,0
VIS-CV5-MS-223	Stérile	Métasédiment	4,92	4600	1410	1660	0,12	<30,0	<20,0	<20,0	<3,0
VIS-CV5-MS-224	Stérile	Métasédiment	4,92	4610	1330	1670	0,22	<30,0	<20,0	<20,0	<3,0
VIS-CV5-MS-227	Stérile	Métasédiment	4,94	4690	1390	1610	0,10	<30,0	<20,0	<20,0	<3,0
VIS-CV5-MS-229	Stérile	Métasédiment	5,11	4740	1530	1310	<0,06	<30,0	<50,0	<20,0	<3,0
VIS-CV5-MS-231	Stérile	Métasédiment	4,92	4230	1100	1700	0,49	<30,0	<50,0	<20,0	<3,0
VIS-CV5-MS-234	Stérile	Métasédiment	4,93	4270	1120	1710	0,11	<30,0	<50,0	<20,0	<3,0
VIS-CV5-MS-239	Stérile	Métasédiment	5,11	4770	1540	1270	0,11	<30,0	<50,0	<20,0	<3,0
VIS-CV5-MS-250	Stérile	Métasédiment	5,19	4950	1670	1100	0,06	<30,0	<50,0	<20,0	<3,0
VIS-CV5-MS-253	Stérile	Métasédiment	4,99	4420	1260	1560	0,41	<30,0	<50,0	24	<3,0
VIS-CV5-MS-256	Stérile	Métasédiment	4,95	4340	1200	1630	1,48	<30,0	<50,0	<20,0	<3,0
VIS-CV5-UM-307	Stérile	Ultramafique	4,95	4300	1170	1700	0,47	<30,0	<20,0	<20,0	<3,0
VIS-CV5-UM-326	Stérile	Ultramafique	4,98	4410	1250	1600	0,61	<30,0	<20,0	<20,0	<3,0
81_DUP	Minerai	Pegmatite spodumène	4,93	4710	1170	1420	0,23	<30,0	<20,0	<20,0	<3,0
VIS-CV5-AMP-115 - LAB DUP	Stérile	Amphibolite	5,53	5400	2170	627	0,16	<30,0	<50,0	<20,0	<3,0
VIS-CV5-MS-231 - LAB DUP	Stérile	Métasédiment	4,92	4270	1100	1720	1,09	<30,0	<50,0	<20,0	<3,0
CV5-MAG-C-DUP	Résidu	Magnétique	5,12	5150	1830	1020	0,38	<30,0	<20,0	<20,0	<3,0

Essais TCLP

# échantillon	Type de matériel	Lithologie	Nitrate	Nitrate + Nitrite	Phosphore réactif total	Mercure	Argent	Aluminum	Arsenic	Bore
		Unité	mgN/l	mgN/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
		D019 – Critère risques élevés		1000		0,1			5	500
76	Minerai	Pegmatite spodumène	<6,0	<6,0	0,3	<0,00001	<0,0005	0,53	0,019	<0,02
77	Minerai	Pegmatite spodumène	<6,0	<6,0	1,07	<0,00001	<0,0005	0,54	0,042	<0,02
78	Minerai	Pegmatite spodumène	<6,0	<6,0	0,45	<0,00001	<0,0005	0,51	0,053	<0,02
79	Minerai	Pegmatite spodumène	<6,0	<6,0	0,4	<0,00001	<0,0005	0,46	0,031	<0,02
80	Minerai	Pegmatite stérile	<6,0	<6,0	0,07	<0,00001	<0,0005	0,69	0,102	<0,02
81	Minerai	Pegmatite spodumène	<6,0	<6,0	0,27	<0,00001	<0,0005	0,66	0,084	<0,02
82	Minerai	Pegmatite spodumène	<6,0	<6,0	0,03	<0,00001	<0,0005	1,65	0,01	<0,02
83	Résidu	Résidu DMS	<6,0	<6,0	0,08	<0,00001	<0,0005	0,71	0,022	<0,02
84	Résidu	Résidu DMS	<6,0	<6,0	0,06	<0,00001	<0,0005	0,71	0,021	<0,02
CV5-MAG-C	Résidu	Magnétique	<6,0	<6,0	<0,03	<0,00001	<0,00005	0,91	0,581	0,212
CV5-DMS-MID	Résidu	Middlings	<6,0	<6,0	<0,03	<0,00001	<0,00005	0,75	0,047	0,170
CV5-FLO-C	Résidu	Flottation	<6,0	<6,0	<0,03	<0,00001	<0,00005	0,73	0,027	0,192
CV5-MAG-F	Résidu	Magnétique fin	<6,0	<6,0	0,08	<0,00001	0,00005	0,67	0,504	0,210
CV5-MID-F	Résidu	Middlings fin	<6,0	<6,0	0,03	<0,00001	<0,00005	0,57	0,120	0,197
CV5-FLO-F	Résidu	Flottation fin	<6,0	<6,0	<0,03	<0,00001	<0,00005	0,50	0,031	0,175
CV5-BYP-CP	Résidu	Bypass	<6,0	<6,0	0,11	<0,00001	<0,00005	0,65	0,518	0,200
VIS-CV5-AMP-088	Stérile	Amphibolite	<6,0	<6,0	<0,3	<0,00001	<0,0005	0,52	0,004	0,14
VIS-CV5-AMP-100	Stérile	Amphibolite	<6,0	<6,0	<0,3	<0,00001	<0,0005	1,6	0,367	0,17
VIS-CV5-AMP-101	Stérile	Amphibolite	<6,0	<6,0	<0,3	<0,00001	<0,0005	1,1	0,040	0,15
VIS-CV5-AMP-102	Stérile	Amphibolite	<6,0	<6,0	<0,3	<0,00001	<0,0005	1,9	0,029	0,15
VIS-CV5-AMP-105	Stérile	Amphibolite	<6,0	<6,0	<0,3	<0,00001	<0,0005	0,27	0,002	0,17
VIS-CV5-AMP-109	Stérile	Amphibolite	<6,0	<6,0	<0,3	<0,00001	<0,0005	0,25	0,009	0,14
VIS-CV5-AMP-115	Stérile	Amphibolite	<6,0	<6,0	<0,3	<0,00001	<0,0005	0,16	0,034	0,16
VIS-CV5-AMP-122	Stérile	Amphibolite	<6,0	<6,0	<0,3	<0,00001	<0,0005	0,91	0,006	0,17
VIS-CV5-AMP-134	Stérile	Amphibolite	<6,0	<6,0	<0,3	<0,00001	<0,0005	0,86	0,165	0,15
VIS-CV5-AMP-163	Stérile	Amphibolite	<6,0	<6,0	<0,3	<0,00001	<0,0005	0,84	0,079	0,13
VIS-CV5-AMP-167	Stérile	Amphibolite	<6,0	<6,0	<0,3	<0,00001	<0,0005	1,2	<0,002	0,22
VIS-CV5-MS-185	Stérile	Métasédiment	<6,0	<6,0	<0,3	<0,00001	<0,0005	1,3	0,004	0,17
VIS-CV5-MS-186	Stérile	Métasédiment	<6,0	<6,0	<0,3	<0,00001	<0,0005	1,0	0,008	0,17
VIS-CV5-MS-187	Stérile	Métasédiment	<6,0	<6,0	<0,3	<0,00001	<0,0005	0,05	0,004	0,14
VIS-CV5-MS-195	Stérile	Métasédiment	<6,0	<6,0	<0,3	<0,00001	<0,0005	<0,01	0,011	0,12
VIS-CV5-MS-196	Stérile	Métasédiment	<6,0	<6,0	<0,3	<0,00001	<0,0005	0,03	0,088	0,14
VIS-CV5-MS-197	Stérile	Métasédiment	<6,0	<6,0	<0,3	<0,00001	<0,0005	0,01	0,141	0,11
VIS-CV5-MS-198	Stérile	Métasédiment	<6,0	<6,0	<0,3	<0,00001	<0,0005	0,96	0,009	0,20
VIS-CV5-MS-201	Stérile	Métasédiment	<6,0	<6,0	<0,3	<0,00001	<0,0005	1,5	<0,002	0,16
VIS-CV5-MS-202	Stérile	Métasédiment	<6,0	<6,0	<0,3	<0,00001	<0,0005	2,7	0,003	0,16
VIS-CV5-MS-203	Stérile	Métasédiment	<6,0	<6,0	<0,3	<0,00001	<0,0005	0,41	0,018	0,16
VIS-CV5-MS-207	Stérile	Métasédiment	<6,0	<6,0	<0,3	<0,00001	<0,0005	3,7	0,019	0,21
VIS-CV5-MS-210	Stérile	Métasédiment	<6,0	<6,0	<0,3	<0,00001	<0,0005	3,7	0,458	0,25
VIS-CV5-MS-212	Stérile	Métasédiment	<6,0	<6,0	<0,3	<0,00001	<0,0005	2,0	0,385	0,15
VIS-CV5-MS-220	Stérile	Métasédiment	<6,0	<6,0	<0,3	<0,00001	<0,0005	0,75	0,004	0,16
VIS-CV5-MS-221	Stérile	Métasédiment	<6,0	<6,0	<0,3	<0,00001	<0,0005	0,40	0,005	0,14
VIS-CV5-MS-223	Stérile	Métasédiment	<6,0	<6,0	<0,3	<0,00001	<0,0005	1,4	0,127	0,16
VIS-CV5-MS-224	Stérile	Métasédiment	<6,0	<6,0	<0,3	<0,00001	<0,0005	1,6	0,005	0,15
VIS-CV5-MS-227	Stérile	Métasédiment	<6,0	<6,0	<0,3	<0,00001	<0,0005	0,87	0,003	0,14
VIS-CV5-MS-229	Stérile	Métasédiment	<6,0	<6,0	<0,3	<0,00001	<0,0005	0,55	<0,002	0,13
VIS-CV5-MS-231	Stérile	Métasédiment	<6,0	<6,0	<0,3	<0,00001	<0,0005	0,92	<0,002	0,14
VIS-CV5-MS-234	Stérile	Métasédiment	<6,0	<6,0	<0,3	<0,00001	<0,0005	1,1	0,012	0,15
VIS-CV5-MS-239	Stérile	Métasédiment	<6,0	<6,0	<0,3	<0,00001	<0,0005	0,81	0,006	0,15
VIS-CV5-MS-250	Stérile	Métasédiment	<6,0	<6,0	<0,3	<0,00001	<0,0005	0,39	0,005	0,11
VIS-CV5-MS-253	Stérile	Métasédiment	<6,0	<6,0	<0,3	<0,00001	<0,0005	0,79	0,003	0,13
VIS-CV5-MS-256	Stérile	Métasédiment	<6,0	<6,0	<0,3	<0,00001	<0,0005	2,1	0,004	0,19
VIS-CV5-UM-307	Stérile	Ultramafique	<6,0	<6,0	<0,3	<0,00001	<0,0005	0,74	0,648	0,19
VIS-CV5-UM-326	Stérile	Ultramafique	<6,0	<6,0	<0,3	<0,00001	<0,0005	0,96	0,165	0,23
81_DUP	Minerai	Pegmatite spodumène	<6,0	<6,0	0,27	<0,00001	<0,0005	0,67	0,091	<0,02
VIS-CV5-AMP-115 - LAB DUP	Stérile	Amphibolite	<6,0	<6,0	<0,3	<0,00001	<0,0005	0,10	0,028	0,13
VIS-CV5-MS-231 - LAB DUP	Stérile	Métasédiment	<6,0	<6,0	<0,3	<0,00001	<0,0005	0,91	<0,002	0,15
CV5-MAG-C-DUP	Résidu	Magnétique	<6,0	<6,0	<0,03	<0,00001	<0,00005	0,32	1,23	0,218

Essais TCLP

# échantillon	Type de matériel	Lithologie	Barium
		Unité	mg/l
		D019 – Critère risques élevés	100
76	Minerai	Pegmatite spodumène	0,00941
77	Minerai	Pegmatite spodumène	0,00297
78	Minerai	Pegmatite spodumène	0,00852
79	Minerai	Pegmatite spodumène	0,00345
80	Minerai	Pegmatite stérile	0,00697
81	Minerai	Pegmatite spodumène	0,00283
82	Minerai	Pegmatite spodumène	0,00997
83	Résidu	Résidu DMS	0,00417
84	Résidu	Résidu DMS	0,00687
CV5-MAG-C	Résidu	Magnétique	0,03217
CV5-DMS-MID	Résidu	Middlings	0,01627
CV5-FLO-C	Résidu	Flottation	0,01156
CV5-MAG-F	Résidu	Magnétique fin	0,02339
CV5-MID-F	Résidu	Middlings fin	0,02378
CV5-FLO-F	Résidu	Flottation fin	0,01191
CV5-BYP-CP	Résidu	Bypass	0,06261
VIS-CV5-AMP-088	Stérile	Amphibolite	0,0287
VIS-CV5-AMP-100	Stérile	Amphibolite	0,0322
VIS-CV5-AMP-101	Stérile	Amphibolite	0,101
VIS-CV5-AMP-102	Stérile	Amphibolite	0,136
VIS-CV5-AMP-105	Stérile	Amphibolite	0,109
VIS-CV5-AMP-109	Stérile	Amphibolite	0,0319
VIS-CV5-AMP-115	Stérile	Amphibolite	0,0953
VIS-CV5-AMP-122	Stérile	Amphibolite	0,0622
VIS-CV5-AMP-134	Stérile	Amphibolite	0,0232
VIS-CV5-AMP-163	Stérile	Amphibolite	0,0494
VIS-CV5-AMP-167	Stérile	Amphibolite	0,0205
VIS-CV5-MS-185	Stérile	Métasédiment	0,0746
VIS-CV5-MS-186	Stérile	Métasédiment	0,0923
VIS-CV5-MS-187	Stérile	Métasédiment	0,0728
VIS-CV5-MS-195	Stérile	Métasédiment	0,246
VIS-CV5-MS-196	Stérile	Métasédiment	0,196
VIS-CV5-MS-197	Stérile	Métasédiment	0,237
VIS-CV5-MS-198	Stérile	Métasédiment	0,0887
VIS-CV5-MS-201	Stérile	Métasédiment	0,0863
VIS-CV5-MS-202	Stérile	Métasédiment	0,0625
VIS-CV5-MS-203	Stérile	Métasédiment	0,0397
VIS-CV5-MS-207	Stérile	Métasédiment	0,0705
VIS-CV5-MS-210	Stérile	Métasédiment	0,0649
VIS-CV5-MS-212	Stérile	Métasédiment	0,0748
VIS-CV5-MS-220	Stérile	Métasédiment	0,106
VIS-CV5-MS-221	Stérile	Métasédiment	0,264
VIS-CV5-MS-223	Stérile	Métasédiment	0,0665
VIS-CV5-MS-224	Stérile	Métasédiment	0,0646
VIS-CV5-MS-227	Stérile	Métasédiment	0,0719
VIS-CV5-MS-229	Stérile	Métasédiment	0,265
VIS-CV5-MS-231	Stérile	Métasédiment	0,111
VIS-CV5-MS-234	Stérile	Métasédiment	0,0760
VIS-CV5-MS-239	Stérile	Métasédiment	0,112
VIS-CV5-MS-250	Stérile	Métasédiment	0,0145
VIS-CV5-MS-253	Stérile	Métasédiment	0,0915
VIS-CV5-MS-256	Stérile	Métasédiment	0,162
VIS-CV5-UM-307	Stérile	Ultramafique	0,0596
VIS-CV5-UM-326	Stérile	Ultramafique	0,0149
81_DUP	Minerai	Pegmatite spodumène	0,00273
VIS-CV5-AMP-115 - LAB DUP	Stérile	Amphibolite	0,0844
VIS-CV5-MS-231 - LAB DUP	Stérile	Métasédiment	0,120
CV5-MAG-C-DUP	Résidu	Magnétique	0,02718

Essais TCLP

# échantillon	Type de matériel	Lithologie	Beryllium	Bismuth	Calcium	Cadmium	Cobalt	Chrome	Cuivre	Fer	Potassium
		Unité	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
		D019 – Critère risques élevés				0,5		5			
76	Minerai	Pegmatite spodumène	0,00857	0,00972	30,2	0,0005	0,00438	0,0047	0,004	0,29	4,41
77	Minerai	Pegmatite spodumène	0,01066	0,00024	13,9	0,00061	0,00472	0,0082	0,007	0,21	2,72
78	Minerai	Pegmatite spodumène	0,00782	0,00577	42,6	0,00078	0,0109	0,0065	0,007	0,08	4,24
79	Minerai	Pegmatite spodumène	0,00248	0,0021	7,8	0,0004	0,00353	0,0042	0,003	0,12	4,29
80	Minerai	Pegmatite stérile	0,00779	0,00888	13,5	0,00142	0,0161	0,0047	0,047	0,34	4,94
81	Minerai	Pegmatite spodumène	0,00204	0,00342	7,5	0,00048	0,00054	0,0052	<0,002	0,19	2,82
82	Minerai	Pegmatite spodumène	0,00674	0,00115	59	0,0006	0,00634	0,0053	0,014	0,44	10,4
83	Résidu	Résidu DMS	0,00154	0,00122	5	0,00005	0,000466	0,0024	0,003	0,12	4,01
84	Résidu	Résidu DMS	0,00149	0,00528	8,4	0,00005	0,000553	0,0026	0,003	0,12	3,23
CV5-MAG-C	Résidu	Magnétique	0,001460	0,0010	151	0,000510	0,03102	0,053240	0,03	<0,07	230
CV5-DMS-MID	Résidu	Middlings	0,002330	0,0031	17,5	0,000690	0,01319	0,003020	<0,01	1,83	3,88
CV5-FLO-C	Résidu	Flottation	0,000840	0,0035	4,6	0,000060	0,00199	0,000500	0,02	<0,07	3,63
CV5-MAG-F	Résidu	Magnétique fin	0,001770	0,0002	65,3	0,000190	0,03687	0,017440	0,01	3,56	3,99
CV5-MID-F	Résidu	Middlings fin	0,003110	0,0049	21,0	0,000290	0,01652	0,004840	<0,01	1,33	2,73
CV5-FLO-F	Résidu	Flottation fin	0,001350	0,0050	14,2	0,000100	0,00287	0,000770	<0,01	0,15	1,82
CV5-BYP-CP	Résidu	Bypass	0,005310	0,0299	55,4	0,000440	0,01544	0,011570	0,11	1,34	3,35
VIS-CV5-AMP-088	Stérile	Amphibolite	<0,00007	0,0002	204	0,00022	0,00729	0,0055	0,01	3,6	1,4
VIS-CV5-AMP-100	Stérile	Amphibolite	0,00343	0,0028	75,1	0,00035	0,0732	0,0107	0,06	2,3	5,9
VIS-CV5-AMP-101	Stérile	Amphibolite	0,00131	<0,0001	230	0,00016	0,0593	0,0052	0,02	4,2	4,9
VIS-CV5-AMP-102	Stérile	Amphibolite	0,00048	<0,0001	51,2	0,00016	0,0207	0,0110	0,02	5,8	9,7
VIS-CV5-AMP-105	Stérile	Amphibolite	0,00125	<0,0001	24,1	0,00004	0,0528	0,0025	<0,01	18,1	2,7
VIS-CV5-AMP-109	Stérile	Amphibolite	0,00008	<0,0001	387	0,00044	0,00890	0,0028	0,01	4,2	1,3
VIS-CV5-AMP-115	Stérile	Amphibolite	<0,00007	<0,0001	424	0,00027	0,0921	0,0019	<0,01	3,9	2,9
VIS-CV5-AMP-122	Stérile	Amphibolite	0,00057	<0,0001	61,7	0,00019	0,0174	0,0066	<0,01	3,8	5,0
VIS-CV5-AMP-134	Stérile	Amphibolite	0,00014	<0,0001	64,3	0,00010	0,0160	0,0017	0,01	6,8	1,2
VIS-CV5-AMP-163	Stérile	Amphibolite	0,00102	0,0002	122	0,00144	0,0565	0,0196	<0,01	15,5	4,1
VIS-CV5-AMP-167	Stérile	Amphibolite	0,00875	0,0005	95,3	<0,00003	0,0139	0,0032	0,02	3,3	1,7
VIS-CV5-MS-185	Stérile	Métasédiment	0,00063	0,0001	57,1	0,00010	0,00904	0,0065	0,02	2,9	9,0
VIS-CV5-MS-186	Stérile	Métasédiment	0,00029	<0,0001	78,2	0,00017	0,00721	0,0104	0,02	3,6	8,8
VIS-CV5-MS-187	Stérile	Métasédiment	<0,00007	<0,0001	446	0,00061	0,00313	0,0027	<0,01	2,7	6,7
VIS-CV5-MS-195	Stérile	Métasédiment	<0,00007	<0,0001	1960	0,00140	0,00977	<0,0008	<0,01	27,8	2,6
VIS-CV5-MS-196	Stérile	Métasédiment	<0,00007	<0,0001	1740	0,00107	0,0103	0,0010	0,01	48,0	2,7
VIS-CV5-MS-197	Stérile	Métasédiment	<0,00007	<0,0001	1900	0,00080	0,0116	<0,0008	<0,01	28,3	4,6
VIS-CV5-MS-198	Stérile	Métasédiment	0,00279	0,0001	56,4	0,00035	0,0255	0,0114	<0,01	3,3	6,4
VIS-CV5-MS-201	Stérile	Métasédiment	0,00026	<0,0001	17,0	0,00011	0,00893	0,0125	<0,01	4,8	5,8
VIS-CV5-MS-202	Stérile	Métasédiment	0,00158	<0,0001	12,4	0,00013	0,0305	0,0093	<0,01	24,9	3,4
VIS-CV5-MS-203	Stérile	Métasédiment	0,00093	<0,0001	52,1	0,00008	0,0215	0,0059	0,01	1,3	1,4
VIS-CV5-MS-207	Stérile	Métasédiment	0,00171	0,0002	32,6	0,00019	0,0334	0,0211	0,01	3,7	5,4
VIS-CV5-MS-210	Stérile	Métasédiment	0,00368	0,0170	8,7	0,00206	0,0229	0,0033	0,07	2,4	5,5
VIS-CV5-MS-212	Stérile	Métasédiment	0,00118	0,0006	76,7	0,00171	0,0221	0,0040	0,01	2,2	6,9
VIS-CV5-MS-220	Stérile	Métasédiment	0,00010	0,0003	7,8	0,00004	0,00822	0,0027	<0,01	2,6	8,3
VIS-CV5-MS-221	Stérile	Métasédiment	0,00009	0,0002	157	0,00022	0,00285	0,0170	<0,01	4,9	5,3
VIS-CV5-MS-223	Stérile	Métasédiment	0,00098	0,0002	17,5	0,00017	0,0239	0,0153	<0,01	2,8	7,2
VIS-CV5-MS-224	Stérile	Métasédiment	0,00125	0,0001	9,2	0,00078	0,0343	0,0054	0,02	3,2	7,0
VIS-CV5-MS-227	Stérile	Métasédiment	0,00039	<0,0001	35,6	0,00011	0,0117	0,0037	<0,01	6,2	7,2
VIS-CV5-MS-229	Stérile	Métasédiment	0,00008	<0,0001	189	0,00022	0,0119	0,0066	0,01	8,5	12,9
VIS-CV5-MS-231	Stérile	Métasédiment	0,00056	<0,0001	11,5	0,00003	0,00664	0,0262	<0,01	4,9	7,7
VIS-CV5-MS-234	Stérile	Métasédiment	0,00047	0,0003	13,7	0,00026	0,0145	0,0064	<0,01	3,4	7,9
VIS-CV5-MS-239	Stérile	Métasédiment	0,00036	<0,0001	194	0,00018	0,0155	0,0072	<0,01	4,5	4,2
VIS-CV5-MS-250	Stérile	Métasédiment	0,00008	<0,0001	254	0,00008	0,00220	0,0018	<0,01	14,7	1,0
VIS-CV5-MS-253	Stérile	Métasédiment	0,00024	0,0001	78,1	0,00009	0,00462	0,0018	<0,01	20,2	5,0
VIS-CV5-MS-256	Stérile	Métasédiment	0,00035	0,0002	33,4	0,00008	0,00663	0,0110	<0,01	5,8	9,9
VIS-CV5-UM-307	Stérile	Ultramafique	0,00121	0,0003	32,3	0,00017	0,0363	0,0167	<0,01	2,7	3,4
VIS-CV5-UM-326	Stérile	Ultramafique	0,0103	<0,0001	61,5	0,00140	0,365	0,0290	<0,01	4,7	5,9
81_DUP	Minerai	Pegmatite spodumène	0,00219	0,00449	5	0,00038	0,00056	0,0059	<0,002	0,17	2,92
VIS-CV5-AMP-115 - LAB DUP	Stérile	Amphibolite	0,00007	<0,0001	436	0,00024	0,0842	0,0015	<0,01	3,3	1,8
VIS-CV5-MS-231 - LAB DUP	Stérile	Métasédiment	0,00059	<0,0001	13,0	0,00003	0,00675	0,0260	<0,01	5,3	8,1
CV5-MAG-C-DUP	Résidu	Magnétique	0,001190	0,0002	121	0,000680	0,03664	0,043900	<0,01	13,3	4,18

Essais TCLP

# échantillon	Type de matériel	Lithologie	Lithium	Magnésium	Manganèse	Molybdène	Sodium	Nickel	Phosphore	Argent	Antimoine
		Unité	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
		D019 – Critère risques élevés								5	
76	Minerai	Pegmatite spodumène	0,258	0,81	0,967	0,0017	1280	0,004	0,32	0,00429	<0,009
77	Minerai	Pegmatite spodumène	0,698	0,28	3,09	0,0041	1300	0,005	1,05	0,00103	0,01
78	Minerai	Pegmatite spodumène	0,256	0,88	1,29	0,0033	1270	0,004	0,5	0,00234	<0,009
79	Minerai	Pegmatite spodumène	0,167	0,23	0,719	0,0013	1250	0,002	0,44	0,00226	<0,009
80	Minerai	Pegmatite stérile	0,074	0,76	0,318	0,0017	1280	0,026	0,07	0,0176	<0,009
81	Minerai	Pegmatite spodumène	0,297	0,17	0,683	0,0017	1270	0,002	0,32	0,00137	0,011
82	Minerai	Pegmatite spodumène	0,174	0,42	0,602	0,0013	1250	0,003	0,05	0,00735	<0,009
83	Résidu	Résidu DMS	0,03	0,1	0,0884	<0,0004	1430	<0,001	0,067	0,00155	<0,009
84	Résidu	Résidu DMS	0,028	0,14	0,0869	<0,0004	1440	<0,001	0,037	0,00207	<0,009
CV5-MAG-C	Résidu	Magnétique	0,125	126	6,26	<0,0004	1400	0,800	0,03	0,0093	0,194
CV5-DMS-MID	Résidu	Middlings	0,118	3,52	0,420	<0,0004	1280	0,031	0,03	0,0208	0,0106
CV5-FLO-C	Résidu	Flottation	0,0254	0,57	0,0902	<0,0004	1350	0,002	0,03	0,0034	0,0057
CV5-MAG-F	Résidu	Magnétique fin	0,126	8,40	1,05	0,0005	1340	0,394	0,05	0,0058	0,0734
CV5-MID-F	Résidu	Middlings fin	0,0811	3,55	0,485	<0,0004	1320	0,077	0,04	0,0084	0,0189
CV5-FLO-F	Résidu	Flottation fin	0,0433	0,76	0,270	<0,0004	1300	0,003	0,04	0,0072	0,0077
CV5-BYP-CP	Résidu	Bypass	0,239	5,45	1,82	0,0006	1400	0,397	0,12	0,0273	0,0876
VIS-CV5-AMP-088	Stérile	Amphibolite	0,018	2,6	1,86	<0,004	1470	0,012	<0,03	0,0173	<0,009
VIS-CV5-AMP-100	Stérile	Amphibolite	0,285	5,0	0,558	<0,004	1440	0,403	0,06	0,0038	0,074
VIS-CV5-AMP-101	Stérile	Amphibolite	0,169	4,3	0,985	<0,004	1400	0,129	<0,03	0,0022	0,021
VIS-CV5-AMP-102	Stérile	Amphibolite	0,242	3,2	0,599	<0,004	1410	0,068	<0,03	0,0028	0,020
VIS-CV5-AMP-105	Stérile	Amphibolite	0,084	4,5	0,470	<0,004	1390	0,101	<0,03	0,0022	<0,009
VIS-CV5-AMP-109	Stérile	Amphibolite	0,055	2,4	3,26	<0,004	1410	0,039	<0,03	0,0056	<0,009
VIS-CV5-AMP-115	Stérile	Amphibolite	0,045	3,7	3,75	<0,004	1410	0,156	<0,03	0,0011	<0,009
VIS-CV5-AMP-122	Stérile	Amphibolite	0,084	3,2	0,585	<0,004	1350	0,055	<0,03	0,0016	0,015
VIS-CV5-AMP-134	Stérile	Amphibolite	0,037	2,0	0,418	<0,004	1460	0,015	<0,03	0,0086	<0,009
VIS-CV5-AMP-163	Stérile	Amphibolite	0,049	3,8	0,670	<0,004	1430	0,203	<0,03	0,0195	0,075
VIS-CV5-AMP-167	Stérile	Amphibolite	0,058	9,8	0,491	<0,004	1430	0,008	<0,03	0,0032	<0,009
VIS-CV5-MS-185	Stérile	Métasédiment	0,089	2,4	0,843	<0,004	1370	0,014	<0,03	0,0356	<0,009
VIS-CV5-MS-186	Stérile	Métasédiment	0,105	1,9	1,40	<0,004	1480	0,013	<0,03	0,0931	<0,009
VIS-CV5-MS-187	Stérile	Métasédiment	0,034	2,1	4,06	<0,004	1360	0,006	<0,03	0,0037	<0,009
VIS-CV5-MS-195	Stérile	Métasédiment	0,005	16,6	27,7	<0,004	6,7	0,094	<0,03	0,0012	<0,009
VIS-CV5-MS-196	Stérile	Métasédiment	0,005	12,3	26,0	<0,004	6,3	0,187	<0,03	0,0233	<0,009
VIS-CV5-MS-197	Stérile	Métasédiment	0,006	13,0	27,1	<0,004	6,2	0,383	<0,03	<0,0009	<0,009
VIS-CV5-MS-198	Stérile	Métasédiment	0,131	2,9	0,729	<0,004	1420	0,034	<0,03	0,0098	<0,009
VIS-CV5-MS-201	Stérile	Métasédiment	0,147	1,8	0,194	<0,004	1360	0,015	<0,03	0,0700	<0,009
VIS-CV5-MS-202	Stérile	Métasédiment	0,181	3,2	0,315	<0,004	1310	0,071	<0,03	0,0222	<0,009
VIS-CV5-MS-203	Stérile	Métasédiment	0,050	1,9	0,319	<0,004	1340	0,024	<0,03	0,0099	<0,009
VIS-CV5-MS-207	Stérile	Métasédiment	0,216	2,4	0,647	<0,004	1420	0,049	<0,03	0,0520	0,010
VIS-CV5-MS-210	Stérile	Métasédiment	0,410	1,8	0,178	<0,004	1380	0,040	<0,03	0,304	0,848
VIS-CV5-MS-212	Stérile	Métasédiment	0,215	1,2	0,984	<0,004	1380	0,061	<0,03	0,0589	0,154
VIS-CV5-MS-220	Stérile	Métasédiment	0,039	0,78	0,0354	<0,004	1400	0,008	<0,03	0,0047	<0,009
VIS-CV5-MS-221	Stérile	Métasédiment	0,042	3,0	2,59	<0,004	1390	0,012	<0,03	0,0306	<0,009
VIS-CV5-MS-223	Stérile	Métasédiment	0,171	3,1	0,103	<0,004	1380	0,170	<0,03	0,0070	<0,009
VIS-CV5-MS-224	Stérile	Métasédiment	0,150	2,8	0,203	<0,004	1370	0,077	<0,03	0,0567	<0,009
VIS-CV5-MS-227	Stérile	Métasédiment	0,112	3,1	0,523	<0,004	1400	0,025	<0,03	0,0543	<0,009
VIS-CV5-MS-229	Stérile	Métasédiment	0,088	2,4	2,62	<0,004	1430	0,059	<0,03	0,0257	<0,009
VIS-CV5-MS-231	Stérile	Métasédiment	0,051	1,3	0,0709	<0,004	1440	0,018	<0,03	0,0042	<0,009
VIS-CV5-MS-234	Stérile	Métasédiment	0,185	1,8	0,174	<0,004	1420	0,019	<0,03	0,0172	<0,009
VIS-CV5-MS-239	Stérile	Métasédiment	0,086	2,7	0,894	<0,004	1440	0,060	<0,03	0,0134	0,053
VIS-CV5-MS-250	Stérile	Métasédiment	0,013	2,6	2,85	<0,004	1430	<0,001	<0,03	0,0026	<0,009
VIS-CV5-MS-253	Stérile	Métasédiment	0,089	0,97	0,496	<0,004	1430	0,046	<0,03	0,0030	<0,009
VIS-CV5-MS-256	Stérile	Métasédiment	0,183	2,2	0,395	<0,004	1350	0,016	<0,03	0,0043	<0,009
VIS-CV5-UM-307	Stérile	Ultramafique	0,105	3,4	0,292	<0,004	1410	0,388	0,03	0,0080	0,127
VIS-CV5-UM-326	Stérile	Ultramafique	0,147	18,5	0,452	<0,004	1400	0,440	<0,03	0,0470	0,199
81_DUP	Minerai	Pegmatite spodumène	0,298	0,15	0,717	0,0022	1280	0,003	0,27	0,00194	0,012
VIS-CV5-AMP-115 - LAB DUP	Stérile	Amphibolite	0,042	3,3	3,63	<0,004	1360	0,146	<0,03	0,0016	<0,009
VIS-CV5-MS-231 - LAB DUP	Stérile	Métasédiment	0,053	1,4	0,0785	<0,004	1440	0,018	<0,03	0,0053	<0,009
CV5-MAG-C-DUP	Résidu	Magnétique	0,133	40,3	2,17	<0,0004	1400	1,51	<0,03	0,0187	0,190

Essais TCLP

# échantillon	Type de matériel	Lithologie	Sélénium	Etain	Strontium	Titane	Thorium	Uranium	Vanadium	Zinc
		Unité	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
		D019 – Critère risques élevés	1					2		
76	Minerai	Pegmatite spodumène	0,0043	0,00013	0,0564	0,0039	0,00091	0,00442	0,00017	<0,02
77	Minerai	Pegmatite spodumène	0,0036	0,00015	0,0478	0,0033	0,00145	0,0414	0,00022	<0,02
78	Minerai	Pegmatite spodumène	0,007	0,00011	0,058	0,0052	0,00122	0,00838	0,00035	<0,02
79	Minerai	Pegmatite spodumène	0,0055	0,00031	0,02	0,0047	0,0013	0,019	0,00006	<0,02
80	Minerai	Pegmatite stérile	0,0037	0,00018	0,0321	0,0037	0,00117	0,00775	0,00032	0,04
81	Minerai	Pegmatite spodumène	0,0048	0,00015	0,028	0,0045	0,00112	0,0217	0,00018	<0,02
82	Minerai	Pegmatite spodumène	0,0046	0,00025	0,0418	0,0048	0,00289	0,033	0,00039	<0,02
83	Résidu	Résidu DMS	0,0028	<0,00006	0,00872	<0,0005	0,0017	0,00367	0,00006	<0,02
84	Résidu	Résidu DMS	0,0024	<0,00006	0,0098	<0,0005	0,0012	0,00331	0,00009	<0,02
CV5-MAG-C	Résidu	Magnétique	0,124	0,00009	2,56	<0,0001	0,00144	0,0346	0,00155	0,22
CV5-DMS-MID	Résidu	Middlings	0,0302	<0,00004	1,51	<0,0001	0,00081	0,0418	0,00078	0,39
CV5-FLO-C	Résidu	Flottation	0,0139	0,00005	1,82	<0,0001	0,00136	0,0284	0,00018	<0,02
CV5-MAG-F	Résidu	Magnétique fin	0,0637	<0,00004	2,15	0,0006	0,00167	0,0436	0,00203	<0,02
CV5-MID-F	Résidu	Middlings fin	0,0387	<0,00004	1,33	0,0003	0,00071	0,0432	0,00100	0,03
CV5-FLO-F	Résidu	Flottation fin	0,0220	<0,00004	1,12	0,0001	0,00044	0,0388	0,00023	<0,02
CV5-BYP-CP	Résidu	Bypass	0,0845	0,00017	1,75	0,0002	0,00120	0,167	0,00075	0,12
VIS-CV5-AMP-088	Stérile	Amphibolite	<0,0004	<0,0006	0,0800	<0,001	<0,00005	0,00041	0,0007	0,03
VIS-CV5-AMP-100	Stérile	Amphibolite	0,0016	<0,0006	0,0704	<0,001	0,00251	0,0118	0,0016	0,05
VIS-CV5-AMP-101	Stérile	Amphibolite	0,0004	<0,0006	0,0931	<0,001	0,00085	0,00145	0,0008	0,05
VIS-CV5-AMP-102	Stérile	Amphibolite	<0,0004	<0,0006	0,0496	<0,001	0,00055	0,00046	0,0016	0,09
VIS-CV5-AMP-105	Stérile	Amphibolite	<0,0004	<0,0006	0,0302	<0,001	0,00013	0,00758	<0,0001	<0,02
VIS-CV5-AMP-109	Stérile	Amphibolite	<0,0004	<0,0006	0,119	<0,001	0,00016	0,00033	0,0005	0,07
VIS-CV5-AMP-115	Stérile	Amphibolite	<0,0004	<0,0006	0,236	<0,001	0,00017	0,00604	0,0002	0,03
VIS-CV5-AMP-122	Stérile	Amphibolite	<0,0004	<0,0006	0,0417	<0,001	0,00037	0,00157	0,0007	0,04
VIS-CV5-AMP-134	Stérile	Amphibolite	<0,0004	<0,0006	0,0526	<0,001	0,00008	0,00125	0,0014	0,06
VIS-CV5-AMP-163	Stérile	Amphibolite	<0,0004	<0,0006	0,0811	<0,001	0,00011	0,0500	0,0001	0,24
VIS-CV5-AMP-167	Stérile	Amphibolite	<0,0004	<0,0006	0,235	<0,001	0,00005	0,00237	0,0007	<0,02
VIS-CV5-MS-185	Stérile	Métasédiment	<0,0004	<0,0006	0,0792	<0,001	0,00014	0,00180	0,0008	0,03
VIS-CV5-MS-186	Stérile	Métasédiment	<0,0004	<0,0006	0,0769	<0,001	0,00020	0,00211	0,0009	0,03
VIS-CV5-MS-187	Stérile	Métasédiment	<0,0004	<0,0006	0,235	<0,001	0,00011	0,00314	0,0004	0,02
VIS-CV5-MS-195	Stérile	Métasédiment	<0,0004	<0,0006	2,45	<0,001	<0,00005	0,00095	<0,0001	<0,02
VIS-CV5-MS-196	Stérile	Métasédiment	0,0005	<0,0006	2,39	<0,001	<0,00005	0,00072	0,0001	0,07
VIS-CV5-MS-197	Stérile	Métasédiment	<0,0004	<0,0006	2,06	<0,001	<0,00005	0,00086	<0,0001	<0,02
VIS-CV5-MS-198	Stérile	Métasédiment	<0,0004	<0,0006	0,0597	<0,001	0,00035	0,0137	0,0004	0,08
VIS-CV5-MS-201	Stérile	Métasédiment	<0,0004	<0,0006	0,0440	<0,001	0,00017	0,00477	0,0004	<0,02
VIS-CV5-MS-202	Stérile	Métasédiment	<0,0004	<0,0006	0,0177	<0,001	0,00016	0,00362	0,0001	0,06
VIS-CV5-MS-203	Stérile	Métasédiment	0,0005	<0,0006	0,0436	<0,001	0,00028	0,00747	0,0001	<0,02
VIS-CV5-MS-207	Stérile	Métasédiment	<0,0004	<0,0006	0,0417	0,001	0,00079	0,00507	0,0011	0,05
VIS-CV5-MS-210	Stérile	Métasédiment	0,0010	<0,0006	0,0192	0,004	0,00388	0,00503	0,0007	0,38
VIS-CV5-MS-212	Stérile	Métasédiment	<0,0004	<0,0006	0,0755	<0,001	0,00111	0,0147	0,0013	0,18
VIS-CV5-MS-220	Stérile	Métasédiment	<0,0004	<0,0006	0,0431	<0,001	0,00008	0,0152	0,0012	0,03
VIS-CV5-MS-221	Stérile	Métasédiment	<0,0004	<0,0006	0,0616	<0,001	0,00010	0,00411	0,0006	0,05
VIS-CV5-MS-223	Stérile	Métasédiment	<0,0004	<0,0006	0,0365	<0,001	0,00053	0,00508	0,0005	0,04
VIS-CV5-MS-224	Stérile	Métasédiment	<0,0004	<0,0006	0,0344	<0,001	0,00056	0,00722	0,0003	0,15
VIS-CV5-MS-227	Stérile	Métasédiment	<0,0004	<0,0006	0,0268	<0,001	0,00062	0,00868	<0,0001	0,03
VIS-CV5-MS-229	Stérile	Métasédiment	<0,0004	<0,0006	0,119	<0,001	0,00082	0,00055	0,0001	0,12
VIS-CV5-MS-231	Stérile	Métasédiment	<0,0004	<0,0006	0,0202	<0,001	0,00052	0,00450	0,0002	0,02
VIS-CV5-MS-234	Stérile	Métasédiment	<0,0004	<0,0006	0,0381	<0,001	0,00025	0,00931	0,0009	0,08
VIS-CV5-MS-239	Stérile	Métasédiment	<0,0004	<0,0006	0,0856	<0,001	0,00028	0,00079	0,0008	0,07
VIS-CV5-MS-250	Stérile	Métasédiment	<0,0004	<0,0006	0,0948	<0,001	<0,00005	0,00150	<0,0001	<0,02
VIS-CV5-MS-253	Stérile	Métasédiment	<0,0004	0,0028	0,0489	<0,001	<0,00005	0,00223	<0,0001	<0,02
VIS-CV5-MS-256	Stérile	Métasédiment	<0,0004	<0,0006	0,0390	<0,001	0,00018	0,00260	0,0020	0,03
VIS-CV5-UM-307	Stérile	Ultramafique	<0,0004	<0,0006	0,0466	<0,001	0,00182	0,0117	0,0017	0,03
VIS-CV5-UM-326	Stérile	Ultramafique	<0,0004	<0,0006	0,472	<0,001	0,00036	0,00047	0,0018	0,16
81_DUP	Minerai	Pegmatite spodumène	0,0047	0,00021	0,0226	0,0046	0,00104	0,0229	0,00021	<0,02
VIS-CV5-AMP-115 - LAB DUP	Stérile	Amphibolite	<0,0004	<0,0006	0,224	<0,001	0,00016	0,00552	0,0002	0,03
VIS-CV5-MS-231 - LAB DUP	Stérile	Métasédiment	<0,0004	<0,0006	0,0214	<0,001	0,00043	0,00461	0,0002	<0,02
CV5-MAG-C-DUP	Résidu	Magnétique	0,194	0,00006	2,38	0,0001	0,00249	0,0119	0,00135	0,64

Annexe D : Données des essais cinétiques

Résultats HCT – CV5-WR-HCT-2

Analyse	Symbole	Unité	Sem. #0	Sem. #1	Sem. #2	Sem. #3	Sem. #4	Sem. #5	Sem. #6	Sem. #7	Sem. #8	Sem. #9	Sem. #10
			2023-04-27	2023-05-04	2023-05-11	2023-05-18	2023-05-25	2023-06-01	2023-06-08	2023-06-15	2023-06-22	2023-06-29	2023-07-06
Volume du lixiviat	V	mL	836	930	968	967	962	997	995	1000	923	927	902
pH	pH	No unit	8,80	7,75	7,22	7,53	7,04	6,90	6,89	7,27	7,14	7,05	6,96
Alkalinité	Alkalinité	$mgCaCO_3/l$	15	8	6	7	4	7	4	7	5	4	4
Conductivité	Conductivité	µS/cm	45	50	46	59	40	45	36	39	36	38	43
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2,0	4	8	3	5	4	2	5	5	7
Fluoride	F	mg/l	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Sulfate	SO_4^{2-}	mg/l	3	8	9	10	11	9	8	8	9	10	12
Chlore	Cl^-	mg/l	4	7	4	3	1	1	<1,0	<1,0	1	1	4
Nitrite	NO_2^-	mgN/l	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Nitrate	NO_3^-	mgN/l	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06
Bromide	Br	mg/l	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3
Mercure	Hg	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,172	0,061	0,049	0,044	0,033	0,016	0,036	0,035	0,044	0,041	0,040
Arsenic	As	mg/l	0,0027	0,0036	0,0064	0,0043	0,0052	0,0053	0,0054	0,0083	0,0067	0,0066	0,0067
Baryum	Ba	mg/l	0,00054	0,00043	0,00035	0,00036	0,00043	0,00045	0,00046	0,00042	0,00034	0,00033	0,00048
Beryllium	Be	mg/l	<0,000007	<0,000007	0,000009	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007
Bore	B	mg/l	0,012	0,023	0,024	0,020	0,019	0,016	0,011	0,012	0,009	0,008	0,010
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	5,08	3,71	3,43	3,96	4,04	4,50	3,57	4,54	4,55	4,43	5,37
Cadmium	Cd	mg/l	<0,000003	<0,000003	<0,000003	0,000012	0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003
Cobalt	Co	mg/l	0,000031	0,000040	0,000051	0,000054	0,000080	0,000164	0,000095	0,000121	0,000088	0,000086	0,000088
Chrome	Cr	mg/l	0,00009	0,00017	<0,00008	0,00013	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	0,00010	<0,00008
Cuivre	Cu	mg/l	0,0009	0,0004	<0,0002	<0,0002	0,0003	0,0003	<0,0002	<0,0002	<0,0002	<0,0002	0,0005
Fer	Fe	mg/l	<0,007	0,007	0,007	0,007	<0,007	0,007	0,009	0,007	<0,007	0,007	0,022
Potassium	K	mg/l	1,21	1,20	1,08	0,975	0,945	0,908	0,707	0,732	0,668	0,581	0,732
Lithium	Li	mg/l	0,0302	0,0463	0,0472	0,0435	0,0432	0,0363	0,0281	0,0270	0,0275	0,0228	0,0312
Magnésium	Mg	mg/l	0,545	0,642	0,635	0,774	0,780	0,870	0,665	0,790	0,720	0,639	0,946
Manganese	Mn	mg/l	0,00069	0,00204	0,00208	0,00241	0,00228	0,00313	0,00267	0,00351	0,00219	0,00203	0,00228
Molybdène	Mo	mg/l	0,00035	0,00064	0,00063	0,00128	0,00041	0,00035	0,00184	0,00184	0,00022	0,00014	0,00075
Sodium	Na	mg/l	3,03	4,56	3,46	2,88	2,24	1,75	1,07	1,12	0,96	0,80	0,87
Nickel	Ni	mg/l	0,0002	0,0004	0,0002	0,0003	0,0005	0,0005	0,0004	0,0004	0,0003	0,0002	0,0003
Plomb	Pb	mg/l	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009
Antimoine	Sb	mg/l	0,0030	0,0109	0,0081	0,0099	0,0079	0,0136	0,0083	0,0118	0,0055	0,0055	0,0066
Sélénium	Se	mg/l	0,00036	0,00045	0,00055	0,00030	0,00035	0,00034	0,00019	0,00038	0,00028	0,00026	0,00044
Etain	Sn	mg/l	0,00273	0,00057	0,00030	0,00016	0,00008	0,00013	0,00006	0,00007	<0,00006	<0,00006	0,00006
Strontium	Sr	mg/l	0,0188	0,0182	0,01901	0,0206	0,02196	0,0210	0,0172	0,01970	0,0197	0,01979	0,0232
Titane	Ti	mg/l	0,00035	0,00035	0,00044	0,00069	0,00028	<0,00005	0,00062	0,00043	0,00036	0,00030	0,00047
Thallium	Th	mg/l	0,000006	<0,000005	0,000020	<0,000005	<0,000005	0,000005	<0,000005	<0,000005	<0,000015	<0,000005	<0,000005
Uranium	U	mg/l	0,000305	0,000263	0,002292	0,000316	0,000182	0,000174	0,000145	0,000222	0,00182	0,000108	0,000155
Vanadium	V	mg/l	0,00085	0,00066	0,00055	0,00045	0,00047	0,00039	0,00037	0,00046	0,00046	0,00045	0,00041
Tungstène	W	mg/l	0,00054	0,00063	0,00073	0,00055	0,00045	0,00034	0,00268	0,00027	0,00015	0,00018	0,00023
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l	0,00011	<0,00001	<0,00001	<0,00001	0,00007	<0,00001	<0,00001	<0,00001	0,00002	0,00001	<0,00001
Cérium (total)	Ce	mg/l	0,00001	0,00001	0,00001	0,00001	0,00001	<0,00001	0,00001	0,00001	0,00002	0,00001	0,00001
Césium (total)	Cs	mg/l	0,0184	0,0143	0,0134	0,0146	0,0129	0,0114	0,0111	0,0121	0,0112	0,0096	0,0114
Dysprosium (total)	Dy	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Erbium (total)	Er	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Europium (total)	Eu	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Gallium (total)	Ga	mg/l	0,0002	<0,0001	<0,0001	<0,0001	<0,0001	0,0001	<0,0001	0,0002	<0,0001	<0,0001	<0,0001
Gadolinium (total)	Gd	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Germanium (total)	Ge	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Hafnium (total)	Hf	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Holmium (total)	Ho	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Indium (total)	In	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Iridium (total)	Ir	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Lanthanum (total)	La	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Lutetium (total)	Lu	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Niobium (total)	Nb	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Néodymium (total)	Nd	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Osmium (total)	Os	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Palladium (total)	Pd	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Praseodymium (total)	Pr	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Platinum (total)	Pt	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Rubidium (total)	Rb	mg/l	0,0174	0,0139	0,0122	0,0113	0,0105	0,0108	0,0080	0,0094	0,0080	0,0077	0,0094
Rhenium (total)	Re	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Rhodium (total)	Rh	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Scandium (total)	Sc	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Samarium (total)	Sm	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Tantalum (total)	Ta	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Terbium (total)	Tb	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Tellurium (total)	Te	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Thorium (total)	Th	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Thulium (total)	Tm	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Ytterbium (total)	Yb	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001

Résultats HCT – CV5-WR-HCT-2

Analyse	Symbole	Unité	Sem. #11	Sem. #12	Sem. #13	Sem. #14	Sem. #15	Sem. #16	Sem. #17	Sem. #18	Sem. #19	Sem. #20	Sem. #21
			2023-07-13	2023-07-20	2023-07-27	2023-08-03	2023-08-10	2023-08-17	2023-08-24	2023-08-31	2023-09-07	2023-09-14	2023-09-21
Volume du lixiviat	V	mL	902	975	963	962	901	942	917	903	891	920	924
pH	pH	No unit	7,00	7,03	7,00	6,78	6,54	7,00	6,85	7,13	6,82	6,80	6,66
Alkalinité	Alkalinité	$mgCaCO_3/l$	3	4	3	3	4	3	3	4	3	3	3
Conductivité	Conductivité	µS/cm	29	28	26	24	38	34	29	28	24	25	26
Acidité	Acidité	$mgCaCO_3/l$	2	6	2	2	10	2	3	3	3	2	3
Fluoride	F	mg/l				<0,06	<0,06	<0,06		<0,06		0,06	
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Sulfate	SO_4^{2-}	mg/l	7	6	7	6	10	7	7	7	6	<6,0	6
Chlore	Cl^-	mg/l					3	<1,0		<1,0		2	
Nitrite	NO_2^-	mgN/l					<0,03	<0,03		<0,03		<0,03	
Nitrate	NO_3^-	mgN/l					<0,06	<0,06		<0,06		<0,06	
Bromide	Br	mg/l					<0,3	<0,3		<0,3		<0,3	
Mercure	Hg	mg/l					<0,00001	<0,00001		<0,00001		<0,00001	
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	0,00013	<0,00005
Aluminum	Al	mg/l	0,057	0,033	0,029	0,028	0,030	0,031	0,033	0,030	0,031	0,028	0,028
Arsenic	As	mg/l	0,0054	0,0057	0,0051	0,0040	0,0049	0,0044	0,0049	0,0076	0,0053	0,0053	0,0045
Baryum	Ba	mg/l	0,00041	0,00025	0,00022	0,00030	0,00045	0,00026	0,00030	0,00026	0,00028	0,00024	0,00029
Beryllium	Be	mg/l	0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007
Bore	B	mg/l	0,008	0,005	0,005	0,005	0,006	0,005	0,005	0,006	0,004	0,004	0,004
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	3,20	3,21	3,03	3,24	4,41	3,25	3,56	3,85	3,24	3,20	3,27
Cadmium	Cd	mg/l	<0,000003	<0,000003	<0,000003	<0,000003	0,000005	0,000007	<0,000003	<0,000003	<0,000003	0,000007	<0,000003
Cobalt	Co	mg/l	0,000110	0,000094	0,000116	0,000068	0,000114	0,000079	0,000122	0,000071	0,000068	0,000092	0,000075
Chrome	Cr	mg/l	0,00013	0,00008	0,00158	<0,00008	<0,00008	0,00012	<0,00008	0,00011	<0,00008	<0,00008	<0,00008
Cuivre	Cu	mg/l	<0,0002	<0,0002	0,0011	0,0003	0,0010	0,0002	<0,0002	<0,0002	0,0003	<0,0002	<0,0003
Fer	Fe	mg/l	0,036	0,038	<0,007	<0,007	0,008	<0,007	<0,007	0,007	<0,007	<0,007	0,019
Potassium	K	mg/l	0,509	0,426	0,356	0,403	0,592	0,356	0,394	0,425	0,391	0,344	0,28
Lithium	Li	mg/l	0,0253	0,0165	0,0133	0,0138	0,0268	0,0150	0,0164	0,0133	0,0153	0,0135	0,0134
Magnésium	Mg	mg/l	0,556	0,505	0,374	0,404	1,02	0,501	0,589	0,600	0,615	0,476	0,447
Manganese	Mn	mg/l	0,00201	0,00198	0,00642	0,00156	0,00151	0,00136	0,00146	0,00158	0,00125	0,00134	0,00132
Molybdène	Mo	mg/l	0,00011	0,00027	0,00029	0,00079	0,00044	0,00008	0,00025	0,00053	0,00054	0,00033	0,00078
Sodium	Na	mg/l	0,55	0,41	0,33	0,36	0,58	0,30	0,31	0,35	0,32	0,23	0,22
Nickel	Ni	mg/l	0,0002	0,0100	0,0021	0,0002	0,0003	0,0002	0,0004	0,0003	0,0004	0,0003	0,0003
Plomb	Pb	mg/l	<0,00009	<0,00009	<0,00009	<0,00009	0,00026	0,00034	<0,00009	<0,00009	<0,00009	0,00043	0,00009
Antimoine	Sb	mg/l	0,0060	0,0052	0,0047	0,0037	0,0075	0,0050	0,0049	0,0069	0,0047	0,0045	0,004
Sélénium	Se	mg/l	0,00021	0,00021	0,00021	0,00018	0,00041	0,00022	0,00025	0,00027	0,00025	0,00022	0,00019
Etain	Sn	mg/l	<0,00006	<0,00006	0,00014	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006
Strontium	Sr	mg/l	0,0138	0,0128	0,01233	0,0125	0,0198	0,0126	0,0140	0,0143	0,0126	0,0118	0,0115
Titane	Ti	mg/l	0,00194	0,00031	0,00020	0,00017	0,00017	0,00024	0,00019	0,00029	0,00019	0,00009	0,00018
Thallium	Th	mg/l	0,000013	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	0,000017	<0,000005
Uranium	U	mg/l	0,000031	0,00149	0,000127	0,000082	0,000120	0,000086	0,00345	0,000230	0,000134	0,00209	0,00131
Vanadium	V	mg/l	0,00050	0,00042	0,00039	0,00032	0,00037	0,00036	0,00040	0,00059	0,00042	0,00044	0,0004
Tungstène	W	mg/l	0,00029	0,00010	0,00010	0,00008	0,00017	0,00008	0,00011	0,00061	0,00011	0,00009	0,00008
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l					0,00003	<0,00001		<0,00001		<0,00001	
Cérium (total)	Ce	mg/l					<0,00001	<0,00001		0,00001		<0,00001	
Césium (total)	Cs	mg/l					0,0096	0,0080		0,0093		0,0074	
Dysprosium (total)	Dy	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Erbium (total)	Er	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Europium (total)	Eu	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Gallium (total)	Ga	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Gadolinium (total)	Gd	mg/l					<0,00001	<0,00001		<0,00001		<0,00001	
Germanium (total)	Ge	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Hafnium (total)	Hf	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Holmium (total)	Ho	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Indium (total)	In	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Iridium (total)	Ir	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Lanthanum (total)	La	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Lutetium (total)	Lu	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Niobium (total)	Nb	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Néodymium (total)	Nd	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Osmium (total)	Os	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Palladium (total)	Pd	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Praseodymium (total)	Pr	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Platinum (total)	Pt	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Rubidium (total)	Rb	mg/l					0,0083	0,0057		0,0063		0,0050	
Rhenium (total)	Re	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Rhodium (total)	Rh	mg/l					<0,00001	<0,00001		<0,00001		<0,00001	
Scandium (total)	Sc	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Samarium (total)	Sm	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Tantalum (total)	Ta	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Terbium (total)	Tb	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Tellurium (total)	Te	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Thorium (total)	Th	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Thulium (total)	Tm	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Ytterbium (total)	Yb	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	

Résultats HCT – CV5-WR-HCT-2

Analyse	Symbole	Unité	Sem. #22	Sem. #23	Sem. #24	Sem. #25	Sem. #26	Sem. #27	Sem. #28	Sem. #29	Sem. #30	Sem. #31	Sem. #32
			2023-09-28	2023-10-05	2023-10-12	2023-10-19	2023-10-26	2023-11-02	2023-11-09	2023-11-16	2023-11-23	2023-11-30	2023-12-07
Volume du lixiviat	V	mL	916	926	1007	924	943	944	932	935	913	946	980
pH	pH	No unit	6,79	6,7	6,82	6,74	6,6	6,81	6,81	6,8	6,6	6,95	6,89
Alkalinité	Alkalinité	$mgCaCO_3/l$	2	3	4	3	2	2	2	2	3	3	3
Conductivité	Conductivité	µS/cm	24	24	14	27	27	26	23	24	31	28	32
Acidité	Acidité	$mgCaCO_3/l$	<2,0	3	<2,0	3	3	<2,0	2	<2,0	3	<2,0	<2,0
Fluoride	F	mg/l				<0,06					<0,06		
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Sulfate	SO_4^{2-}	mg/l	6	6	6	9	8	8	7	7	9	9	8
Chlore	Cl^-	mg/l				1					<1,0		
Nitrite	NO_2^-	mgN/l				0,03					<0,03		
Nitrate	NO_3^-	mgN/l				0,06					<0,06		
Bromide	Br	mg/l				0,3					<0,3		
Mercure	Hg	mg/l				<0,00001					<0,00001		
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,028	0,03	0,023	0,03	0,025	0,022	0,026	0,017	0,025	0,023	0,023
Arsenic	As	mg/l	0,0051	0,0057	0,0053	0,0088	0,0041	0,0041	0,0042	0,0039	0,0038	0,0040	0,0044
Baryum	Ba	mg/l	0,00019	0,00019	0,00018	0,00029	0,0002	0,00019	0,00019	0,00027	0,00032	0,00025	0,00015
Beryllium	Be	mg/l	<0,000007	<0,000007	0,000009	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	0,000011	<0,000007	<0,000007
Bore	B	mg/l	0,003	0,003	0,003	0,003	0,002	0,002	0,002	0,002	0,002	0,002	0,003
Bismuth	Bi	mg/l	<0,00002	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	3,29	3,33	2,97	3,72	3,64	3,85	3,65	2,84	4,36	4,19	3,72
Cadmium	Cd	mg/l	0,000003	<0,000003	0,000003	<0,000003	<0,000003	0,000006	<0,000003	0,000003	0,000004	0,000003	<0,000003
Cobalt	Co	mg/l	0,000079	0,000073	0,000075	0,000087	0,000082	0,000084	0,000083	0,000071	0,000103	0,000097	0,000086
Chrome	Cr	mg/l	<0,00008	<0,00008	<0,00008	<0,00022	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008
Cuivre	Cu	mg/l	<0,0002	<0,0012	0,0007	<0,0011	<0,0002	<0,0002	<0,0002	0,0003	<0,0002	<0,0002	<0,0002
Fer	Fe	mg/l	<0,007	<0,007	<0,013	<0,008	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007
Potassium	K	mg/l	0,310	0,292	0,23	0,274	0,265	0,247	0,247	0,162	0,264	0,225	0,189
Lithium	Li	mg/l	0,0117	0,0114	0,0103	0,0091	0,0089	0,0083	0,0099	0,0071	0,0111	0,0094	0,0084
Magnésium	Mg	mg/l	0,425	0,425	0,38	0,407	0,388	0,399	0,348	0,274	0,429	0,384	0,334
Manganese	Mn	mg/l	0,00117	0,00098	0,00177	0,00178	0,00114	0,00125	0,00117	0,00132	0,00151	0,00131	0,00106
Molybdène	Mo	mg/l	0,00019	0,00027	0,00024	0,0003	0,00013	0,00011	0,00023	0,00059	0,00014	0,00027	0,00082
Sodium	Na	mg/l	0,21	0,2	0,15	0,21	0,2	0,17	0,18	0,1	0,2	0,14	0,15
Nickel	Ni	mg/l	0,0002	0,0002	0,0001	0,0003	0,0003	0,0002	0,0003	0,0003	0,0003	0,0003	0,0002
Plomb	Pb	mg/l	0,00009	<0,00009	<0,00009	0,00009	0,00042	0,00015	<0,00009	<0,00009	<0,00009	0,00013	<0,00009
Antimoine	Sb	mg/l	0,0037	0,0039	0,0053	0,0044	0,003	0,0035	0,0029	0,0032	0,0027	0,0036	0,0043
Sélénium	Se	mg/l	0,00019	0,00022	0,00018	0,00023	0,00022	0,00017	0,00016	0,00016	0,00023	0,00014	0,00019
Etain	Sn	mg/l	<0,00006	<0,00006	<0,00006	0,00007	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006
Strontium	Sr	mg/l	0,0117	0,0115	0,0105	0,0122	0,0117	0,0120	0,0102	0,00948	0,0119	0,0118	0,0115
Titane	Ti	mg/l	0,00013	<0,00013	0,00014	0,00026	0,00011	0,00019	<0,00007	0,00009	0,00018	0,00013	<0,00007
Thallium	Th	mg/l	0,000005	<0,000005	<0,000005	<0,000005	<0,000005	0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005
Uranium	U	mg/l	0,000115	0,000068	0,0003	0,000101	0,000918	0,000497	0,000984	0,000112	0,00189	0,00377	0,000202
Vanadium	V	mg/l	0,00037	0,00039	0,00041	0,00044	0,0003	0,00030	0,00035	0,00022	0,00029	0,00030	0,00034
Tungstène	W	mg/l	0,00009	0,00006	0,00008	0,00005	0,00005	0,00006	0,00005	0,00004	0,00009	0,00004	0,00006
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l				0,00001					<0,00001		
Cérium (total)	Ce	mg/l				0,00001					<0,00001		
Césium (total)	Cs	mg/l				0,0076					0,007		
Dysprosium (total)	Dy	mg/l				0,0001					<0,0001		
Erbium (total)	Er	mg/l				0,0001					<0,0001		
Europium (total)	Eu	mg/l				0,0001					<0,0001		
Gallium (total)	Ga	mg/l				0,0001					<0,0001		
Gadolinium (total)	Gd	mg/l				0,00001					<0,00001		
Germanium (total)	Ge	mg/l				0,0001					<0,0001		
Hafnium (total)	Hf	mg/l				0,0001					<0,0001		
Holmium (total)	Ho	mg/l				0,0001					<0,0001		
Indium (total)	In	mg/l				0,0001					<0,0001		
Iridium (total)	Ir	mg/l				0,0001					<0,0001		
Lanthanum (total)	La	mg/l				0,0001					<0,0001		
Lutetium (total)	Lu	mg/l				0,0001					<0,0001		
Niobium (total)	Nb	mg/l				0,0001					<0,0001		
Néodymium (total)	Nd	mg/l				0,0001					<0,0001		
Osmium (total)	Os	mg/l				0,0001					<0,0001		
Palladium (total)	Pd	mg/l				0,0001					<0,0001		
Praseodymium (total)	Pr	mg/l				0,0001					<0,0001		
Platinum (total)	Pt	mg/l				0,0001					<0,0001		
Rubidium (total)	Rb	mg/l				0,0042					0,0044		
Rhenium (total)	Re	mg/l				0,0001					<0,0001		
Rhodium (total)	Rh	mg/l				0,00001					<0,00001		
Scandium (total)	Sc	mg/l				0,0001					<0,0001		
Samarium (total)	Sm	mg/l				0,0001					<0,0001		
Tantalum (total)	Ta	mg/l				0,0001					<0,0001		
Terbium (total)	Tb	mg/l				0,0001					<0,0001		
Tellurium (total)	Te	mg/l				0,0001					<0,0001		
Thorium (total)	Th	mg/l				0,0001					<0,0001		
Thulium (total)	Tm	mg/l				0,0001					<0,0001		
Ytterbium (total)	Yb	mg/l				0,0001					<0,0001		

Résultats HCT – CV5-WR-HCT-2

Analyse	Symbole	Unité	Sem. #33	Sem. #34	Sem. #35	Sem. #36	Sem. #37	Sem. #38	Sem. #39	Sem. #40	Sem. #41	Sem. #42	Sem. #43
			2023-12-14	2023-12-21	2023-12-28	2024-01-04	2024-01-11	2024-01-18	2024-01-25	2024-02-01	2024-02-08	2024-02-15	2024-02-22
Volume du lixiviat	V	mL	927	970	971	904	962	949	964	899	941	970	920
pH	pH	No unit	6,81	6,54	6,79	6,72	6,75	6,60	6,76	6,59	6,68	6,67	6,78
Alkalinité	Alkalinité	$mgCaCO_3/l$	2	2	3	3	3	2	3	2	2	2	3
Conductivité	Conductivité	µS/cm	25	31	34	40	32	33	36	32	31	25	32
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0
Fluoride	F	mg/l	<0,06		<0,06					<0,06			
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Sulfate	SO_4^{2-}	mg/l	8	10	10	13	9	12	12	11	11	8	10
Chlore	Cl^-	mg/l			<1,0					1			
Nitrite	NO_2^-	mgN/l	***		<0,03					<0,03			
Nitrate	NO_3^-	mgN/l	***		<0,06					<0,06			
Bromide	Br	mg/l	***		<0,3					<0,3			
Mercure	Hg	mg/l	***		<0,00001					<0,00001			
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,022	0,022	0,023	0,025	0,025	0,026	0,028	0,027	0,029	0,020	0,020
Arsenic	As	mg/l	0,0035	0,0031	0,0043	0,0094	0,0034	0,0036	0,0033	0,0029	0,0031	0,0029	0,0035
Baryum	Ba	mg/l	0,00021	0,00023	0,00022	0,00027	0,00026	0,00018	0,00027	0,00041	0,00021	0,00016	0,00019
Beryllium	Be	mg/l	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007
Bore	B	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	3,81	4,01	4,56	5,38	4,36	4,84	5,23	5,24	4,45	3,50	4,24
Cadmium	Cd	mg/l	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	0,000004	<0,000003	<0,000003	<0,000003	<0,000003
Cobalt	Co	mg/l	0,000077	0,000191	0,000098	0,000089	0,000086	0,000104	0,000160	0,000095	0,000118	0,000099	0,000126
Chrome	Cr	mg/l	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008
Cuivre	Cu	mg/l	<0,0002	0,0002	<0,0002	<0,0002	0,0002	<0,0002	<0,002	<0,002	<0,002	<0,001	<0,001
Fer	Fe	mg/l	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	0,008	<0,007	<0,007	<0,007
Potassium	K	mg/l	0,160	0,153	0,165	0,200	0,180	0,175	0,190	0,186	0,162	0,128	0,141
Lithium	Li	mg/l	0,0071	0,0063	0,0067	0,0081	0,0124	0,0072	0,0064	0,0064	0,0057	0,0051	0,0061
Magnésium	Mg	mg/l	0,301	0,284	0,303	0,380	0,295	0,298	0,303	0,290	0,226	0,178	0,228
Manganese	Mn	mg/l	0,00108	0,00094	0,00119	0,00123	0,00097	0,00094	0,00108	0,00147	0,00123	0,00115	0,00136
Molybdène	Mo	mg/l	0,00021	0,00125	0,00033	0,00013	0,00008	0,00085	0,00056	<0,0004	<0,0004	<0,0004	<0,0004
Sodium	Na	mg/l	0,11	0,18	0,12	0,18	0,15	0,11	0,11	0,18	0,12	0,10	0,11
Nickel	Ni	mg/l	0,0002	0,0006	0,0004	0,0002	0,0004	0,0004	0,0007	0,0005	0,0005	0,0004	0,0004
Plomb	Pb	mg/l	0,00014	<0,00009	<0,00009	<0,00009	0,00012	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00013
Antimoine	Sb	mg/l	0,0032	0,0028	0,0031	0,0034	0,0029	0,0027	0,0025	0,0024	0,0022	0,0020	0,0024
Sélénium	Se	mg/l	0,00014	0,00015	0,00020	0,00020	0,00013	0,00016	0,00014	0,00017	0,00014	0,00010	0,00019
Etain	Sn	mg/l	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006
Strontium	Sr	mg/l	0,0107	0,0108	0,0116	0,0121	0,0100	0,0112	0,0115	0,01057	0,00990	0,00759	0,00944
Titane	Ti	mg/l	<0,00007	0,00010	<0,00007	0,00011	0,00007	0,00010	0,00016	0,0001	0,0001	<0,0001	<0,0001
Thallium	Th	mg/l	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005		<0,000005
Uranium	U	mg/l	0,000255	0,000589	0,00344	0,000360	0,000142	0,00261	0,00127	0,000175	0,001940		0,008060
Vanadium	V	mg/l	0,00029	0,00028	0,00030	0,00030	0,00025	0,00031	0,00028	0,00025	0,00025		0,00022
Tungstène	W	mg/l	0,00004	0,00003	0,00004	0,00004	0,00003	0,00003	<0,0002	<0,0002	<0,0002		<0,0002
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002		<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002		<0,002
Gold (total)	Au	mg/l			<0,00001					<0,00001			
Cérium (total)	Ce	mg/l			<0,00001					0,00002			
Césium (total)	Cs	mg/l			0,0059					0,0062			
Dysprosium (total)	Dy	mg/l			<0,0001					<0,00001			
Erbium (total)	Er	mg/l			<0,0001					<0,00001			
Europium (total)	Eu	mg/l			<0,0001					<0,00001			
Gallium (total)	Ga	mg/l			<0,0001					<0,0001			
Gadolinium (total)	Gd	mg/l			<0,00001					<0,00001			
Germanium (total)	Ge	mg/l			<0,0001					<0,0001			
Hafnium (total)	Hf	mg/l			<0,0001					<0,0001			
Holmium (total)	Ho	mg/l			<0,0001					<0,00001			
Indium (total)	In	mg/l			<0,0001					<0,00001			
Iridium (total)	Ir	mg/l			<0,0001					<0,00001			
Lanthanum (total)	La	mg/l			<0,0001					<0,00001			
Lutetium (total)	Lu	mg/l			<0,0001					<0,0001			
Niobium (total)	Nb	mg/l			<0,0001					<0,00001			
Néodymium (total)	Nd	mg/l			<0,0001					<0,00001			
Osmium (total)	Os	mg/l			<0,0001					<0,0001			
Palladium (total)	Pd	mg/l			<0,0001					<0,0001			
Praseodymium (total)	Pr	mg/l			<0,0001					<0,00001			
Platinum (total)	Pt	mg/l			<0,0001					<0,0001			
Rubidium (total)	Rb	mg/l			0,0035					0,0032			
Rhenium (total)	Re	mg/l			<0,0001					<0,0001			
Rhodium (total)	Rh	mg/l			<0,00001					<0,00001			
Scandium (total)	Sc	mg/l			<0,0001					<0,0001			
Samarium (total)	Sm	mg/l			<0,0001					<0,00001			
Tantalum (total)	Ta	mg/l			<0,0001					<0,0001			
Terbium (total)	Tb	mg/l			<0,0001					<0,00001			
Tellurium (total)	Te	mg/l			<0,0001					<0,0001			
Thorium (total)	Th	mg/l			<0,0001					<0,0001			
Thulium (total)	Tm	mg/l			<0,0001					<0,00001			
Ytterbium (total)	Yb	mg/l			<0,0001					<0,00001			

Résultats HCT – CV5-WR-HCT-2

Analyse	Symbole	Unité	Sem. #44	Sem. #45	Sem. #46	Sem. #47	Sem. #48	Sem. #49	Sem. #50	Sem. #51	Sem. #52	Sem. #53	Sem. #54
			2024-02-29	2024-03-07	2024-03-14	2024-03-21	2024-03-28	2024-04-04	2024-04-11	2024-04-18	2024-04-25	2024-05-02	2024-05-09
Volume du lixiviat	V	mL	922	971	942	947	905	975	951	978	952	929	923
pH	pH	No unit	6,67	6,67	6,82	6,79	6,71	6,68	6,66	6,61	6,81	6,81	6,85
Alkalinité	Alkalinité	$mgCaCO_3/l$	2	3	3	2	2	2	2	2	2	2	3
Conductivité	Conductivité	µS/cm	30	31	34	28	39	28	36	30	27	28	30
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2	<2	<2,0	<2,0
Fluoride	F	mg/l		<0,06					<0,06				
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Sulfate	SO_4^{2-}	mg/l	9	10	11	10	15	8	12	10	8	10	10
Chlore	Cl^-	mg/l		<1,0					<1,0				
Nitrite	NO_2^-	mgN/l		<0,03					<0,03				
Nitrate	NO_3^-	mgN/l		<0,06					<0,06				
Bromide	Br	mg/l		<0,3					<0,3				
Mercure	Hg	mg/l		<0,00001					<0,00001				
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,021	0,020	0,017	0,019	0,025	0,020	0,021	0,017	0,020	0,021	0,022
Arsenic	As	mg/l	0,0027	0,0026	0,0031	0,0029	0,0027	0,0027	0,0024	0,0023	0,0023	0,0024	0,0023
Baryum	Ba	mg/l	0,00018	0,00023	0,00017	0,00019	0,00024	0,00017	0,00032	0,00017	0,00021	0,00018	0,00020
Beryllium	Be	mg/l	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007
Bore	B	mg/l	<0,002	<0,002	<0,002	<0,003	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	3,99	4,64	4,12	4,28	5,40	3,99	5,33	4,37	4,50	4,60	4,98
Cadmium	Cd	mg/l	<0,000003	<0,000006	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000004	<0,000021	<0,000003	<0,000003
Cobalt	Co	mg/l	0,000103	0,000089	0,000086	0,000098	0,000101	0,000082	0,000115	0,000101	0,000128	0,000129	0,000135
Chrome	Cr	mg/l	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008
Cuivre	Cu	mg/l	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001
Fer	Fe	mg/l	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007
Potassium	K	mg/l	0,148	0,151	0,120	0,134	0,153	0,120	0,142	0,125	0,130	0,137	0,140
Lithium	Li	mg/l	0,0060	0,0051	0,0052	0,0050	0,0052	0,0043	0,0049	0,0044	0,0048	0,0052	0,0049
Magnésium	Mg	mg/l	0,233	0,258	0,224	0,215	0,293	0,197	0,248	0,196	0,188	0,209	0,221
Manganese	Mn	mg/l	0,00260	0,00095	0,00083	0,00093	0,00091	0,00077	0,00102	0,00092	0,00141	0,00136	0,00149
Molybdène	Mo	mg/l	<0,0007	<0,0004	<0,0008	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004
Sodium	Na	mg/l	0,09	0,11	0,11	0,09	0,12	0,10	0,10	0,10	0,09	0,12	0,10
Nickel	Ni	mg/l	0,0004	0,0004	0,0003	0,0004	0,0004	0,0003	0,0007	0,0003	0,0004	0,0004	0,0004
Plomb	Pb	mg/l	<0,00009	<0,00009	<0,00009	<0,00009	<0,00031	<0,00009	<0,00009	<0,00011	<0,00018	<0,00009	<0,00009
Antimoine	Sb	mg/l	0,0021	0,0023	0,0022	0,0020	0,0019	0,0019	0,0017	0,0016	0,0016	0,0016	0,0017
Sélénium	Se	mg/l	0,00014	0,00014	0,00015	0,00013	0,00018	0,00014	0,00015	0,00011	0,00011	0,00009	0,00013
Etain	Sn	mg/l	<0,00006	<0,00006	<0,0001	<0,00006	<0,00008	<0,00007	<0,00006	<0,00006	<0,00009	<0,00006	<0,00006
Strontium	Sr	mg/l	0,00918	0,00936	0,00840	0,00797	0,00986	0,00750	0,01007	0,00766	0,00773	0,00761	0,00850
Titane	Ti	mg/l	0,0001	<0,0001	<0,0001	0,0001	0,0003	<0,0001	0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Thallium	Th	mg/l	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005
Uranium	U	mg/l	0,000142	0,000119	0,000092	0,000113	0,000114	0,000113	0,000084	0,000063	0,000107	0,000067	0,000069
Vanadium	V	mg/l	0,00018	0,00023	0,00021	0,00022	0,00025	0,00021	0,00024	0,00019	0,00020	0,00019	0,00021
Tungstène	W	mg/l	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l		<0,00001					<0,00001				
Cérium (total)	Ce	mg/l		<0,00001					<0,00001				
Césium (total)	Cs	mg/l		0,0060					0,0058				
Dysprosium (total)	Dy	mg/l		<0,00001					<0,00001				
Erbium (total)	Er	mg/l		<0,00001					<0,00001				
Europium (total)	Eu	mg/l		<0,00001					<0,00001				
Gallium (total)	Ga	mg/l		<0,0001					<0,0001				
Gadolinium (total)	Gd	mg/l		<0,00001					<0,00001				
Germanium (total)	Ge	mg/l		<0,0001					<0,0001				
Hafnium (total)	Hf	mg/l		<0,0001					<0,0001				
Holmium (total)	Ho	mg/l		<0,00001					<0,00001				
Indium (total)	In	mg/l		<0,00001					<0,00001				
Iridium (total)	Ir	mg/l		<0,00001					<0,00001				
Lanthanum (total)	La	mg/l		<0,00001					<0,00001				
Lutetium (total)	Lu	mg/l		<0,0001					<0,0001				
Niobium (total)	Nb	mg/l		<0,00001					<0,00001				
Néodymium (total)	Nd	mg/l		<0,00001					<0,00001				
Osmium (total)	Os	mg/l		<0,0001					<0,0001				
Palladium (total)	Pd	mg/l		<0,0001					<0,0001				
Praseodymium (total)	Pr	mg/l		<0,00001					<0,00001				
Platinum (total)	Pt	mg/l		<0,0001					<0,0001				
Rubidium (total)	Rb	mg/l		0,0031					0,0030				
Rhenium (total)	Re	mg/l		<0,0001					<0,0001				
Rhodium (total)	Rh	mg/l		<0,00001					<0,00001				
Scandium (total)	Sc	mg/l		<0,0001					<0,0001				
Samarium (total)	Sm	mg/l		<0,00001					<0,00001				
Tantalum (total)	Ta	mg/l		<0,0001					<0,0001				
Terbium (total)	Tb	mg/l		<0,00001					<0,00001				
Tellurium (total)	Te	mg/l		<0,0001					<0,0001				
Thorium (total)	Th	mg/l		<0,0001					<0,0001				
Thulium (total)	Tm	mg/l		<0,00001					<0,00001				
Ytterbium (total)	Yb	mg/l		<0,00001					<0,00001				

Résultats HCT – CV5-WR-HCT-2

Analyse	Symbole	Unité	Sem. #55	Sem. #56	Sem. #57	Sem. #58	Sem. #59	Sem. #60	Sem. #61	Sem. #62	Sem. #63	Sem. #64	Sem. #65
			2024-05-16	2024-05-23	2024-05-30	2024-06-06	2024-06-13	2024-06-20	2024-06-27	2024-07-04	2024-07-11	2024-07-18	2024-07-25
Volume du lixiviat	V	mL	994	993	942	930	944	951	949	932	927	934	928
pH	pH	No unit	6,60	6,96	6,74	6,81	6,65	6,62	6,64	6,49	6,83	6,38	6,75
Alkalinité	Alkalinité	$mgCaCO_3/l$	2	3	2	2	2	2	3	2		2	
Conductivité	Conductivité	µS/cm	31	32	28	33	32	31	35	32	35	31	38
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0		<2,0	
Fluoride	F	mg/l	<0,06					<0,06				<0,06	
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03		<0,03	
Sulfate	SO_4^{2-}	mg/l	10	10	9	10	12	10	10	9		10	
Chlore	Cl^-	mg/l	<1,0					<1,0				<1,0	
Nitrite	NO_2^-	mgN/l	<0,03					<0,03				<0,03	
Nitrate	NO_3^-	mgN/l	<0,06					<0,06				<0,06	
Bromide	Br	mg/l	<0,3					<0,3				<0,3	
Mercure	Hg	mg/l	<0,00001					<0,00001				<0,00001	
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005		<0,00005	
Aluminum	Al	mg/l	0,019	0,017	0,014	0,019	0,020	0,019	0,018	0,017		0,018	
Arsenic	As	mg/l	0,0021	0,0021	0,0017	0,0020	0,0019	0,0023	0,0019	0,0018		0,0018	
Baryum	Ba	mg/l	0,00020	0,00018	0,00017	0,00019	0,00021	0,00021	0,00029	0,00021		0,00017	
Beryllium	Be	mg/l	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007		<0,000007	
Bore	B	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002		<0,002	
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001		<0,00001	
Calcium	Ca	mg/l	4,68	4,58	4,89	5,22	5,46	5,11	4,76	4,68		4,87	
Cadmium	Cd	mg/l	<0,000003	<0,000003	<0,000013	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003		<0,000003	
Cobalt	Co	mg/l	0,000138	0,000104	0,000116	0,000117	0,000114	0,000127	0,000131	0,000132		0,000138	
Chrome	Cr	mg/l	<0,00008	<0,00008	<0,0001	<0,00014	<0,00008	<0,00008	<0,00008	<0,00008		<0,00008	
Cuivre	Cu	mg/l	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001		<0,001	
Fer	Fe	mg/l	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007		0,007	
Potassium	K	mg/l	0,128	0,126	0,123	0,139	0,132	0,117	0,122	0,117		0,134	
Lithium	Li	mg/l	0,0047	0,0041	0,0039	0,0045	0,0043	0,0041	0,0042	0,0040		0,0037	
Magnésium	Mg	mg/l	0,209	0,199	0,196	0,218	0,215	0,205	0,188	0,182		0,192	
Manganese	Mn	mg/l	0,00149	0,00117	0,00141	0,00145	0,00131	0,00166	0,00216	0,00165		0,00190	
Molybdène	Mo	mg/l	<0,0004	<0,0004	<0,0004	<0,0009	<0,0007	<0,0004	<0,0004	<0,0004		<0,0004	
Sodium	Na	mg/l	0,12	0,09	0,11	0,09	0,09	0,09	0,08	0,09		0,12	
Nickel	Ni	mg/l	0,0003	0,0010	0,0005	0,0005	0,0005	0,0006	0,0005	0,0005		0,0004	
Plomb	Pb	mg/l	<0,00009	<0,00009	<0,00074	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009		<0,00009	
Antimoine	Sb	mg/l	0,0015	0,0020	0,0013	0,0016	0,0015	0,0017	0,0015	0,0015		0,0013	
Sélénium	Se	mg/l	0,00011	0,00015	0,00011	0,00012	0,00009	0,00011	0,00010	0,00009		0,00011	
Etain	Sn	mg/l	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006		<0,00006	
Strontium	Sr	mg/l	0,00818	0,00812	0,00678	0,00819	0,00860	0,00819	0,00775	0,00736		0,00758	
Titane	Ti	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	0,0001		<0,0001	
Thallium	Th	mg/l	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005		<0,000005	
Uranium	U	mg/l	0,000078	0,000110	0,000062	0,000056	0,000070	0,000057	0,000060	0,000055		0,000049	
Vanadium	V	mg/l	0,00018	0,00021	0,00014	0,00019	0,00017	0,00016	0,00016	0,00014		0,00016	
Tungstène	W	mg/l	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002		<0,0002	
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002		<0,00002	
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002		<0,002	
Gold (total)	Au	mg/l	<0,00001					<0,00001				<0,00001	
Cérium (total)	Ce	mg/l	0,00002					<0,00001				<0,00001	
Césium (total)	Cs	mg/l	0,0052					0,0052				0,0059	
Dysprosium (total)	Dy	mg/l	<0,00001					<0,00001				<0,00001	
Erbium (total)	Er	mg/l	<0,00001					<0,00001				<0,00001	
Europium (total)	Eu	mg/l	<0,00001					<0,00001				<0,00001	
Gallium (total)	Ga	mg/l	<0,0001					<0,0001				<0,0001	
Gadolinium (total)	Gd	mg/l	<0,00001					<0,00001				<0,00001	
Germanium (total)	Ge	mg/l	<0,0001					<0,0001				<0,0001	
Hafnium (total)	Hf	mg/l	<0,0001					<0,0001				<0,0001	
Holmium (total)	Ho	mg/l	<0,00001					<0,00001				<0,00001	
Indium (total)	In	mg/l	<0,00002					<0,00001				<0,00001	
Iridium (total)	Ir	mg/l	<0,00001					<0,00001				<0,00001	
Lanthanum (total)	La	mg/l	<0,00001					<0,00001				<0,00001	
Lutetium (total)	Lu	mg/l	<0,0001					<0,0001				<0,0001	
Niobium (total)	Nb	mg/l	<0,00001					<0,00001				<0,00001	
Néodymium (total)	Nd	mg/l	<0,00001					<0,00001				<0,00001	
Osmium (total)	Os	mg/l	<0,0001					<0,0001				<0,0001	
Palladium (total)	Pd	mg/l	<0,0001					<0,0001				<0,0001	
Praseodymium (total)	Pr	mg/l	<0,00001					<0,00001				<0,00001	
Platinum (total)	Pt	mg/l	<0,0001					<0,0001				<0,0001	
Rubidium (total)	Rb	mg/l	0,0029					0,0027				0,0029	
Rhenium (total)	Re	mg/l	<0,0001					<0,0001				<0,0001	
Rhodium (total)	Rh	mg/l	<0,00001					<0,00001				<0,00001	
Scandium (total)	Sc	mg/l	<0,0001					<0,0001				<0,0001	
Samarium (total)	Sm	mg/l	<0,00001					<0,00001				<0,00001	
Tantalum (total)	Ta	mg/l	<0,0001					<0,0001				<0,0001	
Terbium (total)	Tb	mg/l	<0,00001					<0,00001				<0,00001	
Tellurium (total)	Te	mg/l	<0,0001					<0,0001				<0,0001	
Thorium (total)	Th	mg/l	<0,0001					<0,0001				<0,0001	
Thulium (total)	Tm	mg/l	<0,00001					<0,00001				<0,00001	
Ytterbium (total)	Yb	mg/l	<0,00001					<0,00001				<0,00001	

Résultats HCT – CV5-WR-HCT-2

Analyse	Symbole	Unité	Sem. #66	Sem. #67	Sem. #68	Sem. #69	Sem. #70	Sem. #71	Sem. #72	Sem. #73	Sem. #74	Sem. #75	Sem. #76
			2024-08-01	2024-08-08	2024-08-15	2024-08-22	2024-08-29	2024-09-05	2024-09-12	2024-09-19	2024-09-26	2024-10-03	2024-10-10
Volume du lixiviat	V	mL	931	939	940	924	934	914	934	941	947	915	942
pH	pH	No unit	6,77	6,83	6,55	6,48	6,78	6,62	6,67	6,58	6,81	6,60	6,77
Alkalinité	Alkalinité	$mgCaCO_3/l$			2				3				2
Conductivité	Conductivité	µS/cm	35	33	26	31	36	32	28	31	30	40	32
Acidité	Acidité	$mgCaCO_3/l$			<2,0				<2,0				<2,0
Fluoride	F	mg/l			<0,06				<0,06				<0,06
Phosphore réactif total	PO_4^{3-}-P	mg/l			<0,03				<0,03				<0,03
Sulfate	SO_4^{2-}	mg/l			8				9				9
Chlore	Cl^-	mg/l			<1,0				<1,0				<1,0
Nitrite	NO_2^-	mgN/l			<0,03				<0,03				<0,03
Nitrate	NO_3^-	mgN/l			<0,06				<0,06				<0,06
Bromide	Br	mg/l			<0,3				<0,3				<0,3
Mercure	Hg	mg/l			<0,00001				<0,00001				<0,00001
Argent	Ag	mg/l			<0,00005				<0,00005				<0,00005
Aluminum	Al	mg/l			0,016				0,014				0,015
Arsenic	As	mg/l			0,0016				0,0013				0,0013
Baryum	Ba	mg/l			0,00021				0,00028				0,00024
Beryllium	Be	mg/l			<0,000007				<0,000007				<0,000007
Bore	B	mg/l			<0,002				<0,002				<0,002
Bismuth	Bi	mg/l			<0,00001				<0,00001				<0,00001
Calcium	Ca	mg/l			4,49				4,81				4,85
Cadmium	Cd	mg/l			<0,000003				<0,000003				<0,000003
Cobalt	Co	mg/l			0,000123				0,000126				0,000148
Chrome	Cr	mg/l			<0,00008				<0,00008				<0,00008
Cuivre	Cu	mg/l			<0,001				<0,001				<0,001
Fer	Fe	mg/l			<0,007				<0,007				<0,007
Potassium	K	mg/l			0,120				0,109				0,098
Lithium	Li	mg/l			0,0037				0,0032				0,0033
Magnésium	Mg	mg/l			0,164				0,161				0,162
Manganese	Mn	mg/l			0,00175				0,00144				0,00148
Molybdène	Mo	mg/l			<0,0004				<0,0004				<0,0004
Sodium	Na	mg/l			0,10				0,08				0,12
Nickel	Ni	mg/l			0,0005				0,0004				0,0004
Plomb	Pb	mg/l			<0,00009				<0,00009				<0,00009
Antimoine	Sb	mg/l			0,0014				0,0012				0,0011
Sélénium	Se	mg/l			0,00011				0,00010				0,00007
Etain	Sn	mg/l			<0,00006				<0,00006				<0,00006
Strontium	Sr	mg/l			0,00662				0,00614				0,00656
Titane	Ti	mg/l			<0,0001				<0,0001				0,0001
Thallium	Th	mg/l			<0,000005				<0,000005				<0,000005
Uranium	U	mg/l			0,000042				0,000044				0,000043
Vanadium	V	mg/l			0,00016				0,00012				0,00011
Tungstène	W	mg/l			<0,0002				<0,0002				<0,0002
Yttrium	Y	mg/l			<0,00002				<0,00002				<0,00002
Zinc	Zn	mg/l			<0,002				<0,002				<0,002
Gold (total)	Au	mg/l			<0,00001				<0,00001				<0,00001
Cérium (total)	Ce	mg/l			<0,00001				<0,00001				<0,00001
Césium (total)	Cs	mg/l			0,0057				0,0050				0,0051
Dysprosium (total)	Dy	mg/l			<0,00001				<0,00001				<0,00001
Erbium (total)	Er	mg/l			<0,00001				<0,00001				<0,00001
Europium (total)	Eu	mg/l			<0,00001				<0,00001				<0,00001
Gallium (total)	Ga	mg/l			<0,0001				<0,0001				<0,0001
Gadolinium (total)	Gd	mg/l			<0,00001				<0,00001				<0,00001
Germanium (total)	Ge	mg/l			<0,0001				<0,0001				<0,0001
Hafnium (total)	Hf	mg/l			<0,0001				<0,0001				<0,0001
Holmium (total)	Ho	mg/l			<0,00001				<0,00001				<0,00001
Indium (total)	In	mg/l			<0,00001				<0,00001				<0,00002
Iridium (total)	Ir	mg/l			<0,00001				<0,00001				<0,00001
Lanthanum (total)	La	mg/l			<0,00001				<0,00001				<0,00001
Lutetium (total)	Lu	mg/l			<0,0001				<0,0001				<0,0001
Niobium (total)	Nb	mg/l			<0,00001				<0,00001				<0,00001
Néodymium (total)	Nd	mg/l			<0,00001				<0,00001				<0,00001
Osmium (total)	Os	mg/l			<0,0001				<0,0001				<0,0001
Palladium (total)	Pd	mg/l			<0,0001				<0,0001				<0,0001
Praseodymium (total)	Pr	mg/l			<0,00001				<0,00001				<0,00001
Platinum (total)	Pt	mg/l			<0,0001				<0,0001				<0,0001
Rubidium (total)	Rb	mg/l			0,0032				0,0026				0,0032
Rhenium (total)	Re	mg/l			<0,0001				<0,0001				<0,0001
Rhodium (total)	Rh	mg/l			<0,00001				<0,00001				<0,00001
Scandium (total)	Sc	mg/l			<0,0001				<0,0001				<0,0001
Samarium (total)	Sm	mg/l			<0,00001				<0,00001				<0,00001
Tantalum (total)	Ta	mg/l			<0,0001				<0,0001				<0,0001
Terbium (total)	Tb	mg/l			<0,00001				<0,00001				<0,00001
Tellurium (total)	Te	mg/l			<0,0001				<0,0001				<0,0001
Thorium (total)	Th	mg/l			<0,0001				<0,0001				<0,0001
Thulium (total)	Tm	mg/l			<0,00001				<0,00001				<0,00001
Ytterbium (total)	Yb	mg/l			<0,00001				<0,00001				<0,00001

Résultats HCT – CV5-WR-HCT-2

Analyse	Symbole	Unité	Sem. #77	Sem. #78	Sem. #79	Sem. #80	Sem. #81	Sem. #82	Sem. #83	Sem. #84	Sem. #85	Sem. #86	Sem. #87
			2024-10-17	2024-10-24	2024-10-31	2024-11-07	2024-11-14	2024-11-21	2024-11-28	2024-12-05	2024-12-12	2024-12-19	2024-12-26
Volume du lixiviat	V	mL	941	955	944	953	936	938	930	942	915	956	966
pH	pH	No unit	6,64	6,69	6,69	6,33	6,72	6,72	6,62	6,58	6,67	6,72	6,75
Alkalinité	Alkalinité	$mgCaCO_3/l$				<2,0				3			
Conductivité	Conductivité	µS/cm	36	32	33	31	37	37	30	30	37	33	34
Acidité	Acidité	$mgCaCO_3/l$				2				<2,0			
Fluoride	F	mg/l				<0,06				<0,06			
Phosphore réactif total	PO_4^{3-}-P	mg/l				<0,03				<0,03			
Sulfate	SO_4^{2-}	mg/l				11				11			
Chlore	Cl^-	mg/l				<1,0				<1,0			
Nitrite	NO_2^-	mgN/l				<0,03				<0,03			
Nitrate	NO_3^-	mgN/l				<0,06				<0,06			
Bromide	Br	mg/l				<0,3				<0,3			
Mercure	Hg	mg/l				<0,00001				<0,00001			
Argent	Ag	mg/l				<0,00005				<0,00005			
Aluminum	Al	mg/l				0,013				0,008			
Arsenic	As	mg/l				0,0010				0,0009			
Baryum	Ba	mg/l				0,00018				0,00020			
Beryllium	Be	mg/l				<0,000007				<0,000007			
Bore	B	mg/l				<0,002				<0,002			
Bismuth	Bi	mg/l				<0,00001				<0,00001			
Calcium	Ca	mg/l				4,98				4,77			
Cadmium	Cd	mg/l				<0,000003				<0,000003			
Cobalt	Co	mg/l				0,000140				0,000289			
Chrome	Cr	mg/l				<0,00008				<0,00008			
Cuivre	Cu	mg/l				<0,001				<0,001			
Fer	Fe	mg/l				<0,007				<0,007			
Potassium	K	mg/l				0,087				0,093			
Lithium	Li	mg/l				0,0033				0,0034			
Magnésium	Mg	mg/l				0,150				0,144			
Manganese	Mn	mg/l				0,00165				0,00289			
Molybdène	Mo	mg/l				<0,0004				<0,0004			
Sodium	Na	mg/l				0,09				0,07			
Nickel	Ni	mg/l				0,0004				0,0007			
Plomb	Pb	mg/l				<0,00009				<0,00009			
Antimoine	Sb	mg/l				0,0010				0,001			
Sélénium	Se	mg/l				0,00009				0,00010			
Etain	Sn	mg/l				<0,00006				<0,00006			
Strontium	Sr	mg/l				0,00662				0,00636			
Titane	Ti	mg/l				<0,0001				<0,0001			
Thallium	Th	mg/l				<0,000005				0,000005			
Uranium	U	mg/l				0,000031				0,000017			
Vanadium	V	mg/l				0,00012				0,00010			
Tungstène	W	mg/l				<0,0002				<0,0002			
Yttrium	Y	mg/l				<0,00002				<0,00002			
Zinc	Zn	mg/l				<0,002				<0,002			
Gold (total)	Au	mg/l				<0,00001				<0,00001			
Cérium (total)	Ce	mg/l				<0,00001				<0,00001			
Césium (total)	Cs	mg/l				0,0043				0,0048			
Dysprosium (total)	Dy	mg/l				<0,00001				<0,00001			
Erbium (total)	Er	mg/l				<0,00001				<0,00001			
Europium (total)	Eu	mg/l				<0,00001				<0,00001			
Gallium (total)	Ga	mg/l				<0,0001				<0,0001			
Gadolinium (total)	Gd	mg/l				<0,00001				<0,00001			
Germanium (total)	Ge	mg/l				<0,0001				<0,0001			
Hafnium (total)	Hf	mg/l				<0,0001				<0,0001			
Holmium (total)	Ho	mg/l				<0,00001				<0,00001			
Indium (total)	In	mg/l				<0,00001				<0,00001			
Iridium (total)	Ir	mg/l				<0,00001				<0,00001			
Lanthanum (total)	La	mg/l				<0,00001				<0,00001			
Lutetium (total)	Lu	mg/l				<0,0001				<0,0001			
Niobium (total)	Nb	mg/l				<0,00001				<0,00001			
Néodymium (total)	Nd	mg/l				<0,00001				<0,00001			
Osmium (total)	Os	mg/l				<0,0001				<0,0001			
Palladium (total)	Pd	mg/l				<0,0001				<0,0001			
Praseodymium (total)	Pr	mg/l				<0,00001				<0,00001			
Platinum (total)	Pt	mg/l				<0,0001				<0,0001			
Rubidium (total)	Rb	mg/l				0,0020				0,0022			
Rhenium (total)	Re	mg/l				<0,0001				<0,0001			
Rhodium (total)	Rh	mg/l				<0,00001				<0,00001			
Scandium (total)	Sc	mg/l				<0,0001				<0,0001			
Samarium (total)	Sm	mg/l				<0,00001				<0,00001			
Tantalum (total)	Ta	mg/l				<0,0001				<0,0001			
Terbium (total)	Tb	mg/l				<0,00001				<0,00001			
Tellurium (total)	Te	mg/l				<0,0001				<0,0001			
Thorium (total)	Th	mg/l				<0,0001				<0,0001			
Thulium (total)	Tm	mg/l				<0,00001				<0,00001			
Ytterbium (total)	Yb	mg/l				<0,00001				<0,00001			

Résultats HCT – CV5-WR-HCT-2

Analyse	Symbole	Unité	Sem. #88	Sem. #89
			2025-01-02	2025-01-09
Volume du lixiviat	V	mL	964	953
pH	pH	No unit	6,37	6,56
Alkalinité	Alkalinité	mg$CaCO_3$/l	2	
Conductivité	Conductivité	µS/cm	30	37
Acidité	Acidité	mg$CaCO_3$/l	3	
Fluoride	F	mg/l	<0,06	
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	
Sulfate	SO_4^{2-}	mg/l	11	
Chlore	Cl^-	mg/l	<1,0	
Nitrite	NO_2^-	mgN/l	<0,03	
Nitrate	NO_3^-	mgN/l	<0,06	
Bromide	Br	mg/l	<0,3	
Mercure	Hg	mg/l	<0,00001	
Argent	Ag	mg/l	<0,00005	
Aluminum	Al	mg/l	0,011	
Arsenic	As	mg/l	0,0011	
Baryum	Ba	mg/l	0,00021	
Beryllium	Be	mg/l	<0,000007	
Bore	B	mg/l	<0,002	
Bismuth	Bi	mg/l	<0,00001	
Calcium	Ca	mg/l	5,04	
Cadmium	Cd	mg/l	<0,000003	
Cobalt	Co	mg/l	0,000563	
Chrome	Cr	mg/l	<0,00008	
Cuivre	Cu	mg/l	<0,001	
Fer	Fe	mg/l	<0,007	
Potassium	K	mg/l	0,099	
Lithium	Li	mg/l	0,0036	
Magnésium	Mg	mg/l	0,163	
Manganese	Mn	mg/l	0,00447	
Molybdène	Mo	mg/l	<0,0004	
Sodium	Na	mg/l	0,08	
Nickel	Ni	mg/l	0,0017	
Plomb	Pb	mg/l	<0,00009	
Antimoine	Sb	mg/l	<0,0009	
Sélénium	Se	mg/l	0,00009	
Etain	Sn	mg/l	<0,00006	
Strontium	Sr	mg/l	0,00656	
Titane	Ti	mg/l	<0,0001	
Thallium	Th	mg/l	0,000005	
Uranium	U	mg/l	0,000011	
Vanadium	V	mg/l	0,00010	
Tungstène	W	mg/l	<0,0002	
Yttrium	Y	mg/l	<0,00002	
Zinc	Zn	mg/l	<0,002	
Gold (total)	Au	mg/l	<0,00001	
Cérium (total)	Ce	mg/l	0,00002	
Césium (total)	Cs	mg/l	0,0059	
Dysprosium (total)	Dy	mg/l	<0,00001	
Erbium (total)	Er	mg/l	<0,00001	
Europium (total)	Eu	mg/l	<0,00001	
Gallium (total)	Ga	mg/l	<0,0001	
Gadolinium (total)	Gd	mg/l	<0,00001	
Germanium (total)	Ge	mg/l	<0,0001	
Hafnium (total)	Hf	mg/l	<0,0001	
Holmium (total)	Ho	mg/l	<0,00001	
Indium (total)	In	mg/l	<0,00001	
Iridium (total)	Ir	mg/l	<0,00001	
Lanthanum (total)	La	mg/l	0,00001	
Lutetium (total)	Lu	mg/l	<0,0001	
Niobium (total)	Nb	mg/l	<0,00001	
Néodymium (total)	Nd	mg/l	<0,00001	
Osmium (total)	Os	mg/l	<0,0001	
Palladium (total)	Pd	mg/l	<0,0001	
Praseodymium (total)	Pr	mg/l	<0,00001	
Platinum (total)	Pt	mg/l	<0,0001	
Rubidium (total)	Rb	mg/l	0,0024	
Rhenium (total)	Re	mg/l	<0,0001	
Rhodium (total)	Rh	mg/l	<0,00001	
Scandium (total)	Sc	mg/l	<0,0001	
Samarium (total)	Sm	mg/l	<0,00001	
Tantalum (total)	Ta	mg/l	<0,0001	
Terbium (total)	Tb	mg/l	<0,00001	
Tellurium (total)	Te	mg/l	<0,0001	
Thorium (total)	Th	mg/l	<0,0001	
Thulium (total)	Tm	mg/l	<0,00001	
Ytterbium (total)	Yb	mg/l	<0,00001	

Résultats HCT – CV5-WR-HCT-2

Analyse	Symbole	Unité	Sem. #90	Sem. #91	Sem. #92	Sem. #93	Sem. #94	Sem. #95	Sem. #96	Sem. #97	Sem. #98	Sem. #99	Sem. #100
			2025-01-16	2025-01-23	2025-01-30	2025-02-06	2025-02-13	2025-02-20	2025-02-27	2025-03-06	2025-03-13	2025-03-20	2025-03-27
Volume du lixiviat	V	mL	948	1005	976	947	940	938	970	1004	947	926	921
pH	pH	No unit	6,52	6,27	6,49	6,29	6,51	6,20	6,39	6,78	6,57	6,62	6,42
Alkalinité	Alkalinité	$mgCaCO_3/l$			3				<2,0				<2,0
Conductivité	Conductivité	µS/cm	50	41	39	40	41	46	36	41	42	42	34
Acidité	Acidité	$mgCaCO_3/l$			<2,0				3				2
Fluoride	F	mg/l			<0,06				<0,06				<0,06
Phosphore réactif total	PO_4^{3-}-P	mg/l			<0,03				<0,03				<0,03
Sulfate	SO_4^{2-}	mg/l			16				14				14
Chlore	Cl^-	mg/l			<1,0				<1,0				<1,0
Nitrite	NO_2^-	mgN/l			<0,03				<0,03				<0,03
Nitrate	NO_3^-	mgN/l			<0,06				<0,06				<0,06
Bromide	Br	mg/l			<0,3				<0,3				<0,3
Mercure	Hg	mg/l			<0,00001				<0,00001				<0,00001
Argent	Ag	mg/l			<0,00005				<0,00005				<0,00005
Aluminum	Al	mg/l			0,013				0,009				0,010
Arsenic	As	mg/l			0,0010				0,0009				0,0008
Baryum	Ba	mg/l			0,00034				0,00021				0,00016
Beryllium	Be	mg/l			<0,000007				<0,000007				<0,000007
Bore	B	mg/l			<0,002				<0,002				<0,002
Bismuth	Bi	mg/l			<0,00001				<0,00001				<0,00001
Calcium	Ca	mg/l			6,18				5,33				5,28
Cadmium	Cd	mg/l			<0,000003				0,000003				<0,000003
Cobalt	Co	mg/l			0,000352				0,00056				0,000316
Chrome	Cr	mg/l			<0,00008				<0,00008				<0,00008
Cuivre	Cu	mg/l			<0,001				<0,001				<0,001
Fer	Fe	mg/l			<0,007				<0,007				<0,007
Potassium	K	mg/l			0,100				0,097				0,096
Lithium	Li	mg/l			0,0031				0,0035				0,0028
Magnésium	Mg	mg/l			0,204				0,184				0,185
Manganese	Mn	mg/l			0,00331				0,00402				0,00247
Molybdène	Mo	mg/l			<0,0004				<0,0004				<0,0004
Sodium	Na	mg/l			0,08				0,08				0,08
Nickel	Ni	mg/l			0,0012				0,0016				0,0010
Plomb	Pb	mg/l			<0,00009				<0,00009				<0,00009
Antimoine	Sb	mg/l			<0,0009				<0,0009				<0,0009
Sélénium	Se	mg/l			0,00011				0,00010				0,00009
Etain	Sn	mg/l			0,00008				<0,00006				<0,00006
Strontium	Sr	mg/l			0,00759				0,00615				0,00547
Titane	Ti	mg/l			<0,0001				<0,0001				<0,0001
Thallium	Th	mg/l			0,000005				<0,000005				<0,000005
Uranium	U	mg/l			0,000029				0,000032				0,000019
Vanadium	V	mg/l			0,00011				0,00007				0,00007
Tungstène	W	mg/l			<0,0002				<0,0002				<0,0002
Yttrium	Y	mg/l			<0,00002				<0,00002				<0,00002
Zinc	Zn	mg/l			<0,002				<0,002				<0,002
Gold (total)	Au	mg/l			<0,00001				<0,00001				<0,00001
Cérium (total)	Ce	mg/l			0,00001				0,00002				<0,00001
Césium (total)	Cs	mg/l			0,0057				0,0052				0,0060
Dysprosium (total)	Dy	mg/l			<0,00001				<0,00001				<0,00001
Erbium (total)	Er	mg/l			<0,00001				<0,00001				<0,00001
Europium (total)	Eu	mg/l			<0,00001				<0,00001				<0,00001
Gallium (total)	Ga	mg/l			<0,0001				<0,0001				<0,0001
Gadolinium (total)	Gd	mg/l			<0,00001				<0,00001				<0,00001
Germanium (total)	Ge	mg/l			<0,0001				<0,0001				<0,0001
Hafnium (total)	Hf	mg/l			<0,0001				<0,0001				<0,0001
Holmium (total)	Ho	mg/l			<0,00001				<0,00001				<0,00001
Indium (total)	In	mg/l			<0,00001				<0,00001				<0,00001
Iridium (total)	Ir	mg/l			<0,00001				<0,00001				<0,00001
Lanthanum (total)	La	mg/l			0,00001				0,00002				<0,00001
Lutetium (total)	Lu	mg/l			<0,0001				<0,0001				<0,0001
Niobium (total)	Nb	mg/l			<0,00001				<0,00001				<0,00001
Néodymium (total)	Nd	mg/l			<0,00001				<0,00001				<0,00001
Osmium (total)	Os	mg/l			<0,0001				<0,0001				<0,0001
Palladium (total)	Pd	mg/l			<0,0001				<0,0001				<0,0001
Praseodymium (total)	Pr	mg/l			<0,00001				<0,00001				<0,00001
Platinum (total)	Pt	mg/l			<0,0001				<0,0001				<0,0001
Rubidium (total)	Rb	mg/l			0,0026				0,0024				0,0039
Rhenium (total)	Re	mg/l			<0,0001				<0,0001				<0,0001
Rhodium (total)	Rh	mg/l			<0,00001				<0,00001				<0,00001
Scandium (total)	Sc	mg/l			<0,0001				<0,0001				<0,0001
Samarium (total)	Sm	mg/l			<0,00001				<0,00001				<0,00001
Tantalum (total)	Ta	mg/l			<0,0001				<0,0001				<0,0001
Terbium (total)	Tb	mg/l			<0,00001				<0,00001				<0,00001
Tellurium (total)	Te	mg/l			<0,0001				<0,0001				<0,0001
Thorium (total)	Th	mg/l			<0,0001				<0,0001				<0,0001
Thulium (total)	Tm	mg/l			<0,00001				<0,00001				<0,00001
Ytterbium (total)	Yb	mg/l			<0,00001				<0,00001				<0,00001

Résultats HCT – CV5-WR-HCT-5

Analyse	Symbole	Unité	Sem. #0	Sem. #1	Sem. #2	Sem. #3	Sem. #4	Sem. #5	Sem. #6	Sem. #7	Sem. #8	Sem. #9	Sem. #10
			2023-04-27	2023-05-04	2023-05-11	2023-05-18	2023-05-25	2023-06-01	2023-06-08	2023-06-15	2023-06-22	2023-06-29	2023-07-06
Volume du lixiviat	V	mL	816	927	932	1007	922	1005	951	979	903	885	897
pH	pH	No unit	8,33	8,02	7,25	7,59	7,35	7,10	6,89	7,30	7,28	7,46	7,25
Alkalinité	Alkalinité	$mgCaCO_3/l$	12	9	7	8	7	7	5	7	7	6	6
Conductivité	Conductivité	µS/cm	36	40	37	65	38	45	34	33	28	31	28
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2,0	2	2	2	2	2	2	2	2	2
Fluoride	F	mg/l	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<0,05	<0,16	<0,11	<0,14	<0,12	<0,09	<0,11	<0,13	<0,08	<0,08
Sulfate	SO_4^{2-}	mg/l	3	6	8	13	10	8	7	6	6	6	6
Chlore	Cl^-	mg/l	3	3	1	1	1	1	<1,0	<1,0	1	1	1
Nitrite	NO_2^-	mgN/l	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Nitrate	NO_3^-	mgN/l	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06
Bromide	Br	mg/l	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3
Mercure	Hg	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,118	0,042	0,029	0,020	0,020	0,012	0,021	0,018	0,024	0,028	0,027
Arsenic	As	mg/l	0,0461	0,3240	0,5450	0,5060	0,5820	0,5120	0,4220	0,4530	0,4490	0,5210	0,5360
Baryum	Ba	mg/l	0,00039	0,00048	0,00049	0,00048	0,00049	0,00042	0,00037	0,00037	0,00040	0,00037	0,00143
Beryllium	Be	mg/l	<0,000007	<0,000007	0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007
Bore	B	mg/l	0,010	0,025	0,025	0,024	0,020	0,016	0,010	0,011	0,008	0,007	0,006
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00003	<0,00001	<0,00001	<0,00001	<0,00003	<0,00001	<0,00001
Calcium	Ca	mg/l	4,25	3,78	3,72	4,44	4,32	4,56	3,64	4,09	3,96	3,85	3,96
Cadmium	Cd	mg/l	<0,000003	<0,000003	<0,000003	0,000003	0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000038
Cobalt	Co	mg/l	0,000043	0,000100	0,000142	0,000201	0,000201	0,000465	0,000193	0,000405	0,000204	0,000189	0,000155
Chrome	Cr	mg/l	0,00017	0,00038	<0,00009	0,00008	<0,00008	<0,00008	<0,00012	<0,00008	<0,00008	0,00015	<0,00008
Cuivre	Cu	mg/l	0,0006	0,0004	<0,0002	<0,0003	0,0005	0,0017	<0,0002	<0,0002	<0,0002	<0,0002	0,0007
Fer	Fe	mg/l	<0,007	0,008	0,008	0,007	<0,007	0,016	0,007	0,007	<0,007	0,007	0,035
Potassium	K	mg/l	0,80	0,63	0,60	0,709	0,541	0,481	0,338	0,347	0,313	0,287	0,324
Lithium	Li	mg/l	0,1030	0,1700	0,1030	0,2000	0,1090	0,0783	0,0580	0,0461	0,0411	0,0362	0,0401
Magnésium	Mg	mg/l	0,346	0,577	0,601	1,080	0,846	0,987	0,729	0,835	0,676	0,628	0,736
Manganese	Mn	mg/l	0,00079	0,00355	0,00341	0,00424	0,00365	0,00659	0,00331	0,00471	0,00305	0,00272	0,00227
Molybdène	Mo	mg/l	0,00018	0,00026	0,00183	0,00077	0,00025	0,00015	0,00118	0,00307	0,00026	0,00006	0,00005
Sodium	Na	mg/l	2,00	2,89	1,80	2,68	1,29	0,98	0,56	0,52	0,40	0,31	0,34
Nickel	Ni	mg/l	0,0006	0,0018	0,0021	0,0033	0,0028	0,0053	0,0025	0,0046	0,0021	0,0017	0,0016
Plomb	Pb	mg/l	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00026
Antimoine	Sb	mg/l	0,0300	0,2430	0,2320	0,2300	0,1730	0,2440	0,1560	0,2100	0,1210	0,1340	0,1340
Sélénium	Se	mg/l	0,00014	0,00027	0,00030	0,00008	0,00019	0,00017	0,00013	0,00015	0,00014	0,00013	0,00011
Etain	Sn	mg/l	0,00138	0,00062	0,00020	0,00010	0,00012	0,00010	0,00011	0,00006	<0,00006	<0,00006	0,00008
Strontium	Sr	mg/l	0,0107	0,0146	0,01716	0,0198	0,01920	0,0159	0,0135	0,01334	0,0128	0,01302	0,0128
Titane	Ti	mg/l	0,00015	0,00042	0,00019	0,00026	0,00023	<0,00009	0,00032	0,00022	0,00022	0,00026	0,00027
Thallium	Th	mg/l	0,000018	<0,000005	0,000011	<0,000005	<0,000008	0,000012	<0,000006	<0,000006	<0,000005	<0,000006	<0,000005
Uranium	U	mg/l	0,004960	0,000142	0,003907	0,000191	0,003910	0,000091	0,000148	0,000300	0,00162	0,000094	0,000031
Vanadium	V	mg/l	0,00100	0,00143	0,00131	0,00101	0,00112	0,00095	0,00078	0,00091	0,00085	0,00102	0,00100
Tungstène	W	mg/l	0,00119	0,00154	0,00124	0,00311	0,00082	0,00058	0,00086	0,00042	0,00030	0,00023	0,00028
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,004
Gold (total)	Au	mg/l	0,00002	<0,00001	<0,00001	<0,00001	0,00001	<0,00001	<0,00001	<0,00001	0,00001	0,00001	<0,00001
Cérium (total)	Ce	mg/l	0,00001	0,00001	0,00001	0,00001	0,00001	<0,00001	0,00001	0,00001	0,00002	0,00001	0,00001
Césium (total)	Cs	mg/l	0,0344	0,0270	0,0260	0,0300	0,0249	0,0199	0,0181	0,0188	0,0179	0,0159	0,0158
Dysprosium (total)	Dy	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Erbium (total)	Er	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Europium (total)	Eu	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Gallium (total)	Ga	mg/l	0,0001	<0,0001	<0,0001	<0,0001	<0,0001	0,0001	<0,0001	0,0002	<0,0001	<0,0001	<0,0001
Gadolinium (total)	Gd	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Germanium (total)	Ge	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Hafnium (total)	Hf	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Holmium (total)	Ho	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Indium (total)	In	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Iridium (total)	Ir	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Lanthanum (total)	La	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Lutetium (total)	Lu	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Niobium (total)	Nb	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Néodymium (total)	Nd	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Osmium (total)	Os	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Palladium (total)	Pd	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Praseodymium (total)	Pr	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Platinum (total)	Pt	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Rubidium (total)	Rb	mg/l	0,0222	0,0139	0,0127	0,0141	0,0113	0,0104	0,0074	0,0088	0,0069	0,0071	0,0074
Rhenium (total)	Re	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Rhodium (total)	Rh	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Scandium (total)	Sc	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Samarium (total)	Sm	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Tantalum (total)	Ta	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Terbium (total)	Tb	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Tellurium (total)	Te	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Thorium (total)	Th	mg/l	<0,0001	<0,0002	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Thulium (total)	Tm	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Ytterbium (total)	Yb	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001

Résultats HCT – CV5-WR-HCT-5

Analyse	Symbole	Unité	Sem. #11	Sem. #12	Sem. #13	Sem. #14	Sem. #15	Sem. #16	Sem. #17	Sem. #18	Sem. #19	Sem. #20	Sem. #21
			2023-07-13	2023-07-20	2023-07-27	2023-08-03	2023-08-10	2023-08-17	2023-08-24	2023-08-31	2023-09-07	2023-09-14	2023-09-21
Volume du lixiviat	V	mL	914	942	945	937	895	936	909	899	884	918	905
pH	pH	No unit	7,25	7,31	7,18	7,02	6,76	7,19	7,14	7,33	7,39	7,11	6,9
Alkalinité	Alkalinité	$mgCaCO_3/l$	5	7	6	4	6	5	4	6	4	4	5
Conductivité	Conductivité	µS/cm	22	24	23	20	24	27	23	24	19	20	21
Acidité	Acidité	$mgCaCO_3/l$	2	2	2	2	2	2	2	2	2	2	2
Fluoride	F	mg/l				<0,06	<0,06	<0,06		<0,08		0,06	
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,06	<0,06	<0,06	<0,06	<0,08	<0,08	<0,06	<0,12	<0,07	<0,04	<0,05
Sulfate	SO_4^{2-}	mg/l	4	3	4	3	4	4	4	4	4	<3,0	3
Chlore	Cl^-	mg/l					1	<1,0		<1,0		1	
Nitrite	NO_2^-	mgN/l					<0,03	<0,03		<0,03		<0,03	
Nitrate	NO_3^-	mgN/l					<0,06	<0,06		<0,06		<0,06	
Bromide	Br	mg/l					<0,3	<0,3		<0,3		<0,3	
Mercure	Hg	mg/l	0,00005	0,00005	0,00005	0,00005	<0,00001	<0,00001		<0,00001		<0,00001	
Argent	Ag	mg/l					<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	0,00011	<0,00005
Aluminum	Al	mg/l	0,050	0,023	0,021	0,023	0,019	0,017	0,021	0,026	0,029	0,023	0,023
Arsenic	As	mg/l	0,4110	0,4060	0,3590	0,2730	0,3790	0,3230	0,3570	0,4670	0,3100	0,2780	0,254
Baryum	Ba	mg/l	0,00038	0,00029	0,00027	0,00026	0,00025	0,00027	0,00027	0,00039	0,00032	0,00027	0,00028
Beryllium	Be	mg/l	0,000008	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007
Bore	B	mg/l	0,005	0,004	0,004	0,004	0,004	0,003	0,003	0,006	0,003	0,003	0,002
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	2,99	3,05	2,76	2,90	3,38	2,93	3,34	3,78	3,04	2,71	2,93
Cadmium	Cd	mg/l	<0,000003	<0,000003	<0,000003	<0,000003	0,000003	0,000003	<0,000003	<0,000003	<0,000003	0,000004	<0,000003
Cobalt	Co	mg/l	0,000309	0,000176	0,000131	0,000139	0,000133	0,000133	0,000163	0,000144	0,000162	0,000187	0,000147
Chrome	Cr	mg/l	0,00039	0,00170	0,00008	<0,00008	<0,00008	0,00011	<0,0001	0,00011	<0,00011	<0,00008	<0,00008
Cuivre	Cu	mg/l	<0,0002	<0,0005	0,0002	0,0002	0,0005	0,0002	<0,0002	<0,0002	0,0003	<0,0004	<0,0002
Fer	Fe	mg/l	0,040	0,154	<0,007	<0,007	0,007	<0,007	<0,007	0,007	<0,012	<0,007	0,008
Potassium	K	mg/l	0,227	0,201	0,156	0,193	0,273	0,176	0,196	0,225	0,192	0,169	0,132
Lithium	Li	mg/l	0,0305	0,0203	0,0174	0,0157	0,0300	0,0172	0,0200	0,0196	0,0172	0,0151	0,0151
Magnésium	Mg	mg/l	0,529	0,463	0,356	0,363	0,62	0,393	0,449	0,471	0,415	0,345	0,328
Manganese	Mn	mg/l	0,00306	0,00402	0,00200	0,00217	0,00139	0,00195	0,00208	0,00180	0,00165	0,00190	0,00168
Molybdène	Mo	mg/l	0,00004	0,00019	0,00046	0,00014	0,00006	0,00004	0,00020	0,00044	0,00023	0,00104	0,00019
Sodium	Na	mg/l	0,20	0,16	0,13	0,16	0,22	0,12	0,11	0,18	0,14	0,09	0,1
Nickel	Ni	mg/l	0,0015	0,0081	0,0011	0,0011	0,0009	0,0011	0,0010	0,0012	0,0010	0,0012	0,001
Plomb	Pb	mg/l	<0,00009	<0,00009	<0,00009	<0,00009	0,00009	0,00009	<0,00009	<0,00009	<0,00009	0,00035	0,00009
Antimoine	Sb	mg/l	0,1000	0,0872	0,0853	0,0587	0,0903	0,0872	0,0818	0,1100	0,0571	0,0663	0,0586
Sélénium	Se	mg/l	0,00013	0,00010	0,00009	0,00008	0,00013	0,00009	0,00013	0,00011	0,00008	0,00009	0,00006
Etain	Sn	mg/l	<0,00006	<0,00008	0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00008	<0,00006
Strontium	Sr	mg/l	0,0092	0,0088	0,00816	0,0079	0,0105	0,0083	0,0096	0,0099	0,0083	0,0074	0,00738
Titane	Ti	mg/l	0,00147	0,00022	0,00027	0,00016	0,00010	0,00007	0,00016	0,00014	0,00037	0,00014	0,00011
Thallium	Th	mg/l	0,000017	<0,000007	<0,000005	<0,000005	<0,000005	<0,000005	<0,000006	<0,000006	<0,000006	0,000006	<0,000005
Uranium	U	mg/l	0,000013	0,00004	0,000053	0,000026	0,000228	0,000042	0,00023	0,000369	0,000054	0,00191	0,000045
Vanadium	V	mg/l	0,00099	0,00088	0,00074	0,00066	0,00076	0,00073	0,00079	0,00105	0,00073	0,00072	0,00065
Tungstène	W	mg/l	0,00025	0,00017	0,00015	0,00010	0,00021	0,00014	0,00025	0,00141	0,00011	0,00016	0,0001
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l					0,00001	<0,00001		<0,00001		<0,00001	
Cérium (total)	Ce	mg/l					<0,00001	<0,00001		0,00001		<0,00001	
Césium (total)	Cs	mg/l					0,0139	0,0124		0,0144		0,0109	
Dysprosium (total)	Dy	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Erbium (total)	Er	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Europium (total)	Eu	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Gallium (total)	Ga	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Gadolinium (total)	Gd	mg/l					<0,00001	<0,00001		<0,00001		<0,00001	
Germanium (total)	Ge	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Hafnium (total)	Hf	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Holmium (total)	Ho	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Indium (total)	In	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Iridium (total)	Ir	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Lanthanum (total)	La	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Lutetium (total)	Lu	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Niobium (total)	Nb	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Néodymium (total)	Nd	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Osmium (total)	Os	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Palladium (total)	Pd	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Praseodymium (total)	Pr	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Platinum (total)	Pt	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Rubidium (total)	Rb	mg/l					0,0072	0,0051		0,0058		0,0045	
Rhenium (total)	Re	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Rhodium (total)	Rh	mg/l					<0,00001	<0,00001		<0,00001		<0,00001	
Scandium (total)	Sc	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Samarium (total)	Sm	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Tantalum (total)	Ta	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Terbium (total)	Tb	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Tellurium (total)	Te	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Thorium (total)	Th	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Thulium (total)	Tm	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Ytterbium (total)	Yb	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	

Résultats HCT – CV5-WR-HCT-5

Analyse	Symbole	Unité	Sem. #22	Sem. #23	Sem. #24	Sem. #25	Sem. #26	Sem. #27	Sem. #28	Sem. #29	Sem. #30	Sem. #31	Sem. #32
			2023-09-28	2023-10-05	2023-10-12	2023-10-19	2023-10-26	2023-11-02	2023-11-09	2023-11-16	2023-11-23	2023-11-30	2023-12-07
Volume du lixiviat	V	mL	906	906	989	935	909	928	919	928	898	927	947
pH	pH	No unit	7,01	6,96	7,01	6,82	6,72	7,00	7,03	7	6,75	7,08	7,03
Alkalinité	Alkalinité	$mgCaCO_3/l$	4	5	5	4	3	3	4	4	4	4	5
Conductivité	Conductivité	µS/cm	19	19	21	19	17	17	17	17	24	21	18
Acidité	Acidité	$mgCaCO_3/l$	<2,0	2	<2,0	2	2	<2,0	2	<2,0	2	<2,0	<2,0
Fluoride	F	mg/l				<0,06					<0,14		
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,07	<0,05	<0,05	<0,08	<0,09	<0,08	<0,05	<0,04	<0,03	<0,04	<0,03
Sulfate	SO_4^{2-}	mg/l	4	3	4	4	4	4	3	3	3	4	3
Chlore	Cl^-	mg/l				1					<1,0		
Nitrite	NO_2^-	mgN/l				0,03					<0,03		
Nitrate	NO_3^-	mgN/l				0,06					<0,06		
Bromide	Br	mg/l				0,3					<0,3		
Mercure	Hg	mg/l				<0,00001					<0,00001		
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,028	0,028	0,015	0,023	0,023	0,019	0,029	0,021	0,027	0,021	0,021
Arsenic	As	mg/l	0,2710	0,248	0,247	0,203	0,207	0,2010	0,211	0,203	0,152	0,2120	0,1930
Baryum	Ba	mg/l	0,00021	0,00016	0,00021	0,00015	0,00019	0,00020	0,00021	0,00018	0,00027	0,00019	0,00017
Beryllium	Be	mg/l	<0,000007	<0,000007	0,000013	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	0,000007	<0,000007	<0,000007
Bore	B	mg/l	0,002	0,002	0,003	0,002	0,002	0,002	0,002	0,002	0,002	0,002	0,002
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	2,99	2,76	2,77	2,81	2,8	2,82	3,04	2,48	2,55	3,06	2,67
Cadmium	Cd	mg/l	0,000003	<0,000003	0,000003	<0,000003	<0,000003	0,000003	<0,000003	0,000003	0,000003	0,000003	<0,000003
Cobalt	Co	mg/l	0,000142	0,000136	0,000217	0,000235	0,000151	0,000197	0,000168	0,000204	0,000188	0,000190	0,000248
Chrome	Cr	mg/l	<0,00008	<0,00008	<0,00008	<0,00023	<0,00008	<0,00008	<0,00009	<0,00008	<0,00008	<0,00008	<0,00008
Cuivre	Cu	mg/l	<0,0004	<0,0005	0,0004	<0,0005	<0,0002	<0,0002	<0,0002	0,0002	<0,0002	<0,0002	<0,0002
Fer	Fe	mg/l	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007
Potassium	K	mg/l	0,157	0,136	0,111	0,128	0,135	0,117	0,117	0,087	0,108	0,115	0,091
Lithium	Li	mg/l	0,0126	0,0127	0,0119	0,01	0,0094	0,0096	0,0105	0,0077	0,0099	0,0109	0,0100
Magnésium	Mg	mg/l	0,313	0,285	0,259	0,269	0,235	0,248	0,237	0,195	0,227	0,240	0,196
Manganese	Mn	mg/l	0,00176	0,00131	0,00201	0,002	0,00145	0,00198	0,0019	0,00172	0,00189	0,00135	0,00142
Molybdène	Mo	mg/l	0,00036	0,00005	0,00059	0,00019	0,00009	0,00004	0,00016	0,00004	0,00007	0,00006	0,00678
Sodium	Na	mg/l	0,08	0,08	0,07	0,13	0,11	0,08	0,12	0,04	0,08	0,07	0,08
Nickel	Ni	mg/l	0,0010	0,001	0,0013	0,0013	0,0011	0,0013	0,0011	0,0013	0,0007	0,0012	0,0015
Plomb	Pb	mg/l	0,00009	<0,00009	<0,00009	0,00009	0,00009	0,00009	<0,00009	<0,00009	<0,00009	0,00009	<0,00009
Antimoine	Sb	mg/l	0,0571	0,0558	0,084	0,055	0,0407	0,0553	0,0454	0,0463	0,0246	0,0486	0,0474
Sélénium	Se	mg/l	0,00008	0,00008	0,00006	0,00004	0,00008	0,00004	0,00006	0,00005	0,00009	0,00004	0,00004
Etain	Sn	mg/l	<0,00006	<0,00006	<0,00006	0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006
Strontium	Sr	mg/l	0,0078	0,00677	0,00642	0,00695	0,00628	0,0063	0,00609	0,00602	0,00601	0,0065	0,0060
Titane	Ti	mg/l	0,00020	<0,00014	0,00007	0,00015	0,00011	0,00009	<0,00013	0,00007	0,00015	0,00008	<0,00008
Thallium	Th	mg/l	0,000006	<0,000005	<0,000007	<0,000005	<0,000005	0,000006	<0,000005	<0,000005	<0,000005	<0,000005	<0,000006
Uranium	U	mg/l	0,000319	0,000025	0,000727	0,000032	0,000527	0,000029	0,000028	0,00049	0,000297	0,00004	0,007440
Vanadium	V	mg/l	0,00070	0,00061	0,00058	0,00061	0,00048	0,00052	0,00056	0,00053	0,00045	0,00056	0,00051
Tungstène	W	mg/l	0,00010	0,00008	0,00012	0,00006	0,00006	0,00007	0,00008	0,00005	0,00005	0,00006	0,00007
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l				0,00001					<0,00001		
Cérium (total)	Ce	mg/l				0,00001					<0,00001		
Césium (total)	Cs	mg/l				0,0102					0,0087		
Dysprosium (total)	Dy	mg/l				0,0001					<0,0001		
Erbium (total)	Er	mg/l				0,0001					<0,0001		
Europium (total)	Eu	mg/l				0,0001					<0,0001		
Gallium (total)	Ga	mg/l				0,0001					<0,0001		
Gadolinium (total)	Gd	mg/l				0,00001					<0,00001		
Germanium (total)	Ge	mg/l				0,0001					<0,0001		
Hafnium (total)	Hf	mg/l				0,0001					<0,0001		
Holmium (total)	Ho	mg/l				0,0001					<0,0001		
Indium (total)	In	mg/l				0,0001					<0,0001		
Iridium (total)	Ir	mg/l				0,0001					<0,0001		
Lanthanum (total)	La	mg/l				0,0001					<0,0001		
Lutetium (total)	Lu	mg/l				0,0001					<0,0001		
Niobium (total)	Nb	mg/l				0,0001					<0,0001		
Néodymium (total)	Nd	mg/l				0,0001					<0,0001		
Osmium (total)	Os	mg/l				0,0001					<0,0001		
Palladium (total)	Pd	mg/l				0,0001					<0,0001		
Praseodymium (total)	Pr	mg/l				0,0001					<0,0001		
Platinum (total)	Pt	mg/l				0,0001					<0,0001		
Rubidium (total)	Rb	mg/l				0,0036					0,0032		
Rhenium (total)	Re	mg/l				0,0001					<0,0001		
Rhodium (total)	Rh	mg/l				0,00001					<0,00001		
Scandium (total)	Sc	mg/l				0,0001					<0,0001		
Samarium (total)	Sm	mg/l				0,0001					<0,0001		
Tantalum (total)	Ta	mg/l				0,0001					<0,0001		
Terbium (total)	Tb	mg/l				0,0001					<0,0001		
Tellurium (total)	Te	mg/l				0,0001					<0,0001		
Thorium (total)	Th	mg/l				0,0001					<0,0001		
Thulium (total)	Tm	mg/l				0,0001					<0,0001		
Ytterbium (total)	Yb	mg/l				0,0001					<0,0001		

Résultats HCT – CV5-WR-HCT-5

Analyse	Symbole	Unité	Sem. #33	Sem. #34	Sem. #35	Sem. #36	Sem. #37	Sem. #38	Sem. #39	Sem. #40	Sem. #41	Sem. #42	Sem. #43
			2023-12-14	2023-12-21	2023-12-28	2024-01-04	2024-01-11	2024-01-18	2024-01-25	2024-02-01	2024-02-08	2024-02-15	2024-02-22
Volume du lixiviat	V	mL	908	946	914	905	942	920	941	884	948	948	913
pH	pH	No unit	7,00	6,75	7,02	7,03	7,03	6,78	6,97	6,97	6,88	6,99	6,98
Alkalinité	Alkalinité	$mgCaCO_3/l$	3	3	5	4	5	3	4	3	4	4	4
Conductivité	Conductivité	µS/cm	17	21	22	23	20	20	23	18	19	17	18
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0
Fluoride	F	mg/l	<0,06		<0,06					<0,07			
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,04	<0,03	<0,03	<0,03	<0,04	<0,03	<0,04	<0,03	<0,03	<0,03	<0,03
Sulfate	SO_4^{2-}	mg/l	3	5	4	4	4	4	5	3	4	3	4
Chlore	Cl^-	mg/l	***		<1,0					1			
Nitrite	NO_2^-	mgN/l	***		<0,03					<0,03			
Nitrate	NO_3^-	mgN/l	***		<0,06					<0,06			
Bromide	Br	mg/l	***		<0,3					<0,3			
Mercure	Hg	mg/l	***		<0,00001					<0,00001			
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,018	0,020	0,024	0,028	0,025	0,029	0,035	0,033	0,027	0,021	0,023
Arsenic	As	mg/l	0,1730	0,1730	0,1780	0,1870	0,1570	0,1690	0,1780	0,1540	0,1570	0,1490	0,1690
Baryum	Ba	mg/l	0,00019	0,00017	0,00026	0,00038	0,00018	0,00015	0,00026	0,00035	0,00016	0,00030	0,00069
Beryllium	Be	mg/l	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007
Bore	B	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	0,002	<0,002	<0,002	<0,002	<0,002	<0,003
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	2,70	2,79	3,25	3,42	2,93	3,23	3,58	3,11	2,82	2,36	2,83
Cadmium	Cd	mg/l	<0,000008	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	0,000003	<0,000003	<0,000003	<0,000003	<0,000003
Cobalt	Co	mg/l	0,000229	0,000218	0,000243	0,000185	0,000199	0,000243	0,000247	0,000178	0,000175	0,000216	0,000198
Chrome	Cr	mg/l	<0,00008	<0,00008	<0,0001	<0,00008	<0,00027	<0,00008	<0,00008	<0,00009	<0,00008	<0,00008	<0,00008
Cuivre	Cu	mg/l	<0,0002	0,0002	<0,0004	<0,0002	0,0005	<0,0002	<0,002	<0,0023	<0,002	<0,001	<0,001
Fer	Fe	mg/l	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,01	0,008	<0,007	<0,007	<0,007
Potassium	K	mg/l	0,082	0,076	0,087	0,105	0,097	0,095	0,111	0,107	0,079	0,054	0,078
Lithium	Li	mg/l	0,0081	0,0084	0,0082	0,0097	0,0195	0,0091	0,0091	0,0076	0,0067	0,0050	0,0065
Magnésium	Mg	mg/l	0,188	0,181	0,192	0,203	0,187	0,193	0,196	0,170	0,140	0,114	0,140
Manganese	Mn	mg/l	0,00131	0,00143	0,00167	0,00126	0,00119	0,00129	0,00173	0,00128	0,00113	0,00115	0,00119
Molybdène	Mo	mg/l	0,01710	0,01150	0,00016	0,00010	0,00023	0,00493	0,00040	<0,0004	<0,0004	<0,0004	<0,0004
Sodium	Na	mg/l	0,07	0,06	0,06	0,12	0,12	0,06	0,05	0,11	0,06	0,05	0,07
Nickel	Ni	mg/l	0,0014	0,0017	0,0015	0,0010	0,0013	0,0014	0,0015	0,0012	0,0012	0,0013	0,0014
Plomb	Pb	mg/l	0,00009	<0,00009	<0,00009	<0,00009	0,00057	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009
Antimoine	Sb	mg/l	0,0448	0,0443	0,0450	0,0396	0,0432	0,0431	0,0437	0,0344	0,0343	0,0315	0,0354
Sélénium	Se	mg/l	0,00004	0,00004	0,00004	0,00004	0,00004	0,00004	0,00004	0,00005	0,00004	0,00004	0,00006
Etain	Sn	mg/l	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006
Strontium	Sr	mg/l	0,0058	0,0059	0,0062	0,0060	0,0056	0,0058	0,0064	0,00534	0,00473	0,00389	0,00527
Titane	Ti	mg/l	<0,00007	0,00010	<0,00021	0,00025	0,00020	0,00021	0,00034	0,0002	0,0001	<0,00016	<0,00012
Thallium	Th	mg/l	<0,000006	<0,000005	<0,000006	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005
Uranium	U	mg/l	0,001760	0,000899	0,00002	0,000055	0,000182	0,00002	0,00003	0,000050	0,000168	0,001730	0,000032
Vanadium	V	mg/l	0,00045	0,00041	0,00052	0,00049	0,00039	0,00045	0,00050	0,00044	0,00045	0,00041	0,00041
Tungstène	W	mg/l	0,00007	0,00006	0,00006	0,00006	0,00004	0,00006	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l			<0,00001					<0,00001			
Cérium (total)	Ce	mg/l			<0,00001					0,00001			
Césium (total)	Cs	mg/l			0,0083					0,0082			
Dysprosium (total)	Dy	mg/l			<0,0001					<0,00001			
Erbium (total)	Er	mg/l			<0,0001					<0,00001			
Europium (total)	Eu	mg/l			<0,0001					<0,00001			
Gallium (total)	Ga	mg/l			<0,0001					<0,0001			
Gadolinium (total)	Gd	mg/l			<0,00001					<0,00001			
Germanium (total)	Ge	mg/l			<0,0001					<0,0001			
Hafnium (total)	Hf	mg/l			<0,0001					<0,0001			
Holmium (total)	Ho	mg/l			<0,0001					<0,00001			
Indium (total)	In	mg/l			<0,0001					<0,00001			
Iridium (total)	Ir	mg/l			<0,0001					<0,00001			
Lanthanum (total)	La	mg/l			<0,0001					<0,00001			
Lutetium (total)	Lu	mg/l			<0,0001					<0,0001			
Niobium (total)	Nb	mg/l			<0,0001					<0,00001			
Néodymium (total)	Nd	mg/l			<0,0001					<0,00001			
Osmium (total)	Os	mg/l			<0,0001					<0,0001			
Palladium (total)	Pd	mg/l			<0,0001					<0,0001			
Praseodymium (total)	Pr	mg/l			<0,0001					<0,00001			
Platinum (total)	Pt	mg/l			<0,0001					<0,0001			
Rubidium (total)	Rb	mg/l			0,0030					0,0029			
Rhenium (total)	Re	mg/l			<0,0001					<0,0001			
Rhodium (total)	Rh	mg/l			<0,00001					<0,00001			
Scandium (total)	Sc	mg/l			<0,0001					<0,0001			
Samarium (total)	Sm	mg/l			<0,0001					<0,00001			
Tantalum (total)	Ta	mg/l			<0,0001					<0,0001			
Terbium (total)	Tb	mg/l			<0,0001					<0,00001			
Tellurium (total)	Te	mg/l			<0,0001					<0,0001			
Thorium (total)	Th	mg/l			<0,0001					<0,0001			
Thulium (total)	Tm	mg/l			<0,0001					<0,00001			
Ytterbium (total)	Yb	mg/l			<0,0001					<0,00001			

Résultats HCT – CV5-WR-HCT-5

Analyse	Symbole	Unité	Sem. #44	Sem. #45	Sem. #46	Sem. #47	Sem. #48	Sem. #49	Sem. #50	Sem. #51	Sem. #52	Sem. #53	Sem. #54
			2024-02-29	2024-03-07	2024-03-14	2024-03-21	2024-03-28	2024-04-04	2024-04-11	2024-04-18	2024-04-25	2024-05-02	2024-05-09
Volume du lixiviat	V	mL	916	934	926	953	912	949	936	950	946	924	937
pH	pH	No unit	6,92	6,96	7,08	7,01	6,92	6,90	6,89	6,81	7,03	6,95	7,02
Alkalinité	Alkalinité	$mgCaCO_3/l$	4	4	3	4	4	3	3	3	4	3	4
Conductivité	Conductivité	µS/cm	20	18	18	16	19	17	21	18	16	16	16
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0
Fluoride	F	mg/l		<0,06					<0,06				
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Sulfate	SO_4^{2-}	mg/l	3	4	4	4	5	3	4	3	3	4	4
Chlore	Cl^-	mg/l		<1,0					<1,0				
Nitrite	NO_2^-	mgN/l		<0,03					<0,03				
Nitrate	NO_3^-	mgN/l		<0,06					<0,06				
Bromide	Br	mg/l		<0,3					<0,3				
Mercure	Hg	mg/l		<0,00001					<0,00001				
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,026	0,021	0,018	0,016	0,078	0,022	0,022	0,019	0,021	0,027	0,022
Arsenic	As	mg/l	0,1060	0,1650	0,1490	0,1650	0,1700	0,1440	0,1500	0,1320	0,1270	0,1350	0,1400
Baryum	Ba	mg/l	0,00012	0,00017	0,00015	0,00011	0,00095	0,00015	0,00017	0,00019	0,00014	0,00017	0,00013
Beryllium	Be	mg/l	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007
Bore	B	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	2,13	2,98	2,67	2,55	3,49	2,79	3,21	2,70	2,90	2,98	2,80
Cadmium	Cd	mg/l	<0,00001	<0,000003	<0,000003	<0,000003	<0,000005	<0,000005	<0,000003	<0,000008	<0,000003	<0,000003	<0,000003
Cobalt	Co	mg/l	0,000281	0,000154	0,000176	0,000164	0,000175	0,000212	0,000177	0,000193	0,000213	0,000189	0,000161
Chrome	Cr	mg/l	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00009	<0,00008
Cuivre	Cu	mg/l	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001
Fer	Fe	mg/l	<0,007	<0,007	<0,007	<0,007	<0,028	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007
Potassium	K	mg/l	0,071	0,085	0,062	0,063	0,070	0,067	0,077	0,078	0,051	0,068	0,063
Lithium	Li	mg/l	0,0061	0,0069	0,0067	0,0054	0,0058	0,0054	0,0062	0,0054	0,0051	0,0058	0,0052
Magnésium	Mg	mg/l	0,136	0,158	0,137	0,121	0,162	0,134	0,149	0,132	0,116	0,130	0,120
Manganese	Mn	mg/l	0,00146	0,00078	0,00098	0,00076	0,00293	0,00097	0,00090	0,00090	0,00094	0,00120	0,00089
Molybdène	Mo	mg/l	<0,0229	<0,0004	<0,0054	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004
Sodium	Na	mg/l	0,05	0,05	0,04	0,04	0,09	0,06	0,04	0,05	0,04	0,07	0,04
Nickel	Ni	mg/l	0,0010	0,0011	0,0012	0,0012	0,0011	0,0013	0,0012	0,0013	0,0014	0,0013	0,0011
Plomb	Pb	mg/l	<0,00009	<0,00009	<0,00009	<0,00009	<0,00023	<0,00009	<0,00009	<0,00013	<0,00009	<0,00009	<0,00009
Antimoine	Sb	mg/l	0,0185	0,0371	0,0344	0,0374	0,0297	0,0307	0,0300	0,0298	0,0273	0,0251	0,0276
Sélénium	Se	mg/l	0,00004	0,00004	0,00004	0,00005	0,00004	0,00004	0,00004	0,00004	0,00004	0,00004	0,00004
Etain	Sn	mg/l	<0,00006	<0,00006	<0,00015	<0,00006	<0,00009	<0,00006	<0,00006	<0,00006	<0,00009	<0,00006	<0,00006
Strontium	Sr	mg/l	0,00446	0,00489	0,00448	0,00371	0,00517	0,00414	0,00482	0,00406	0,00381	0,00392	0,00372
Titane	Ti	mg/l	0,0001	<0,0001	<0,0001	0,0001	0,0003	<0,0001	0,0001	<0,0001	<0,0001	<0,00013	<0,0001
Thallium	Th	mg/l	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005
Uranium	U	mg/l	0,000038	0,000029	0,000045	0,000017	0,000056	0,000068	0,000036	0,000012	0,000017	0,000018	0,000012
Vanadium	V	mg/l	0,00032	0,00041	0,00035	0,00034	0,00049	0,00038	0,00037	0,00031	0,00038	0,00036	0,00037
Tungstène	W	mg/l	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,006	<0,002	<0,006	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l		<0,00001					<0,00001				
Cérium (total)	Ce	mg/l		<0,00001					<0,00001				
Césium (total)	Cs	mg/l		0,0080					0,0071				
Dysprosium (total)	Dy	mg/l		<0,00001					<0,00001				
Erbium (total)	Er	mg/l		<0,00001					<0,00001				
Europium (total)	Eu	mg/l		<0,00001					<0,00001				
Gallium (total)	Ga	mg/l		<0,0001					<0,0001				
Gadolinium (total)	Gd	mg/l		<0,00001					<0,00001				
Germanium (total)	Ge	mg/l		<0,0001					<0,0001				
Hafnium (total)	Hf	mg/l		<0,0001					<0,0001				
Holmium (total)	Ho	mg/l		<0,00001					<0,00001				
Indium (total)	In	mg/l		<0,00001					<0,00001				
Iridium (total)	Ir	mg/l		<0,00001					<0,00001				
Lanthanum (total)	La	mg/l		<0,00001					<0,00001				
Lutetium (total)	Lu	mg/l		<0,0001					<0,0001				
Niobium (total)	Nb	mg/l		<0,00001					<0,00001				
Néodymium (total)	Nd	mg/l		<0,00001					<0,00001				
Osmium (total)	Os	mg/l		<0,0001					<0,0001				
Palladium (total)	Pd	mg/l		<0,0001					<0,0001				
Praseodymium (total)	Pr	mg/l		<0,00001					<0,00001				
Platinum (total)	Pt	mg/l		<0,0001					<0,0001				
Rubidium (total)	Rb	mg/l		0,0028					0,0026				
Rhenium (total)	Re	mg/l		<0,0001					<0,0001				
Rhodium (total)	Rh	mg/l		<0,00001					<0,00001				
Scandium (total)	Sc	mg/l		<0,0001					<0,0001				
Samarium (total)	Sm	mg/l		<0,00001					<0,00001				
Tantalum (total)	Ta	mg/l		<0,0001					<0,0001				
Terbium (total)	Tb	mg/l		<0,00001					<0,00001				
Tellurium (total)	Te	mg/l		<0,0001					<0,0001				
Thorium (total)	Th	mg/l		<0,0001					<0,0001				
Thulium (total)	Tm	mg/l		<0,00001					<0,00001				
Ytterbium (total)	Yb	mg/l		<0,00001					<0,00001				

Résultats HCT – CV5-WR-HCT-5

Analyse	Symbole	Unité	Sem. #55	Sem. #56	Sem. #57	Sem. #58	Sem. #59	Sem. #60	Sem. #61	Sem. #62	Sem. #63	Sem. #64	Sem. #65
			2024-05-16	2024-05-23	2024-05-30	2024-06-06	2024-06-13	2024-06-20	2024-06-27	2024-07-04	2024-07-11	2024-07-18	2024-07-25
Volume du lixiviat	V	mL	914	987	936	948	951	948	959	914	911	941	934
pH	pH	No unit	6,73	7,16	7,11	7,11	7,05	7,18	7,19	6,98	7,05	6,79	7,01
Alkalinité	Alkalinité	$mgCaCO_3/l$	4	4	3	4	4	5	4	3		4	
Conductivité	Conductivité	µS/cm	19	19	16	18	17	20	18	38	19	19	21
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0		<2,0	
Fluoride	F	mg/l	<0,06					<0,06				<0,06	
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,04	<0,03	<0,03	<0,03	<0,03	<0,03	<0,04	<0,03		<0,03	
Sulfate	SO_4^{2-}	mg/l	4	4	3	3	4	4	4	3		4	
Chlore	Cl^-	mg/l	<1,0					<1,0				<1,0	
Nitrite	NO_2^-	mgN/l	<0,03					<0,03				<0,03	
Nitrate	NO_3^-	mgN/l	<0,06					<0,06				<0,06	
Bromide	Br	mg/l	<0,3					<0,3				<0,3	
Mercure	Hg	mg/l	<0,00001					<0,00001				<0,00001	
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005		<0,00005	
Aluminum	Al	mg/l	0,025	0,015	0,018	0,022	0,021	0,021	0,023	0,024		0,026	
Arsenic	As	mg/l	0,1470	0,1460	0,1270	0,1490	0,1490	0,1350	0,1370	0,1390		0,1430	
Baryum	Ba	mg/l	0,00016	0,00015	0,00013	0,00018	0,00020	0,00017	0,00019	0,00018		0,00013	
Beryllium	Be	mg/l	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007		<0,000007	
Bore	B	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002		<0,002	
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001		<0,00001	
Calcium	Ca	mg/l	3,08	2,76	2,76	3,26	3,18	2,99	2,83	2,90		3,25	
Cadmium	Cd	mg/l	<0,000003	<0,00001	<0,000003	<0,000003	<0,000003	<0,000003	<0,000005	<0,000003		<0,000012	
Cobalt	Co	mg/l	0,000155	0,000191	0,000169	0,000179	0,000201	0,000170	0,000162	0,000169		0,000147	
Chrome	Cr	mg/l	<0,00008	<0,00008	<0,00013	<0,00015	<0,00008	<0,00008	<0,00008	<0,00008		<0,00008	
Cuivre	Cu	mg/l	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001		<0,001	
Fer	Fe	mg/l	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007		0,007	
Potassium	K	mg/l	0,066	0,058	0,063	0,073	0,061	0,053	0,057	0,057		0,074	
Lithium	Li	mg/l	0,0058	0,0053	0,0045	0,0058	0,0052	0,0048	0,0050	0,0050		0,0049	
Magnésium	Mg	mg/l	0,125	0,115	0,118	0,133	0,127	0,124	0,112	0,117		0,124	
Manganese	Mn	mg/l	0,00089	0,00091	0,00099	0,00096	0,00095	0,00099	0,00121	0,00107		0,00096	
Molybdène	Mo	mg/l	<0,0004	<0,0004	<0,0004	<0,0004	<0,0007	<0,0004	<0,0004	<0,0004		<0,0318	
Sodium	Na	mg/l	0,07	0,04	0,06	0,04	0,05	0,03	0,03	0,05		0,09	
Nickel	Ni	mg/l	0,0010	0,0015	0,0012	0,0013	0,0014	0,0014	0,0012	0,0012		0,0010	
Plomb	Pb	mg/l	<0,00009	<0,00013	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009		<0,00009	
Antimoine	Sb	mg/l	0,0278	0,0360	0,0245	0,0327	0,0299	0,0258	0,0255	0,0255		0,0278	
Sélénium	Se	mg/l	0,00004	0,00004	0,00004	0,00004	0,00004	0,00004	0,00004	0,00004		0,00004	
Etain	Sn	mg/l	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006		<0,00006	
Strontium	Sr	mg/l	0,00405	0,00355	0,00310	0,00388	0,00392	0,00385	0,00355	0,00357		0,00378	
Titane	Ti	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,00011	<0,00014	0,0001		<0,0001	
Thallium	Th	mg/l	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000008		<0,000005	
Uranium	U	mg/l	0,000014	0,000013	0,000013	0,000014	0,000015	0,000012	0,000010	0,000010		0,000010	
Vanadium	V	mg/l	0,00037	0,00034	0,00031	0,00040	0,00039	0,00035	0,00038	0,00032		0,00039	
Tungstène	W	mg/l	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002		<0,0002	
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002		<0,00002	
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002		<0,002	
Gold (total)	Au	mg/l	<0,00001					<0,00001				<0,00001	
Cérium (total)	Ce	mg/l	0,00001					<0,00001				<0,00001	
Césium (total)	Cs	mg/l	0,0066					0,0062				0,0073	
Dysprosium (total)	Dy	mg/l	<0,00001					<0,00001				<0,00001	
Erbium (total)	Er	mg/l	<0,00001					<0,00001				<0,00001	
Europium (total)	Eu	mg/l	<0,00001					<0,00001				<0,00001	
Gallium (total)	Ga	mg/l	<0,0001					<0,0001				<0,0001	
Gadolinium (total)	Gd	mg/l	<0,00001					<0,00001				<0,00001	
Germanium (total)	Ge	mg/l	<0,0001					<0,0001				<0,0001	
Hafnium (total)	Hf	mg/l	<0,0001					<0,0001				<0,0001	
Holmium (total)	Ho	mg/l	<0,00001					<0,00001				<0,00001	
Indium (total)	In	mg/l	<0,00001					<0,00001				<0,00001	
Iridium (total)	Ir	mg/l	<0,00001					<0,00001				<0,00001	
Lanthanum (total)	La	mg/l	<0,00001					<0,00001				<0,00001	
Lutetium (total)	Lu	mg/l	<0,0001					<0,0001				<0,0001	
Niobium (total)	Nb	mg/l	<0,00001					<0,00001				<0,00001	
Néodymium (total)	Nd	mg/l	<0,00001					<0,00001				<0,00001	
Osmium (total)	Os	mg/l	<0,0001					<0,0001				<0,0001	
Palladium (total)	Pd	mg/l	<0,0001					<0,0001				<0,0001	
Praseodymium (total)	Pr	mg/l	<0,00001					<0,00001				<0,00001	
Platinum (total)	Pt	mg/l	<0,0001					<0,0001				<0,0001	
Rubidium (total)	Rb	mg/l	0,0026					0,0022				0,0026	
Rhenium (total)	Re	mg/l	<0,0001					<0,0001				<0,0001	
Rhodium (total)	Rh	mg/l	<0,00001					<0,00001				<0,00001	
Scandium (total)	Sc	mg/l	<0,0001					<0,0001				<0,0001	
Samarium (total)	Sm	mg/l	<0,00001					<0,00001				<0,00001	
Tantalum (total)	Ta	mg/l	<0,0001					<0,0001				<0,0001	
Terbium (total)	Tb	mg/l	<0,00001					<0,00001				<0,00001	
Tellurium (total)	Te	mg/l	<0,0001					<0,0001				<0,0001	
Thorium (total)	Th	mg/l	<0,0001					<0,0001				<0,0001	
Thulium (total)	Tm	mg/l	<0,00001					<0,00001				<0,00001	
Ytterbium (total)	Yb	mg/l	<0,00001					<0,00001				<0,00001	

Résultats HCT – CV5-WR-HCT-5

Analyse	Symbole	Unité	Sem. #66	Sem. #67	Sem. #68	Sem. #69	Sem. #70	Sem. #71	Sem. #72	Sem. #73	Sem. #74	Sem. #75	Sem. #76
			2024-08-01	2024-08-08	2024-08-15	2024-08-22	2024-08-29	2024-09-05	2024-09-12	2024-09-19	2024-09-26	2024-10-03	2024-10-10
Volume du lixiviat	V	mL	941	946	937	943	951	912	960	966	956	942	980
pH	pH	No unit	6,90	7,03	6,76	6,65	6,98	6,96	6,97	7,04	7,05	7,17	6,91
Alkalinité	Alkalinité	$mgCaCO_3/l$			4				4				4
Conductivité	Conductivité	µS/cm	21	20	17	20	20	21	17	20	19	24	20
Acidité	Acidité	$mgCaCO_3/l$			<2,0				<2,0				<2,0
Fluoride	F	mg/l			<0,1				<0,06				<0,08
Phosphore réactif total	PO_4^{3-}-P	mg/l			<0,03				<0,03				<0,03
Sulfate	SO_4^{2-}	mg/l			3				3				3
Chlore	Cl^-	mg/l			<1,0				<1,0				<1,0
Nitrite	NO_2^-	mgN/l			<0,03				<0,03				<0,03
Nitrate	NO_3^-	mgN/l			<0,06				<0,06				<0,06
Bromide	Br	mg/l			<0,3				<0,3				<0,3
Mercure	Hg	mg/l			<0,00001				<0,00001				<0,00001
Argent	Ag	mg/l			<0,00005				<0,00005				<0,00005
Aluminum	Al	mg/l			0,025				0,022				0,020
Arsenic	As	mg/l			0,1210				0,0981				0,0935
Baryum	Ba	mg/l			0,00013				0,00012				0,00015
Beryllium	Be	mg/l			<0,000007				<0,000007				<0,000007
Bore	B	mg/l			<0,002				<0,002				<0,002
Bismuth	Bi	mg/l			<0,00001				<0,00001				<0,00001
Calcium	Ca	mg/l			3,20				3,35				3,32
Cadmium	Cd	mg/l			<0,000003				<0,000003				<0,000003
Cobalt	Co	mg/l			0,000167				0,000203				0,000210
Chrome	Cr	mg/l			<0,00008				<0,00008				<0,00008
Cuivre	Cu	mg/l			<0,001				<0,001				<0,001
Fer	Fe	mg/l			<0,007				<0,007				<0,007
Potassium	K	mg/l			0,064				0,054				0,044
Lithium	Li	mg/l			0,0046				0,0042				0,0044
Magnésium	Mg	mg/l			0,118				0,107				0,113
Manganese	Mn	mg/l			0,00099				0,00115				0,00122
Molybdène	Mo	mg/l			<0,0005				<0,0004				<0,0004
Sodium	Na	mg/l			0,06				0,05				0,06
Nickel	Ni	mg/l			0,0010				0,0012				0,0011
Plomb	Pb	mg/l			<0,00009				<0,00009				<0,00009
Antimoine	Sb	mg/l			0,0234				0,0223				0,0221
Sélénium	Se	mg/l			0,00004				0,00004				0,00004
Etain	Sn	mg/l			<0,00006				<0,00006				<0,00006
Strontium	Sr	mg/l			0,00345				0,00304				0,00313
Titane	Ti	mg/l			<0,0001				<0,0001				0,0001
Thallium	Th	mg/l			<0,000005				<0,000005				<0,000005
Uranium	U	mg/l			0,000011				0,000018				0,000013
Vanadium	V	mg/l			0,00037				0,00028				0,00031
Tungstène	W	mg/l			<0,0002				<0,0002				<0,0002
Yttrium	Y	mg/l			<0,00002				<0,00002				<0,00002
Zinc	Zn	mg/l			<0,002				<0,002				<0,002
Gold (total)	Au	mg/l			<0,00001				<0,00001				<0,00001
Cérium (total)	Ce	mg/l			<0,00001				<0,00001				<0,00001
Césium (total)	Cs	mg/l			0,0075				0,0062				0,0062
Dysprosium (total)	Dy	mg/l			<0,00001				<0,00001				<0,00001
Erbium (total)	Er	mg/l			<0,00001				<0,00001				<0,00001
Europium (total)	Eu	mg/l			<0,00001				<0,00001				<0,00001
Gallium (total)	Ga	mg/l			<0,0001				<0,0001				<0,0001
Gadolinium (total)	Gd	mg/l			<0,00001				<0,00001				<0,00001
Germanium (total)	Ge	mg/l			<0,0001				<0,0001				<0,0001
Hafnium (total)	Hf	mg/l			<0,0001				<0,0001				<0,0001
Holmium (total)	Ho	mg/l			<0,00001				<0,00001				<0,00001
Indium (total)	In	mg/l			<0,00001				<0,00001				<0,00001
Iridium (total)	Ir	mg/l			<0,00001				<0,00001				<0,00001
Lanthanum (total)	La	mg/l			<0,00001				<0,00001				<0,00001
Lutetium (total)	Lu	mg/l			<0,0001				<0,0001				<0,0001
Niobium (total)	Nb	mg/l			<0,00001				<0,00001				<0,00001
Néodymium (total)	Nd	mg/l			<0,00001				<0,00001				<0,00001
Osmium (total)	Os	mg/l			<0,0001				<0,0001				<0,0001
Palladium (total)	Pd	mg/l			<0,0001				<0,0001				<0,0001
Praseodymium (total)	Pr	mg/l			<0,00001				<0,00001				<0,00001
Platinum (total)	Pt	mg/l			<0,0001				<0,0001				<0,0001
Rubidium (total)	Rb	mg/l			0,0027				0,0021				0,0024
Rhenium (total)	Re	mg/l			<0,0001				<0,0001				<0,0001
Rhodium (total)	Rh	mg/l			<0,00001				<0,00001				<0,00001
Scandium (total)	Sc	mg/l			<0,0001				<0,0001				<0,0001
Samarium (total)	Sm	mg/l			<0,00001				<0,00001				<0,00001
Tantalum (total)	Ta	mg/l			<0,0001				<0,0001				<0,0001
Terbium (total)	Tb	mg/l			<0,00001				<0,00001				<0,00001
Tellurium (total)	Te	mg/l			<0,0001				<0,0001				<0,0001
Thorium (total)	Th	mg/l			<0,0001				<0,0001				<0,0001
Thulium (total)	Tm	mg/l			<0,00001				<0,00001				<0,00001
Ytterbium (total)	Yb	mg/l			<0,00001				<0,00001				<0,00001

Résultats HCT – CV5-WR-HCT-5

Analyse	Symbole	Unité	Sem. #77	Sem. #78	Sem. #79	Sem. #80	Sem. #81	Sem. #82	Sem. #83	Sem. #84	Sem. #85	Sem. #86	Sem. #87
			2024-10-17	2024-10-24	2024-10-31	2024-11-07	2024-11-14	2024-11-21	2024-11-28	2024-12-05	2024-12-12	2024-12-19	2024-12-26
Volume du lixiviat	V	mL	958	971	964	967	975	950	946	952	913	958	973
pH	pH	No unit	6,97	6,97	7,00	6,70	7	6,98	7,16	6,95	6,97	6,97	7,03
Alkalinité	Alkalinité	$mgCaCO_3/l$				<3,0				5			
Conductivité	Conductivité	µS/cm	21	20	21	19	21	22	21	19	22	21	22
Acidité	Acidité	$mgCaCO_3/l$				2				<2,0			
Fluoride	F	mg/l				<0,09				<0,06			
Phosphore réactif total	PO_4^{3-}-P	mg/l				<0,03				<0,03			
Sulfate	SO_4^{2-}	mg/l				4				4			
Chlore	Cl^-	mg/l				<1,0				<1,0			
Nitrite	NO_2^-	mgN/l				<0,03				<0,03			
Nitrate	NO_3^-	mgN/l				<0,06				<0,06			
Bromide	Br	mg/l				<0,3				<0,3			
Mercure	Hg	mg/l				<0,00001				<0,00001			
Argent	Ag	mg/l				<0,00005				<0,00005			
Aluminum	Al	mg/l				0,019				0,018			
Arsenic	As	mg/l				0,0848				0,0804			
Baryum	Ba	mg/l				0,00013				0,00015			
Beryllium	Be	mg/l				<0,000007				<0,000007			
Bore	B	mg/l				<0,002				<0,002			
Bismuth	Bi	mg/l				<0,00001				<0,00001			
Calcium	Ca	mg/l				3,08				3,15			
Cadmium	Cd	mg/l				<0,000003				<0,000003			
Cobalt	Co	mg/l				0,000217				0,000195			
Chrome	Cr	mg/l				<0,00008				<0,00008			
Cuivre	Cu	mg/l				<0,001				<0,001			
Fer	Fe	mg/l				<0,007				<0,007			
Potassium	K	mg/l				0,039				0,041			
Lithium	Li	mg/l				0,0043				0,004			
Magnésium	Mg	mg/l				0,101				0,095			
Manganese	Mn	mg/l				0,00120				0,00125			
Molybdène	Mo	mg/l				<0,0004				<0,0004			
Sodium	Na	mg/l				0,08				0,03			
Nickel	Ni	mg/l				0,0011				0,0013			
Plomb	Pb	mg/l				<0,00009				<0,00009			
Antimoine	Sb	mg/l				0,0206				0,0185			
Sélénium	Se	mg/l				0,00004				0,00004			
Etain	Sn	mg/l				<0,00006				<0,00006			
Strontium	Sr	mg/l				0,00310				0,00292			
Titane	Ti	mg/l				<0,0001				<0,0001			
Thallium	Th	mg/l				<0,000005				0,000005			
Uranium	U	mg/l				0,000009				0,000005			
Vanadium	V	mg/l				0,00027				0,00024			
Tungstène	W	mg/l				<0,0002				<0,0002			
Yttrium	Y	mg/l				<0,00002				<0,00002			
Zinc	Zn	mg/l				<0,002				<0,002			
Gold (total)	Au	mg/l				<0,00001				<0,00001			
Cérium (total)	Ce	mg/l				<0,00001				<0,00001			
Césium (total)	Cs	mg/l				0,0043				0,0055			
Dysprosium (total)	Dy	mg/l				<0,00001				<0,00001			
Erbium (total)	Er	mg/l				<0,00001				<0,00001			
Europium (total)	Eu	mg/l				<0,00001				<0,00001			
Gallium (total)	Ga	mg/l				<0,0001				<0,0001			
Gadolinium (total)	Gd	mg/l				<0,00001				<0,00001			
Germanium (total)	Ge	mg/l				<0,0001				<0,0001			
Hafnium (total)	Hf	mg/l				<0,0001				<0,0001			
Holmium (total)	Ho	mg/l				<0,00001				<0,00001			
Indium (total)	In	mg/l				<0,00001				<0,00001			
Iridium (total)	Ir	mg/l				<0,00001				<0,00001			
Lanthanum (total)	La	mg/l				<0,00001				<0,00001			
Lutetium (total)	Lu	mg/l				<0,0001				<0,0001			
Niobium (total)	Nb	mg/l				<0,00001				<0,00001			
Néodymium (total)	Nd	mg/l				<0,00001				<0,00001			
Osmium (total)	Os	mg/l				<0,0001				<0,0001			
Palladium (total)	Pd	mg/l				<0,0001				<0,0001			
Praseodymium (total)	Pr	mg/l				<0,00001				<0,00001			
Platinum (total)	Pt	mg/l				<0,0001				<0,0001			
Rubidium (total)	Rb	mg/l				0,0014				0,0017			
Rhenium (total)	Re	mg/l				<0,0001				<0,0001			
Rhodium (total)	Rh	mg/l				<0,00001				<0,00001			
Scandium (total)	Sc	mg/l				<0,0001				<0,0001			
Samarium (total)	Sm	mg/l				<0,00001				<0,00001			
Tantalum (total)	Ta	mg/l				<0,0001				<0,0001			
Terbium (total)	Tb	mg/l				<0,00001				<0,00001			
Tellurium (total)	Te	mg/l				<0,0001				<0,0001			
Thorium (total)	Th	mg/l				<0,0001				<0,0001			
Thulium (total)	Tm	mg/l				<0,00001				<0,00001			
Ytterbium (total)	Yb	mg/l				<0,00001				<0,00001			

Résultats HCT – CV5-WR-HCT-5

Analyse	Symbole	Unité	Sem. #88	Sem. #89
			2025-01-02	2025-01-09
Volume du lixiviat	V	mL	992	972
pH	pH	No unit	6,51	7,02
Alkalinité	Alkalinité	$mgCaCO_3/l$	4	
Conductivité	Conductivité	µS/cm	25	22
Acidité	Acidité	$mgCaCO_3/l$	2	
Fluoride	F	mg/l	<0,07	
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	
Sulfate	SO_4^{2-}	mg/l	4	
Chlore	Cl^-	mg/l	<1,0	
Nitrite	NO_2^-	mgN/l	<0,03	
Nitrate	NO_3^-	mgN/l	<0,06	
Bromide	Br	mg/l	<0,3	
Mercure	Hg	mg/l	<0,00001	
Argent	Ag	mg/l	<0,00005	
Aluminum	Al	mg/l	0,022	
Arsenic	As	mg/l	0,0772	
Baryum	Ba	mg/l	0,00012	
Beryllium	Be	mg/l	<0,000007	
Bore	B	mg/l	<0,002	
Bismuth	Bi	mg/l	<0,00001	
Calcium	Ca	mg/l	3,55	
Cadmium	Cd	mg/l	<0,000003	
Cobalt	Co	mg/l	0,000228	
Chrome	Cr	mg/l	<0,00008	
Cuivre	Cu	mg/l	<0,001	
Fer	Fe	mg/l	<0,007	
Potassium	K	mg/l	0,037	
Lithium	Li	mg/l	0,0039	
Magnésium	Mg	mg/l	0,102	
Manganese	Mn	mg/l	0,0015	
Molybdène	Mo	mg/l	<0,0004	
Sodium	Na	mg/l	0,04	
Nickel	Ni	mg/l	0,0011	
Plomb	Pb	mg/l	<0,00009	
Antimoine	Sb	mg/l	<0,0188	
Sélénium	Se	mg/l	0,00004	
Etain	Sn	mg/l	<0,00006	
Strontium	Sr	mg/l	0,00306	
Titane	Ti	mg/l	<0,0001	
Thallium	Th	mg/l	0,000005	
Uranium	U	mg/l	0,000086	
Vanadium	V	mg/l	0,00025	
Tungstène	W	mg/l	<0,0002	
Yttrium	Y	mg/l	<0,00002	
Zinc	Zn	mg/l	<0,002	
Gold (total)	Au	mg/l	<0,00001	
Cérium (total)	Ce	mg/l	0,00001	
Césium (total)	Cs	mg/l	0,0057	
Dysprosium (total)	Dy	mg/l	<0,00001	
Erbium (total)	Er	mg/l	<0,00001	
Europium (total)	Eu	mg/l	<0,00001	
Gallium (total)	Ga	mg/l	<0,0001	
Gadolinium (total)	Gd	mg/l	<0,00001	
Germanium (total)	Ge	mg/l	<0,0001	
Hafnium (total)	Hf	mg/l	<0,0001	
Holmium (total)	Ho	mg/l	<0,00001	
Indium (total)	In	mg/l	<0,00001	
Iridium (total)	Ir	mg/l	<0,00001	
Lanthanum (total)	La	mg/l	0,00001	
Lutetium (total)	Lu	mg/l	<0,0001	
Niobium (total)	Nb	mg/l	<0,00002	
Néodymium (total)	Nd	mg/l	<0,00001	
Osmium (total)	Os	mg/l	<0,0001	
Palladium (total)	Pd	mg/l	<0,0001	
Praseodymium (total)	Pr	mg/l	<0,00001	
Platinum (total)	Pt	mg/l	<0,0001	
Rubidium (total)	Rb	mg/l	0,0018	
Rhenium (total)	Re	mg/l	<0,0001	
Rhodium (total)	Rh	mg/l	<0,00001	
Scandium (total)	Sc	mg/l	<0,0001	
Samarium (total)	Sm	mg/l	<0,00001	
Tantalum (total)	Ta	mg/l	<0,0001	
Terbium (total)	Tb	mg/l	<0,00001	
Tellurium (total)	Te	mg/l	<0,0001	
Thorium (total)	Th	mg/l	<0,0001	
Thulium (total)	Tm	mg/l	<0,00001	
Ytterbium (total)	Yb	mg/l	<0,00001	

Résultats HCT – CV5-WR-HCT-5

Analyse	Symbole	Unité	Sem. #90	Sem. #91	Sem. #92	Sem. #93	Sem. #94	Sem. #95	Sem. #96	Sem. #97	Sem. #98	Sem. #99	Sem. #100
			2025-01-16	2025-01-23	2025-01-30	2025-02-06	2025-02-13	2025-02-20	2025-02-27	2025-03-06	2025-03-13	2025-03-20	2025-03-27
Volume du lixiviat	V	mL	976	1016	988	945	940	956	977	1002	945	952	926
pH	pH	No unit	6,5	6,86	6,81	6,77	7,43	6,55	6,78	6,99	6,72	7,36	6,64
Alkalinité	Alkalinité	$mgCaCO_3/l$			5				<3,0				<3,0
Conductivité	Conductivité	µS/cm	24	24	22	25	21	31	20	24	24	24	23
Acidité	Acidité	$mgCaCO_3/l$			<2,0				2				2
Fluoride	F	mg/l			<0,07				<0,12				<0,07
Phosphore réactif total	PO_4^{3-}-P	mg/l			<0,03				<0,03				<0,03
Sulfate	SO_4^{2-}	mg/l			6				5				5
Chlore	Cl^-	mg/l			<1,0				<1,0				<1,0
Nitrite	NO_2^-	mgN/l			<0,03				<0,03				<0,03
Nitrate	NO_3^-	mgN/l			<0,06				<0,06				<0,06
Bromide	Br	mg/l			<0,3				<0,3				<0,3
Mercure	Hg	mg/l			<0,00001				<0,00001				<0,00001
Argent	Ag	mg/l			<0,00005				<0,00005				<0,00005
Aluminum	Al	mg/l			0,02				0,019				0,021
Arsenic	As	mg/l			0,0815				0,0903				0,0858
Baryum	Ba	mg/l			0,00018				0,00096				0,00012
Beryllium	Be	mg/l			<0,000007				<0,000007				<0,000007
Bore	B	mg/l			<0,002				<0,002				<0,002
Bismuth	Bi	mg/l			<0,00001				<0,00001				<0,00001
Calcium	Ca	mg/l			3,72				3,31				3,55
Cadmium	Cd	mg/l			<0,000003				0,000003				<0,000003
Cobalt	Co	mg/l			0,000242				0,000271				0,000200
Chrome	Cr	mg/l			<0,00008				<0,00008				<0,00008
Cuivre	Cu	mg/l			<0,001				<0,001				<0,001
Fer	Fe	mg/l			<0,007				<0,007				<0,007
Potassium	K	mg/l			0,044				0,042				0,047
Lithium	Li	mg/l			0,0041				0,0038				0,0036
Magnésium	Mg	mg/l			0,115				0,095				0,103
Manganese	Mn	mg/l			0,00158				0,00167				0,00134
Molybdène	Mo	mg/l			<0,0004				<0,0004				<0,0004
Sodium	Na	mg/l			0,04				0,04				0,04
Nickel	Ni	mg/l			0,0012				0,0013				0,0011
Plomb	Pb	mg/l			<0,00009				<0,00009				<0,00009
Antimoine	Sb	mg/l			<0,0213				<0,018				<0,0167
Sélénium	Se	mg/l			0,00004				0,00004				0,00004
Etain	Sn	mg/l			0,00007				<0,00006				<0,00006
Strontium	Sr	mg/l			0,0032				0,00457				0,00283
Titane	Ti	mg/l			<0,0001				<0,0001				<0,0001
Thallium	Th	mg/l			0,000005				<0,000005				<0,000006
Uranium	U	mg/l			0,000018				0,000012				0,000036
Vanadium	V	mg/l			0,00026				0,00025				0,00026
Tungstène	W	mg/l			<0,0002				<0,0002				<0,0002
Yttrium	Y	mg/l			<0,00002				<0,00002				<0,00002
Zinc	Zn	mg/l			<0,002				<0,002				<0,002
Gold (total)	Au	mg/l			<0,00001				<0,00001				<0,00001
Cérium (total)	Ce	mg/l			0,00001				0,00001				<0,00001
Césium (total)	Cs	mg/l			0,0059				0,0053				0,0059
Dysprosium (total)	Dy	mg/l			<0,00001				<0,00001				<0,00001
Erbium (total)	Er	mg/l			<0,00001				<0,00001				<0,00001
Europium (total)	Eu	mg/l			<0,00001				<0,00001				<0,00001
Gallium (total)	Ga	mg/l			<0,0001				<0,0001				<0,0001
Gadolinium (total)	Gd	mg/l			<0,00001				<0,00001				<0,00001
Germanium (total)	Ge	mg/l			<0,0001				<0,0001				<0,0001
Hafnium (total)	Hf	mg/l			<0,0001				<0,0001				<0,0001
Holmium (total)	Ho	mg/l			<0,00001				<0,00001				<0,00001
Indium (total)	In	mg/l			<0,00001				<0,00001				<0,00001
Iridium (total)	Ir	mg/l			<0,00001				<0,00001				<0,00001
Lanthanum (total)	La	mg/l			0,00001				0,00001				<0,00001
Lutetium (total)	Lu	mg/l			<0,0001				<0,0001				<0,0001
Niobium (total)	Nb	mg/l			<0,00001				<0,00001				<0,00001
Néodymium (total)	Nd	mg/l			<0,00001				<0,00001				<0,00001
Osmium (total)	Os	mg/l			<0,0001				<0,0001				<0,0001
Palladium (total)	Pd	mg/l			<0,0001				<0,0001				<0,0001
Praseodymium (total)	Pr	mg/l			<0,00001				<0,00001				<0,00001
Platinum (total)	Pt	mg/l			<0,0001				<0,0001				<0,0001
Rubidium (total)	Rb	mg/l			0,0019				0,0017				0,0019
Rhenium (total)	Re	mg/l			<0,0001				<0,0001				<0,0001
Rhodium (total)	Rh	mg/l			<0,00001				<0,00001				<0,00001
Scandium (total)	Sc	mg/l			<0,0001				<0,0001				<0,0001
Samarium (total)	Sm	mg/l			<0,00001				<0,00001				<0,00001
Tantalum (total)	Ta	mg/l			<0,0001				<0,0001				<0,0001
Terbium (total)	Tb	mg/l			<0,00001				<0,00001				<0,00001
Tellurium (total)	Te	mg/l			<0,0001				<0,0001				<0,0001
Thorium (total)	Th	mg/l			<0,0001				<0,0001				<0,0001
Thulium (total)	Tm	mg/l			<0,00001				<0,00001				<0,00001
Ytterbium (total)	Yb	mg/l			<0,00001				<0,00001				<0,00001

Résultats HCT – CV5-WR-HCT-5 (DUP)

Analyse	Symbole	Unité	Sem. #0	Sem. #1	Sem. #2	Sem. #3	Sem. #4	Sem. #5	Sem. #6	Sem. #7	Sem. #8	Sem. #9	Sem. #10
			2023-04-27	2023-05-04	2023-05-11	2023-05-18	2023-05-25	2023-06-01	2023-06-08	2023-06-15	2023-06-22	2023-06-29	2023-07-06
Volume du lixiviat	V	mL	824	957	975	965	971	1002	967	1001	961	956	922
pH	pH	No unit	8,32	7,84	7,17	7,47	7,36	6,98	6,92	7,35	7,35	7,18	7,15
Alkalinité	Alkalinité	$mgCaCO_3/l$	14	8	6	8	7	7	4	7	6	5	5
Conductivité	Conductivité	µS/cm	33	36	38	42	31	35	25	27	22	23	25
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2,0	2	2	2	2	2	2	2	2	2
Fluoride	F	mg/l	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<0,03	<0,07	<0,08	<0,12	<0,08	<0,04	<0,08	<0,08	<0,03	<0,05
Sulfate	SO_4^{2-}	mg/l	2	5	8	7	7	7	5	4	4	4	6
Chlore	Cl^-	mg/l	2	2	3	1	1	1	<1,0	<1,0	1	1	1
Nitrite	NO_2^-	mgN/l	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Nitrate	NO_3^-	mgN/l	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,07	<0,06	<0,06	<0,06
Bromide	Br	mg/l	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3
Mercure	Hg	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,154	0,040	0,031	0,025	0,029	0,021	0,026	0,027	0,033	0,040	0,033
Arsenic	As	mg/l	0,0373	0,2330	0,3250	0,3330	0,3830	0,3660	0,2800	0,3150	0,2930	0,2810	0,3370
Baryum	Ba	mg/l	0,00041	0,00039	0,00039	0,00037	0,00045	0,00043	0,00026	0,00036	0,00032	0,00026	0,00026
Beryllium	Be	mg/l	<0,000007	<0,000007	0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007
Bore	B	mg/l	0,014	0,027	0,022	0,019	0,018	0,015	0,008	0,010	0,007	0,006	0,006
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	4,23	3,35	3,28	3,42	3,94	4,13	2,81	3,67	3,08	2,92	3,48
Cadmium	Cd	mg/l	<0,000004	<0,000003	<0,000003	0,000017	0,000003	<0,000004	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003
Cobalt	Co	mg/l	0,000063	0,000079	0,000146	0,000186	0,000217	0,000452	0,000189	0,000342	0,000238	0,000231	0,000227
Chrome	Cr	mg/l	0,00025	0,00008	<0,00008	0,00010	<0,00008	<0,00052	<0,00008	<0,0001	<0,00008	0,00009	<0,00008
Cuivre	Cu	mg/l	0,0014	0,0003	<0,0002	<0,0002	0,0003	0,0004	<0,001	<0,0003	<0,0004	<0,0014	0,0002
Fer	Fe	mg/l	<0,007	0,007	0,007	0,007	<0,007	0,020	0,007	0,008	<0,007	0,007	0,021
Potassium	K	mg/l	0,77	0,60	0,57	0,469	0,438	0,430	0,304	0,295	0,273	0,217	0,269
Lithium	Li	mg/l	0,1090	0,1370	0,1190	0,0979	0,0806	0,0695	0,0441	0,0398	0,0341	0,0306	0,0382
Magnésium	Mg	mg/l	0,308	0,514	0,640	0,605	0,619	0,708	0,501	0,564	0,469	0,433	0,571
Manganese	Mn	mg/l	0,00081	0,00368	0,00356	0,00408	0,00448	0,00554	0,00269	0,00435	0,00346	0,00251	0,00257
Molybdène	Mo	mg/l	0,00036	0,00020	0,00018	0,00025	0,00016	0,00006	0,00123	0,00014	0,00110	0,00031	0,00011
Sodium	Na	mg/l	1,96	2,58	2,04	1,29	1,01	0,90	0,51	0,52	0,36	0,29	0,33
Nickel	Ni	mg/l	0,0009	0,0016	0,0017	0,0021	0,0023	0,0039	0,0020	0,0025	0,0017	0,0012	0,0012
Plomb	Pb	mg/l	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009
Antimoine	Sb	mg/l	0,0177	0,1410	0,1200	0,1350	0,1180	0,1490	0,0826	0,1180	0,0802	0,0746	0,0841
Sélénium	Se	mg/l	0,00007	0,00015	0,00028	0,00009	0,00014	0,00014	0,00012	0,00013	0,00011	0,00008	0,00009
Etain	Sn	mg/l	0,00037	0,00014	0,00011	0,00006	0,00006	0,00006	0,00006	0,00006	<0,00006	<0,00009	0,00006
Strontium	Sr	mg/l	0,0103	0,0135	0,01544	0,0142	0,01620	0,0153	0,0119	0,01252	0,0106	0,01049	0,0122
Titane	Ti	mg/l	0,00020	0,00018	0,00018	0,00052	0,00039	<0,00008	0,00012	0,00036	0,00023	0,00020	0,00019
Thallium	Th	mg/l	0,000019	<0,000005	0,000010	<0,000005	<0,000008	0,000011	<0,000008	<0,000007	<0,000005	<0,000007	<0,000005
Uranium	U	mg/l	0,003480	0,000030	0,000156	0,000150	0,000156	0,000046	0,000480	0,000037	0,00005	0,000051	0,000065
Vanadium	V	mg/l	0,00115	0,00114	0,00111	0,00097	0,00104	0,00094	0,00078	0,00087	0,00081	0,00082	0,00095
Tungstène	W	mg/l	0,00153	0,00333	0,00261	0,00191	0,00152	0,00097	0,00079	0,00074	0,00054	0,00045	0,00056
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,005	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l	0,00001	<0,00001	<0,00001	<0,00001	0,00001	<0,00001	<0,00001	<0,00001	0,00001	0,00001	<0,00001
Cérium (total)	Ce	mg/l	0,00001	0,00001	0,00001	0,00001	0,00001	<0,00001	0,00001	0,00001	0,00001	0,00001	0,00001
Césium (total)	Cs	mg/l	0,0349	0,0270	0,0268	0,0255	0,0237	0,0202	0,0173	0,0179	0,0178	0,0138	0,0152
Dysprosium (total)	Dy	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Erbium (total)	Er	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Europium (total)	Eu	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Gallium (total)	Ga	mg/l	0,0001	<0,0001	<0,0001	<0,0001	<0,0001	0,0001	<0,0001	0,0001	<0,0001	<0,0001	<0,0001
Gadolinium (total)	Gd	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Germanium (total)	Ge	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Hafnium (total)	Hf	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Holmium (total)	Ho	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Indium (total)	In	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Iridium (total)	Ir	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Lanthanum (total)	La	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Lutetium (total)	Lu	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Niobium (total)	Nb	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Néodymium (total)	Nd	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Osmium (total)	Os	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Palladium (total)	Pd	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Praseodymium (total)	Pr	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Platinum (total)	Pt	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Rubidium (total)	Rb	mg/l	0,0209	0,0134	0,0121	0,0105	0,0099	0,0094	0,0064	0,0074	0,0064	0,0057	0,0063
Rhenium (total)	Re	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Rhodium (total)	Rh	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Scandium (total)	Sc	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Samarium (total)	Sm	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Tantalum (total)	Ta	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Terbium (total)	Tb	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Tellurium (total)	Te	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Thorium (total)	Th	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Thulium (total)	Tm	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Ytterbium (total)	Yb	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001

Résultats HCT – CV5-WR-HCT-5 (DUP)

Analyse	Symbole	Unité	Sem. #11	Sem. #12	Sem. #13	Sem. #14	Sem. #15	Sem. #16	Sem. #17	Sem. #18	Sem. #19	Sem. #20	Sem. #21
			2023-07-13	2023-07-20	2023-07-27	2023-08-03	2023-08-10	2023-08-17	2023-08-24	2023-08-31	2023-09-07	2023-09-14	2023-09-21
Volume du lixiviat	V	mL	974	996	977	958	898	956	921	924	916	972	962
pH	pH	No unit	7,15	7,16	7,08	6,90	6,75	7,11	7,02	7,13	6,84	7,16	6,83
Alkalinité	Alkalinité	$mgCaCO_3/l$	4	5	5	3	7	4	4	4	4	4	4
Conductivité	Conductivité	µS/cm	20	19	18	16	24	24	18	20	17	17	16
Acidité	Acidité	$mgCaCO_3/l$	2	2	2	2	3	2	2	2	2	2	2
Fluoride	F	mg/l				<0,06	<0,06	<0,06		<0,06		0,06	
Phosphore réactif total	PO_4^{3-}-P	mg/l					<0,06	<0,06	<0,06	<0,06	<0,04	<0,03	<0,03
Sulfate	SO_4^{2-}	mg/l	3	3	3	3	4	3	3	3	4	<3,0	2
Chlore	Cl^-	mg/l					1	<1,0		<1,0		1	
Nitrite	NO_2^-	mgN/l	0,04	0,03	0,04	0,03	<0,03	<0,03		<0,03		<0,03	
Nitrate	NO_3^-	mgN/l					<0,06	<0,06		<0,06		<0,06	
Bromide	Br	mg/l					<0,3	<0,3		<0,3		<0,3	
Mercure	Hg	mg/l	0,00005	0,00005	0,00005	0,00005	<0,00001	<0,00001		<0,00001		<0,00001	
Argent	Ag	mg/l					<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	0,00016	<0,00005
Aluminum	Al	mg/l	0,041	0,026	0,026	0,027	0,029	0,023	0,027	0,031	0,036	0,022	0,024
Arsenic	As	mg/l	0,2490	0,2120	0,2280	0,1850	0,3170	0,2340	0,2500	0,3000	0,2420	0,2080	0,168
Baryum	Ba	mg/l	0,00030	0,00024	0,00016	0,00022	0,00024	0,00021	0,00025	0,00026	0,00030	0,00021	0,00024
Beryllium	Be	mg/l	0,000008	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007
Bore	B	mg/l	0,005	0,003	0,003	0,003	0,004	0,003	0,003	0,004	0,003	0,003	0,002
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	2,40	2,40	2,01	2,36	3,10	2,37	2,58	2,71	2,52	2,23	2,33
Cadmium	Cd	mg/l	<0,000003	<0,000003	<0,000003	<0,000003	0,000003	0,000005	<0,000003	<0,000003	<0,000003	0,000003	<0,000003
Cobalt	Co	mg/l	0,000355	0,000300	0,000267	0,000186	0,000119	0,000152	0,000175	0,000156	0,000166	0,000208	0,000217
Chrome	Cr	mg/l	0,00030	0,00008	0,00065	<0,00008	<0,00008	0,00012	<0,00008	0,00014	<0,00012	<0,00008	<0,00008
Cuivre	Cu	mg/l	<0,0002	<0,0002	0,0026	0,0003	0,0002	0,0002	<0,0002	<0,0012	0,0005	<0,0002	<0,0003
Fer	Fe	mg/l	0,041	0,007	<0,007	<0,007	0,007	<0,007	<0,009	0,007	<0,011	<0,007	0,007
Potassium	K	mg/l	0,174	0,147	0,106	0,150	0,246	0,153	0,165	0,168	0,167	0,136	0,104
Lithium	Li	mg/l	0,0277	0,0156	0,0130	0,0130	0,0283	0,0149	0,0167	0,0151	0,0163	0,0120	0,0123
Magnésium	Mg	mg/l	0,414	0,321	0,235	0,278	0,53	0,317	0,365	0,351	0,373	0,284	0,253
Manganese	Mn	mg/l	0,00347	0,00253	0,01460	0,00224	0,00138	0,00201	0,00339	0,00192	0,00165	0,00175	0,00189
Molybdène	Mo	mg/l	0,00004	0,00036	0,00253	0,00021	0,00005	0,00022	0,00008	0,00025	0,00014	0,00048	0,00052
Sodium	Na	mg/l	0,19	0,13	0,12	0,14	0,22	0,11	0,10	0,14	0,14	0,08	0,09
Nickel	Ni	mg/l	0,0010	0,0012	0,0201	0,0008	0,0006	0,0008	0,0009	0,0008	0,0007	0,0010	0,0009
Plomb	Pb	mg/l	<0,00009	<0,00009	<0,00009	<0,00013	0,00009	0,00009	<0,00009	<0,00009	<0,00009	0,00022	0,00009
Antimoine	Sb	mg/l	0,0709	0,0541	0,0469	0,0366	0,0729	0,0555	0,0493	0,0531	0,0368	0,0502	0,0363
Sélénium	Se	mg/l	0,00010	0,00007	0,00007	0,00006	0,00010	0,00006	0,00010	0,00009	0,00006	0,00004	0,00006
Etain	Sn	mg/l	<0,00006	<0,00006	0,00017	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006
Strontium	Sr	mg/l	0,0080	0,0071	0,00599	0,0070	0,0105	0,0074	0,0079	0,0083	0,0080	0,0066	0,00628
Titane	Ti	mg/l	0,00219	0,00023	0,00015	0,00017	0,00015	0,00010	0,00017	0,00017	0,00040	0,00007	0,00007
Thallium	Th	mg/l	0,000018	<0,000007	<0,000005	<0,000005	<0,000005	<0,000005	<0,000008	<0,000006	<0,000007	0,000005	<0,000005
Uranium	U	mg/l	0,000019	0,00487	0,000087	0,000019	0,000044	0,000029	0,00010	0,000328	0,001660	0,00057	0,00002
Vanadium	V	mg/l	0,00081	0,00058	0,00058	0,00055	0,00074	0,00064	0,00066	0,00094	0,00073	0,00063	0,00055
Tungstène	W	mg/l	0,00038	0,00021	0,00015	0,00017	0,00024	0,00016	0,00017	0,00066	0,00015	0,00011	0,0001
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l					0,00001	<0,00001		<0,00001		<0,00001	
Cérium (total)	Ce	mg/l					<0,00001	<0,00001		0,00001		<0,00001	
Césium (total)	Cs	mg/l					0,0144	0,0124		0,0134		0,0108	
Dysprosium (total)	Dy	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Erbium (total)	Er	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Europium (total)	Eu	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Gallium (total)	Ga	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Gadolinium (total)	Gd	mg/l					<0,00001	<0,00001		<0,00001		<0,00001	
Germanium (total)	Ge	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Hafnium (total)	Hf	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Holmium (total)	Ho	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Indium (total)	In	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Iridium (total)	Ir	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Lanthanum (total)	La	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Lutetium (total)	Lu	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Niobium (total)	Nb	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Néodymium (total)	Nd	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Osmium (total)	Os	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Palladium (total)	Pd	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Praseodymium (total)	Pr	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Platinum (total)	Pt	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Rubidium (total)	Rb	mg/l					0,0065	0,0045		0,0046		0,0037	
Rhenium (total)	Re	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Rhodium (total)	Rh	mg/l					<0,00001	<0,00001		<0,00001		<0,00001	
Scandium (total)	Sc	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Samarium (total)	Sm	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Tantalum (total)	Ta	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Terbium (total)	Tb	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Tellurium (total)	Te	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Thorium (total)	Th	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Thulium (total)	Tm	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Ytterbium (total)	Yb	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	

Résultats HCT – CV5-WR-HCT-5 (DUP)

Analyse	Symbole	Unité	Sem. #22	Sem. #23	Sem. #24	Sem. #25	Sem. #26	Sem. #27	Sem. #28	Sem. #29	Sem. #30	Sem. #31	Sem. #32
			2023-09-28	2023-10-05	2023-10-12	2023-10-19	2023-10-26	2023-11-02	2023-11-09	2023-11-16	2023-11-23	2023-11-30	2023-12-07
Volume du lixiviat	V	mL	949	945	1003	941	962	992	952	953	927	956	1027
pH	pH	No unit	6,98	6,8	6,97	6,75	6,72	6,89	7,03	6,93	6,83	6,97	6,89
Alkalinité	Alkalinité	$mgCaCO_3/l$	3	4	4	3	2	3	3	3	3	3	3
Conductivité	Conductivité	µS/cm	16	15	16	15	14	14	14	14	17	14	20
Acidité	Acidité	$mgCaCO_3/l$	<2,0	2	<2,0	2	2	<2,0	2	<2,0	2	<2,0	<2,0
Fluoride	F	mg/l				<0,06					<0,06		
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<0,04	<0,04	<0,05	<0,03	<0,05	<0,04	<0,03	<0,03	<0,03	<0,03
Sulfate	SO_4^{2-}	mg/l	3	3	3	3	3	3	3	2	4	3	2
Chlore	Cl^-	mg/l				1					<1,0		
Nitrite	NO_2^-	mgN/l				0,03					<0,03		
Nitrate	NO_3^-	mgN/l				0,06					<0,06		
Bromide	Br	mg/l				0,3					<0,3		
Mercure	Hg	mg/l				<0,00001					<0,00001		
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,030	0,028	0,022	0,03	0,024	0,020	0,032	0,023	0,024	0,022	0,017
Arsenic	As	mg/l	0,1860	0,168	0,177	0,142	0,153	0,1440	0,156	0,151	0,204	0,1440	0,1560
Baryum	Ba	mg/l	0,00018	0,00012	0,00017	0,00014	0,00016	0,00020	0,00019	0,00017	0,00034	0,00025	0,00033
Beryllium	Be	mg/l	<0,000007	<0,000007	0,000009	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	0,00001	<0,000007	<0,000007
Bore	B	mg/l	0,002	0,002	0,003	0,002	0,002	0,002	0,002	0,002	0,002	0,002	0,002
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	2,36	2,1	2,36	2,28	2,17	2,32	2,52	2,02	3,19	2,05	2,60
Cadmium	Cd	mg/l	0,000003	<0,000003	0,000003	<0,000003	<0,000003	0,000003	<0,000003	0,000003	0,000004	0,000003	<0,000003
Cobalt	Co	mg/l	0,000182	0,00018	0,00023	0,000203	0,00016	0,000206	0,000151	0,000222	0,000198	0,000153	0,000251
Chrome	Cr	mg/l	<0,00008	<0,00008	<0,00008	<0,00021	<0,00008	<0,00008	<0,00011	<0,00008	<0,00008	<0,00008	<0,00008
Cuivre	Cu	mg/l	<0,0007	<0,0005	0,0003	<0,0003	<0,0002	<0,0002	<0,0002	0,0002	<0,0002	<0,0002	<0,0002
Fer	Fe	mg/l	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007
Potassium	K	mg/l	0,120	0,103	0,097	0,112	0,106	0,091	0,099	0,068	0,135	0,080	0,079
Lithium	Li	mg/l	0,0104	0,01	0,0103	0,0086	0,0081	0,0081	0,0086	0,0063	0,0115	0,0084	0,0072
Magnésium	Mg	mg/l	0,256	0,229	0,238	0,223	0,199	0,216	0,191	0,173	0,263	0,181	0,184
Manganese	Mn	mg/l	0,00157	0,00128	0,00201	0,0019	0,00142	0,00174	0,00184	0,00178	0,00216	0,00138	0,00190
Molybdène	Mo	mg/l	0,00021	0,00068	0,0003	0,00033	0,00005	0,00005	0,00016	0,00004	0,00007	0,00018	0,00038
Sodium	Na	mg/l	0,07	0,07	0,06	0,09	0,1	0,08	0,08	0,04	0,08	0,05	0,12
Nickel	Ni	mg/l	0,0007	0,0007	0,0009	0,0009	0,0007	0,0009	0,0007	0,0009	0,0012	0,0008	0,0012
Plomb	Pb	mg/l	0,00009	<0,00009	<0,00009	0,00009	0,00009	0,00009	<0,00009	<0,00023	<0,00009	0,00009	<0,00009
Antimoine	Sb	mg/l	0,0301	0,031	0,0417	0,0286	0,0268	0,0339	0,0238	0,0263	0,0435	0,0247	0,0407
Sélénium	Se	mg/l	0,00005	0,00007	0,00004	0,00018	0,00008	0,00004	0,00005	0,00004	0,00005	0,00004	0,00012
Etain	Sn	mg/l	<0,00006	<0,00006	<0,00006	0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006
Strontium	Sr	mg/l	0,0067	0,00593	0,00635	0,00611	0,00566	0,0058	0,0055	0,00558	0,00641	0,0050	0,0066
Titane	Ti	mg/l	0,00017	<0,00011	0,0001	0,00046	0,00007	0,00007	<0,00008	0,00009	0,00019	0,00007	<0,00007
Thallium	Th	mg/l	0,000010	<0,000005	<0,000007	<0,000005	<0,000005	0,000005	<0,000005	<0,000005	<0,000007	<0,000005	<0,000005
Uranium	U	mg/l	0,000890	0,00241	0,000239	0,000025	0,000042	0,000055	0,00114	0,000026	0,000123	0,00015	0,000155
Vanadium	V	mg/l	0,00055	0,00052	0,00057	0,00051	0,00044	0,00044	0,00049	0,00045	0,00057	0,00042	0,00045
Tungstène	W	mg/l	0,00010	0,00008	0,0001	0,00005	0,00006	0,00006	0,00006	0,00006	0,00005	0,00006	0,00009
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l				0,00001					<0,00001		
Cérium (total)	Ce	mg/l				0,00001					<0,00001		
Césium (total)	Cs	mg/l				0,0097					0,0089		
Dysprosium (total)	Dy	mg/l				0,0001					<0,0001		
Erbium (total)	Er	mg/l				0,0001					<0,0001		
Europium (total)	Eu	mg/l				0,0001					<0,0001		
Gallium (total)	Ga	mg/l				0,0001					<0,0001		
Gadolinium (total)	Gd	mg/l				0,00001					<0,00001		
Germanium (total)	Ge	mg/l				0,0001					<0,0001		
Hafnium (total)	Hf	mg/l				0,0001					<0,0001		
Holmium (total)	Ho	mg/l				0,0001					<0,0001		
Indium (total)	In	mg/l				0,0001					<0,0001		
Iridium (total)	Ir	mg/l				0,0001					<0,0001		
Lanthanum (total)	La	mg/l				0,0001					<0,0001		
Lutetium (total)	Lu	mg/l				0,0001					<0,0001		
Niobium (total)	Nb	mg/l				0,0001					<0,0001		
Néodymium (total)	Nd	mg/l				0,0001					<0,0001		
Osmium (total)	Os	mg/l				0,0001					<0,0001		
Palladium (total)	Pd	mg/l				0,0001					<0,0001		
Praseodymium (total)	Pr	mg/l				0,0001					<0,0001		
Platinum (total)	Pt	mg/l				0,0001					<0,0001		
Rubidium (total)	Rb	mg/l				0,003					0,0037		
Rhenium (total)	Re	mg/l				0,0001					<0,0001		
Rhodium (total)	Rh	mg/l				0,00001					<0,00001		
Scandium (total)	Sc	mg/l				0,0001					<0,0001		
Samarium (total)	Sm	mg/l				0,0001					<0,0001		
Tantalum (total)	Ta	mg/l				0,0001					<0,0001		
Terbium (total)	Tb	mg/l				0,0001					<0,0001		
Tellurium (total)	Te	mg/l				0,0001					<0,0001		
Thorium (total)	Th	mg/l				0,0001					<0,0001		
Thulium (total)	Tm	mg/l				0,0001					<0,0001		
Ytterbium (total)	Yb	mg/l				0,0001					<0,0001		

Résultats HCT – CV5-WR-HCT-5 (DUP)

Analyse	Symbole	Unité	Sem. #33	Sem. #34	Sem. #35	Sem. #36	Sem. #37	Sem. #38	Sem. #39	Sem. #40	Sem. #41	Sem. #42	Sem. #43
			2023-12-14	2023-12-21	2023-12-28	2024-01-04	2024-01-11	2024-01-18	2024-01-25	2024-02-01	2024-02-08	2024-02-15	2024-02-22
Volume du lixiviat	V	mL	940	991	975	919	973	954	965	911	985	994	944
pH	pH	No unit	6,83	6,57	6,98	6,96	6,90	6,76	6,87	6,81	6,90	6,95	6,86
Alkalinité	Alkalinité	$mgCaCO_3/l$	3	3	4	4	3	2	3	3	3	3	3
Conductivité	Conductivité	µS/cm	13	19	18	18	16	16	16	14	14	19	15
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0
Fluoride	F	mg/l	<0,06		<0,06					<0,06			
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Sulfate	SO_4^{2-}	mg/l	2	3	3	3	3	3	4	3	3	2	3
Chlore	Cl^-	mg/l	***		<1,0					1			
Nitrite	NO_2^-	mgN/l	***		<0,03					<0,03			
Nitrate	NO_3^-	mgN/l	***		<0,06					<0,06			
Bromide	Br	mg/l	***		<0,3					<0,3			
Mercure	Hg	mg/l	***		<0,00001					<0,00001			
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,019	0,019	0,024	0,025	0,025	0,034	0,030	0,032	0,025	0,021	0,024
Arsenic	As	mg/l	0,1150	0,1140	0,1200	0,1260	0,1110	0,1240	0,1230	0,1130	0,1140	0,1030	0,1190
Baryum	Ba	mg/l	0,00014	0,00014	0,00015	0,00015	0,00023	0,00012	0,00014	0,00016	0,00032	0,00011	0,00022
Beryllium	Be	mg/l	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007
Bore	B	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	2,05	2,09	2,47	2,30	2,30	2,56	2,51	2,45	2,04	1,77	2,36
Cadmium	Cd	mg/l	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	0,000003	<0,000004	<0,000003	<0,000003	<0,000003
Cobalt	Co	mg/l	0,000216	0,000234	0,000235	0,000176	0,000178	0,000212	0,000175	0,000156	0,000150	0,000173	0,000213
Chrome	Cr	mg/l	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008
Cuivre	Cu	mg/l	<0,0002	0,0002	<0,0002	<0,0002	0,0002	<0,0002	<0,002	<0,002	<0,002	<0,001	<0,001
Fer	Fe	mg/l	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	0,007	<0,007	<0,007	<0,007
Potassium	K	mg/l	0,064	0,055	0,068	0,080	0,075	0,072	0,085	0,086	0,062	0,043	0,060
Lithium	Li	mg/l	0,0063	0,0062	0,0070	0,0072	0,0076	0,0070	0,0071	0,0067	0,0053	0,0044	0,0056
Magnésium	Mg	mg/l	0,151	0,144	0,159	0,150	0,155	0,163	0,155	0,153	0,112	0,094	0,124
Manganese	Mn	mg/l	0,00145	0,00142	0,00175	0,00112	0,00131	0,00139	0,00170	0,00134	0,00112	0,00125	0,00143
Molybdène	Mo	mg/l	0,00047	0,00026	0,00009	0,00004	0,00011	0,00035	0,00040	<0,0004	<0,0004	<0,0004	<0,0004
Sodium	Na	mg/l	0,05	0,04	0,05	0,10	0,04	0,04	0,04	0,10	0,06	0,04	0,06
Nickel	Ni	mg/l	0,0009	0,0010	0,0010	0,0007	0,0009	0,0008	0,0009	0,0008	0,0007	0,0008	0,0010
Plomb	Pb	mg/l	0,00009	<0,00009	<0,00009	<0,00009	0,00009	<0,00009	<0,00009	<0,00021	<0,00009	<0,00009	<0,00009
Antimoine	Sb	mg/l	0,0242	0,0244	0,0239	0,0212	0,0254	0,0250	0,0226	0,0198	0,0194	0,0162	0,0187
Sélénium	Se	mg/l	0,00004	0,00005	0,00004	0,00004	0,00004	0,00004	0,00004	0,00004	0,00004	0,00004	0,00004
Etain	Sn	mg/l	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006
Strontium	Sr	mg/l	0,0047	0,0047	0,0052	0,0045	0,0044	0,0052	0,0053	0,00461	0,00411	0,00332	0,00493
Titane	Ti	mg/l	<0,00007	0,00007	<0,00007	0,00011	0,00008	0,00013	0,00020	0,0002	0,0001	<0,0001	<0,00012
Thallium	Th	mg/l	<0,000005	<0,000005	<0,000006	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005
Uranium	U	mg/l	0,000164	0,003570	0,00005	0,000058	0,000015	0,00006	0,00003	0,000312	0,000015	0,000012	0,000015
Vanadium	V	mg/l	0,00039	0,00039	0,00042	0,00038	0,00039	0,00041	0,00040	0,00040	0,00040	0,00036	0,00034
Tungstène	W	mg/l	0,00007	0,00005	0,00006	0,00006	0,00004	0,00006	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l			<0,00001					<0,00001			
Cérium (total)	Ce	mg/l			<0,00001					0,00001			
Césium (total)	Cs	mg/l			0,0078					0,0083			
Dysprosium (total)	Dy	mg/l			<0,0001					<0,00001			
Erbium (total)	Er	mg/l			<0,0001					<0,00001			
Europium (total)	Eu	mg/l			<0,0001					<0,00001			
Gallium (total)	Ga	mg/l			<0,0001					<0,0001			
Gadolinium (total)	Gd	mg/l			<0,00001					<0,00001			
Germanium (total)	Ge	mg/l			<0,0001					<0,0001			
Hafnium (total)	Hf	mg/l			<0,0001					<0,0001			
Holmium (total)	Ho	mg/l			<0,0001					<0,00001			
Indium (total)	In	mg/l			<0,0001					<0,00001			
Iridium (total)	Ir	mg/l			<0,0001					<0,00001			
Lanthanum (total)	La	mg/l			<0,0001					<0,00001			
Lutetium (total)	Lu	mg/l			<0,0001					<0,0001			
Niobium (total)	Nb	mg/l			<0,0001					<0,00001			
Néodymium (total)	Nd	mg/l			<0,0001					<0,00001			
Osmium (total)	Os	mg/l			<0,0001					<0,0001			
Palladium (total)	Pd	mg/l			<0,0001					<0,0001			
Praseodymium (total)	Pr	mg/l			<0,0001					<0,00001			
Platinum (total)	Pt	mg/l			<0,0001					<0,0001			
Rubidium (total)	Rb	mg/l			0,0025					0,0025			
Rhenium (total)	Re	mg/l			<0,0001					<0,0001			
Rhodium (total)	Rh	mg/l			<0,00001					<0,00001			
Scandium (total)	Sc	mg/l			<0,0001					<0,0001			
Samarium (total)	Sm	mg/l			<0,0001					<0,00001			
Tantalum (total)	Ta	mg/l			<0,0001					<0,0001			
Terbium (total)	Tb	mg/l			<0,0001					<0,00001			
Tellurium (total)	Te	mg/l			<0,0001					<0,0001			
Thorium (total)	Th	mg/l			<0,0001					<0,0001			
Thulium (total)	Tm	mg/l			<0,0001					<0,00001			
Ytterbium (total)	Yb	mg/l			<0,0001					<0,00001			

Résultats HCT – CV5-WR-HCT-5 (DUP)

Analyse	Symbole	Unité	Sem. #44	Sem. #45	Sem. #46	Sem. #47	Sem. #48	Sem. #49	Sem. #50	Sem. #51	Sem. #52	Sem. #53	Sem. #54
			2024-02-29	2024-03-07	2024-03-14	2024-03-21	2024-03-28	2024-04-04	2024-04-11	2024-04-18	2024-04-25	2024-05-02	2024-05-09
Volume du lixiviat	V	mL	948	949	969	944	920	968	949	977	970	953	935
pH	pH	No unit	6,81	6,84	6,99	6,89	6,94	6,83	6,84	6,73	6,86	6,77	6,95
Alkalinité	Alkalinité	$mgCaCO_3/l$	3	3	3	3	3	2	3	3	3	2	3
Conductivité	Conductivité	µS/cm	15	16	14	13	16	12	15	13	11	13	13
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0
Fluoride	F	mg/l		<0,06					<0,06				
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Sulfate	SO_4^{2-}	mg/l	2	4	3	3	4	3	3	2	2	3	3
Chlore	Cl^-	mg/l		<1,0					<1,0				
Nitrite	NO_2^-	mgN/l		<0,03					<0,03				
Nitrate	NO_3^-	mgN/l		<0,06					<0,06				
Bromide	Br	mg/l		<0,3					<0,3				
Mercure	Hg	mg/l		<0,00001					<0,00001				
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,021	0,026	0,018	0,019	0,025	0,018	0,024	0,019	0,021	0,021	0,024
Arsenic	As	mg/l	0,1510	0,1090	0,1090	0,1170	0,1300	0,1080	0,1180	0,0957	0,0921	0,0901	0,0966
Baryum	Ba	mg/l	0,00012	0,00020	0,00009	0,00012	0,00015	0,00012	0,00014	0,00011	0,00012	0,00011	0,00012
Beryllium	Be	mg/l	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007
Bore	B	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	2,58	2,47	2,06	2,02	2,17	1,81	2,49	2,03	1,99	2,25	2,37
Cadmium	Cd	mg/l	<0,000003	<0,000003	<0,000003	<0,000003	<0,000008	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003
Cobalt	Co	mg/l	0,000171	0,000231	0,000205	0,000193	0,000215	0,000182	0,000189	0,000161	0,000188	0,000192	0,000188
Chrome	Cr	mg/l	<0,00008	<0,0001	<0,00008	<0,0001	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008
Cuivre	Cu	mg/l	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001
Fer	Fe	mg/l	<0,007	<0,009	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007
Potassium	K	mg/l	0,082	0,077	0,052	0,059	0,060	0,055	0,055	0,046	0,044	0,058	0,054
Lithium	Li	mg/l	0,0065	0,0066	0,0058	0,0049	0,0051	0,0048	0,0054	0,0041	0,0040	0,0049	0,0047
Magnésium	Mg	mg/l	0,140	0,151	0,122	0,114	0,127	0,110	0,132	0,100	0,094	0,111	0,114
Manganese	Mn	mg/l	0,00102	0,00154	0,00100	0,00105	0,00089	0,00099	0,00102	0,00081	0,00114	0,00121	0,00123
Molybdène	Mo	mg/l	<0,0017	<0,0004	<0,0005	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004
Sodium	Na	mg/l	0,04	0,05	0,03	0,04	0,05	0,04	0,04	0,04	0,03	0,07	0,04
Nickel	Ni	mg/l	0,0015	0,0010	0,0008	0,0009	0,0010	0,0008	0,0008	0,0007	0,0009	0,0008	0,0008
Plomb	Pb	mg/l	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00014	<0,00009
Antimoine	Sb	mg/l	0,0326	0,0217	0,0196	0,0195	0,0178	0,0168	0,0177	0,0154	0,0139	0,0133	0,0152
Sélénium	Se	mg/l	0,00004	0,00004	0,00004	0,00005	0,00004	0,00004	0,00004	0,00004	0,00004	0,00004	0,00004
Etain	Sn	mg/l	<0,00006	<0,00006	<0,00033	<0,00006	<0,00006	<0,00008	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006
Strontium	Sr	mg/l	0,00448	0,00488	0,00399	0,00354	0,00426	0,00345	0,00442	0,00341	0,00331	0,00347	0,00385
Titane	Ti	mg/l	0,0001	<0,00014	<0,0001	0,0001	0,0002	<0,0001	0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Thallium	Th	mg/l	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005
Uranium	U	mg/l	0,000474	0,000041	0,000013	0,000016	0,000017	0,000014	0,000017	0,000031	0,000016	0,000019	0,000011
Vanadium	V	mg/l	0,00035	0,00032	0,00034	0,00034	0,00038	0,00037	0,00038	0,00031	0,00033	0,00029	0,00037
Tungstène	W	mg/l	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l		<0,00001					<0,00001				
Cérium (total)	Ce	mg/l		<0,00001					<0,00001				
Césium (total)	Cs	mg/l		0,0087					0,0076				
Dysprosium (total)	Dy	mg/l		<0,00001					<0,00001				
Erbium (total)	Er	mg/l		<0,00001					<0,00001				
Europium (total)	Eu	mg/l		<0,00001					<0,00001				
Gallium (total)	Ga	mg/l		<0,0001					<0,0001				
Gadolinium (total)	Gd	mg/l		<0,00001					<0,00001				
Germanium (total)	Ge	mg/l		<0,0001					<0,0001				
Hafnium (total)	Hf	mg/l		<0,0001					<0,0001				
Holmium (total)	Ho	mg/l		<0,00001					<0,00001				
Indium (total)	In	mg/l		<0,00001					<0,00001				
Iridium (total)	Ir	mg/l		<0,00001					<0,00001				
Lanthanum (total)	La	mg/l		<0,00001					<0,00001				
Lutetium (total)	Lu	mg/l		<0,0001					<0,0001				
Niobium (total)	Nb	mg/l		<0,00001					<0,00001				
Néodymium (total)	Nd	mg/l		<0,00001					<0,00001				
Osmium (total)	Os	mg/l		<0,0001					<0,0001				
Palladium (total)	Pd	mg/l		<0,0001					<0,0001				
Praseodymium (total)	Pr	mg/l		<0,00001					<0,00001				
Platinum (total)	Pt	mg/l		<0,0001					<0,0001				
Rubidium (total)	Rb	mg/l		0,0027					0,0024				
Rhenium (total)	Re	mg/l		<0,0001					<0,0001				
Rhodium (total)	Rh	mg/l		<0,00001					<0,00001				
Scandium (total)	Sc	mg/l		<0,0001					<0,0001				
Samarium (total)	Sm	mg/l		<0,00001					<0,00001				
Tantalum (total)	Ta	mg/l		<0,0001					<0,0001				
Terbium (total)	Tb	mg/l		<0,00001					<0,00001				
Tellurium (total)	Te	mg/l		<0,0001					<0,0001				
Thorium (total)	Th	mg/l		<0,0001					<0,0001				
Thulium (total)	Tm	mg/l		<0,00001					<0,00001				
Ytterbium (total)	Yb	mg/l		<0,00001					<0,00001				

Résultats HCT – CV5-WR-HCT-5 (DUP)

Analyse	Symbole	Unité	Sem. #55	Sem. #56	Sem. #57	Sem. #58	Sem. #59	Sem. #60	Sem. #61	Sem. #62	Sem. #63	Sem. #64	Sem. #65
			2024-05-16	2024-05-23	2024-05-30	2024-06-06	2024-06-13	2024-06-20	2024-06-27	2024-07-04	2024-07-11	2024-07-18	2024-07-25
Volume du lixiviat	V	mL	937	1000	948	963	968	953	974	946	938	944	952
pH	pH	No unit	6,73	7,03	7,11	7,07	6,78	6,85	6,64	6,74	6,93	6,98	6,86
Alkalinité	Alkalinité	$mgCaCO_3/l$	3	2	3	2	3	3	3	3		4	
Conductivité	Conductivité	µS/cm	15	15	13	13	13	12	15	14	15	14	16
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0		<2,0	
Fluoride	F	mg/l	<0,06					<0,06				<0,06	
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03		<0,03	
Sulfate	SO_4^{2-}	mg/l	3	3	3	3	3	3	3	3		3	
Chlore	Cl^-	mg/l	<1,0					<1,0				<1,0	
Nitrite	NO_2^-	mgN/l	<0,03					<0,03				<0,03	
Nitrate	NO_3^-	mgN/l	<0,06					<0,06				<0,06	
Bromide	Br	mg/l	<0,3					<0,3				<0,3	
Mercure	Hg	mg/l	<0,00001					<0,00001				<0,00001	
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005		<0,00005	
Aluminum	Al	mg/l	0,022	0,015	0,017	0,019	0,021	0,022	0,020	0,021		0,023	
Arsenic	As	mg/l	0,0921	0,0873	0,0771	0,0894	0,0956	0,0856	0,0865	0,0918		0,0845	
Baryum	Ba	mg/l	0,00011	0,00015	0,00011	0,00014	0,00015	0,00016	0,00013	0,00018		0,00011	
Beryllium	Be	mg/l	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007		<0,000007	
Bore	B	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002		<0,002	
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001		<0,00001	
Calcium	Ca	mg/l	2,37	2,29	2,24	2,25	2,40	2,08	2,19	2,37		2,39	
Cadmium	Cd	mg/l	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003		<0,000013	
Cobalt	Co	mg/l	0,000176	0,000228	0,000183	0,000163	0,000159	0,000185	0,000147	0,000245		0,000158	
Chrome	Cr	mg/l	<0,00008	<0,00009	<0,00012	<0,00014	<0,00008	<0,00008	<0,00008	<0,00008		<0,00008	
Cuivre	Cu	mg/l	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001		<0,001	
Fer	Fe	mg/l	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007		0,007	
Potassium	K	mg/l	0,054	0,052	0,056	0,056	0,053	0,045	0,051	0,050		0,065	
Lithium	Li	mg/l	0,0049	0,0048	0,0039	0,0045	0,0045	0,0039	0,0044	0,0045		0,0040	
Magnésium	Mg	mg/l	0,116	0,111	0,106	0,109	0,114	0,100	0,103	0,110		0,118	
Manganese	Mn	mg/l	0,00122	0,00131	0,00169	0,00138	0,00101	0,00125	0,00102	0,00126		0,00115	
Molybdène	Mo	mg/l	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004		<0,0284	
Sodium	Na	mg/l	0,05	0,04	0,05	0,04	0,06	0,03	0,04	0,04		0,11	
Nickel	Ni	mg/l	0,0006	0,0011	0,0008	0,0008	0,0009	0,0010	0,0007	0,0010		0,0007	
Plomb	Pb	mg/l	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009		<0,00009	
Antimoine	Sb	mg/l	0,0145	0,0186	0,0124	0,0152	0,0149	0,0129	0,0136	0,0143		0,0136	
Sélénium	Se	mg/l	0,00004	0,00004	0,00004	0,00004	0,00004	0,00004	0,00004	0,00004		0,00004	
Etain	Sn	mg/l	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006		<0,00006	
Strontium	Sr	mg/l	0,00392	0,00367	0,00294	0,00360	0,00355	0,00315	0,00379	0,00362		0,00347	
Titane	Ti	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,00014	<0,0001	0,0002		<0,0001	
Thallium	Th	mg/l	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005		<0,000005	
Uranium	U	mg/l	0,000013	0,000015	0,000008	0,000008	0,000012	0,000011	0,000029	0,000011		0,000007	
Vanadium	V	mg/l	0,00030	0,00029	0,00026	0,00032	0,00032	0,00030	0,00029	0,00031		0,00028	
Tungstène	W	mg/l	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002		<0,0002	
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002		<0,00002	
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002		<0,002	
Gold (total)	Au	mg/l	<0,00001					<0,00001				<0,00001	
Cérium (total)	Ce	mg/l	0,00001					<0,00001				<0,00001	
Césium (total)	Cs	mg/l	0,0066					0,0060				0,0071	
Dysprosium (total)	Dy	mg/l	<0,00001					<0,00001				<0,00001	
Erbium (total)	Er	mg/l	<0,00001					<0,00001				<0,00001	
Europium (total)	Eu	mg/l	<0,00001					<0,00001				<0,00001	
Gallium (total)	Ga	mg/l	<0,0001					<0,0001				<0,0001	
Gadolinium (total)	Gd	mg/l	<0,00001					<0,00001				<0,00001	
Germanium (total)	Ge	mg/l	<0,0001					<0,0001				<0,0001	
Hafnium (total)	Hf	mg/l	<0,0001					<0,0001				<0,0001	
Holmium (total)	Ho	mg/l	<0,00001					<0,00001				<0,00001	
Indium (total)	In	mg/l	<0,00001					<0,00001				<0,00001	
Iridium (total)	Ir	mg/l	<0,00001					<0,00001				<0,00001	
Lanthanum (total)	La	mg/l	<0,00001					<0,00001				<0,00001	
Lutetium (total)	Lu	mg/l	<0,0001					<0,0001				<0,0001	
Niobium (total)	Nb	mg/l	<0,00001					<0,00001				<0,00001	
Néodymium (total)	Nd	mg/l	<0,00001					<0,00001				<0,00001	
Osmium (total)	Os	mg/l	<0,0001					<0,0001				<0,0001	
Palladium (total)	Pd	mg/l	<0,0001					<0,0001				<0,0001	
Praseodymium (total)	Pr	mg/l	<0,00001					<0,00001				<0,00001	
Platinum (total)	Pt	mg/l	<0,0001					<0,0001				<0,0001	
Rubidium (total)	Rb	mg/l	0,0023					0,0020				0,0021	
Rhenium (total)	Re	mg/l	<0,0001					<0,0001				<0,0001	
Rhodium (total)	Rh	mg/l	<0,00001					<0,00001				<0,00001	
Scandium (total)	Sc	mg/l	<0,0001					<0,0001				<0,0001	
Samarium (total)	Sm	mg/l	<0,00001					<0,00001				<0,00001	
Tantalum (total)	Ta	mg/l	<0,0001					<0,0001				<0,0001	
Terbium (total)	Tb	mg/l	<0,00001					<0,00001				<0,00001	
Tellurium (total)	Te	mg/l	<0,0001					<0,0001				<0,0001	
Thorium (total)	Th	mg/l	<0,0001					<0,0001				<0,0001	
Thulium (total)	Tm	mg/l	<0,00001					<0,00001				<0,00001	
Ytterbium (total)	Yb	mg/l	<0,00001					<0,00001				<0,00001	

Résultats HCT – CV5-WR-HCT-5 (DUP)

Analyse	Symbole	Unité	Sem. #66	Sem. #67	Sem. #68	Sem. #69	Sem. #70	Sem. #71	Sem. #72	Sem. #73	Sem. #74	Sem. #75	Sem. #76
			2024-08-01	2024-08-08	2024-08-15	2024-08-22	2024-08-29	2024-09-05	2024-09-12	2024-09-19	2024-09-26	2024-10-03	2024-10-10
Volume du lixiviat	V	mL	945	967	940	967	958	956	963	950	966	951	958
pH	pH	No unit	6,77	6,81	6,70	6,62	6,86	6,85	6,76	6,55	6,93	6,91	6,59
Alkalinité	Alkalinité	$mgCaCO_3/l$			3				2				2
Conductivité	Conductivité	µS/cm	17	15	12	14	15	15	12	18	13	15	13
Acidité	Acidité	$mgCaCO_3/l$			<2,0				<2,0				<2,0
Fluoride	F	mg/l			<0,06				<0,06				<0,06
Phosphore réactif total	PO_4^{3-}-P	mg/l			<0,03				<0,03				<0,03
Sulfate	SO_4^{2-}	mg/l			3				2				3
Chlore	Cl^-	mg/l			<1,0				<1,0				<1,0
Nitrite	NO_2^-	mgN/l			<0,03				<0,03				<0,03
Nitrate	NO_3^-	mgN/l			<0,06				<0,06				<0,06
Bromide	Br	mg/l			<0,3				<0,3				<0,3
Mercure	Hg	mg/l			<0,00001				<0,00001				<0,00001
Argent	Ag	mg/l			<0,00005				<0,00005				<0,00005
Aluminum	Al	mg/l			0,021				0,017				0,018
Arsenic	As	mg/l			0,0808				0,0733				0,0683
Baryum	Ba	mg/l			0,00017				0,00013				0,00015
Beryllium	Be	mg/l			<0,000007				<0,000007				<0,000007
Bore	B	mg/l			<0,002				<0,002				<0,002
Bismuth	Bi	mg/l			<0,00001				<0,00001				<0,00001
Calcium	Ca	mg/l			2,18				2,21				2,28
Cadmium	Cd	mg/l			<0,000004				<0,000003				<0,000004
Cobalt	Co	mg/l			0,000446				0,000144				0,000150
Chrome	Cr	mg/l			<0,00008				<0,00008				<0,00008
Cuivre	Cu	mg/l			<0,001				<0,001				<0,001
Fer	Fe	mg/l			<0,007				<0,007				<0,007
Potassium	K	mg/l			0,052				0,046				0,044
Lithium	Li	mg/l			0,0036				0,0035				0,0036
Magnésium	Mg	mg/l			0,095				0,090				0,097
Manganese	Mn	mg/l			0,00102				0,00078				0,00100
Molybdène	Mo	mg/l			<0,0004				<0,0004				<0,0004
Sodium	Na	mg/l			0,05				0,04				0,09
Nickel	Ni	mg/l			0,0010				0,0006				0,0007
Plomb	Pb	mg/l			<0,00009				<0,00009				<0,00009
Antimoine	Sb	mg/l			0,0123				0,0115				0,0100
Sélénium	Se	mg/l			0,00004				0,00004				0,00004
Etain	Sn	mg/l			<0,00006				<0,00006				<0,00006
Strontium	Sr	mg/l			0,00308				0,00272				0,00304
Titane	Ti	mg/l			<0,0001				<0,0001				0,0001
Thallium	Th	mg/l			<0,000005				<0,000005				<0,000005
Uranium	U	mg/l			0,000011				0,000027				0,000044
Vanadium	V	mg/l			0,00028				0,00026				0,00026
Tungstène	W	mg/l			<0,0002				<0,0002				<0,0002
Yttrium	Y	mg/l			<0,00002				<0,00002				<0,00002
Zinc	Zn	mg/l			<0,002				<0,002				<0,002
Gold (total)	Au	mg/l			<0,00001				<0,00001				<0,00001
Cérium (total)	Ce	mg/l			<0,00001				<0,00001				<0,00001
Césium (total)	Cs	mg/l			0,0074				0,0060				0,0060
Dysprosium (total)	Dy	mg/l			<0,00001				<0,00001				<0,00001
Erbium (total)	Er	mg/l			<0,00001				<0,00001				<0,00001
Europium (total)	Eu	mg/l			<0,00001				<0,00001				<0,00001
Gallium (total)	Ga	mg/l			<0,0001				<0,0001				<0,0001
Gadolinium (total)	Gd	mg/l			<0,00001				<0,00001				<0,00001
Germanium (total)	Ge	mg/l			<0,0001				<0,0001				<0,0001
Hafnium (total)	Hf	mg/l			<0,0001				<0,0001				<0,0001
Holmium (total)	Ho	mg/l			<0,00001				<0,00001				<0,00001
Indium (total)	In	mg/l			<0,00001				<0,00001				<0,00001
Iridium (total)	Ir	mg/l			<0,00001				<0,00001				<0,00001
Lanthanum (total)	La	mg/l			<0,00001				<0,00001				<0,00001
Lutetium (total)	Lu	mg/l			<0,0001				<0,0001				<0,0001
Niobium (total)	Nb	mg/l			<0,00001				<0,00001				<0,00001
Néodymium (total)	Nd	mg/l			<0,00001				<0,00001				<0,00001
Osmium (total)	Os	mg/l			<0,0001				<0,0001				<0,0001
Palladium (total)	Pd	mg/l			<0,0001				<0,0001				<0,0001
Praseodymium (total)	Pr	mg/l			<0,00001				<0,00001				<0,00001
Platinum (total)	Pt	mg/l			<0,0001				<0,0001				<0,0001
Rubidium (total)	Rb	mg/l			0,0025				0,0018				0,0023
Rhenium (total)	Re	mg/l			<0,0001				<0,0001				<0,0001
Rhodium (total)	Rh	mg/l			<0,00001				<0,00001				<0,00001
Scandium (total)	Sc	mg/l			<0,0001				<0,0001				<0,0001
Samarium (total)	Sm	mg/l			<0,00001				<0,00001				<0,00001
Tantalum (total)	Ta	mg/l			<0,0001				<0,0001				<0,0001
Terbium (total)	Tb	mg/l			<0,00001				<0,00001				<0,00001
Tellurium (total)	Te	mg/l			<0,0001				<0,0001				<0,0001
Thorium (total)	Th	mg/l			<0,0001				<0,0001				<0,0001
Thulium (total)	Tm	mg/l			<0,00001				<0,00001				<0,00001
Ytterbium (total)	Yb	mg/l			<0,00001				<0,00001				<0,00001

Résultats HCT – CV5-WR-HCT-5 (DUP)

Analyse	Symbole	Unité	Sem. #77	Sem. #78	Sem. #79	Sem. #80	Sem. #81	Sem. #82	Sem. #83	Sem. #84	Sem. #85	Sem. #86	Sem. #87
			2024-10-17	2024-10-24	2024-10-31	2024-11-07	2024-11-14	2024-11-21	2024-11-28	2024-12-05	2024-12-12	2024-12-19	2024-12-26
Volume du lixiviat	V	mL	964	969	963	960	971	948	977	962	934	969	953
pH	pH	No unit	6,81	6,83	6,85	6,56	7,06	7,1	7,03	6,77	6,9	7,22	7,19
Alkalinité	Alkalinité	$mgCaCO_3/l$				<2,0				3			
Conductivité	Conductivité	µS/cm	15	14	14	12	15	18	14	13	15	15	17
Acidité	Acidité	$mgCaCO_3/l$				2				<2,0			
Fluoride	F	mg/l				<0,06				<0,06			
Phosphore réactif total	PO_4^{3-}-P	mg/l				<0,03				<0,03			
Sulfate	SO_4^{2-}	mg/l				2				3			
Chlore	Cl^-	mg/l				<1,0				<1,0			
Nitrite	NO_2^-	mgN/l				<0,03				<0,03			
Nitrate	NO_3^-	mgN/l				<0,06				<0,06			
Bromide	Br	mg/l				<0,3				<0,3			
Mercure	Hg	mg/l				<0,00001				<0,00001			
Argent	Ag	mg/l				<0,00005				<0,00005			
Aluminum	Al	mg/l				0,016				0,013			
Arsenic	As	mg/l				0,0590				0,0568			
Baryum	Ba	mg/l				0,00008				0,00010			
Beryllium	Be	mg/l				<0,000007				<0,000007			
Bore	B	mg/l				<0,002				<0,002			
Bismuth	Bi	mg/l				<0,00001				<0,00001			
Calcium	Ca	mg/l				2,03				2,14			
Cadmium	Cd	mg/l				<0,000003				<0,000003			
Cobalt	Co	mg/l				0,000154				0,000221			
Chrome	Cr	mg/l				<0,00008				<0,00008			
Cuivre	Cu	mg/l				<0,001				<0,001			
Fer	Fe	mg/l				<0,007				<0,007			
Potassium	K	mg/l				0,034				0,037			
Lithium	Li	mg/l				0,0034				0,0035			
Magnésium	Mg	mg/l				0,073				0,078			
Manganese	Mn	mg/l				0,00102				0,00124			
Molybdène	Mo	mg/l				<0,0004				<0,0004			
Sodium	Na	mg/l				0,04				0,03			
Nickel	Ni	mg/l				0,0005				0,0014			
Plomb	Pb	mg/l				<0,00009				<0,00009			
Antimoine	Sb	mg/l				0,0094				0,0099			
Sélénium	Se	mg/l				0,00004				0,00004			
Etain	Sn	mg/l				<0,00006				<0,00006			
Strontium	Sr	mg/l				0,00250				0,00268			
Titane	Ti	mg/l				<0,0001				<0,0001			
Thallium	Th	mg/l				<0,000005				0,000005			
Uranium	U	mg/l				0,000014				0,000005			
Vanadium	V	mg/l				0,00023				0,00019			
Tungstène	W	mg/l				<0,0002				<0,0002			
Yttrium	Y	mg/l				<0,00002				<0,00002			
Zinc	Zn	mg/l				<0,002				<0,002			
Gold (total)	Au	mg/l				<0,00001				<0,00001			
Cérium (total)	Ce	mg/l				<0,00001				<0,00001			
Césium (total)	Cs	mg/l				0,0044				0,0059			
Dysprosium (total)	Dy	mg/l				<0,00001				<0,00001			
Erbium (total)	Er	mg/l				<0,00001				<0,00001			
Europium (total)	Eu	mg/l				<0,00001				<0,00001			
Gallium (total)	Ga	mg/l				<0,0001				<0,0001			
Gadolinium (total)	Gd	mg/l				<0,00001				<0,00001			
Germanium (total)	Ge	mg/l				<0,0001				<0,0001			
Hafnium (total)	Hf	mg/l				<0,0001				<0,0001			
Holmium (total)	Ho	mg/l				<0,00001				<0,00001			
Indium (total)	In	mg/l				<0,00001				<0,00001			
Iridium (total)	Ir	mg/l				<0,00001				<0,00001			
Lanthanum (total)	La	mg/l				<0,00001				<0,00001			
Lutetium (total)	Lu	mg/l				<0,0001				<0,0001			
Niobium (total)	Nb	mg/l				<0,00001				<0,00001			
Néodymium (total)	Nd	mg/l				<0,00001				<0,00001			
Osmium (total)	Os	mg/l				<0,0001				<0,0001			
Palladium (total)	Pd	mg/l				<0,0001				<0,0001			
Praseodymium (total)	Pr	mg/l				<0,00001				<0,00001			
Platinum (total)	Pt	mg/l				<0,0001				<0,0001			
Rubidium (total)	Rb	mg/l				0,0014				0,0017			
Rhenium (total)	Re	mg/l				<0,0001				<0,0001			
Rhodium (total)	Rh	mg/l				<0,00001				<0,00001			
Scandium (total)	Sc	mg/l				<0,0001				<0,0001			
Samarium (total)	Sm	mg/l				<0,00001				<0,00001			
Tantalum (total)	Ta	mg/l				<0,0001				<0,0001			
Terbium (total)	Tb	mg/l				<0,00001				<0,00001			
Tellurium (total)	Te	mg/l				<0,0001				<0,0001			
Thorium (total)	Th	mg/l				<0,0001				<0,0001			
Thulium (total)	Tm	mg/l				<0,00001				<0,00001			
Ytterbium (total)	Yb	mg/l				<0,00001				<0,00001			

Résultats HCT – CV5-WR-HCT-5 (DUP)

Analyse	Symbole	Unité	Sem. #88	Sem. #89
			2025-01-02	2025-01-09
Volume du lixiviat	V	mL	1015	976
pH	pH	No unit	6,42	6,87
Alkalinité	Alkalinité	mg$CaCO_3$/l	3	
Conductivité	Conductivité	µS/cm	17	16
Acidité	Acidité	mg$CaCO_3$/l	2	
Fluoride	F	mg/l	<0,06	
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	
Sulfate	SO_4^{2-}	mg/l	3	
Chlore	Cl^-	mg/l	<1,0	
Nitrite	NO_2^-	mgN/l	<0,03	
Nitrate	NO_3^-	mgN/l	<0,06	
Bromide	Br	mg/l	<0,3	
Mercure	Hg	mg/l	<0,00001	
Argent	Ag	mg/l	<0,00005	
Aluminum	Al	mg/l	0,014	
Arsenic	As	mg/l	0,0602	
Baryum	Ba	mg/l	0,0001	
Beryllium	Be	mg/l	<0,000007	
Bore	B	mg/l	<0,002	
Bismuth	Bi	mg/l	<0,00001	
Calcium	Ca	mg/l	2,53	
Cadmium	Cd	mg/l	<0,000003	
Cobalt	Co	mg/l	0,000291	
Chrome	Cr	mg/l	<0,00008	
Cuivre	Cu	mg/l	<0,001	
Fer	Fe	mg/l	<0,007	
Potassium	K	mg/l	0,035	
Lithium	Li	mg/l	0,0034	
Magnésium	Mg	mg/l	0,085	
Manganese	Mn	mg/l	0,00178	
Molybdène	Mo	mg/l	<0,0004	
Sodium	Na	mg/l	0,03	
Nickel	Ni	mg/l	0,0009	
Plomb	Pb	mg/l	<0,00009	
Antimoine	Sb	mg/l	<0,0097	
Sélénium	Se	mg/l	0,00004	
Etain	Sn	mg/l	<0,00006	
Strontium	Sr	mg/l	0,00285	
Titane	Ti	mg/l	<0,0001	
Thallium	Th	mg/l	0,000008	
Uranium	U	mg/l	0,000002	
Vanadium	V	mg/l	0,00021	
Tungstène	W	mg/l	<0,0002	
Yttrium	Y	mg/l	<0,00002	
Zinc	Zn	mg/l	<0,002	
Gold (total)	Au	mg/l	<0,00001	
Cérium (total)	Ce	mg/l	0,00001	
Césium (total)	Cs	mg/l	0,0071	
Dysprosium (total)	Dy	mg/l	<0,00001	
Erbium (total)	Er	mg/l	<0,00001	
Europium (total)	Eu	mg/l	<0,00001	
Gallium (total)	Ga	mg/l	<0,0001	
Gadolinium (total)	Gd	mg/l	<0,00001	
Germanium (total)	Ge	mg/l	<0,0001	
Hafnium (total)	Hf	mg/l	<0,0001	
Holmium (total)	Ho	mg/l	<0,00001	
Indium (total)	In	mg/l	<0,00001	
Iridium (total)	Ir	mg/l	<0,00001	
Lanthanum (total)	La	mg/l	0,00001	
Lutetium (total)	Lu	mg/l	<0,0001	
Niobium (total)	Nb	mg/l	<0,00001	
Néodymium (total)	Nd	mg/l	<0,00001	
Osmium (total)	Os	mg/l	<0,0001	
Palladium (total)	Pd	mg/l	<0,0001	
Praseodymium (total)	Pr	mg/l	<0,00001	
Platinum (total)	Pt	mg/l	<0,0001	
Rubidium (total)	Rb	mg/l	0,0018	
Rhenium (total)	Re	mg/l	<0,0001	
Rhodium (total)	Rh	mg/l	<0,00001	
Scandium (total)	Sc	mg/l	<0,0001	
Samarium (total)	Sm	mg/l	<0,00001	
Tantalum (total)	Ta	mg/l	<0,0001	
Terbium (total)	Tb	mg/l	<0,00001	
Tellurium (total)	Te	mg/l	<0,0001	
Thorium (total)	Th	mg/l	<0,0001	
Thulium (total)	Tm	mg/l	<0,00001	
Ytterbium (total)	Yb	mg/l	<0,00001	

Résultats HCT – CV5-WR-HCT-5 (DUP)

Analyse	Symbole	Unité	Sem. #90	Sem. #91	Sem. #92	Sem. #93	Sem. #94	Sem. #95	Sem. #96	Sem. #97	Sem. #98	Sem. #99	Sem. #100
			2025-01-16	2025-01-23	2025-01-30	2025-02-06	2025-02-13	2025-02-20	2025-02-27	2025-03-06	2025-03-13	2025-03-20	2025-03-27
Volume du lixiviat	V	mL	991	982	1004	982	969	967	1011	1016	953	943	939
pH	pH	No unit	6,58	6,64	6,69	6,71	6,61	6,54	6,63	6,57	6,72	6,77	6,80
Alkalinité	Alkalinité	$mgCaCO_3/l$			3				<2,0				<3,0
Conductivité	Conductivité	µS/cm	18	16	14	17	23	21	16	18	18	18	15
Acidité	Acidité	$mgCaCO_3/l$			<2,0				2				2
Fluoride	F	mg/l			<0,06				<0,06				<0,11
Phosphore réactif total	PO_4^{3-}-P	mg/l			<0,03				<0,03				<0,03
Sulfate	SO_4^{2-}	mg/l			3				4				3
Chlore	Cl^-	mg/l			<1,0				<1,0				<1,0
Nitrite	NO_2^-	mgN/l			<0,03				<0,03				<0,03
Nitrate	NO_3^-	mgN/l			<0,06				<0,06				<0,06
Bromide	Br	mg/l			<0,3				<0,3				<0,3
Mercure	Hg	mg/l			<0,00001				<0,00001				<0,00001
Argent	Ag	mg/l			<0,00005				<0,00005				<0,00005
Aluminum	Al	mg/l			0,014				0,012				0,016
Arsenic	As	mg/l			0,0659				0,0555				0,0615
Baryum	Ba	mg/l			0,00009				0,00009				0,00009
Beryllium	Be	mg/l			<0,000007				<0,000007				<0,000007
Bore	B	mg/l			<0,002				<0,002				<0,002
Bismuth	Bi	mg/l			<0,00001				<0,00001				<0,00003
Calcium	Ca	mg/l			2,35				2,47				2,37
Cadmium	Cd	mg/l			<0,000004				0,000003				<0,000003
Cobalt	Co	mg/l			0,000258				0,000363				0,000200
Chrome	Cr	mg/l			<0,00008				<0,00008				<0,00008
Cuivre	Cu	mg/l			<0,001				<0,001				<0,001
Fer	Fe	mg/l			<0,007				<0,007				<0,007
Potassium	K	mg/l			0,040				0,044				0,045
Lithium	Li	mg/l			0,0034				0,0039				0,0037
Magnésium	Mg	mg/l			0,09				0,095				0,096
Manganese	Mn	mg/l			0,00135				0,00235				0,00155
Molybdène	Mo	mg/l			<0,0004				<0,0004				<0,0004
Sodium	Na	mg/l			0,03				0,04				0,04
Nickel	Ni	mg/l			0,0009				0,0013				0,0008
Plomb	Pb	mg/l			<0,00009				<0,00009				<0,00014
Antimoine	Sb	mg/l			<0,0098				<0,009				<0,0095
Sélénium	Se	mg/l			0,00004				0,00004				0,00004
Etain	Sn	mg/l			0,00006				<0,00006				<0,00006
Strontium	Sr	mg/l			0,00258				0,0027				0,00233
Titane	Ti	mg/l			<0,0001				<0,0001				<0,0001
Thallium	Th	mg/l			0,000005				<0,000005				<0,000005
Uranium	U	mg/l			0,000005				0,000005				0,000021
Vanadium	V	mg/l			0,00021				0,00018				0,00020
Tungstène	W	mg/l			<0,0002				<0,0002				<0,0002
Yttrium	Y	mg/l			<0,00002				<0,00002				<0,00002
Zinc	Zn	mg/l			<0,002				<0,002				<0,002
Gold (total)	Au	mg/l			<0,00001				<0,00001				<0,00001
Cérium (total)	Ce	mg/l			0,00001				0,00001				<0,00001
Césium (total)	Cs	mg/l			0,0062				0,0062				0,0072
Dysprosium (total)	Dy	mg/l			<0,00001				<0,00001				<0,00001
Erbium (total)	Er	mg/l			<0,00001				<0,00001				<0,00001
Europium (total)	Eu	mg/l			<0,00001				<0,00001				<0,00001
Gallium (total)	Ga	mg/l			<0,0001				<0,0001				<0,0001
Gadolinium (total)	Gd	mg/l			<0,00001				<0,00001				<0,00001
Germanium (total)	Ge	mg/l			<0,0001				<0,0001				<0,0001
Hafnium (total)	Hf	mg/l			<0,0001				<0,0001				<0,0001
Holmium (total)	Ho	mg/l			<0,00001				<0,00001				<0,00001
Indium (total)	In	mg/l			<0,00001				<0,00001				<0,00001
Iridium (total)	Ir	mg/l			<0,00001				<0,00001				<0,00001
Lanthanum (total)	La	mg/l			0,00001				0,00001				<0,00001
Lutetium (total)	Lu	mg/l			<0,0001				<0,0001				<0,0001
Niobium (total)	Nb	mg/l			<0,00001				<0,00001				<0,00001
Néodymium (total)	Nd	mg/l			<0,00001				<0,00001				<0,00001
Osmium (total)	Os	mg/l			<0,0001				<0,0001				<0,0001
Palladium (total)	Pd	mg/l			<0,0001				<0,0001				<0,0001
Praseodymium (total)	Pr	mg/l			<0,00001				<0,00001				<0,00001
Platinum (total)	Pt	mg/l			<0,0001				<0,0001				<0,0001
Rubidium (total)	Rb	mg/l			0,0018				0,0018				0,0019
Rhenium (total)	Re	mg/l			<0,0001				<0,0001				<0,0001
Rhodium (total)	Rh	mg/l			<0,00001				<0,00001				<0,00001
Scandium (total)	Sc	mg/l			<0,0001				<0,0001				<0,0001
Samarium (total)	Sm	mg/l			<0,00001				<0,00001				<0,00001
Tantalum (total)	Ta	mg/l			<0,0001				<0,0001				<0,0001
Terbium (total)	Tb	mg/l			<0,00001				<0,00001				<0,00001
Tellurium (total)	Te	mg/l			<0,0001				<0,0001				<0,0001
Thorium (total)	Th	mg/l			<0,0001				<0,0001				<0,0001
Thulium (total)	Tm	mg/l			<0,00001				<0,00001				<0,00001
Ytterbium (total)	Yb	mg/l			<0,00001				<0,00001				<0,00001

Résultats HCT – CV5-WR-HCT-14

Analyse	Symbole	Unité	Sem. #0	Sem. #1	Sem. #2	Sem. #3	Sem. #4	Sem. #5	Sem. #6	Sem. #7	Sem. #8	Sem. #9	Sem. #10
			2023-04-27	2023-05-04	2023-05-11	2023-05-18	2023-05-25	2023-06-01	2023-06-08	2023-06-15	2023-06-22	2023-06-29	2023-07-06
Volume du lixiviat	V	mL	829	978	1005	1007	997	998	989	973	951	939	957
pH	pH	No unit	8,12	8,63	8,65	8,75	8,51	7,81	8,49	8,79	8,16	8,84	8,10
Alkalinité	Alkalinité	$mgCaCO_3/l$	22	24	23	23	21	21	17	21	20	14	14
Conductivité	Conductivité	µS/cm	86	81	59	63	46	55	44	48	41	39	39
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2,0	2	2	2	2	2	2	2	2	2
Fluoride	F	mg/l	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<0,03	<0,05	<0,04	<0,07	<0,03	<0,03	<0,03	<0,05	<0,03	<0,03
Sulfate	SO_4^{2-}	mg/l	2	6	4	4	4	3	3	4	3	4	4
Chlore	Cl^-	mg/l	22	10	3	1	1	1	<1,0	<1,0	1	1	1
Nitrite	NO_2^-	mgN/l	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Nitrate	NO_3^-	mgN/l	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06
Bromide	Br	mg/l	<0,5	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3
Mercure	Hg	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,131	0,115	0,142	0,109	0,098	0,122	0,122	0,119	0,134	0,127	0,101
Arsenic	As	mg/l	0,0115	0,0817	0,1060	0,1060	0,1110	0,1130	0,0957	0,0897	0,0913	0,0801	0,0730
Baryum	Ba	mg/l	0,00031	0,00038	0,00029	0,00020	0,00026	0,00025	0,00020	0,00022	0,00021	0,00016	0,00018
Beryllium	Be	mg/l	<0,000007	<0,000007	0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007
Bore	B	mg/l	0,013	0,028	0,014	0,011	0,012	0,008	0,005	0,005	0,004	0,003	0,002
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00002	<0,00001	<0,00001
Calcium	Ca	mg/l	6,75	7,08	6,23	6,41	6,79	7,34	6,55	7,17	6,82	6,29	6,24
Cadmium	Cd	mg/l	<0,000003	<0,000003	<0,000003	0,000003	0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003
Cobalt	Co	mg/l	0,000028	0,000052	0,000045	0,000044	0,000061	0,000048	0,000048	0,000066	0,000057	0,000060	0,000050
Chrome	Cr	mg/l	0,00008	0,00012	<0,00008	0,00008	<0,00008	<0,00016	<0,00008	<0,00008	<0,00008	0,00008	<0,00008
Cuivre	Cu	mg/l	0,0005	0,0002	<0,0002	<0,0002	0,0004	0,0003	<0,0002	<0,0002	<0,0003	<0,0002	0,0002
Fer	Fe	mg/l	<0,007	0,007	0,007	0,007	<0,007	0,011	0,007	0,007	<0,007	0,007	0,019
Potassium	K	mg/l	0,49	0,39	0,23	0,183	0,176	0,164	0,139	0,114	0,120	0,088	0,088
Lithium	Li	mg/l	0,0161	0,0166	0,0123	0,0103	0,0103	0,0095	0,0086	0,0078	0,0081	0,0070	0,0065
Magnésium	Mg	mg/l	0,700	0,903	0,668	0,607	0,618	0,688	0,559	0,601	0,522	0,416	0,442
Manganese	Mn	mg/l	0,00133	0,00225	0,00178	0,00274	0,00412	0,00462	0,00285	0,00406	0,00385	0,00477	0,00445
Molybdène	Mo	mg/l	0,00023	0,00036	0,00027	0,00027	0,00034	0,00012	0,00027	0,00008	0,00115	0,00032	0,00010
Sodium	Na	mg/l	11,00	8,65	3,69	2,48	2,17	1,83	1,15	1,14	0,90	0,70	0,59
Nickel	Ni	mg/l	0,0003	0,0006	0,0003	0,0003	0,0006	0,0003	0,0003	0,0004	0,0003	0,0002	0,0002
Plomb	Pb	mg/l	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009
Antimoine	Sb	mg/l	0,0046	0,0559	0,0357	0,0409	0,0329	0,0335	0,0246	0,0234	0,0174	0,0148	0,0147
Sélénium	Se	mg/l	0,00008	0,00026	0,00036	0,00022	0,00030	0,00033	0,00035	0,00032	0,00020	0,00023	0,00009
Etain	Sn	mg/l	0,00058	0,00034	0,00019	0,00010	0,00009	0,00007	0,00006	0,00006	<0,00006	<0,00006	0,00006
Strontium	Sr	mg/l	0,0151	0,0166	0,01214	0,0112	0,01200	0,0112	0,0099	0,01066	0,0093	0,00816	0,0078
Titane	Ti	mg/l	0,00005	0,00013	0,00012	0,00025	0,00022	<0,00013	0,00017	0,00036	0,00033	0,00036	0,00020
Thallium	Th	mg/l	0,000005	<0,000005	0,000007	<0,000005	<0,000009	0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005
Uranium	U	mg/l	0,000038	0,000416	0,000620	0,000490	0,003700	0,000298	0,006110	0,003062	0,00015	0,001290	0,001404
Vanadium	V	mg/l	0,00219	0,00591	0,00644	0,00582	0,00606	0,00577	0,00525	0,00526	0,00496	0,00470	0,00403
Tungstène	W	mg/l	0,00020	0,00051	0,00031	0,00110	0,00019	0,00013	0,00009	0,00008	0,00007	0,00009	0,00006
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l	0,00001	<0,00001	<0,00001	<0,00001	0,00001	<0,00001	<0,00001	<0,00001	0,00001	0,00001	<0,00001
Cérium (total)	Ce	mg/l	0,00001	0,00001	0,00001	0,00001	0,00001	<0,00001	0,00001	0,00001	0,00002	0,00001	0,00001
Césium (total)	Cs	mg/l	0,0082	0,0064	0,0046	0,0044	0,0039	0,0033	0,0033	0,0030	0,0032	0,0025	0,0025
Dysprosium (total)	Dy	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Erbium (total)	Er	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Europium (total)	Eu	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Gallium (total)	Ga	mg/l	0,0005	<0,0004	<0,0003	<0,0003	<0,0003	0,0001	<0,0003	0,0003	<0,0003	<0,0002	<0,0002
Gadolinium (total)	Gd	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Germanium (total)	Ge	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Hafnium (total)	Hf	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Holmium (total)	Ho	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Indium (total)	In	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Iridium (total)	Ir	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Lanthanum (total)	La	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Lutetium (total)	Lu	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Niobium (total)	Nb	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Néodymium (total)	Nd	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Osmium (total)	Os	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Palladium (total)	Pd	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Praseodymium (total)	Pr	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Platinum (total)	Pt	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Rubidium (total)	Rb	mg/l	0,0037	0,0029	0,0019	0,0016	0,0012	0,0012	0,0011	0,0010	0,0009	0,0008	0,0008
Rhenium (total)	Re	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Rhodium (total)	Rh	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Scandium (total)	Sc	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Samarium (total)	Sm	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Tantalum (total)	Ta	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Terbium (total)	Tb	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Tellurium (total)	Te	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Thorium (total)	Th	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Thulium (total)	Tm	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Ytterbium (total)	Yb	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001

Résultats HCT – CV5-WR-HCT-14

Analyse	Symbole	Unité	Sem. #11	Sem. #12	Sem. #13	Sem. #14	Sem. #15	Sem. #16	Sem. #17	Sem. #18	Sem. #19	Sem. #20	Sem. #21
			2023-07-13	2023-07-20	2023-07-27	2023-08-03	2023-08-10	2023-08-17	2023-08-24	2023-08-31	2023-09-07	2023-09-14	2023-09-21
Volume du lixiviat	V	mL	987	1000	994	1003	904	1005	1002	999	980	1001	994
pH	pH	No unit	7,86	8,26	7,70	7,79	7,90	7,55	7,89	7,97	7,51	7,83	7,37
Alkalinité	Alkalinité	$mgCaCO_3/l$	14	16	15	16	24	9	13	16	14	13	13
Conductivité	Conductivité	µS/cm	38	39	32	39	32	26	34	33	33	32	32
Acidité	Acidité	$mgCaCO_3/l$	2	2	2	2	2	2	2	2	2	2	2
Fluoride	F	mg/l				<0,06	<0,06	<0,06	2	<0,06		0,06	
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<0,03	<0,03	<0,03	<0,04	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Sulfate	SO_4^{2-}	mg/l	3	2	3	2	3	2		2	3	<2,0	2
Chlore	Cl^-	mg/l					1	<1,0		<1,0		1	
Nitrite	NO_2^-	mgN/l					<0,03	<0,03		<0,03		<0,03	
Nitrate	NO_3^-	mgN/l					<0,06	<0,06		<0,06		<0,06	
Bromide	Br	mg/l					<0,3	<0,3		<0,3		<0,3	
Mercure	Hg	mg/l					<0,00001	<0,00001		<0,00001		<0,00001	
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	0,00016	<0,00005
Aluminum	Al	mg/l	0,124	0,123	0,083	0,137	0,113	0,121	0,117	0,096	0,103	0,102	0,085
Arsenic	As	mg/l	0,0716	0,0733	0,0589	0,0729	0,0677	0,0683	0,0593	0,0549	0,0525	0,0566	0,043
Baryum	Ba	mg/l	0,00019	0,00017	0,00013	0,00019	0,00018	0,00015	0,00013	0,00019	0,00023	0,00034	0,00016
Beryllium	Be	mg/l	0,000008	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007
Bore	B	mg/l	0,002	0,003	0,002	0,002	0,002	0,002	0,002	0,002	0,003	0,002	0,002
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	6,08	6,21	4,87	6,68	6,35	5,89	6,10	5,92	5,64	6,27	5,65
Cadmium	Cd	mg/l	<0,000003	<0,000003	<0,000003	<0,000003	0,000003	0,000003	<0,000003	<0,000003	<0,000003	0,000003	<0,000003
Cobalt	Co	mg/l	0,000124	0,000055	0,000061	0,000053	0,000078	0,000050	0,000054	0,000055	0,000083	0,000074	0,000058
Chrome	Cr	mg/l	0,00024	0,00008	0,00014	<0,00008	<0,00008	0,00009	<0,00008	0,00012	<0,00008	<0,00008	<0,00014
Cuivre	Cu	mg/l	<0,0002	<0,0002	0,0002	0,0004	0,0003	0,0002	<0,0002	<0,0002	0,0003	<0,0002	<0,0002
Fer	Fe	mg/l	0,067	0,007	<0,015	<0,007	0,016	<0,007	<0,01	0,012	<0,011	<0,007	0,009
Potassium	K	mg/l	0,076	0,067	0,043	0,083	0,076	0,064	0,063	0,062	0,054	0,066	0,046
Lithium	Li	mg/l	0,0077	0,0064	0,0043	0,0061	0,0054	0,0051	0,0052	0,0049	0,0048	0,0057	0,0055
Magnésium	Mg	mg/l	0,453	0,417	0,274	0,422	0,39	0,313	0,328	0,304	0,316	0,332	0,284
Manganese	Mn	mg/l	0,00473	0,00400	0,00438	0,00364	0,00476	0,00391	0,00520	0,00545	0,00566	0,00609	0,00602
Molybdène	Mo	mg/l	0,00007	0,00014	0,00016	0,00016	0,00015	0,00008	0,00034	0,00014	0,00019	0,00051	0,00017
Sodium	Na	mg/l	0,62	0,57	0,37	0,52	0,46	0,39	0,32	0,32	0,32	0,29	0,27
Nickel	Ni	mg/l	0,0003	0,0002	0,0010	0,0003	0,0002	0,0001	0,0001	0,0002	0,0003	0,0002	0,0003
Plomb	Pb	mg/l	<0,00009	<0,00009	<0,00009	<0,00009	0,00009	0,00009	<0,00009	<0,00009	<0,00009	0,00009	0,00009
Antimoine	Sb	mg/l	0,0141	0,0134	0,0114	0,0140	0,0117	0,0129	0,0099	0,0100	0,0075	0,0102	0,0075
Sélénium	Se	mg/l	0,00018	0,00016	0,00010	0,00020	0,00012	0,00015	0,00013	0,00010	0,00014	0,00010	0,0001
Etain	Sn	mg/l	<0,00007	<0,00007	0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00007	<0,00006
Strontium	Sr	mg/l	0,0070	0,0069	0,00527	0,0076	0,0070	0,0062	0,0061	0,0057	0,0055	0,0062	0,0053
Titane	Ti	mg/l	0,00306	0,00024	0,00032	0,00038	0,00044	0,00024	0,00043	0,00054	0,00051	0,00035	0,00019
Thallium	Th	mg/l	0,000013	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	0,000005	<0,000005
Uranium	U	mg/l	0,000035	0,00020	0,000085	0,000098	0,000115	0,002630	0,00022	0,000181	0,009230	0,00009	0,000047
Vanadium	V	mg/l	0,00443	0,00430	0,00319	0,00420	0,00381	0,00400	0,00355	0,00326	0,00329	0,00345	0,00282
Tungstène	W	mg/l	0,00018	0,00005	0,00004	0,00004	0,00005	0,00003	0,00005	0,00013	0,00016	0,00004	0,00003
Yttrium	Y	mg/l	<0,00003	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l					0,00001	<0,00001		<0,00001		<0,00001	
Cérium (total)	Ce	mg/l					<0,00001	<0,00001		0,00001		<0,00001	
Césium (total)	Cs	mg/l					0,0022	0,0026		0,0021		0,0022	
Dysprosium (total)	Dy	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Erbium (total)	Er	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Europium (total)	Eu	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Gallium (total)	Ga	mg/l					<0,0002	<0,0002		<0,0002		<0,0001	
Gadolinium (total)	Gd	mg/l					<0,00001	<0,00001		<0,00001		<0,00001	
Germanium (total)	Ge	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Hafnium (total)	Hf	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Holmium (total)	Ho	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Indium (total)	In	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Iridium (total)	Ir	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Lanthanum (total)	La	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Lutetium (total)	Lu	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Niobium (total)	Nb	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Néodymium (total)	Nd	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Osmium (total)	Os	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Palladium (total)	Pd	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Praseodymium (total)	Pr	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Platinum (total)	Pt	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Rubidium (total)	Rb	mg/l					0,0007	0,0006		0,0005		0,0005	
Rhenium (total)	Re	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Rhodium (total)	Rh	mg/l					<0,00001	<0,00001		<0,00001		<0,00001	
Scandium (total)	Sc	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Samarium (total)	Sm	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Tantalum (total)	Ta	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Terbium (total)	Tb	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Tellurium (total)	Te	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Thorium (total)	Th	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Thulium (total)	Tm	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Ytterbium (total)	Yb	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	

Résultats HCT – CV5-WR-HCT-14

Analyse	Symbole	Unité	Sem. #22	Sem. #23	Sem. #24	Sem. #25	Sem. #26	Sem. #27	Sem. #28	Sem. #29	Sem. #30	Sem. #31	Sem. #32
			2023-09-28	2023-10-05	2023-10-12	2023-10-19	2023-10-26	2023-11-02	2023-11-09	2023-11-16	2023-11-23	2023-11-30	2023-12-07
Volume du lixiviat	V	mL	986	997	998	995	995	998	996	971	976	984	1012
pH	pH	No unit	7,72	7,58	7,51	7,43	7,45	7,49	7,59	7,65	7,4	7,30	7,64
Alkalinité	Alkalinité	$mgCaCO_3/l$	15	13	13	12	12	12	12	11	11	10	12
Conductivité	Conductivité	µS/cm	31	29	29	31	27	26	26	27	29	27	28
Acidité	Acidité	$mgCaCO_3/l$	<2,0	2	<2,0	2	2	<2,0	2	<2,0	2	<2,0	<2,0
Fluoride	F	mg/l				<0,06					<0,06		
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,56	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Sulfate	SO_4^{2-}	mg/l	2	2	2	2	2	2	2	2	2	2	2
Chlore	Cl^-	mg/l				1					<1,0		
Nitrite	NO_2^-	mgN/l				0,03					<0,03		
Nitrate	NO_3^-	mgN/l				0,06					<0,06		
Bromide	Br	mg/l				0,3					<0,3		
Mercure	Hg	mg/l				<0,00001					<0,00001		
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,103	0,101	0,1	0,092	0,081	0,080	0,091	0,083	0,093	0,085	0,086
Arsenic	As	mg/l	0,0521	0,0437	0,0456	0,0409	0,0377	0,0383	0,0349	0,0377	0,0371	0,0353	0,0391
Baryum	Ba	mg/l	0,00014	0,00018	0,0002	0,0001	0,00024	0,00021	0,00011	0,00013	0,00015	0,00012	0,00026
Beryllium	Be	mg/l	<0,000007	<0,000007	0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	0,000007	<0,000007	<0,000007
Bore	B	mg/l	0,002	0,002	0,002	0,002	0,002	0,002	0,002	0,002	0,002	0,002	0,002
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	5,66	5,73	5,8	5,59	5,15	5,65	5,29	4,71	5,41	4,86	5,00
Cadmium	Cd	mg/l	0,000003	<0,000003	0,000003	<0,000003	<0,000003	0,000003	<0,000003	0,000003	0,000003	0,000005	<0,000003
Cobalt	Co	mg/l	0,000061	0,000057	0,000057	0,000056	0,000044	0,000054	0,000045	0,000051	0,000052	0,000051	0,000068
Chrome	Cr	mg/l	<0,00008	<0,00008	<0,00008	<0,00013	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008
Cuivre	Cu	mg/l	<0,0006	<0,0016	0,0003	<0,0015	<0,0002	<0,0002	<0,0002	0,0002	<0,0002	<0,0003	<0,0002
Fer	Fe	mg/l	<0,007	<0,011	<0,013	<0,007	<0,008	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007
Potassium	K	mg/l	0,058	0,048	0,059	0,055	0,058	0,034	0,035	0,02	0,042	0,038	0,031
Lithium	Li	mg/l	0,0052	0,0047	0,0049	0,0043	0,0037	0,0038	0,0036	0,003	0,0045	0,0040	0,0044
Magnésium	Mg	mg/l	0,292	0,265	0,271	0,252	0,225	0,236	0,196	0,193	0,24	0,211	0,220
Manganese	Mn	mg/l	0,00525	0,00579	0,0064	0,00582	0,00558	0,00608	0,00577	0,00597	0,00537	0,00517	0,00575
Molybdène	Mo	mg/l	0,00019	0,00081	0,00019	0,00013	0,00038	0,00008	0,00008	0,00004	0,00018	0,00036	0,00010
Sodium	Na	mg/l	0,28	0,23	0,42	0,22	0,27	0,21	0,17	0,14	0,19	0,22	0,20
Nickel	Ni	mg/l	0,0002	0,0002	0,0003	0,0002	0,0001	0,0001	0,0001	0,0001	0,0001	0,0001	0,0001
Plomb	Pb	mg/l	0,00011	<0,00009	<0,00009	0,00011	0,00009	0,00009	<0,00009	<0,00009	<0,00009	0,00018	<0,00009
Antimoine	Sb	mg/l	0,0071	0,0073	0,0064	0,0073	0,0052	0,0066	0,0039	0,0043	0,0053	0,0046	0,0059
Sélénium	Se	mg/l	0,00013	0,00012	0,00011	0,00007	0,00017	0,00006	0,0001	0,00011	0,00009	0,00018	0,00009
Etain	Sn	mg/l	<0,00006	<0,00006	<0,00006	0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006
Strontium	Sr	mg/l	0,0055	0,00521	0,0052	0,00502	0,00462	0,0046	0,00379	0,00411	0,00401	0,0040	0,0048
Titane	Ti	mg/l	0,00021	<0,00041	0,00033	0,0003	0,00016	0,00017	<0,00023	0,00033	0,00026	0,00023	<0,00025
Thallium	Th	mg/l	0,000005	<0,000005	<0,000005	<0,000005	<0,000005	0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005
Uranium	U	mg/l	0,000054	0,000703	0,000287	0,00281	0,000237	0,000088	0,000136	0,000357	0,000635	0,00209	0,000779
Vanadium	V	mg/l	0,00334	0,00285	0,00299	0,00262	0,00233	0,00243	0,00227	0,00228	0,00243	0,00235	0,00236
Tungstène	W	mg/l	0,00003	0,00003	0,00002	0,00002	0,00003	0,00002	0,00002	0,00003	0,00003	0,00002	0,00002
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l				0,002					<0,00001		
Cérium (total)	Ce	mg/l				0,00001					<0,00001		
Césium (total)	Cs	mg/l				0,00001					0,0015		
Dysprosium (total)	Dy	mg/l				0,002					<0,0001		
Erbium (total)	Er	mg/l				0,0001					<0,0001		
Europium (total)	Eu	mg/l				0,0001					<0,0001		
Gallium (total)	Ga	mg/l				0,0001					<0,0001		
Gadolinium (total)	Gd	mg/l				0,0002					<0,00001		
Germanium (total)	Ge	mg/l				0,00001					<0,0001		
Hafnium (total)	Hf	mg/l				0,0001					<0,0001		
Holmium (total)	Ho	mg/l				0,0001					<0,0001		
Indium (total)	In	mg/l				0,0001					<0,0001		
Iridium (total)	Ir	mg/l				0,0001					<0,0001		
Lanthanum (total)	La	mg/l				0,0001					<0,0001		
Lutetium (total)	Lu	mg/l				0,0001					<0,0001		
Niobium (total)	Nb	mg/l				0,0001					<0,0001		
Néodymium (total)	Nd	mg/l				0,0001					<0,0001		
Osmium (total)	Os	mg/l				0,0001					<0,0001		
Palladium (total)	Pd	mg/l				0,0001					<0,0001		
Praseodymium (total)	Pr	mg/l				0,0001					<0,0001		
Platinum (total)	Pt	mg/l				0,0001					<0,0001		
Rubidium (total)	Rb	mg/l				0,0001					0,0004		
Rhenium (total)	Re	mg/l				0,0005					<0,0001		
Rhodium (total)	Rh	mg/l				0,0001					<0,00001		
Scandium (total)	Sc	mg/l				0,00001					<0,0001		
Samarium (total)	Sm	mg/l				0,0001					<0,0001		
Tantalum (total)	Ta	mg/l				0,0001					<0,0001		
Terbium (total)	Tb	mg/l				0,0001					<0,0001		
Tellurium (total)	Te	mg/l				0,0001					<0,0001		
Thorium (total)	Th	mg/l				0,0001					<0,0001		
Thulium (total)	Tm	mg/l				0,0001					<0,0001		
Ytterbium (total)	Yb	mg/l				0,0001					<0,0001		

Résultats HCT – CV5-WR-HCT-14

Analyse	Symbole	Unité	Sem. #33	Sem. #34	Sem. #35	Sem. #36	Sem. #37	Sem. #38	Sem. #39	Sem. #40	Sem. #41	Sem. #42	Sem. #43
			2023-12-14	2023-12-21	2023-12-28	2024-01-04	2024-01-11	2024-01-18	2024-01-25	2024-02-01	2024-02-08	2024-02-15	2024-02-22
Volume du lixiviat	V	mL	957	994	988	940	984	983	1017	932	988	976	953
pH	pH	No unit	7,51	7,42	7,71	7,58	8,87	7,47	7,71	7,85	7,71	7,88	7,79
Alkalinité	Alkalinité	$mgCaCO_3/l$	13	12	13	13	12	12	12	10	12	13	13
Conductivité	Conductivité	µS/cm	28	32	33	32	30	29	30	26	28	28	29
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0
Fluoride	F	mg/l	<0,06		<0,06					<0,06			
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Sulfate	SO_4^{2-}	mg/l	2	2	2	2	2	2	2	2	2	2	2
Chlore	Cl^-	mg/l	***		<1,0					1			
Nitrite	NO_2^-	mgN/l	***		<0,03					<0,03			
Nitrate	NO_3^-	mgN/l	***		<0,06					<0,06			
Bromide	Br	mg/l	***		<0,3					<0,3			
Mercure	Hg	mg/l	***		<0,00001					<0,00001			
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,132	0,096	0,106	0,094	0,099	0,096	0,090	0,104	0,096	0,105	0,108
Arsenic	As	mg/l	0,0382	0,0392	0,0414	0,0396	0,0360	0,0374	0,0356	0,0318	0,0372	0,0340	0,0375
Baryum	Ba	mg/l	0,00011	0,00019	0,00018	0,00111	0,00014	0,00008	0,00075	0,00012	0,00051	0,00014	0,00009
Beryllium	Be	mg/l	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007
Bore	B	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00002	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	5,23	5,37	5,71	5,21	5,33	5,21	5,31	5,06	4,88	5,05	5,19
Cadmium	Cd	mg/l	<0,000003	<0,000003	<0,000005	<0,000003	<0,000003	<0,000003	0,000003	<0,000003	<0,000003	<0,000003	<0,000003
Cobalt	Co	mg/l	0,000058	0,000057	0,000061	0,000055	0,000086	0,000077	0,000071	0,000072	0,000063	0,000070	0,000070
Chrome	Cr	mg/l	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008
Cuivre	Cu	mg/l	<0,0002	0,0002	<0,0004	<0,0002	0,0003	<0,0002	<0,002	<0,002	<0,002	<0,001	<0,001
Fer	Fe	mg/l	<0,007	<0,007	<0,008	<0,007	<0,01	<0,007	<0,007	0,013	<0,01	<0,009	<0,008
Potassium	K	mg/l	0,033	0,026	0,040	0,041	0,044	0,036	0,045	0,043	0,030	0,018	0,030
Lithium	Li	mg/l	0,0045	0,0041	0,0044	0,0043	0,0046	0,0045	0,0040	0,0034	0,0035	0,0030	0,0037
Magnésium	Mg	mg/l	0,222	0,212	0,236	0,226	0,229	0,225	0,213	0,203	0,182	0,176	0,198
Manganese	Mn	mg/l	0,00538	0,00532	0,00585	0,00481	0,00566	0,00517	0,00575	0,00542	0,00574	0,00557	0,00557
Molybdène	Mo	mg/l	0,00034	0,00054	0,00034	0,00011	0,00008	0,00054	0,00040	<0,0004	<0,0004	<0,0004	<0,001
Sodium	Na	mg/l	0,17	0,15	0,22	0,21	0,19	0,24	0,14	0,20	0,14	0,13	0,15
Nickel	Ni	mg/l	0,0002	0,0002	0,0003	0,0001	0,0004	0,0001	0,0003	0,0003	0,0002	0,0003	0,0002
Plomb	Pb	mg/l	0,00009	<0,00009	<0,00256	<0,00009	0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00014	<0,00009
Antimoine	Sb	mg/l	0,0054	0,0047	0,0046	0,0041	0,0047	0,0046	0,0044	0,0032	0,0038	0,0026	0,0034
Sélénium	Se	mg/l	0,00009	0,00007	0,00010	0,00009	0,00008	0,00008	0,00008	0,00010	0,00010	0,00010	0,00010
Etain	Sn	mg/l	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006
Strontium	Sr	mg/l	0,0045	0,0044	0,0047	0,0048	0,0047	0,0043	0,0049	0,00361	0,00418	0,00363	0,00396
Titane	Ti	mg/l	<0,00013	0,00024	<0,00018	0,00017	0,00033	0,00035	0,00018	0,0006	0,0002	<0,00045	<0,00038
Thallium	Th	mg/l	<0,000005	<0,000005	<0,000006	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005
Uranium	U	mg/l	0,015900	0,000160	0,00310	0,000668	0,000314	0,00337	0,00009	0,000128	0,000666	0,002500	0,006010
Vanadium	V	mg/l	0,00236	0,00247	0,00289	0,00252	0,00235	0,00258	0,00239	0,00225	0,00252	0,00242	0,00249
Tungstène	W	mg/l	0,00002	0,00002	0,00003	0,00002	0,00002	0,00002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l			<0,00001					<0,00001			
Cérium (total)	Ce	mg/l			<0,00001					0,00001			
Césium (total)	Cs	mg/l			0,0016					0,0015			
Dysprosium (total)	Dy	mg/l			<0,0001					<0,00001			
Erbium (total)	Er	mg/l			<0,0001					<0,00001			
Europium (total)	Eu	mg/l			<0,0001					<0,00001			
Gallium (total)	Ga	mg/l			<0,0002					<0,0001			
Gadolinium (total)	Gd	mg/l			<0,00001					<0,00001			
Germanium (total)	Ge	mg/l			<0,0001					<0,0001			
Hafnium (total)	Hf	mg/l			<0,0001					<0,0001			
Holmium (total)	Ho	mg/l			<0,0001					<0,00001			
Indium (total)	In	mg/l			<0,0001					<0,00001			
Iridium (total)	Ir	mg/l			<0,0001					<0,00001			
Lanthanum (total)	La	mg/l			<0,0001					<0,00001			
Lutetium (total)	Lu	mg/l			<0,0001					<0,0001			
Niobium (total)	Nb	mg/l			<0,0001					<0,00001			
Néodymium (total)	Nd	mg/l			<0,0001					<0,00001			
Osmium (total)	Os	mg/l			<0,0001					<0,0001			
Palladium (total)	Pd	mg/l			<0,0001					<0,0001			
Praseodymium (total)	Pr	mg/l			<0,0001					<0,00001			
Platinum (total)	Pt	mg/l			<0,0001					<0,0001			
Rubidium (total)	Rb	mg/l			0,0004					0,0004			
Rhenium (total)	Re	mg/l			<0,0001					<0,0001			
Rhodium (total)	Rh	mg/l			<0,00001					<0,00001			
Scandium (total)	Sc	mg/l			<0,0001					<0,0001			
Samarium (total)	Sm	mg/l			<0,0001					<0,00001			
Tantalum (total)	Ta	mg/l			<0,0001					<0,0001			
Terbium (total)	Tb	mg/l			<0,0001					<0,00001			
Tellurium (total)	Te	mg/l			<0,0001					<0,0001			
Thorium (total)	Th	mg/l			<0,0001					<0,0001			
Thulium (total)	Tm	mg/l			<0,0001					<0,00001			
Ytterbium (total)	Yb	mg/l			<0,0001					<0,00001			

Résultats HCT – CV5-WR-HCT-14

Analyse	Symbole	Unité	Sem. #44	Sem. #45	Sem. #46	Sem. #47	Sem. #48	Sem. #49	Sem. #50	Sem. #51	Sem. #52	Sem. #53	Sem. #54
			2024-02-29	2024-03-07	2024-03-14	2024-03-21	2024-03-28	2024-04-04	2024-04-11	2024-04-18	2024-04-25	2024-05-02	2024-05-09
Volume du lixiviat	V	mL	948	1014	986	982	961	989	1008	971	1007	1000	995
pH	pH	No unit	8,09	7,92	7,68	7,76	7,48	7,75	7,77	7,52	7,85	7,72	8,05
Alkalinité	Alkalinité	$mgCaCO_3/l$	13	13	13	12	15	13	12	12	13	12	12
Conductivité	Conductivité	µS/cm	30	30	29	28	28	32	30	29	27	25	27
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0
Fluoride	F	mg/l		<0,06					<0,06				
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Sulfate	SO_4^{2-}	mg/l	4	2	2	2	2	2	2	2	2	2	2
Chlore	Cl^-	mg/l		<1,0					<1,0				
Nitrite	NO_2^-	mgN/l		<0,03					<0,03				
Nitrate	NO_3^-	mgN/l		<0,06					<0,06				
Bromide	Br	mg/l		<0,3					<0,3				
Mercure	Hg	mg/l		<0,00001					<0,00001				
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,105	0,102	0,089	0,099	0,102	0,106	0,105	0,082	0,093	0,087	0,103
Arsenic	As	mg/l	0,0316	0,0336	0,0307	0,0340	0,0310	0,0344	0,0303	0,0285	0,0277	0,0261	0,0284
Baryum	Ba	mg/l	0,00103	0,00014	0,00011	0,00016	0,00011	0,00008	0,00018	0,00024	0,00009	0,00008	0,00009
Beryllium	Be	mg/l	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007
Bore	B	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	4,87	5,51	4,87	5,66	4,89	5,34	5,63	4,46	5,22	5,14	5,30
Cadmium	Cd	mg/l	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000005	<0,000003
Cobalt	Co	mg/l	0,000067	0,000056	0,000057	0,000064	0,000053	0,000052	0,000095	0,000042	0,000049	0,000082	0,000055
Chrome	Cr	mg/l	<0,00008	<0,00009	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008
Cuivre	Cu	mg/l	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001
Fer	Fe	mg/l	<0,011	<0,007	<0,008	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007
Potassium	K	mg/l	0,024	0,035	0,020	0,031	0,028	0,029	0,021	0,022	0,017	0,031	0,026
Lithium	Li	mg/l	0,0034	0,0035	0,0033	0,0032	0,0028	0,0032	0,0034	0,0027	0,0031	0,0035	0,0032
Magnésium	Mg	mg/l	0,192	0,211	0,184	0,188	0,171	0,181	0,189	0,146	0,161	0,170	0,168
Manganese	Mn	mg/l	0,00567	0,00499	0,00464	0,00540	0,00467	0,00518	0,00511	0,00420	0,00525	0,00529	0,00513
Molybdène	Mo	mg/l	<0,0011	<0,0004	<0,0029	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004
Sodium	Na	mg/l	0,12	0,13	0,12	0,12	0,12	0,13	0,11	0,11	0,11	0,13	0,12
Nickel	Ni	mg/l	0,0003	0,0001	0,0001	0,0004	0,0002	0,0002	0,0002	0,0001	0,0002	0,0002	0,0001
Plomb	Pb	mg/l	<0,00009	<0,00009	<0,00009	<0,00009	<0,00017	<0,00009	<0,0001	<0,00009	<0,00009	<0,00009	<0,00009
Antimoine	Sb	mg/l	0,0027	0,0038	0,0031	0,0036	0,0026	0,0033	0,0029	0,0027	0,0031	0,0027	0,0030
Sélénium	Se	mg/l	0,00006	0,00007	0,00009	0,00010	0,00009	0,00011	0,00010	0,00008	0,00011	0,00004	0,00009
Etain	Sn	mg/l	<0,00006	<0,00006	<0,00019	<0,00006	<0,00009	<0,00032	<0,00006	<0,00011	<0,00012	<0,00006	<0,00006
Strontium	Sr	mg/l	0,00490	0,00400	0,00384	0,00382	0,00335	0,00365	0,00393	0,00297	0,00337	0,00330	0,00355
Titane	Ti	mg/l	0,0005	<0,00012	<0,0002	0,0001	0,0002	<0,00013	0,0001	<0,00011	<0,00012	<0,00013	<0,00017
Thallium	Th	mg/l	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005
Uranium	U	mg/l	0,000571	0,000334	0,000026	0,000128	0,000070	0,000024	0,000200	0,000016	0,000132	0,000033	0,000176
Vanadium	V	mg/l	0,00218	0,00232	0,00201	0,00223	0,00208	0,00229	0,00209	0,00174	0,00194	0,00182	0,00212
Tungstène	W	mg/l	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l		<0,00001					<0,00001				
Cérium (total)	Ce	mg/l		<0,00001					<0,00001				
Césium (total)	Cs	mg/l		0,0015					0,0015				
Dysprosium (total)	Dy	mg/l		<0,00001					<0,00001				
Erbium (total)	Er	mg/l		<0,00001					<0,00001				
Europium (total)	Eu	mg/l		<0,00001					<0,00001				
Gallium (total)	Ga	mg/l		<0,0001					<0,0001				
Gadolinium (total)	Gd	mg/l		<0,00001					<0,00001				
Germanium (total)	Ge	mg/l		<0,0001					<0,0001				
Hafnium (total)	Hf	mg/l		<0,0001					<0,0001				
Holmium (total)	Ho	mg/l		<0,00001					<0,00001				
Indium (total)	In	mg/l		<0,00001					<0,00001				
Iridium (total)	Ir	mg/l		<0,00001					<0,00001				
Lanthanum (total)	La	mg/l		<0,00001					<0,00001				
Lutetium (total)	Lu	mg/l		<0,0001					<0,0001				
Niobium (total)	Nb	mg/l		<0,00001					<0,00001				
Néodymium (total)	Nd	mg/l		<0,00001					<0,00001				
Osmium (total)	Os	mg/l		<0,0001					<0,0001				
Palladium (total)	Pd	mg/l		<0,0001					<0,0001				
Praseodymium (total)	Pr	mg/l		<0,00001					<0,00001				
Platinum (total)	Pt	mg/l		<0,0001					<0,0001				
Rubidium (total)	Rb	mg/l		0,0004					0,0003				
Rhenium (total)	Re	mg/l		<0,0001					<0,0001				
Rhodium (total)	Rh	mg/l		<0,00001					<0,00001				
Scandium (total)	Sc	mg/l		<0,0001					<0,0001				
Samarium (total)	Sm	mg/l		<0,00001					<0,00001				
Tantalum (total)	Ta	mg/l		<0,0001					<0,0001				
Terbium (total)	Tb	mg/l		<0,00001					<0,00001				
Tellurium (total)	Te	mg/l		<0,0001					<0,0001				
Thorium (total)	Th	mg/l		<0,0001					<0,0001				
Thulium (total)	Tm	mg/l		<0,00001					<0,00001				
Ytterbium (total)	Yb	mg/l		<0,00001					<0,00001				

Résultats HCT – CV5-WR-HCT-14

Analyse	Symbole	Unité	Sem. #55	Sem. #56	Sem. #57	Sem. #58	Sem. #59	Sem. #60	Sem. #61	Sem. #62	Sem. #63	Sem. #64	Sem. #65
			2024-05-16	2024-05-23	2024-05-30	2024-06-06	2024-06-13	2024-06-20	2024-06-27	2024-07-04	2024-07-11	2024-07-18	2024-07-25
Volume du lixiviat	V	mL	1009	1000	1005	987	1001	991	1013	991	959	983	984
pH	pH	No unit	7,27	7,65	7,59	7,53	7,58	7,42	7,24	7,21	7,32	7,41	7,36
Alkalinité	Alkalinité	$mgCaCO_3/l$	10	12	13	11	12	13	11	11		11	
Conductivité	Conductivité	µS/cm	28	19	25	26	24	26	26	24	24	26	26
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0		<2,0	
Fluoride	F	mg/l	<0,06					<0,06				<0,06	
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03		<0,03	
Sulfate	SO_4^{2-}	mg/l	2	2	2	2	2	2	2	2		2	
Chlore	Cl^-	mg/l	<1,0					<1,0				<1,0	
Nitrite	NO_2^-	mgN/l	<0,03					<0,03				<0,03	
Nitrate	NO_3^-	mgN/l	<0,06					<0,06				<0,06	
Bromide	Br	mg/l	<0,3					<0,3				<0,3	
Mercure	Hg	mg/l	<0,00001					<0,00001				<0,00001	
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005		<0,00005	
Aluminum	Al	mg/l	0,096	0,081	0,071	0,094	0,082	0,088	0,088	0,081		0,101	
Arsenic	As	mg/l	0,0242	0,0223	0,0209	0,0235	0,0238	0,0242	0,0250	0,0212		0,0253	
Baryum	Ba	mg/l	0,00011	0,00010	0,00008	0,00014	0,00012	0,00014	0,00011	0,00014		0,00012	
Beryllium	Be	mg/l	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007		<0,000007	
Bore	B	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002		<0,002	
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001		<0,00001	
Calcium	Ca	mg/l	5,00	4,93	4,83	5,28	4,93	4,95	4,66	4,81		5,07	
Cadmium	Cd	mg/l	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003		<0,000006	
Cobalt	Co	mg/l	0,000059	0,000052	0,000051	0,000183	0,000065	0,000203	0,000050	0,000066		0,000065	
Chrome	Cr	mg/l	<0,00008	<0,00008	<0,00012	<0,00012	<0,00008	<0,00008	<0,00008	<0,00008		<0,00008	
Cuivre	Cu	mg/l	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001		<0,001	
Fer	Fe	mg/l	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007		0,011	
Potassium	K	mg/l	0,022	0,024	0,031	0,032	0,022	0,023	0,026	0,020		0,036	
Lithium	Li	mg/l	0,0030	0,0026	0,0024	0,0029	0,0029	0,0029	0,0029	0,0027		0,0024	
Magnésium	Mg	mg/l	0,150	0,147	0,144	0,157	0,155	0,165	0,144	0,143		0,152	
Manganese	Mn	mg/l	0,00493	0,00514	0,00479	0,00471	0,00509	0,00536	0,00482	0,00471		0,00520	
Molybdène	Mo	mg/l	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004		<0,0127	
Sodium	Na	mg/l	0,13	0,10	0,10	0,11	0,11	0,11	0,09	0,10		0,15	
Nickel	Ni	mg/l	0,0001	0,0007	0,0002	0,0004	0,0003	0,0005	0,0002	0,0004		0,0002	
Plomb	Pb	mg/l	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00014	<0,00009	<0,00009		<0,00009	
Antimoine	Sb	mg/l	0,0023	0,0026	0,0021	0,0024	0,0025	0,0025	0,0026	0,0022		0,0024	
Sélénium	Se	mg/l	0,00007	0,00006	0,00004	0,00007	0,00006	0,00005	0,00007	0,00005		0,00009	
Etain	Sn	mg/l	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006		<0,00006	
Strontium	Sr	mg/l	0,00355	0,00329	0,00261	0,00323	0,00314	0,00333	0,00315	0,00300		0,00327	
Titane	Ti	mg/l	<0,00017	<0,0001	<0,0002	<0,0002	<0,00016	<0,00011	<0,00013	0,0002		<0,00058	
Thallium	Th	mg/l	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005		<0,000005	
Uranium	U	mg/l	0,000082	0,000025	0,000037	0,000027	0,000030	0,000017	0,000016	0,000017		0,000013	
Vanadium	V	mg/l	0,00184	0,00165	0,00133	0,00186	0,00178	0,00185	0,00193	0,00158		0,00209	
Tungstène	W	mg/l	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002		<0,0002	
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002		<0,00002	
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002		<0,002	
Gold (total)	Au	mg/l	<0,00001					<0,00001				<0,00001	
Cérium (total)	Ce	mg/l	0,00001					<0,00001				<0,00001	
Césium (total)	Cs	mg/l	0,0013					0,0013				0,0014	
Dysprosium (total)	Dy	mg/l	<0,00001					<0,00001				<0,00001	
Erbium (total)	Er	mg/l	<0,00001					<0,00001				<0,00001	
Europium (total)	Eu	mg/l	<0,00001					<0,00001				<0,00001	
Gallium (total)	Ga	mg/l	<0,0001					<0,0001				<0,0001	
Gadolinium (total)	Gd	mg/l	<0,00001					<0,00001				<0,00001	
Germanium (total)	Ge	mg/l	<0,0001					<0,0001				<0,0001	
Hafnium (total)	Hf	mg/l	<0,0001					<0,0001				<0,0001	
Holmium (total)	Ho	mg/l	<0,00001					<0,00001				<0,00001	
Indium (total)	In	mg/l	<0,00001					<0,00001				<0,00001	
Iridium (total)	Ir	mg/l	<0,00001					<0,00001				<0,00001	
Lanthanum (total)	La	mg/l	<0,00001					<0,00001				<0,00001	
Lutetium (total)	Lu	mg/l	<0,0001					<0,0001				<0,0001	
Niobium (total)	Nb	mg/l	<0,00001					<0,00001				<0,00001	
Néodymium (total)	Nd	mg/l	<0,00001					<0,00001				<0,00001	
Osmium (total)	Os	mg/l	<0,0001					<0,0001				<0,0001	
Palladium (total)	Pd	mg/l	<0,0001					<0,0001				<0,0001	
Praseodymium (total)	Pr	mg/l	<0,00001					<0,00001				<0,00001	
Platinum (total)	Pt	mg/l	<0,0001					<0,0001				<0,0001	
Rubidium (total)	Rb	mg/l	0,0004					0,0003				0,0003	
Rhenium (total)	Re	mg/l	<0,0001					<0,0001				<0,0001	
Rhodium (total)	Rh	mg/l	<0,00001					<0,00001				<0,00001	
Scandium (total)	Sc	mg/l	<0,0001					<0,0001				<0,0001	
Samarium (total)	Sm	mg/l	<0,00001					<0,00001				<0,00001	
Tantalum (total)	Ta	mg/l	<0,0001					<0,0001				<0,0001	
Terbium (total)	Tb	mg/l	<0,00001					<0,00001				<0,00001	
Tellurium (total)	Te	mg/l	<0,0001					<0,0001				<0,0001	
Thorium (total)	Th	mg/l	<0,0001					<0,0001				<0,0001	
Thulium (total)	Tm	mg/l	<0,00001					<0,00001				<0,00001	
Ytterbium (total)	Yb	mg/l	<0,00001					<0,00001				<0,00001	

Résultats HCT – CV5-WR-HCT-14

Analyse	Symbole	Unité	Sem. #66	Sem. #67	Sem. #68	Sem. #69	Sem. #70	Sem. #71	Sem. #72	Sem. #73	Sem. #74	Sem. #75	Sem. #76
			2024-08-01	2024-08-08	2024-08-15	2024-08-22	2024-08-29	2024-09-05	2024-09-12	2024-09-19	2024-09-26	2024-10-03	2024-10-10
Volume du lixiviat	V	mL	990	1011	1015	939	970	983	1007	1000	1012	989	1007
pH	pH	No unit	7,56	7,74	7,50	7,10	7,48	7,44	7,49	7,37	7,58	7,50	7,22
Alkalinité	Alkalinité	$mgCaCO_3/l$			13				12				12
Conductivité	Conductivité	µS/cm	27	28	29	22	25	34	24	28	25	31	24
Acidité	Acidité	$mgCaCO_3/l$			<2,0				<2,0				<2,0
Fluoride	F	mg/l			<0,06				<0,06				<0,06
Phosphore réactif total	PO_4^{3-}-P	mg/l			<0,03				<0,03				<0,03
Sulfate	SO_4^{2-}	mg/l			2				2				2
Chlore	Cl^-	mg/l			<1,0				<1,0				<1,0
Nitrite	NO_2^-	mgN/l			<0,03				<0,03				<0,03
Nitrate	NO_3^-	mgN/l			<0,06				<0,06				<0,06
Bromide	Br	mg/l			<0,3				<0,3				<0,3
Mercure	Hg	mg/l			<0,00001				<0,00001				<0,00001
Argent	Ag	mg/l			<0,00005				<0,00005				<0,00005
Aluminum	Al	mg/l			0,081				0,069				0,077
Arsenic	As	mg/l			0,0214				0,0187				0,0194
Baryum	Ba	mg/l			0,00010				0,00015				0,00010
Beryllium	Be	mg/l			<0,000007				<0,000007				<0,000007
Bore	B	mg/l			<0,002				<0,002				<0,002
Bismuth	Bi	mg/l			<0,00001				<0,00001				<0,00001
Calcium	Ca	mg/l			5,04				4,98				4,93
Cadmium	Cd	mg/l			<0,000003				<0,000003				<0,000003
Cobalt	Co	mg/l			0,000048				0,000178				0,000044
Chrome	Cr	mg/l			<0,00008				<0,00008				<0,00008
Cuivre	Cu	mg/l			<0,001				<0,001				<0,001
Fer	Fe	mg/l			<0,007				<0,007				<0,007
Potassium	K	mg/l			0,029				0,024				0,017
Lithium	Li	mg/l			0,0030				0,0024				0,0026
Magnésium	Mg	mg/l			0,140				0,130				0,132
Manganese	Mn	mg/l			0,00499				0,00508				0,00520
Molybdène	Mo	mg/l			<0,0004				<0,0004				<0,0004
Sodium	Na	mg/l			0,11				0,10				0,11
Nickel	Ni	mg/l			0,0002				0,0003				0,0001
Plomb	Pb	mg/l			<0,00009				<0,00009				<0,00009
Antimoine	Sb	mg/l			0,0024				0,0021				0,0019
Sélénium	Se	mg/l			0,00006				0,00006				0,00005
Etain	Sn	mg/l			<0,00006				<0,00006				<0,00006
Strontium	Sr	mg/l			0,00306				0,00263				0,00293
Titane	Ti	mg/l			<0,0002				<0,0001				0,0001
Thallium	Th	mg/l			<0,000005				<0,000005				<0,000005
Uranium	U	mg/l			0,000021				0,000020				0,000016
Vanadium	V	mg/l			0,00168				0,00136				0,00161
Tungstène	W	mg/l			<0,0002				<0,0002				<0,0002
Yttrium	Y	mg/l			<0,00002				<0,00002				<0,00002
Zinc	Zn	mg/l			<0,002				<0,002				<0,002
Gold (total)	Au	mg/l			<0,00001				<0,00001				<0,00001
Cérium (total)	Ce	mg/l			<0,00001				<0,00001				<0,00001
Césium (total)	Cs	mg/l			0,0014				0,0012				0,0013
Dysprosium (total)	Dy	mg/l			<0,00001				<0,00001				<0,00001
Erbium (total)	Er	mg/l			<0,00001				<0,00001				<0,00001
Europium (total)	Eu	mg/l			<0,00001				<0,00001				<0,00001
Gallium (total)	Ga	mg/l			<0,0001				<0,0001				<0,0001
Gadolinium (total)	Gd	mg/l			<0,00001				<0,00001				<0,00001
Germanium (total)	Ge	mg/l			<0,0001				<0,0001				<0,0001
Hafnium (total)	Hf	mg/l			<0,0001				<0,0001				<0,0001
Holmium (total)	Ho	mg/l			<0,00001				<0,00001				<0,00001
Indium (total)	In	mg/l			<0,00001				<0,00001				<0,00001
Iridium (total)	Ir	mg/l			<0,00001				<0,00001				<0,00001
Lanthanum (total)	La	mg/l			<0,00001				<0,00001				<0,00001
Lutetium (total)	Lu	mg/l			<0,0001				<0,0001				<0,0001
Niobium (total)	Nb	mg/l			<0,00001				<0,00001				<0,00001
Néodymium (total)	Nd	mg/l			<0,00001				<0,00001				<0,00001
Osmium (total)	Os	mg/l			<0,0001				<0,0001				<0,0001
Palladium (total)	Pd	mg/l			<0,0001				<0,0001				<0,0001
Praseodymium (total)	Pr	mg/l			<0,00001				<0,00001				<0,00001
Platinum (total)	Pt	mg/l			<0,0001				<0,0001				<0,0001
Rubidium (total)	Rb	mg/l			0,0006				0,0003				0,0004
Rhenium (total)	Re	mg/l			<0,0001				<0,0001				<0,0001
Rhodium (total)	Rh	mg/l			<0,00001				<0,00001				<0,00001
Scandium (total)	Sc	mg/l			<0,0001				<0,0001				<0,0001
Samarium (total)	Sm	mg/l			<0,00001				<0,00001				<0,00001
Tantalum (total)	Ta	mg/l			<0,0001				<0,0001				<0,0001
Terbium (total)	Tb	mg/l			<0,00001				<0,00001				<0,00001
Tellurium (total)	Te	mg/l			<0,0001				<0,0001				<0,0001
Thorium (total)	Th	mg/l			<0,0001				<0,0001				<0,0001
Thulium (total)	Tm	mg/l			<0,00001				<0,00001				<0,00001
Ytterbium (total)	Yb	mg/l			<0,00001				<0,00001				<0,00001

Résultats HCT – CV5-WR-HCT-14

Analyse	Symbole	Unité	Sem. #77	Sem. #78	Sem. #79	Sem. #80	Sem. #81	Sem. #82	Sem. #83	Sem. #84	Sem. #85	Sem. #86	Sem. #87
			2024-10-17	2024-10-24	2024-10-31	2024-11-07	2024-11-14	2024-11-21	2024-11-28	2024-12-05	2024-12-12	2024-12-19	2024-12-26
Volume du lixiviat	V	mL	1001	1003	997	1004	991	990	991	1004	993	1015	1024
pH	pH	No unit	7,35	7,25	7,31	7,48	7,18	7,24	7,42	7,43	7,68	7,39	7,46
Alkalinité	Alkalinité	$mgCaCO_3/l$				<11,0				11			
Conductivité	Conductivité	µS/cm	26	26	24	24	24	23	27	24	27	27	28
Acidité	Acidité	$mgCaCO_3/l$				2				<2,0			
Fluoride	F	mg/l				<0,06				<0,06			
Phosphore réactif total	PO_4^{3-}-P	mg/l				<0,03				<0,03			
Sulfate	SO_4^{2-}	mg/l				2				2			
Chlore	Cl^-	mg/l				<1,0				<1,0			
Nitrite	NO_2^-	mgN/l				<0,03				<0,03			
Nitrate	NO_3^-	mgN/l				<0,06				<0,06			
Bromide	Br	mg/l				<0,3				<0,3			
Mercure	Hg	mg/l				<0,00001				<0,00001			
Argent	Ag	mg/l				<0,00005				<0,00005			
Aluminum	Al	mg/l				0,084				0,061			
Arsenic	As	mg/l				0,0202				0,0172			
Baryum	Ba	mg/l				0,00011				0,00012			
Beryllium	Be	mg/l				<0,000007				<0,000007			
Bore	B	mg/l				<0,002				<0,002			
Bismuth	Bi	mg/l				<0,00001				<0,00001			
Calcium	Ca	mg/l				4,69				4,61			
Cadmium	Cd	mg/l				<0,000003				<0,000003			
Cobalt	Co	mg/l				0,000043				0,00005			
Chrome	Cr	mg/l				<0,00008				<0,00008			
Cuivre	Cu	mg/l				<0,001				<0,001			
Fer	Fe	mg/l				<0,007				<0,007			
Potassium	K	mg/l				0,020				0,02			
Lithium	Li	mg/l				0,0027				0,0024			
Magnésium	Mg	mg/l				0,121				0,112			
Manganese	Mn	mg/l				0,00470				0,005			
Molybdène	Mo	mg/l				<0,0004				<0,0004			
Sodium	Na	mg/l				0,10				0,08			
Nickel	Ni	mg/l				0,0001				0,0004			
Plomb	Pb	mg/l				<0,00009				<0,00009			
Antimoine	Sb	mg/l				0,0018				0,0017			
Sélénium	Se	mg/l				0,00004				0,00006			
Etain	Sn	mg/l				<0,00006				<0,00006			
Strontium	Sr	mg/l				0,00286				0,00258			
Titane	Ti	mg/l				<0,0001				<0,0001			
Thallium	Th	mg/l				<0,000005				0,000005			
Uranium	U	mg/l				0,000047				0,000007			
Vanadium	V	mg/l				0,00160				0,00142			
Tungstène	W	mg/l				<0,0002				<0,0002			
Yttrium	Y	mg/l				<0,00002				<0,00002			
Zinc	Zn	mg/l				<0,002				<0,002			
Gold (total)	Au	mg/l				<0,00001				<0,00001			
Cérium (total)	Ce	mg/l				<0,00001				<0,00001			
Césium (total)	Cs	mg/l				0,0009				0,0012			
Dysprosium (total)	Dy	mg/l				<0,00001				<0,00001			
Erbium (total)	Er	mg/l				<0,00001				<0,00001			
Europium (total)	Eu	mg/l				<0,00001				<0,00001			
Gallium (total)	Ga	mg/l				<0,0001				<0,0001			
Gadolinium (total)	Gd	mg/l				<0,00001				<0,00001			
Germanium (total)	Ge	mg/l				<0,0001				<0,0001			
Hafnium (total)	Hf	mg/l				<0,0001				<0,0001			
Holmium (total)	Ho	mg/l				<0,00001				<0,00001			
Indium (total)	In	mg/l				<0,00001				<0,00001			
Iridium (total)	Ir	mg/l				<0,00001				<0,00001			
Lanthanum (total)	La	mg/l				<0,00001				<0,00001			
Lutetium (total)	Lu	mg/l				<0,0001				<0,0001			
Niobium (total)	Nb	mg/l				<0,00001				<0,00001			
Néodymium (total)	Nd	mg/l				<0,00001				<0,00001			
Osmium (total)	Os	mg/l				<0,0001				<0,0001			
Palladium (total)	Pd	mg/l				<0,0001				<0,0001			
Praseodymium (total)	Pr	mg/l				<0,00001				<0,00001			
Platinum (total)	Pt	mg/l				<0,0001				<0,0001			
Rubidium (total)	Rb	mg/l				0,0002				0,0002			
Rhenium (total)	Re	mg/l				<0,0001				<0,0001			
Rhodium (total)	Rh	mg/l				<0,00001				<0,00001			
Scandium (total)	Sc	mg/l				<0,0001				<0,0001			
Samarium (total)	Sm	mg/l				<0,00001				<0,00001			
Tantalum (total)	Ta	mg/l				<0,0001				<0,0001			
Terbium (total)	Tb	mg/l				<0,00001				<0,00001			
Tellurium (total)	Te	mg/l				<0,0001				<0,0001			
Thorium (total)	Th	mg/l				<0,0001				<0,0001			
Thulium (total)	Tm	mg/l				<0,00001				<0,00001			
Ytterbium (total)	Yb	mg/l				<0,00001				<0,00001			

Résultats HCT – CV5-WR-HCT-14

Analyse	Symbole	Unité	Sem. #88	Sem. #89
			2025-01-02	2025-01-09
Volume du lixiviat	V	mL	1014	994
pH	pH	No unit	7,14	6,88
Alkalinité	Alkalinité	mg$CaCO_3$/l	11	
Conductivité	Conductivité	µS/cm	27	31
Acidité	Acidité	mg$CaCO_3$/l	2	
Fluoride	F	mg/l	<0,06	
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	
Sulfate	SO_4^{2-}	mg/l	2	
Chlore	Cl^-	mg/l	<1,0	
Nitrite	NO_2^-	mgN/l	<0,03	
Nitrate	NO_3^-	mgN/l	<0,06	
Bromide	Br	mg/l	<0,3	
Mercure	Hg	mg/l	<0,00001	
Argent	Ag	mg/l	<0,00005	
Aluminum	Al	mg/l	0,078	
Arsenic	As	mg/l	0,0164	
Baryum	Ba	mg/l	0,00008	
Beryllium	Be	mg/l	<0,000007	
Bore	B	mg/l	<0,002	
Bismuth	Bi	mg/l	<0,00001	
Calcium	Ca	mg/l	4,79	
Cadmium	Cd	mg/l	<0,000003	
Cobalt	Co	mg/l	0,000059	
Chrome	Cr	mg/l	<0,00008	
Cuivre	Cu	mg/l	<0,001	
Fer	Fe	mg/l	<0,007	
Potassium	K	mg/l	0,021	
Lithium	Li	mg/l	0,0023	
Magnésium	Mg	mg/l	0,124	
Manganese	Mn	mg/l	0,00567	
Molybdène	Mo	mg/l	<0,0004	
Sodium	Na	mg/l	0,09	
Nickel	Ni	mg/l	0,0002	
Plomb	Pb	mg/l	<0,00009	
Antimoine	Sb	mg/l	<0,0015	
Sélénium	Se	mg/l	0,00005	
Etain	Sn	mg/l	<0,00006	
Strontium	Sr	mg/l	0,00282	
Titane	Ti	mg/l	<0,00011	
Thallium	Th	mg/l	0,000005	
Uranium	U	mg/l	0,000002	
Vanadium	V	mg/l	0,00134	
Tungstène	W	mg/l	<0,0002	
Yttrium	Y	mg/l	<0,00002	
Zinc	Zn	mg/l	<0,002	
Gold (total)	Au	mg/l	<0,00001	
Cérium (total)	Ce	mg/l	0,00001	
Césium (total)	Cs	mg/l	0,0014	
Dysprosium (total)	Dy	mg/l	<0,00001	
Erbium (total)	Er	mg/l	<0,00001	
Europium (total)	Eu	mg/l	<0,00001	
Gallium (total)	Ga	mg/l	<0,0001	
Gadolinium (total)	Gd	mg/l	<0,00001	
Germanium (total)	Ge	mg/l	<0,0001	
Hafnium (total)	Hf	mg/l	<0,0001	
Holmium (total)	Ho	mg/l	<0,00001	
Indium (total)	In	mg/l	<0,00001	
Iridium (total)	Ir	mg/l	<0,00001	
Lanthanum (total)	La	mg/l	0,00001	
Lutetium (total)	Lu	mg/l	<0,0001	
Niobium (total)	Nb	mg/l	<0,00001	
Néodymium (total)	Nd	mg/l	<0,00001	
Osmium (total)	Os	mg/l	<0,0001	
Palladium (total)	Pd	mg/l	<0,0001	
Praseodymium (total)	Pr	mg/l	<0,00001	
Platinum (total)	Pt	mg/l	<0,0001	
Rubidium (total)	Rb	mg/l	0,0003	
Rhenium (total)	Re	mg/l	<0,0001	
Rhodium (total)	Rh	mg/l	<0,00001	
Scandium (total)	Sc	mg/l	<0,0001	
Samarium (total)	Sm	mg/l	<0,00001	
Tantalum (total)	Ta	mg/l	<0,0001	
Terbium (total)	Tb	mg/l	<0,00001	
Tellurium (total)	Te	mg/l	<0,0001	
Thorium (total)	Th	mg/l	<0,0001	
Thulium (total)	Tm	mg/l	<0,00001	
Ytterbium (total)	Yb	mg/l	<0,00001	

Résultats HCT – CV5-WR-HCT-14

Analyse	Symbole	Unité	Sem. #90	Sem. #91	Sem. #92	Sem. #93	Sem. #94	Sem. #95	Sem. #96	Sem. #97	Sem. #98	Sem. #99	Sem. #100
			2025-01-16	2025-01-23	2025-01-30	2025-02-06	2025-02-13	2025-02-20	2025-02-27	2025-03-06	2025-03-13	2025-03-20	2025-03-27
Volume du lixiviat	V	mL	997	1013	1018	998	989	1020	1012	1019	1000	987	977
pH	pH	No unit	6,95	6,8	7,17	7,01	6,85	6,74	7,33	6,98	6,85	7,11	7,11
Alkalinité	Alkalinité	$mgCaCO_3/l$			13				<11,0				<8,0
Conductivité	Conductivité	µS/cm	27	28	25	28	24	25	25	27	24	24	21
Acidité	Acidité	$mgCaCO_3/l$			<2,0				2				2
Fluoride	F	mg/l			<0,06				<0,06				<0,06
Phosphore réactif total	PO_4^{3-}-P	mg/l			<0,03				<0,03				<0,03
Sulfate	SO_4^{2-}	mg/l			2				2				2
Chlore	Cl^-	mg/l			<1,0				<1,0				<1,0
Nitrite	NO_2^-	mgN/l			<0,03				<0,03				<0,03
Nitrate	NO_3^-	mgN/l			<0,06				<0,06				<0,06
Bromide	Br	mg/l			<0,3				<0,3				<0,3
Mercure	Hg	mg/l			<0,00001				<0,00001				<0,00001
Argent	Ag	mg/l			<0,00005				<0,00005				<0,00005
Aluminum	Al	mg/l			0,075				0,079				0,066
Arsenic	As	mg/l			0,0193				0,0161				0,0135
Baryum	Ba	mg/l			0,00018				0,00008				0,00008
Beryllium	Be	mg/l			<0,000007				<0,000007				<0,000007
Bore	B	mg/l			<0,002				<0,002				<0,002
Bismuth	Bi	mg/l			<0,00001				<0,00001				<0,00001
Calcium	Ca	mg/l			4,87				4,62				4,10
Cadmium	Cd	mg/l			<0,000003				0,000003				<0,000003
Cobalt	Co	mg/l			0,000052				0,000047				0,000049
Chrome	Cr	mg/l			<0,00008				<0,00008				<0,00008
Cuivre	Cu	mg/l			<0,001				<0,001				<0,001
Fer	Fe	mg/l			<0,007				<0,007				<0,007
Potassium	K	mg/l			0,022				0,024				0,021
Lithium	Li	mg/l			0,0024				0,0026				0,0019
Magnésium	Mg	mg/l			0,118				0,11				0,096
Manganese	Mn	mg/l			0,00561				0,00512				0,00432
Molybdène	Mo	mg/l			<0,0004				<0,0004				<0,0004
Sodium	Na	mg/l			0,09				0,09				0,07
Nickel	Ni	mg/l			0,0002				0,0001				0,0001
Plomb	Pb	mg/l			<0,00009				<0,00009				<0,00009
Antimoine	Sb	mg/l			<0,0017				<0,0015				<0,0013
Sélénium	Se	mg/l			0,00006				0,00004				0,00005
Etain	Sn	mg/l			0,00006				<0,00006				<0,00006
Strontium	Sr	mg/l			0,00294				0,00266				0,00213
Titane	Ti	mg/l			<0,0001				<0,00012				<0,00017
Thallium	Th	mg/l			0,000005				<0,000005				<0,000005
Uranium	U	mg/l			0,00001				0,000024				0,000077
Vanadium	V	mg/l			0,00154				0,0014				0,00121
Tungstène	W	mg/l			<0,0002				<0,0002				<0,0002
Yttrium	Y	mg/l			<0,00002				<0,00002				<0,00002
Zinc	Zn	mg/l			<0,002				<0,002				<0,002
Gold (total)	Au	mg/l			<0,00001				<0,00001				<0,00001
Cérium (total)	Ce	mg/l			0,00001				0,00001				<0,00001
Césium (total)	Cs	mg/l			0,0013				0,0013				0,0011
Dysprosium (total)	Dy	mg/l			<0,00001				<0,00001				<0,00001
Erbium (total)	Er	mg/l			<0,00001				<0,00001				<0,00001
Europium (total)	Eu	mg/l			<0,00001				<0,00001				<0,00001
Gallium (total)	Ga	mg/l			<0,0001				<0,0001				<0,0001
Gadolinium (total)	Gd	mg/l			<0,00001				<0,00001				<0,00001
Germanium (total)	Ge	mg/l			<0,0001				<0,0001				<0,0001
Hafnium (total)	Hf	mg/l			<0,0001				<0,0001				<0,0001
Holmium (total)	Ho	mg/l			<0,00001				<0,00001				<0,00001
Indium (total)	In	mg/l			<0,00001				<0,00001				<0,00001
Iridium (total)	Ir	mg/l			<0,00001				<0,00001				<0,00001
Lanthanum (total)	La	mg/l			0,00001				0,00001				<0,00001
Lutetium (total)	Lu	mg/l			<0,0001				<0,0001				<0,0001
Niobium (total)	Nb	mg/l			<0,00001				<0,00001				<0,00001
Néodymium (total)	Nd	mg/l			<0,00001				<0,00001				<0,00001
Osmium (total)	Os	mg/l			<0,0001				<0,0001				<0,0001
Palladium (total)	Pd	mg/l			<0,0001				<0,0001				<0,0001
Praseodymium (total)	Pr	mg/l			<0,00001				<0,00001				<0,00001
Platinum (total)	Pt	mg/l			<0,0001				<0,0001				<0,0001
Rubidium (total)	Rb	mg/l			0,0003				0,0004				0,0003
Rhenium (total)	Re	mg/l			<0,0001				<0,0001				<0,0001
Rhodium (total)	Rh	mg/l			<0,00001				<0,00001				<0,00001
Scandium (total)	Sc	mg/l			<0,0001				<0,0001				<0,0001
Samarium (total)	Sm	mg/l			<0,00001				<0,00001				<0,00001
Tantalum (total)	Ta	mg/l			<0,0001				<0,0001				<0,0001
Terbium (total)	Tb	mg/l			<0,00001				<0,00001				<0,00001
Tellurium (total)	Te	mg/l			<0,0001				<0,0001				<0,0001
Thorium (total)	Th	mg/l			<0,0001				<0,0001				<0,0001
Thulium (total)	Tm	mg/l			<0,00001				<0,00001				<0,00001
Ytterbium (total)	Yb	mg/l			<0,00001				<0,00001				<0,00001

Résultats HCT – CV5-WR-HCT-22

Analyse	Symbole	Unité	Sem. #0	Sem. #1	Sem. #2	Sem. #3	Sem. #4	Sem. #5	Sem. #6	Sem. #7	Sem. #8	Sem. #9	Sem. #10
			2023-04-27	2023-05-04	2023-05-11	2023-05-18	2023-05-25	2023-06-01	2023-06-08	2023-06-15	2023-06-22	2023-06-29	2023-07-06
Volume du lixiviat	V	mL	821	939	955	992	974	1001	982	995	976	927	927
pH	pH	No unit	7,65	7,44	7,22	7,40	7,18	6,98	7,01	7,29	7,07	7,12	7,19
Alkalinité	Alkalinité	$mgCaCO_3/l$	11	7	6	8	6	6	4	6	6	4	4
Conductivité	Conductivité	µS/cm	28	31	30	33	20	26	18	18	16	17	18
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2,0	2	2	2	2	2	2	2	2	2
Fluoride	F	mg/l	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<0,03	<0,12	<0,08	<0,11	<0,08	<0,06	<0,07	<0,1	<0,04	<0,08
Sulfate	SO_4^{2-}	mg/l	2	3	4	4	3	2	2	2	3	3	3
Chlore	Cl^-	mg/l	2	3	3	1	1	1	<1,0	<1,0	1	1	1
Nitrite	NO_2^-	mgN/l	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Nitrate	NO_3^-	mgN/l	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06
Bromide	Br	mg/l	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3
Mercure	Hg	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,090	0,040	0,029	0,028	0,024	0,020	0,031	0,027	0,033	0,039	0,038
Arsenic	As	mg/l	0,0195	0,1800	0,2810	0,3080	0,3430	0,2930	0,2470	0,2780	0,2720	0,2830	0,3490
Baryum	Ba	mg/l	0,00022	0,00014	0,00014	0,00013	0,00015	0,00059	0,00012	0,00018	0,00014	0,00013	0,00014
Beryllium	Be	mg/l	<0,000007	<0,000007	0,000008	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007
Bore	B	mg/l	0,007	0,016	0,014	0,013	0,013	0,008	0,006	0,007	0,006	0,006	0,007
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	3,56	2,86	2,43	2,35	2,39	2,56	1,92	2,29	2,00	2,02	2,20
Cadmium	Cd	mg/l	<0,000003	<0,000005	<0,000003	0,000003	0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000005
Cobalt	Co	mg/l	0,000028	0,000053	0,000092	0,000101	0,000114	0,000217	0,000109	0,000160	0,000147	0,000143	0,000133
Chrome	Cr	mg/l	0,00010	0,00017	<0,00009	0,00011	<0,00008	<0,00008	<0,0001	<0,00014	<0,00008	0,00017	<0,00012
Cuivre	Cu	mg/l	0,0004	0,0004	<0,0002	<0,0002	0,0003	0,0002	<0,0002	<0,0002	<0,0002	<0,0002	0,0006
Fer	Fe	mg/l	<0,007	0,007	0,007	0,007	<0,007	0,007	0,009	0,008	<0,008	0,010	0,020
Potassium	K	mg/l	0,29	0,27	0,24	0,217	0,182	0,164	0,134	0,122	0,135	0,112	0,138
Lithium	Li	mg/l	0,0148	0,0229	0,0230	0,0202	0,0189	0,0166	0,0139	0,0145	0,0152	0,0141	0,0187
Magnésium	Mg	mg/l	0,237	0,368	0,367	0,359	0,330	0,368	0,290	0,330	0,312	0,302	0,398
Manganese	Mn	mg/l	0,00034	0,00078	0,00094	0,00076	0,00081	0,00151	0,00081	0,00073	0,00077	0,00055	0,00063
Molybdène	Mo	mg/l	0,00024	0,00083	0,00075	0,00165	0,00046	0,00041	0,00039	0,00180	0,00038	0,00046	0,00082
Sodium	Na	mg/l	2,31	3,10	2,58	2,15	1,38	1,17	0,84	0,86	0,73	0,73	0,79
Nickel	Ni	mg/l	0,0002	0,0005	0,0005	0,0006	0,0007	0,0010	0,0005	0,0008	0,0006	0,0005	0,0004
Plomb	Pb	mg/l	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009
Antimoine	Sb	mg/l	0,0034	0,0234	0,0224	0,0278	0,0260	0,0272	0,0193	0,0230	0,0171	0,0174	0,0209
Sélénium	Se	mg/l	0,00004	0,00008	0,00018	0,00004	0,00008	0,00008	0,00014	0,00005	0,00007	0,00010	0,00004
Etain	Sn	mg/l	0,00024	0,00012	0,00011	0,00006	0,00006	0,00006	0,00006	0,00006	<0,00006	<0,00006	0,00006
Strontium	Sr	mg/l	0,0090	0,0102	0,00998	0,0092	0,00946	0,0090	0,0074	0,00828	0,0075	0,00766	0,0088
Titane	Ti	mg/l	0,00013	0,00023	0,00021	0,00037	0,00030	<0,00032	0,00062	0,00032	0,00041	0,00052	0,00037
Thallium	Th	mg/l	0,000013	<0,000006	0,000009	<0,000005	<0,000008	0,000006	<0,000006	<0,000007	<0,000007	<0,000007	<0,000007
Uranium	U	mg/l	0,000041	0,000080	0,000114	0,000465	0,000354	0,000084	0,000155	0,000195	0,00012	0,000714	0,000186
Vanadium	V	mg/l	0,00105	0,00193	0,00199	0,00194	0,00201	0,00171	0,00148	0,00169	0,00158	0,00178	0,00198
Tungstène	W	mg/l	0,00022	0,00057	0,00062	0,00769	0,00033	0,00023	0,00020	0,00017	0,00015	0,00016	0,00021
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l	0,00001	<0,00001	<0,00001	<0,00001	0,00001	<0,00001	<0,00001	<0,00001	0,00001	0,00001	<0,00001
Cérium (total)	Ce	mg/l	0,00001	0,00002	0,00003	0,00003	0,00003	<0,00001	0,00003	0,00002	0,00003	0,00003	0,00004
Césium (total)	Cs	mg/l	0,0172	0,0106	0,0100	0,0090	0,0086	0,0068	0,0068	0,0065	0,0071	0,0059	0,0063
Dysprosium (total)	Dy	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Erbium (total)	Er	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Europium (total)	Eu	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Gallium (total)	Ga	mg/l	0,0001	<0,0001	<0,0001	<0,0001	<0,0001	0,0001	<0,0001	0,0001	<0,0001	<0,0001	<0,0001
Gadolinium (total)	Gd	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Germanium (total)	Ge	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Hafnium (total)	Hf	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Holmium (total)	Ho	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Indium (total)	In	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Iridium (total)	Ir	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Lanthanum (total)	La	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Lutetium (total)	Lu	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Niobium (total)	Nb	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Néodymium (total)	Nd	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Osmium (total)	Os	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Palladium (total)	Pd	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Praseodymium (total)	Pr	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Platinum (total)	Pt	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Rubidium (total)	Rb	mg/l	0,0072	0,0051	0,0041	0,0036	0,0034	0,0031	0,0026	0,0028	0,0025	0,0025	0,0029
Rhenium (total)	Re	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Rhodium (total)	Rh	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Scandium (total)	Sc	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Samarium (total)	Sm	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Tantalum (total)	Ta	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Terbium (total)	Tb	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Tellurium (total)	Te	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Thorium (total)	Th	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Thulium (total)	Tm	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Ytterbium (total)	Yb	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001

Résultats HCT – CV5-WR-HCT-22

Analyse	Symbole	Unité	Sem. #11	Sem. #12	Sem. #13	Sem. #14	Sem. #15	Sem. #16	Sem. #17	Sem. #18	Sem. #19	Sem. #20	Sem. #21
			2023-07-13	2023-07-20	2023-07-27	2023-08-03	2023-08-10	2023-08-17	2023-08-24	2023-08-31	2023-09-07	2023-09-14	2023-09-21
Volume du lixiviat	V	mL	999	996	986	962	904	1001	960	984	982	1004	994
pH	pH	No unit	6,97	7,16	6,96	6,92	6,72	7,11	7,02	7,24	7,14	7,04	6,93
Alkalinité	Alkalinité	$mgCaCO_3/l$	4	4	4	3	5	4	4	6	3	5	6
Conductivité	Conductivité	µS/cm	14	15	13	11	14	15	12	15	12	14	14
Acidité	Acidité	$mgCaCO_3/l$	2	2	2	2	2	2	2	2	2	2	2
Fluoride	F	mg/l				<0,06	<0,06	<0,06		<0,06		0,06	
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,04	<0,07	<0,06	<0,09	<0,09	<0,09	<0,05	<0,09	<0,03	<0,04	<0,05
Sulfate	SO_4^{2-}	mg/l	2	2	2	2	2	2	2	2	2	<2,0	2
Chlore	Cl^-	mg/l					1	<1,0		<1,0		1	
Nitrite	NO_2^-	mgN/l					<0,03	<0,03		<0,03		<0,03	
Nitrate	NO_3^-	mgN/l					<0,06	<0,06		<0,06		<0,06	
Bromide	Br	mg/l					<0,3	<0,3		<0,3		<0,3	
Mercure	Hg	mg/l					<0,00001	<0,00001		<0,00001		<0,00001	
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	0,00013	<0,00005
Aluminum	Al	mg/l	0,057	0,026	0,026	0,034	0,039	0,017	0,027	0,029	0,233	0,022	0,029
Arsenic	As	mg/l	0,2890	0,2700	0,2380	0,2150	0,3420	0,2980	0,2860	0,3180	0,2630	0,2420	0,207
Baryum	Ba	mg/l	0,00013	0,00012	0,00008	0,00012	0,00015	0,00012	0,00009	0,00015	0,00023	0,00024	0,0002
Beryllium	Be	mg/l	0,000009	<0,000007	<0,000007	<0,000009	<0,000007	<0,000007	<0,000007	<0,000008	<0,000007	<0,000007	<0,000007
Bore	B	mg/l	0,005	0,004	0,004	0,003	0,004	0,004	0,003	0,004	0,003	0,003	0,002
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	1,69	1,79	1,29	1,56	1,86	1,67	1,72	2,24	1,95	2,11	2,15
Cadmium	Cd	mg/l	<0,000003	<0,000003	<0,000003	<0,000003	0,000003	0,000003	<0,000003	<0,000003	<0,000003	0,000003	<0,000003
Cobalt	Co	mg/l	0,000264	0,000199	0,000140	0,000140	0,000159	0,000119	0,000123	0,000127	0,000125	0,000172	0,000176
Chrome	Cr	mg/l	0,00044	0,00011	0,00034	<0,00026	<0,00011	0,00016	<0,0001	0,00015	<0,00008	<0,00008	<0,00008
Cuivre	Cu	mg/l	<0,0002	<0,0004	0,0004	0,0002	0,0002	0,0002	<0,0002	<0,0002	0,0003	<0,0002	<0,0002
Fer	Fe	mg/l	0,047	0,043	<0,008	<0,01	0,015	<0,007	<0,009	0,010	<0,007	<0,007	0,013
Potassium	K	mg/l	0,087	0,084	0,058	0,085	0,114	0,081	0,084	0,096	0,079	0,078	0,066
Lithium	Li	mg/l	0,0160	0,0116	0,0088	0,0102	0,0151	0,0106	0,0115	0,0108	0,0092	0,0096	0,0096
Magnésium	Mg	mg/l	0,336	0,305	0,205	0,267	0,37	0,271	0,307	0,339	0,311	0,313	0,296
Manganese	Mn	mg/l	0,00135	0,00088	0,00209	0,00117	0,00076	0,00038	0,00050	0,00064	0,00055	0,00071	0,00078
Molybdène	Mo	mg/l	0,00029	0,00033	0,00040	0,00051	0,00052	0,00018	0,00034	0,00036	0,00050	0,00035	0,00077
Sodium	Na	mg/l	0,46	0,39	0,30	0,37	0,49	0,26	0,25	0,28	0,24	0,18	0,2
Nickel	Ni	mg/l	0,0006	0,0025	0,0014	0,0007	0,0004	0,0003	0,0003	0,0004	0,0004	0,0006	0,0005
Plomb	Pb	mg/l	<0,00009	<0,00009	<0,00009	<0,00009	0,00009	0,00009	<0,00009	<0,00009	<0,00009	0,00009	0,00009
Antimoine	Sb	mg/l	0,0198	0,0155	0,0132	0,0110	0,0199	0,0181	0,0134	0,0149	0,0117	0,0109	0,0098
Sélénium	Se	mg/l	0,00007	0,00006	0,00004	0,00005	0,00009	0,00005	0,00007	0,00005	0,00005	0,00004	0,00004
Etain	Sn	mg/l	<0,00006	<0,00006	0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006
Strontium	Sr	mg/l	0,0064	0,0065	0,00490	0,0059	0,0079	0,0062	0,0065	0,0075	0,0070	0,0072	0,00678
Titane	Ti	mg/l	0,00177	0,00047	0,00046	0,00053	0,00056	0,00018	0,00021	0,00043	0,00023	0,00016	0,00044
Thallium	Th	mg/l	0,000014	<0,000007	<0,000005	<0,000005	<0,000006	<0,000005	<0,000006	<0,000005	<0,000006	0,000006	<0,000005
Uranium	U	mg/l	0,000051	0,00016	0,000321	0,000158	0,000204	0,000409	0,00020	0,000216	0,000607	0,00023	0,000378
Vanadium	V	mg/l	0,00184	0,00164	0,00129	0,00128	0,00173	0,00165	0,00170	0,00197	0,00175	0,00161	0,0015
Tungstène	W	mg/l	0,00017	0,00009	0,00008	0,00006	0,00009	0,00005	0,00007	0,00005	0,00007	0,00006	0,00004
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l					0,00001	<0,00001		<0,00001		<0,00001	
Cérium (total)	Ce	mg/l					<0,00003	<0,00001		0,00004		<0,00001	
Césium (total)	Cs	mg/l					0,0064	0,0056		0,0066		0,0055	
Dysprosium (total)	Dy	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Erbium (total)	Er	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Europium (total)	Eu	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Gallium (total)	Ga	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Gadolinium (total)	Gd	mg/l					<0,00001	<0,00001		<0,00001		<0,00001	
Germanium (total)	Ge	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Hafnium (total)	Hf	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Holmium (total)	Ho	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Indium (total)	In	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Iridium (total)	Ir	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Lanthanum (total)	La	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Lutetium (total)	Lu	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Niobium (total)	Nb	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Néodymium (total)	Nd	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Osmium (total)	Os	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Palladium (total)	Pd	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Praseodymium (total)	Pr	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Platinum (total)	Pt	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Rubidium (total)	Rb	mg/l					0,0029	0,0022		0,0024		0,0021	
Rhenium (total)	Re	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Rhodium (total)	Rh	mg/l					<0,00001	<0,00001		<0,00001		<0,00001	
Scandium (total)	Sc	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Samarium (total)	Sm	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Tantalum (total)	Ta	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Terbium (total)	Tb	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Tellurium (total)	Te	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Thorium (total)	Th	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Thulium (total)	Tm	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Ytterbium (total)	Yb	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	

Résultats HCT – CV5-WR-HCT-22

Analyse	Symbole	Unité	Sem. #22	Sem. #23	Sem. #24	Sem. #25	Sem. #26	Sem. #27	Sem. #28	Sem. #29	Sem. #30	Sem. #31	Sem. #32
			2023-09-28	2023-10-05	2023-10-12	2023-10-19	2023-10-26	2023-11-02	2023-11-09	2023-11-16	2023-11-23	2023-11-30	2023-12-07
Volume du lixiviat	V	mL	990	1011	1005	984	1008	1002	972	976	989	994	1008
pH	pH	No unit	6,91	6,86	6,97	6,88	6,77	6,92	6,93	6,91	6,79	6,68	6,86
Alkalinité	Alkalinité	$mgCaCO_3/l$	10	4	4	4	3	4	4	3	3	3	4
Conductivité	Conductivité	µS/cm	11	11	12	11	9	9	9	9	11	10	12
Acidité	Acidité	$mgCaCO_3/l$	<2,0	2	<2,0	2	2	<2,0	2	<2,0	2	<2,0	<2,0
Fluoride	F	mg/l				<0,06					<0,06		
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<0,04	<0,05	<0,06	<0,03	<0,05	<0,05	<0,08	<0,05	<0,03	<0,03
Sulfate	SO_4^{2-}	mg/l	2	2	2	2	2	2	2	2	2	2	2
Chlore	Cl^-	mg/l				2					<1,0		
Nitrite	NO_2^-	mgN/l				0,03					<0,03		
Nitrate	NO_3^-	mgN/l				0,06					<0,06		
Bromide	Br	mg/l				0,3					<0,3		
Mercure	Hg	mg/l				<0,00001					<0,00001		
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,021	0,024	0,021	0,023	0,023	0,019	0,042	0,03	0,023	0,023	0,028
Arsenic	As	mg/l	0,1920	0,195	0,182	0,161	0,15	0,1560	0,157	0,171	0,18	0,1530	0,1560
Baryum	Ba	mg/l	0,00008	0,00008	0,00012	0,00008	0,0001	0,00008	0,00008	0,00016	0,00013	0,00010	0,00008
Beryllium	Be	mg/l	<0,000007	<0,000007	0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	0,000007	<0,000007	<0,000007
Bore	B	mg/l	0,002	0,002	0,002	0,003	0,002	0,002	0,002	0,002	0,002	0,002	0,002
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	1,65	1,71	1,64	1,57	1,45	1,62	1,6	1,28	1,66	1,34	1,68
Cadmium	Cd	mg/l	0,000003	<0,000004	0,000005	<0,000003	<0,000003	0,000003	<0,000007	0,000003	0,000013	0,000003	<0,000003
Cobalt	Co	mg/l	0,000139	0,000137	0,000125	0,000146	0,00014	0,000136	0,000184	0,00015	0,000148	0,000132	0,000254
Chrome	Cr	mg/l	<0,00008	<0,00013	<0,00008	<0,0002	<0,00008	<0,00008	<0,00016	<0,00012	<0,00008	<0,00008	<0,00012
Cuivre	Cu	mg/l	<0,0009	<0,0011	0,0002	<0,0018	<0,0002	<0,0002	<0,0002	0,0002	<0,0002	<0,0002	<0,0002
Fer	Fe	mg/l	<0,007	<0,015	<0,007	<0,01	<0,007	<0,007	<0,017	<0,011	<0,007	<0,007	<0,011
Potassium	K	mg/l	0,064	0,06	0,063	0,062	0,058	0,040	0,048	0,027	0,051	0,042	0,039
Lithium	Li	mg/l	0,0075	0,0076	0,0072	0,006	0,0055	0,0056	0,0067	0,0054	0,0074	0,0063	0,0064
Magnésium	Mg	mg/l	0,240	0,245	0,244	0,261	0,197	0,228	0,223	0,204	0,259	0,208	0,231
Manganese	Mn	mg/l	0,00047	0,00032	0,00074	0,00052	0,0005	0,00041	0,00112	0,00075	0,00072	0,00039	0,00079
Molybdène	Mo	mg/l	0,00049	0,00122	0,00039	0,00097	0,00035	0,00022	0,00044	0,00025	0,00023	0,00029	0,00027
Sodium	Na	mg/l	0,14	0,15	0,31	0,24	0,15	0,13	0,15	0,1	0,12	0,11	0,14
Nickel	Ni	mg/l	0,0005	0,0004	0,0004	0,0004	0,0004	0,0003	0,0005	0,0005	0,0004	0,0003	0,0006
Plomb	Pb	mg/l	0,00009	<0,00009	<0,00011	0,00009	0,00009	0,00009	<0,00009	<0,00009	<0,00009	0,00010	<0,00009
Antimoine	Sb	mg/l	0,0085	0,0092	0,008	0,008	0,0062	0,0084	0,0059	0,0071	0,0081	0,0067	0,0070
Sélénium	Se	mg/l	0,00004	0,00004	0,00004	0,00004	0,00007	0,00004	0,00005	0,00005	0,00006	0,00004	0,00004
Etain	Sn	mg/l	<0,00006	<0,00006	<0,00006	0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006
Strontium	Sr	mg/l	0,0057	0,00582	0,00538	0,00642	0,00477	0,0052	0,00485	0,00487	0,00522	0,0045	0,0055
Titane	Ti	mg/l	0,00014	<0,00016	0,00017	0,00018	0,00012	0,00015	<0,00051	0,00046	0,00021	0,00019	<0,00032
Thallium	Th	mg/l	0,000006	<0,000005	<0,000005	<0,000005	<0,000005	0,000005	<0,000005	<0,000005	<0,000009	<0,000005	<0,000005
Uranium	U	mg/l	0,000210	0,000225	0,000167	0,000155	0,000163	0,000568	0,000258	0,000165	0,000222	0,00017	0,000170
Vanadium	V	mg/l	0,00136	0,00138	0,00125	0,00121	0,00111	0,00111	0,00123	0,0011	0,00121	0,00115	0,00110
Tungstène	W	mg/l	0,00004	0,00004	0,00004	0,00002	0,00004	0,00002	0,00003	0,00004	0,00003	0,00003	0,00003
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l				0,00001					<0,00001		
Cérium (total)	Ce	mg/l				0,00001					<0,00001		
Césium (total)	Cs	mg/l				0,0046					0,004		
Dysprosium (total)	Dy	mg/l				0,0001					<0,0001		
Erbium (total)	Er	mg/l				0,0001					<0,0001		
Europium (total)	Eu	mg/l				0,0001					<0,0001		
Gallium (total)	Ga	mg/l				0,0001					<0,0001		
Gadolinium (total)	Gd	mg/l				0,00001					<0,00001		
Germanium (total)	Ge	mg/l				0,0001					<0,0001		
Hafnium (total)	Hf	mg/l				0,0001					<0,0001		
Holmium (total)	Ho	mg/l				0,0001					<0,0001		
Indium (total)	In	mg/l				0,0001					<0,0001		
Iridium (total)	Ir	mg/l				0,0001					<0,0001		
Lanthanum (total)	La	mg/l				0,0001					<0,0001		
Lutetium (total)	Lu	mg/l				0,0001					<0,0001		
Niobium (total)	Nb	mg/l				0,0001					<0,0001		
Néodymium (total)	Nd	mg/l				0,0001					<0,0001		
Osmium (total)	Os	mg/l				0,0001					<0,0001		
Palladium (total)	Pd	mg/l				0,0001					<0,0001		
Praseodymium (total)	Pr	mg/l				0,0001					<0,0001		
Platinum (total)	Pt	mg/l				0,0001					<0,0001		
Rubidium (total)	Rb	mg/l				0,0014					0,0013		
Rhenium (total)	Re	mg/l				0,0001					<0,0001		
Rhodium (total)	Rh	mg/l				0,00001					<0,00001		
Scandium (total)	Sc	mg/l				0,0001					<0,0001		
Samarium (total)	Sm	mg/l				0,0001					<0,0001		
Tantalum (total)	Ta	mg/l				0,0001					<0,0001		
Terbium (total)	Tb	mg/l				0,0001					<0,0001		
Tellurium (total)	Te	mg/l				0,0001					<0,0001		
Thorium (total)	Th	mg/l				0,0001					<0,0001		
Thulium (total)	Tm	mg/l				0,0001					<0,0001		
Ytterbium (total)	Yb	mg/l				0,0001					<0,0001		

Résultats HCT – CV5-WR-HCT-22

Analyse	Symbole	Unité	Sem. #33	Sem. #34	Sem. #35	Sem. #36	Sem. #37	Sem. #38	Sem. #39	Sem. #40	Sem. #41	Sem. #42	Sem. #43
			2023-12-14	2023-12-21	2023-12-28	2024-01-04	2024-01-11	2024-01-18	2024-01-25	2024-02-01	2024-02-08	2024-02-15	2024-02-22
Volume du lixiviat	V	mL	960	985	1001	996	998	997	1000	945	1020	981	918
pH	pH	No unit	6,91	6,76	6,98	7,07	7,05	6,89	6,95	6,78	6,91	6,86	6,86
Alkalinité	Alkalinité	$mgCaCO_3/l$	4	3	6	5	5	5	4	2	3	2	2
Conductivité	Conductivité	µS/cm	10	12	13	13	13	12	12	8	8	6	9
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0
Fluoride	F	mg/l	<0,06		<0,06					<0,06			
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,04	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Sulfate	SO_4^{2-}	mg/l	2	2	2	2	2	2	2	2	2	2	2
Chlore	Cl^-	mg/l	***		<1,0					1			
Nitrite	NO_2^-	mgN/l	***		<0,03					<0,03			
Nitrate	NO_3^-	mgN/l	***		<0,06					<0,06			
Bromide	Br	mg/l	***		<0,3					<0,3			
Mercure	Hg	mg/l	***		<0,00001					<0,00001			
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,018	0,016	0,022	0,020	0,020	0,026	0,026	0,031	0,033	0,044	0,045
Arsenic	As	mg/l	0,1460	0,1350	0,1330	0,1190	0,1140	0,1290	0,1320	0,0968	0,1120	0,1050	0,1250
Baryum	Ba	mg/l	0,00009	0,00008	0,00026	0,00008	0,00012	0,00016	0,00017	0,00010	0,00010	0,00012	0,00020
Beryllium	Be	mg/l	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007
Bore	B	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	1,60	1,60	1,94	1,90	1,81	1,87	1,88	1,32	1,19	1,02	1,34
Cadmium	Cd	mg/l	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	0,000006	<0,000003	<0,000003	<0,000003	<0,000003
Cobalt	Co	mg/l	0,000120	0,000114	0,000158	0,000154	0,000147	0,000167	0,000133	0,000186	0,000133	0,000270	0,000232
Chrome	Cr	mg/l	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00009	<0,00009	<0,00019	<0,00017
Cuivre	Cu	mg/l	<0,0003	0,0008	<0,0002	<0,0002	0,0003	<0,0003	<0,002	<0,002	<0,002	<0,001	<0,001
Fer	Fe	mg/l	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	0,026	<0,008	<0,023	<0,022
Potassium	K	mg/l	0,035	0,029	0,038	0,044	0,047	0,050	0,050	0,041	0,032	0,012	0,032
Lithium	Li	mg/l	0,0058	0,0053	0,0060	0,0064	0,0058	0,0053	0,0054	0,0042	0,0041	0,0033	0,0046
Magnésium	Mg	mg/l	0,213	0,190	0,235	0,236	0,221	0,241	0,228	0,177	0,156	0,139	0,191
Manganese	Mn	mg/l	0,00042	0,00055	0,00097	0,00060	0,00045	0,00068	0,00130	0,00098	0,00060	0,00107	0,00082
Molybdène	Mo	mg/l	0,00476	0,00087	0,00320	0,00019	0,00024	0,00167	0,01081	<0,0006	<0,0004	<0,0004	<0,001
Sodium	Na	mg/l	0,10	0,08	0,10	0,14	0,15	0,12	0,09	0,14	0,14	0,07	0,10
Nickel	Ni	mg/l	0,0003	0,0004	0,0005	0,0004	0,0005	0,0007	0,0006	0,0006	0,0004	0,0006	0,0007
Plomb	Pb	mg/l	0,00009	<0,00009	<0,00009	<0,00009	0,00009	<0,00017	<0,00056	<0,00009	<0,00016	<0,00009	<0,00009
Antimoine	Sb	mg/l	0,0067	0,0058	0,0057	0,0056	0,0057	0,0060	0,0059	0,0041	0,0047	0,0038	0,0045
Sélénium	Se	mg/l	0,00004	0,00004	0,00004	0,00004	0,00004	0,00007	0,00004	0,00005	0,00004	0,00004	0,00004
Etain	Sn	mg/l	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006
Strontium	Sr	mg/l	0,0052	0,0048	0,0059	0,0052	0,0050	0,0059	0,0056	0,00379	0,00543	0,00308	0,00466
Titane	Ti	mg/l	<0,00009	0,00013	<0,00016	0,00023	0,00010	0,00024	0,00016	0,0005	0,0003	<0,00086	<0,0008
Thallium	Th	mg/l	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005
Uranium	U	mg/l	0,000301	0,000883	0,00022	0,000356	0,000186	0,00224	0,00019	0,000171	0,000151	0,000119	0,000189
Vanadium	V	mg/l	0,00103	0,00104	0,00114	0,00101	0,00091	0,00108	0,00114	0,00087	0,00101	0,00084	0,00096
Tungstène	W	mg/l	0,00003	0,00005	0,00003	0,00002	0,00003	0,00002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,01	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l			<0,00001					<0,00001			
Cérium (total)	Ce	mg/l			<0,00001					0,00009			
Césium (total)	Cs	mg/l			0,0040					0,0035			
Dysprosium (total)	Dy	mg/l			<0,0001					<0,00001			
Erbium (total)	Er	mg/l			<0,0001					<0,00001			
Europium (total)	Eu	mg/l			<0,0001					<0,00001			
Gallium (total)	Ga	mg/l			<0,0001					<0,0001			
Gadolinium (total)	Gd	mg/l			<0,00001					<0,00001			
Germanium (total)	Ge	mg/l			<0,0001					<0,0001			
Hafnium (total)	Hf	mg/l			<0,0001					<0,0001			
Holmium (total)	Ho	mg/l			<0,0001					<0,00001			
Indium (total)	In	mg/l			<0,0001					<0,00001			
Iridium (total)	Ir	mg/l			<0,0001					<0,00001			
Lanthanum (total)	La	mg/l			<0,0001					<0,00001			
Lutetium (total)	Lu	mg/l			<0,0001					<0,0001			
Niobium (total)	Nb	mg/l			<0,0001					<0,00001			
Néodymium (total)	Nd	mg/l			<0,0001					<0,00001			
Osmium (total)	Os	mg/l			<0,0001					<0,0001			
Palladium (total)	Pd	mg/l			<0,0001					<0,0001			
Praseodymium (total)	Pr	mg/l			<0,0001					<0,00001			
Platinum (total)	Pt	mg/l			<0,0001					<0,0001			
Rubidium (total)	Rb	mg/l			0,0014					0,0010			
Rhenium (total)	Re	mg/l			<0,0001					<0,0001			
Rhodium (total)	Rh	mg/l			<0,00001					<0,00001			
Scandium (total)	Sc	mg/l			<0,0001					<0,0001			
Samarium (total)	Sm	mg/l			<0,0001					<0,00001			
Tantalum (total)	Ta	mg/l			<0,0001					<0,0001			
Terbium (total)	Tb	mg/l			<0,0001					<0,00001			
Tellurium (total)	Te	mg/l			<0,0001					<0,0001			
Thorium (total)	Th	mg/l			<0,0001					<0,0001			
Thulium (total)	Tm	mg/l			<0,0001					<0,00001			
Ytterbium (total)	Yb	mg/l			<0,0001					<0,00001			

Résultats HCT – CV5-WR-HCT-22

Analyse	Symbole	Unité	Sem. #44	Sem. #45	Sem. #46	Sem. #47	Sem. #48	Sem. #49	Sem. #50	Sem. #51	Sem. #52	Sem. #53	Sem. #54
			2024-02-29	2024-03-07	2024-03-14	2024-03-21	2024-03-28	2024-04-04	2024-04-11	2024-04-18	2024-04-25	2024-05-02	2024-05-09
Volume du lixiviat	V	mL	939	1012	1004	994	978	1000	1004	1015	1002	975	956
pH	pH	No unit	6,87	7,11	7,04	6,98	6,96	6,94	6,91	6,89	7,02	6,77	6,94
Alkalinité	Alkalinité	$mgCaCO_3/l$	3	4	4	4	4	4	4	4	4	2	3
Conductivité	Conductivité	µS/cm	9	10	10	10	12	12	12	12	10	7	8
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0
Fluoride	F	mg/l		<0,06					<0,06				
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Sulfate	SO_4^{2-}	mg/l	2	2	2	2	2	2	2	2	2	2	2
Chlore	Cl^-	mg/l		<1,0					<1,0				
Nitrite	NO_2^-	mgN/l		<0,03					<0,03				
Nitrate	NO_3^-	mgN/l		<0,06					<0,06				
Bromide	Br	mg/l		<0,3					<0,3				
Mercure	Hg	mg/l		<0,00001					<0,00001				
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,047	0,021	0,014	0,013	0,031	0,021	0,019	0,016	0,019	0,027	0,042
Arsenic	As	mg/l	0,1200	0,1360	0,1070	0,1110	0,1240	0,1040	0,0934	0,0854	0,0957	0,0701	0,0840
Baryum	Ba	mg/l	0,00011	0,00014	0,00008	0,00009	0,00008	0,00010	0,00009	0,00008	0,00014	0,00016	0,00012
Beryllium	Be	mg/l	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007
Bore	B	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	1,29	1,68	1,42	1,43	1,70	1,83	1,96	1,74	1,84	1,19	1,33
Cadmium	Cd	mg/l	<0,000003	<0,000003	<0,000006	<0,000008	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003
Cobalt	Co	mg/l	0,000247	0,000159	0,000109	0,000110	0,000162	0,000149	0,000129	0,000108	0,000125	0,000202	0,000234
Chrome	Cr	mg/l	<0,00024	<0,00008	<0,00008	<0,00008	<0,00015	<0,00008	<0,00008	<0,00008	<0,00008	<0,0001	<0,00015
Cuivre	Cu	mg/l	<0,001	<0,001	<0,001	<0,001	<0,002	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001
Fer	Fe	mg/l	<0,027	<0,007	<0,007	<0,007	<0,008	<0,007	<0,007	<0,007	<0,007	<0,011	<0,022
Potassium	K	mg/l	0,029	0,038	0,020	0,031	0,033	0,035	0,032	0,025	0,025	0,029	0,022
Lithium	Li	mg/l	0,0051	0,0050	0,0043	0,0037	0,0046	0,0043	0,0044	0,0038	0,0042	0,0033	0,0035
Magnésium	Mg	mg/l	0,214	0,230	0,183	0,166	0,207	0,218	0,228	0,192	0,197	0,142	0,172
Manganese	Mn	mg/l	0,00101	0,00047	0,00039	0,00047	0,00054	0,00059	0,00047	0,00037	0,00085	0,00075	0,00093
Molybdène	Mo	mg/l	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004
Sodium	Na	mg/l	0,08	0,10	0,06	0,06	0,09	0,08	0,07	0,07	0,07	0,07	0,06
Nickel	Ni	mg/l	0,0006	0,0005	0,0003	0,0005	0,0005	0,0004	0,0004	0,0003	0,0004	0,0007	0,0005
Plomb	Pb	mg/l	<0,00009	<0,00009	<0,00009	<0,00016	<0,00012	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009
Antimoine	Sb	mg/l	0,0047	0,0066	0,0050	0,0050	0,0051	0,0043	0,0040	0,0039	0,0043	0,0027	0,0034
Sélénium	Se	mg/l	0,00004	0,00004	0,00004	0,00004	0,00004	0,00004	0,00004	0,00004	0,00004	0,00004	0,00004
Etain	Sn	mg/l	<0,00006	<0,00006	<0,00045	<0,00006	<0,00014	<0,00011	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006
Strontium	Sr	mg/l	0,00425	0,00501	0,00420	0,00381	0,00456	0,00508	0,00524	0,00442	0,00461	0,00298	0,00355
Titane	Ti	mg/l	0,0011	<0,00027	<0,0001	0,0001	0,0003	<0,00019	0,0001	<0,0001	<0,0001	<0,00039	<0,00085
Thallium	Th	mg/l	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005
Uranium	U	mg/l	0,000137	0,000274	0,000155	0,000136	0,000201	0,000171	0,000166	0,000135	0,000153	0,000094	0,000091
Vanadium	V	mg/l	0,00107	0,00112	0,00082	0,00083	0,00105	0,00095	0,00087	0,00075	0,00091	0,00070	0,00088
Tungstène	W	mg/l	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l		<0,00001					<0,00001				
Cérium (total)	Ce	mg/l		<0,00001					<0,00002				
Césium (total)	Cs	mg/l		0,0042					0,0040				
Dysprosium (total)	Dy	mg/l		<0,00001					<0,00001				
Erbium (total)	Er	mg/l		<0,00001					<0,00001				
Europium (total)	Eu	mg/l		<0,00001					<0,00001				
Gallium (total)	Ga	mg/l		<0,0001					<0,0001				
Gadolinium (total)	Gd	mg/l		<0,00001					<0,00001				
Germanium (total)	Ge	mg/l		<0,0001					<0,0001				
Hafnium (total)	Hf	mg/l		<0,0001					<0,0001				
Holmium (total)	Ho	mg/l		<0,00001					<0,00001				
Indium (total)	In	mg/l		<0,00001					<0,00001				
Iridium (total)	Ir	mg/l		<0,00001					<0,00001				
Lanthanum (total)	La	mg/l		<0,00001					<0,00001				
Lutetium (total)	Lu	mg/l		<0,0001					<0,0001				
Niobium (total)	Nb	mg/l		<0,00001					<0,00001				
Néodymium (total)	Nd	mg/l		<0,00001					<0,00001				
Osmium (total)	Os	mg/l		<0,0001					<0,0001				
Palladium (total)	Pd	mg/l		<0,0001					<0,0001				
Praseodymium (total)	Pr	mg/l		<0,00001					<0,00001				
Platinum (total)	Pt	mg/l		<0,0001					<0,0001				
Rubidium (total)	Rb	mg/l		0,0014					0,0014				
Rhenium (total)	Re	mg/l		<0,0001					<0,0001				
Rhodium (total)	Rh	mg/l		<0,00001					<0,00001				
Scandium (total)	Sc	mg/l		<0,0001					<0,0001				
Samarium (total)	Sm	mg/l		<0,00001					<0,00001				
Tantalum (total)	Ta	mg/l		<0,0001					<0,0001				
Terbium (total)	Tb	mg/l		<0,00001					<0,00001				
Tellurium (total)	Te	mg/l		<0,0001					<0,0001				
Thorium (total)	Th	mg/l		<0,0001					<0,0001				
Thulium (total)	Tm	mg/l		<0,00001					<0,00001				
Ytterbium (total)	Yb	mg/l		<0,00001					<0,00001				

Résultats HCT – CV5-WR-HCT-22

Analyse	Symbole	Unité	Sem. #55	Sem. #56	Sem. #57	Sem. #58	Sem. #59	Sem. #60	Sem. #61	Sem. #62	Sem. #63	Sem. #64	Sem. #65
			2024-05-16	2024-05-23	2024-05-30	2024-06-06	2024-06-13	2024-06-20	2024-06-27	2024-07-04	2024-07-11	2024-07-18	2024-07-25
Volume du lixiviat	V	mL	964	1000	984	1014	995	1006	990	943	933	982	973
pH	pH	No unit	6,89	7,28	6,83	6,99	7,00	6,84	6,76	6,54	7,02	6,78	6,85
Alkalinité	Alkalinité	$mgCaCO_3/l$	2	3	2	3	3	2	4	2		2	
Conductivité	Conductivité	µS/cm	8	11	7	11	10	8	11	8	9	7	9
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0		<2,0	
Fluoride	F	mg/l	<0,06					<0,06				<0,06	
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,04	<0,03	<0,03	<0,03	<0,03	<0,03	<0,05	<0,03		<0,03	
Sulfate	SO_4^{2-}	mg/l	2	2	2	2	2	2	2	2		2	
Chlore	Cl^-	mg/l	<1,0					<1,0				<1,0	
Nitrite	NO_2^-	mgN/l	<0,03					<0,03				<0,03	
Nitrate	NO_3^-	mgN/l	<0,06					<0,06				<0,06	
Bromide	Br	mg/l	<0,3					<0,3				<0,3	
Mercure	Hg	mg/l	<0,00001					<0,00001				<0,00001	
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005		<0,00005	
Aluminum	Al	mg/l	0,024	0,017	0,014	0,016	0,017	0,016	0,024	0,036		0,028	
Arsenic	As	mg/l	0,0828	0,0924	0,0647	0,0837	0,0917	0,0800	0,0918	0,0744		0,0860	
Baryum	Ba	mg/l	0,00009	0,00009	0,00008	0,00010	0,00009	0,00013	0,00008	0,00013		0,00008	
Beryllium	Be	mg/l	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007		<0,000007	
Bore	B	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002		<0,002	
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001		<0,00001	
Calcium	Ca	mg/l	1,18	1,66	1,08	1,75	1,81	1,37	1,63	1,27		1,22	
Cadmium	Cd	mg/l	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003		<0,000003	
Cobalt	Co	mg/l	0,000177	0,000145	0,000138	0,000115	0,000490	0,000119	0,000155	0,000210		0,000119	
Chrome	Cr	mg/l	<0,00008	<0,0001	<0,00019	<0,00014	<0,00008	<0,00008	<0,0001	<0,00013		<0,00008	
Cuivre	Cu	mg/l	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001		<0,001	
Fer	Fe	mg/l	<0,009	<0,007	<0,007	<0,007	<0,007	<0,007	<0,009	<0,02		0,020	
Potassium	K	mg/l	0,017	0,028	0,032	0,035	0,027	0,018	0,029	0,020		0,033	
Lithium	Li	mg/l	0,0035	0,0039	0,0029	0,0039	0,0042	0,0035	0,0042	0,0032		0,0031	
Magnésium	Mg	mg/l	0,151	0,189	0,142	0,197	0,211	0,159	0,187	0,158		0,162	
Manganese	Mn	mg/l	0,00058	0,00048	0,00041	0,00048	0,00069	0,00043	0,00076	0,00094		0,00107	
Molybdène	Mo	mg/l	<0,0004	<0,0004	<0,0004	<0,0008	<0,0004	<0,0004	<0,0004	<0,0004		<0,0009	
Sodium	Na	mg/l	0,08	0,07	0,07	0,07	0,08	0,05	0,06	0,06		0,10	
Nickel	Ni	mg/l	0,0003	0,0008	0,0005	0,0004	0,0009	0,0005	0,0005	0,0006		0,0003	
Plomb	Pb	mg/l	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009		<0,00009	
Antimoine	Sb	mg/l	0,0033	0,0041	0,0025	0,0038	0,0039	0,0032	0,0039	0,0027		0,0034	
Sélénium	Se	mg/l	0,00004	0,00004	0,00004	0,00004	0,00004	0,00004	0,00004	0,00004		0,00004	
Etain	Sn	mg/l	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006		<0,00006	
Strontium	Sr	mg/l	0,00332	0,00442	0,00261	0,00429	0,00441	0,00385	0,00438	0,00333		0,00318	
Titane	Ti	mg/l	<0,00045	<0,00015	<0,0001	<0,0001	<0,0001	<0,00016	<0,00045	0,0007		<0,0003	
Thallium	Th	mg/l	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005		<0,000005	
Uranium	U	mg/l	0,000099	0,000136	0,000089	0,000127	0,000140	0,000119	0,000136	0,000084		0,000098	
Vanadium	V	mg/l	0,00080	0,00086	0,00063	0,00081	0,00094	0,00078	0,00096	0,00080		0,00089	
Tungstène	W	mg/l	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002		<0,0002	
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002		<0,00002	
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002		<0,002	
Gold (total)	Au	mg/l	<0,00001					<0,00001				<0,00001	
Cérium (total)	Ce	mg/l	0,00003					<0,00001				<0,00002	
Césium (total)	Cs	mg/l	0,0028					0,0030				0,0031	
Dysprosium (total)	Dy	mg/l	<0,00001					<0,00001				<0,00001	
Erbium (total)	Er	mg/l	<0,00001					<0,00001				<0,00001	
Europium (total)	Eu	mg/l	<0,00001					<0,00001				<0,00001	
Gallium (total)	Ga	mg/l	<0,0001					<0,0001				<0,0001	
Gadolinium (total)	Gd	mg/l	<0,00001					<0,00001				<0,00001	
Germanium (total)	Ge	mg/l	<0,0001					<0,0001				<0,0001	
Hafnium (total)	Hf	mg/l	<0,0001					<0,0001				<0,0001	
Holmium (total)	Ho	mg/l	<0,00001					<0,00001				<0,00001	
Indium (total)	In	mg/l	<0,00001					<0,00001				<0,00001	
Iridium (total)	Ir	mg/l	<0,00001					<0,00001				<0,00001	
Lanthanum (total)	La	mg/l	<0,00002					<0,00001				<0,00001	
Lutetium (total)	Lu	mg/l	<0,0001					<0,0001				<0,0001	
Niobium (total)	Nb	mg/l	<0,00001					<0,00001				<0,00002	
Néodymium (total)	Nd	mg/l	<0,00001					<0,00001				<0,00001	
Osmium (total)	Os	mg/l	<0,0001					<0,0001				<0,0001	
Palladium (total)	Pd	mg/l	<0,0001					<0,0001				<0,0001	
Praseodymium (total)	Pr	mg/l	<0,00001					<0,00001				<0,00001	
Platinum (total)	Pt	mg/l	<0,0001					<0,0001				<0,0001	
Rubidium (total)	Rb	mg/l	0,0010					0,0010				0,0010	
Rhenium (total)	Re	mg/l	<0,0001					<0,0001				<0,0001	
Rhodium (total)	Rh	mg/l	<0,00001					<0,00001				<0,00001	
Scandium (total)	Sc	mg/l	<0,0001					<0,0001				<0,0001	
Samarium (total)	Sm	mg/l	<0,00001					<0,00001				<0,00001	
Tantalum (total)	Ta	mg/l	<0,0001					<0,0001				<0,0001	
Terbium (total)	Tb	mg/l	<0,00001					<0,00001				<0,00001	
Tellurium (total)	Te	mg/l	<0,0001					<0,0001				<0,0001	
Thorium (total)	Th	mg/l	<0,0001					<0,0001				<0,0001	
Thulium (total)	Tm	mg/l	<0,00001					<0,00001				<0,00001	
Ytterbium (total)	Yb	mg/l	<0,00001					<0,00001				<0,00001	

Résultats HCT – CV5-WR-HCT-22

Analyse	Symbole	Unité	Sem. #66	Sem. #67	Sem. #68	Sem. #69	Sem. #70	Sem. #71	Sem. #72	Sem. #73	Sem. #74	Sem. #75	Sem. #76
			2024-08-01	2024-08-08	2024-08-15	2024-08-22	2024-08-29	2024-09-05	2024-09-12	2024-09-19	2024-09-26	2024-10-03	2024-10-10
Volume du lixiviat	V	mL	960	979	972	959	984	959	983	997	1000	986	998
pH	pH	No unit	6,65	6,86	6,70	6,89	6,91	6,56	6,71	7,02	6,97	7,03	7,01
Alkalinité	Alkalinité	$mgCaCO_3/l$			3				2				4
Conductivité	Conductivité	µS/cm	8	7	7	6	9	9	7	8	6	11	9
Acidité	Acidité	$mgCaCO_3/l$			<2,0				<2,0				<2,0
Fluoride	F	mg/l			<0,06				<0,06				<0,06
Phosphore réactif total	PO_4^{3-}-P	mg/l			<0,03				<0,03				<0,03
Sulfate	SO_4^{2-}	mg/l			2				2				2
Chlore	Cl^-	mg/l			<1,0				<1,0				<1,0
Nitrite	NO_2^-	mgN/l			<0,03				<0,03				<0,03
Nitrate	NO_3^-	mgN/l			<0,06				<0,06				<0,06
Bromide	Br	mg/l			<0,3				<0,3				<0,3
Mercure	Hg	mg/l			<0,00002				<0,00001				<0,00001
Argent	Ag	mg/l			<0,00005				<0,00005				<0,00005
Aluminum	Al	mg/l			0,026				0,014				0,015
Arsenic	As	mg/l			0,0735				0,0680				0,0645
Baryum	Ba	mg/l			0,00008				0,00009				0,00011
Beryllium	Be	mg/l			<0,000007				<0,000007				<0,000007
Bore	B	mg/l			<0,002				<0,002				<0,002
Bismuth	Bi	mg/l			<0,00001				<0,00001				<0,00001
Calcium	Ca	mg/l			1,11				1,32				1,48
Cadmium	Cd	mg/l			<0,000003				<0,000003				<0,000003
Cobalt	Co	mg/l			0,000152				0,000104				0,000093
Chrome	Cr	mg/l			<0,00013				<0,00008				<0,00008
Cuivre	Cu	mg/l			<0,001				<0,001				<0,001
Fer	Fe	mg/l			<0,013				<0,007				<0,007
Potassium	K	mg/l			0,021				0,024				0,020
Lithium	Li	mg/l			0,0028				0,0030				0,0032
Magnésium	Mg	mg/l			0,157				0,161				0,168
Manganese	Mn	mg/l			0,00047				0,00031				0,00057
Molybdène	Mo	mg/l			<0,0004				<0,0004				<0,0004
Sodium	Na	mg/l			0,07				0,06				0,04
Nickel	Ni	mg/l			0,0004				0,0002				0,0002
Plomb	Pb	mg/l			<0,00009				<0,00009				<0,0001
Antimoine	Sb	mg/l			0,0030				0,0028				0,0026
Sélénium	Se	mg/l			0,00004				0,00004				0,00004
Etain	Sn	mg/l			<0,00006				<0,00006				<0,00006
Strontium	Sr	mg/l			0,00281				0,00293				0,00351
Titane	Ti	mg/l			<0,0005				<0,00013				0,0001
Thallium	Th	mg/l			<0,000005				<0,000005				<0,000005
Uranium	U	mg/l			0,000082				0,000115				0,000125
Vanadium	V	mg/l			0,00081				0,00069				0,00077
Tungstène	W	mg/l			<0,0002				<0,0002				<0,0002
Yttrium	Y	mg/l			<0,00002				<0,00002				<0,00002
Zinc	Zn	mg/l			<0,002				<0,002				<0,002
Gold (total)	Au	mg/l			<0,00001				<0,00001				<0,00001
Cérium (total)	Ce	mg/l			<0,00002				<0,00001				<0,00001
Césium (total)	Cs	mg/l			0,0028				0,0029				0,0032
Dysprosium (total)	Dy	mg/l			<0,00001				<0,00001				<0,00001
Erbium (total)	Er	mg/l			<0,00001				<0,00001				<0,00001
Europium (total)	Eu	mg/l			<0,00001				<0,00001				<0,00001
Gallium (total)	Ga	mg/l			<0,0001				<0,0001				<0,0001
Gadolinium (total)	Gd	mg/l			<0,00001				<0,00001				<0,00001
Germanium (total)	Ge	mg/l			<0,0001				<0,0001				<0,0001
Hafnium (total)	Hf	mg/l			<0,0001				<0,0001				<0,0001
Holmium (total)	Ho	mg/l			<0,00001				<0,00001				<0,00001
Indium (total)	In	mg/l			<0,00001				<0,00001				<0,00001
Iridium (total)	Ir	mg/l			<0,00001				<0,00001				<0,00001
Lanthanum (total)	La	mg/l			<0,00001				<0,00001				<0,00001
Lutetium (total)	Lu	mg/l			<0,0001				<0,0001				<0,0001
Niobium (total)	Nb	mg/l			<0,00001				<0,00001				<0,00001
Néodymium (total)	Nd	mg/l			<0,00001				<0,00001				<0,00001
Osmium (total)	Os	mg/l			<0,0001				<0,0001				<0,0001
Palladium (total)	Pd	mg/l			<0,0001				<0,0001				<0,0001
Praseodymium (total)	Pr	mg/l			<0,00001				<0,00001				<0,00001
Platinum (total)	Pt	mg/l			<0,0001				<0,0001				<0,0001
Rubidium (total)	Rb	mg/l			0,0009				0,0009				0,0012
Rhenium (total)	Re	mg/l			<0,0001				<0,0001				<0,0001
Rhodium (total)	Rh	mg/l			<0,00001				<0,00001				<0,00001
Scandium (total)	Sc	mg/l			<0,0001				<0,0001				<0,0001
Samarium (total)	Sm	mg/l			<0,00001				<0,00001				<0,00001
Tantalum (total)	Ta	mg/l			<0,0001				<0,0001				<0,0001
Terbium (total)	Tb	mg/l			<0,00001				<0,00001				<0,00001
Tellurium (total)	Te	mg/l			<0,0001				<0,0001				<0,0001
Thorium (total)	Th	mg/l			<0,0001				<0,0001				<0,0001
Thulium (total)	Tm	mg/l			<0,00001				<0,00001				<0,00001
Ytterbium (total)	Yb	mg/l			<0,00001				<0,00001				<0,00001

Résultats HCT – CV5-WR-HCT-22

Analyse	Symbole	Unité	Sem. #77	Sem. #78	Sem. #79	Sem. #80	Sem. #81	Sem. #82	Sem. #83	Sem. #84	Sem. #85	Sem. #86	Sem. #87
			2024-10-17	2024-10-24	2024-10-31	2024-11-07	2024-11-14	2024-11-21	2024-11-28	2024-12-05	2024-12-12	2024-12-19	2024-12-26
Volume du lixiviat	V	mL	1001	1003	980	997	988	998	960	978	928	1007	1016
pH	pH	No unit	7,01	6,95	7,20	7,05	7,06	6,95	7,17	6,86	6,69	6,93	7,03
Alkalinité	Alkalinité	$mgCaCO_3/l$				<2,0				3			
Conductivité	Conductivité	µS/cm	12	10	13	9	9	10	9	7	8	8	8
Acidité	Acidité	$mgCaCO_3/l$				2				<2,0			
Fluoride	F	mg/l				<0,06				<0,06			
Phosphore réactif total	PO_4^{3-}-P	mg/l				<0,03				<0,03			
Sulfate	SO_4^{2-}	mg/l				2				2			
Chlore	Cl^-	mg/l				<1,0				<1,0			
Nitrite	NO_2^-	mgN/l				<0,03				<0,03			
Nitrate	NO_3^-	mgN/l				<0,06				<0,06			
Bromide	Br	mg/l				<0,3				<0,3			
Mercure	Hg	mg/l				<0,00001				<0,00001			
Argent	Ag	mg/l				<0,00005				<0,00005			
Aluminum	Al	mg/l				0,015				0,015			
Arsenic	As	mg/l				0,0617				0,05			
Baryum	Ba	mg/l				0,00008				0,00008			
Beryllium	Be	mg/l				<0,000007				<0,000007			
Bore	B	mg/l				<0,002				<0,002			
Bismuth	Bi	mg/l				<0,00001				<0,00001			
Calcium	Ca	mg/l				1,54				1,11			
Cadmium	Cd	mg/l				<0,000003				<0,000003			
Cobalt	Co	mg/l				0,000083				0,000115			
Chrome	Cr	mg/l				<0,00008				<0,00008			
Cuivre	Cu	mg/l				<0,001				<0,001			
Fer	Fe	mg/l				<0,007				<0,007			
Potassium	K	mg/l				0,019				0,015			
Lithium	Li	mg/l				0,0033				0,0027			
Magnésium	Mg	mg/l				0,153				0,119			
Manganese	Mn	mg/l				0,00030				0,00026			
Molybdène	Mo	mg/l				<0,0004				<0,0004			
Sodium	Na	mg/l				0,06				0,04			
Nickel	Ni	mg/l				0,0003				0,0007			
Plomb	Pb	mg/l				<0,00009				<0,00009			
Antimoine	Sb	mg/l				0,0026				0,002			
Sélénium	Se	mg/l				0,00004				0,00004			
Etain	Sn	mg/l				<0,00006				<0,00006			
Strontium	Sr	mg/l				0,00386				0,00268			
Titane	Ti	mg/l				<0,0001				<0,0002			
Thallium	Th	mg/l				<0,000005				0,000005			
Uranium	U	mg/l				0,000119				0,000059			
Vanadium	V	mg/l				0,00076				0,00063			
Tungstène	W	mg/l				<0,0002				<0,0002			
Yttrium	Y	mg/l				<0,00002				<0,00002			
Zinc	Zn	mg/l				<0,002				<0,002			
Gold (total)	Au	mg/l				<0,00001				<0,00001			
Cérium (total)	Ce	mg/l				<0,00001				<0,00001			
Césium (total)	Cs	mg/l				0,0024				0,0028			
Dysprosium (total)	Dy	mg/l				<0,00001				<0,00001			
Erbium (total)	Er	mg/l				<0,00001				<0,00001			
Europium (total)	Eu	mg/l				<0,00001				<0,00001			
Gallium (total)	Ga	mg/l				<0,0001				<0,0001			
Gadolinium (total)	Gd	mg/l				<0,00001				<0,00001			
Germanium (total)	Ge	mg/l				<0,0001				<0,0001			
Hafnium (total)	Hf	mg/l				<0,0001				<0,0001			
Holmium (total)	Ho	mg/l				<0,00001				<0,00001			
Indium (total)	In	mg/l				<0,00001				<0,00001			
Iridium (total)	Ir	mg/l				<0,00001				<0,00001			
Lanthanum (total)	La	mg/l				<0,00001				<0,00001			
Lutetium (total)	Lu	mg/l				<0,0001				<0,0001			
Niobium (total)	Nb	mg/l				<0,00001				<0,00001			
Néodymium (total)	Nd	mg/l				<0,00001				<0,00001			
Osmium (total)	Os	mg/l				<0,0001				<0,0001			
Palladium (total)	Pd	mg/l				<0,0001				<0,0001			
Praseodymium (total)	Pr	mg/l				<0,00001				<0,00001			
Platinum (total)	Pt	mg/l				<0,0001				<0,0001			
Rubidium (total)	Rb	mg/l				0,0007				0,0007			
Rhenium (total)	Re	mg/l				<0,0001				<0,0001			
Rhodium (total)	Rh	mg/l				<0,00001				<0,00001			
Scandium (total)	Sc	mg/l				<0,0001				<0,0001			
Samarium (total)	Sm	mg/l				<0,00001				<0,00001			
Tantalum (total)	Ta	mg/l				<0,0001				<0,0001			
Terbium (total)	Tb	mg/l				<0,00001				<0,00001			
Tellurium (total)	Te	mg/l				<0,0001				<0,0001			
Thorium (total)	Th	mg/l				<0,0001				<0,0001			
Thulium (total)	Tm	mg/l				<0,00001				<0,00001			
Ytterbium (total)	Yb	mg/l				<0,00001				<0,00001			

Résultats HCT – CV5-WR-HCT-22

Analyse	Symbole	Unité	Sem. #88	Sem. #89
			2025-01-02	2025-01-09
Volume du lixiviat	V	mL	1026	991
pH	pH	No unit	6,75	7,39
Alkalinité	Alkalinité	mg$CaCO_3$/l	4	
Conductivité	Conductivité	µS/cm	9	9
Acidité	Acidité	mg$CaCO_3$/l	2	
Fluoride	F	mg/l	<0,06	
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	
Sulfate	SO_4^{2-}	mg/l	2	
Chlore	Cl^-	mg/l	<1,0	
Nitrite	NO_2^-	mgN/l	<0,03	
Nitrate	NO_3^-	mgN/l	<0,06	
Bromide	Br	mg/l	<0,3	
Mercure	Hg	mg/l	<0,00001	
Argent	Ag	mg/l	<0,00005	
Aluminum	Al	mg/l	0,016	
Arsenic	As	mg/l	0,0533	
Baryum	Ba	mg/l	0,00008	
Beryllium	Be	mg/l	<0,000007	
Bore	B	mg/l	<0,002	
Bismuth	Bi	mg/l	<0,00001	
Calcium	Ca	mg/l	1,24	
Cadmium	Cd	mg/l	<0,000003	
Cobalt	Co	mg/l	0,000209	
Chrome	Cr	mg/l	<0,00008	
Cuivre	Cu	mg/l	<0,001	
Fer	Fe	mg/l	<0,007	
Potassium	K	mg/l	0,01	
Lithium	Li	mg/l	0,003	
Magnésium	Mg	mg/l	0,135	
Manganese	Mn	mg/l	0,00045	
Molybdène	Mo	mg/l	<0,0004	
Sodium	Na	mg/l	0,05	
Nickel	Ni	mg/l	0,0004	
Plomb	Pb	mg/l	<0,00009	
Antimoine	Sb	mg/l	<0,0021	
Sélénium	Se	mg/l	0,00004	
Etain	Sn	mg/l	<0,00006	
Strontium	Sr	mg/l	0,00288	
Titane	Ti	mg/l	<0,0001	
Thallium	Th	mg/l	0,000005	
Uranium	U	mg/l	0,000042	
Vanadium	V	mg/l	0,00068	
Tungstène	W	mg/l	<0,0002	
Yttrium	Y	mg/l	<0,00002	
Zinc	Zn	mg/l	<0,002	
Gold (total)	Au	mg/l	<0,00001	
Cérium (total)	Ce	mg/l	0,00001	
Césium (total)	Cs	mg/l	0,003	
Dysprosium (total)	Dy	mg/l	<0,00001	
Erbium (total)	Er	mg/l	<0,00001	
Europium (total)	Eu	mg/l	<0,00001	
Gallium (total)	Ga	mg/l	<0,0001	
Gadolinium (total)	Gd	mg/l	<0,00001	
Germanium (total)	Ge	mg/l	<0,0001	
Hafnium (total)	Hf	mg/l	<0,0001	
Holmium (total)	Ho	mg/l	<0,00001	
Indium (total)	In	mg/l	<0,00001	
Iridium (total)	Ir	mg/l	<0,00001	
Lanthanum (total)	La	mg/l	0,00001	
Lutetium (total)	Lu	mg/l	<0,0001	
Niobium (total)	Nb	mg/l	<0,00001	
Néodymium (total)	Nd	mg/l	<0,00001	
Osmium (total)	Os	mg/l	<0,0001	
Palladium (total)	Pd	mg/l	<0,0001	
Praseodymium (total)	Pr	mg/l	<0,00001	
Platinum (total)	Pt	mg/l	<0,0001	
Rubidium (total)	Rb	mg/l	0,0008	
Rhenium (total)	Re	mg/l	<0,0001	
Rhodium (total)	Rh	mg/l	<0,00001	
Scandium (total)	Sc	mg/l	<0,0001	
Samarium (total)	Sm	mg/l	<0,00001	
Tantalum (total)	Ta	mg/l	<0,0001	
Terbium (total)	Tb	mg/l	<0,00001	
Tellurium (total)	Te	mg/l	<0,0001	
Thorium (total)	Th	mg/l	<0,0001	
Thulium (total)	Tm	mg/l	<0,00001	
Ytterbium (total)	Yb	mg/l	<0,00001	

Résultats HCT – CV5-WR-HCT-22

Analyse	Symbole	Unité	Sem. #90	Sem. #91	Sem. #92	Sem. #93	Sem. #94	Sem. #95	Sem. #96	Sem. #97	Sem. #98	Sem. #99	Sem. #100
			2025-01-16	2025-01-23	2025-01-30	2025-02-06	2025-02-13	2025-02-20	2025-02-27	2025-03-06	2025-03-13	2025-03-20	2025-03-27
Volume du lixiviat	V	mL	1014	1039	1019	942	944	994	1014	994	979	991	952
pH	pH	No unit	6,7	6,69	6,84	6,41	6,58	6,30	6,88	6,73	6,59	6,92	6,77
Alkalinité	Alkalinité	$mgCaCO_3/l$			4				<3,0				<3,0
Conductivité	Conductivité	µS/cm	12	9	9	9	9	9	6	9	9	10	7
Acidité	Acidité	$mgCaCO_3/l$			<2,0				2				2
Fluoride	F	mg/l			<0,06				<0,06				<0,06
Phosphore réactif total	PO_4^{3-}-P	mg/l			<0,03				<0,03				<0,03
Sulfate	SO_4^{2-}	mg/l			2				2				2
Chlore	Cl^-	mg/l			<1,0				<1,0				<1,0
Nitrite	NO_2^-	mgN/l			<0,03				<0,03				<0,03
Nitrate	NO_3^-	mgN/l			<0,06				<0,06				<0,06
Bromide	Br	mg/l			<0,3				<0,3				<0,3
Mercure	Hg	mg/l			<0,00001				<0,00001				<0,00001
Argent	Ag	mg/l			<0,00005				<0,00005				<0,00005
Aluminum	Al	mg/l			0,015				0,019				0,017
Arsenic	As	mg/l			0,0623				0,0502				0,0424
Baryum	Ba	mg/l			0,00008				0,00008				0,00008
Beryllium	Be	mg/l			<0,000007				<0,000007				<0,000007
Bore	B	mg/l			<0,002				<0,002				<0,002
Bismuth	Bi	mg/l			<0,00001				<0,00001				<0,00001
Calcium	Ca	mg/l			1,58				1,16				1,23
Cadmium	Cd	mg/l			<0,000003				0,000003				<0,000003
Cobalt	Co	mg/l			0,000078				0,000108				0,000082
Chrome	Cr	mg/l			<0,00008				<0,00008				<0,00008
Cuivre	Cu	mg/l			<0,001				<0,001				<0,001
Fer	Fe	mg/l			<0,007				<0,007				<0,007
Potassium	K	mg/l			0,020				0,022				0,020
Lithium	Li	mg/l			0,0029				0,0029				0,0022
Magnésium	Mg	mg/l			0,146				0,125				0,125
Manganese	Mn	mg/l			0,00033				0,00034				0,00024
Molybdène	Mo	mg/l			<0,0004				<0,0004				<0,0004
Sodium	Na	mg/l			0,05				0,05				0,04
Nickel	Ni	mg/l			0,0002				0,0003				0,0003
Plomb	Pb	mg/l			<0,00009				<0,00009				<0,00009
Antimoine	Sb	mg/l			<0,0025				<0,002				<0,0019
Sélénium	Se	mg/l			0,00004				0,00004				0,00004
Etain	Sn	mg/l			0,00006				<0,00006				<0,00006
Strontium	Sr	mg/l			0,0038				0,00271				0,00251
Titane	Ti	mg/l			<0,0001				<0,00017				<0,00015
Thallium	Th	mg/l			0,000005				<0,000005				<0,000005
Uranium	U	mg/l			0,0001				0,000065				0,000053
Vanadium	V	mg/l			0,00075				0,00061				0,00056
Tungstène	W	mg/l			<0,0002				<0,0002				<0,0002
Yttrium	Y	mg/l			<0,00002				<0,00002				<0,00002
Zinc	Zn	mg/l			<0,002				<0,002				<0,002
Gold (total)	Au	mg/l			<0,00001				<0,00001				<0,00001
Cérium (total)	Ce	mg/l			0,00001				0,00001				<0,00002
Césium (total)	Cs	mg/l			0,0033				0,0027				0,0028
Dysprosium (total)	Dy	mg/l			<0,00001				<0,00001				<0,00001
Erbium (total)	Er	mg/l			<0,00001				<0,00001				<0,00001
Europium (total)	Eu	mg/l			<0,00001				<0,00001				<0,00001
Gallium (total)	Ga	mg/l			<0,0001				<0,0001				<0,0001
Gadolinium (total)	Gd	mg/l			<0,00001				<0,00001				<0,00001
Germanium (total)	Ge	mg/l			<0,0001				<0,0001				<0,0001
Hafnium (total)	Hf	mg/l			<0,0001				<0,0001				<0,0001
Holmium (total)	Ho	mg/l			<0,00001				<0,00001				<0,00001
Indium (total)	In	mg/l			<0,00001				<0,00001				<0,00001
Iridium (total)	Ir	mg/l			<0,00001				<0,00001				<0,00001
Lanthanum (total)	La	mg/l			0,00001				0,00001				<0,00001
Lutetium (total)	Lu	mg/l			<0,0001				<0,0001				<0,0001
Niobium (total)	Nb	mg/l			<0,00001				<0,00001				<0,00001
Néodymium (total)	Nd	mg/l			<0,00001				<0,00001				<0,00001
Osmium (total)	Os	mg/l			<0,0001				<0,0001				<0,0001
Palladium (total)	Pd	mg/l			<0,0001				<0,0001				<0,0001
Praseodymium (total)	Pr	mg/l			<0,00001				<0,00001				<0,00001
Platinum (total)	Pt	mg/l			<0,0001				<0,0001				<0,0001
Rubidium (total)	Rb	mg/l			0,0009				0,0008				0,0007
Rhenium (total)	Re	mg/l			<0,0001				<0,0001				<0,0001
Rhodium (total)	Rh	mg/l			<0,00001				<0,00001				<0,00001
Scandium (total)	Sc	mg/l			<0,0001				<0,0001				<0,0001
Samarium (total)	Sm	mg/l			<0,00001				<0,00001				<0,00001
Tantalum (total)	Ta	mg/l			<0,0001				<0,0001				<0,0001
Terbium (total)	Tb	mg/l			<0,00001				<0,00001				<0,00001
Tellurium (total)	Te	mg/l			<0,0001				<0,0001				<0,0001
Thorium (total)	Th	mg/l			<0,0001				<0,0001				<0,0001
Thulium (total)	Tm	mg/l			<0,00001				<0,00001				<0,00001
Ytterbium (total)	Yb	mg/l			<0,00001				<0,00001				<0,00001

Résultats HCT – CV5-WR-HCT-33

Analyse	Symbole	Unité	Sem. #0	Sem. #1	Sem. #2	Sem. #3	Sem. #4	Sem. #5	Sem. #6	Sem. #7	Sem. #8	Sem. #9	Sem. #10
			2023-04-27	2023-05-04	2023-05-11	2023-05-18	2023-05-25	2023-06-01	2023-06-08	2023-06-15	2023-06-22	2023-06-29	2023-07-06
Volume du lixiviat	V	mL	845	956	996	993	998	997	992	984	986	984	1001
pH	pH	No unit	8,36	8,57	8,53	7,86	7,61	7,14	7,29	7,20	7,49	7,33	7,29
Alkalinité	Alkalinité	$mgCaCO_3/l$	15	14	11	12	10	9	7	8	8	9	9
Conductivité	Conductivité	µS/cm	40	37	30	33	22	26	15	20	18	26	24
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2,0	2	2	2	2	2	2	2	2	2
Fluoride	F	mg/l	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,05	<0,03	<0,09	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Sulfate	SO_4^{2-}	mg/l	2	2	2	2	2	2	2	2	2	2	2
Chlore	Cl^-	mg/l	2	1	1	1	1	1	<1,0	<1,0	1	1	1
Nitrite	NO_2^-	mgN/l	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Nitrate	NO_3^-	mgN/l	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06
Bromide	Br	mg/l	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3
Mercure	Hg	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,165	0,060	0,053	0,038	0,061	0,060	0,047	0,041	0,051	0,020	0,051
Arsenic	As	mg/l	0,0041	0,0041	0,0085	0,0050	0,0054	0,0045	0,0039	0,0051	0,0050	0,0073	0,0106
Baryum	Ba	mg/l	0,00041	0,00032	0,00027	0,00023	0,00025	0,00028	0,00500	0,00026	0,00021	0,00015	0,00023
Beryllium	Be	mg/l	<0,000007	<0,000007	0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007
Bore	B	mg/l	0,006	0,014	0,013	0,009	0,009	0,005	0,003	0,004	0,003	0,003	0,002
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	4,93	4,08	3,13	3,12	3,41	3,27	2,35	3,11	3,02	3,07	3,26
Cadmium	Cd	mg/l	<0,000003	<0,000003	<0,000003	0,000013	0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000004
Cobalt	Co	mg/l	0,000050	0,000042	0,000044	0,000056	0,000041	0,000069	0,000043	0,000057	0,000045	0,000034	0,000057
Chrome	Cr	mg/l	0,00008	0,00016	<0,00008	0,00008	<0,00008	<0,0003	<0,00008	<0,00008	<0,00008	0,00008	<0,00008
Cuivre	Cu	mg/l	0,0009	0,0007	<0,0006	<0,0004	0,0006	0,0004	<0,0003	<0,0003	<0,0003	<0,0002	0,0003
Fer	Fe	mg/l	<0,007	0,007	0,008	0,007	<0,007	0,007	0,007	0,007	<0,007	0,007	0,012
Potassium	K	mg/l	0,60	0,55	0,39	0,359	0,310	0,265	0,180	0,201	0,199	0,178	0,173
Lithium	Li	mg/l	0,0167	0,0262	0,0219	0,0200	0,0173	0,0141	0,0103	0,0121	0,0115	0,0125	0,0112
Magnésium	Mg	mg/l	0,319	0,335	0,266	0,312	0,292	0,309	0,204	0,288	0,254	0,276	0,283
Manganese	Mn	mg/l	0,00254	0,01130	0,01114	0,00892	0,00907	0,00972	0,00698	0,00849	0,00806	0,00531	0,00782
Molybdène	Mo	mg/l	0,00029	0,00048	0,00048	0,00029	0,00015	0,00023	0,00044	0,00122	0,00017	0,00018	0,00011
Sodium	Na	mg/l	2,85	3,46	2,12	1,66	1,20	1,01	0,62	0,73	0,58	0,54	0,40
Nickel	Ni	mg/l	0,0002	0,0002	0,0002	0,0003	0,0002	0,0001	0,0001	0,0002	0,0001	0,0001	0,0001
Plomb	Pb	mg/l	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00011
Antimoine	Sb	mg/l	0,0030	0,0142	0,0105	0,0111	0,0083	0,0091	0,0055	0,0080	0,0055	0,0068	0,0079
Sélénium	Se	mg/l	0,00004	0,00009	0,00017	0,00004	0,00009	0,00009	0,00011	0,00012	0,00009	0,00028	0,00015
Etain	Sn	mg/l	0,00224	0,00095	0,00039	0,00020	0,00011	0,00013	0,00009	0,00008	<0,00006	<0,00006	0,00007
Strontium	Sr	mg/l	0,0070	0,0059	0,00449	0,0048	0,00513	0,0046	0,0034	0,00450	0,0041	0,00454	0,0047
Titane	Ti	mg/l	0,00032	0,00045	0,00049	0,00056	0,00034	<0,0001	0,00032	0,00031	0,00035	0,00018	0,00017
Thallium	Th	mg/l	0,000010	<0,000005	0,000008	<0,000007	<0,000005	0,000008	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005
Uranium	U	mg/l	0,000829	0,001630	0,000751	0,001930	0,001710	0,000173	0,000108	0,000107	0,00010	0,001520	0,000192
Vanadium	V	mg/l	0,00196	0,00202	0,00174	0,00159	0,00181	0,00142	0,00109	0,00127	0,00128	0,00072	0,00122
Tungstène	W	mg/l	0,00061	0,00210	0,00176	0,00150	0,00086	0,00043	0,00042	0,00038	0,00030	0,00020	0,00020
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,003	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l	0,00001	<0,00001	<0,00001	<0,00001	0,00001	<0,00001	<0,00001	<0,00001	0,00001	0,00001	<0,00001
Cérium (total)	Ce	mg/l	0,00001	0,00001	0,00001	0,00001	0,00001	<0,00001	0,00001	0,00002	0,00002	0,00001	0,00001
Césium (total)	Cs	mg/l	0,0070	0,0114	0,0101	0,0110	0,0100	0,0076	0,0066	0,0079	0,0078	0,0056	0,0070
Dysprosium (total)	Dy	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Erbium (total)	Er	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Europium (total)	Eu	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Gallium (total)	Ga	mg/l	0,0002	<0,0001	<0,0001	<0,0001	<0,0001	0,0003	<0,0001	0,0002	<0,0001	<0,0001	<0,0001
Gadolinium (total)	Gd	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Germanium (total)	Ge	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Hafnium (total)	Hf	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Holmium (total)	Ho	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Indium (total)	In	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Iridium (total)	Ir	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Lanthanum (total)	La	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Lutetium (total)	Lu	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Niobium (total)	Nb	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Néodymium (total)	Nd	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Osmium (total)	Os	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Palladium (total)	Pd	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Praseodymium (total)	Pr	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Platinum (total)	Pt	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Rubidium (total)	Rb	mg/l	0,0043	0,0039	0,0026	0,0026	0,0021	0,0018	0,0013	0,0017	0,0014	0,0013	0,0014
Rhenium (total)	Re	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Rhodium (total)	Rh	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Scandium (total)	Sc	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Samarium (total)	Sm	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Tantalum (total)	Ta	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Terbium (total)	Tb	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Tellurium (total)	Te	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Thorium (total)	Th	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Thulium (total)	Tm	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Ytterbium (total)	Yb	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001

Résultats HCT – CV5-WR-HCT-33

Analyse	Symbole	Unité	Sem. #11	Sem. #12	Sem. #13	Sem. #14	Sem. #15	Sem. #16	Sem. #17	Sem. #18	Sem. #19	Sem. #20	Sem. #21
			2023-07-13	2023-07-20	2023-07-27	2023-08-03	2023-08-10	2023-08-17	2023-08-24	2023-08-31	2023-09-07	2023-09-14	2023-09-21
Volume du lixiviat	V	mL	1003	1003	978	1008	981	1014	995	997	1000	1011	992
pH	pH	No unit	7,34	7,59	7,39	7,25	7,51	7,45	7,24	7,51	7,21	7,28	7,21
Alkalinité	Alkalinité	$mgCaCO_3/l$	8	10	7	6	11	8	7	8	6	7	9
Conductivité	Conductivité	µS/cm	20	26	18	18	18	23	18	20	16	19	20
Acidité	Acidité	$mgCaCO_3/l$	2	2	2	2	2	2	2	2	2	2	2
Fluoride	F	mg/l				<0,06	<0,06	<0,06		<0,06		0,06	
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Sulfate	SO_4^{2-}	mg/l	2	2	2	2	2	2	2	2	2	<2,0	2
Chlore	Cl^-	mg/l					1	<1,0		<1,0		1	
Nitrite	NO_2^-	mgN/l					<0,03	<0,03		<0,03		<0,03	
Nitrate	NO_3^-	mgN/l					<0,06	<0,06		<0,06		<0,06	
Bromide	Br	mg/l					<0,3	<0,3		<0,3		<0,3	
Mercure	Hg	mg/l					<0,00001	<0,00001		<0,00001		<0,00001	
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	0,00009	<0,00005
Aluminum	Al	mg/l	0,033	0,064	0,055	0,057	0,069	0,058	0,070	0,067	0,068	0,066	0,059
Arsenic	As	mg/l	0,0053	0,0053	0,0057	0,0044	0,0056	0,0044	0,0055	0,0057	0,0053	0,0054	0,0069
Baryum	Ba	mg/l	0,00023	0,00030	0,00016	0,00020	0,00024	0,00029	0,00021	0,00031	0,00041	0,00028	0,00023
Beryllium	Be	mg/l	0,000010	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007
Bore	B	mg/l	0,002	0,002	0,002	0,002	0,002	0,002	0,002	0,002	0,002	0,002	0,002
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	3,21	3,82	2,72	2,79	3,27	3,38	3,23	3,80	3,11	3,44	3,18
Cadmium	Cd	mg/l	<0,000003	<0,000003	<0,000003	<0,000003	0,000003	0,000003	<0,000003	<0,000003	<0,000003	0,000003	<0,000003
Cobalt	Co	mg/l	0,000070	0,000082	0,000048	0,000045	0,000086	0,000058	0,000043	0,000079	0,000059	0,000082	0,000092
Chrome	Cr	mg/l	0,00008	0,00008	0,00008	<0,00008	<0,00009	0,00008	<0,00008	0,00008	<0,00008	<0,00008	<0,00008
Cuivre	Cu	mg/l	<0,0002	<0,0004	0,0005	0,0004	0,0004	0,0003	<0,0004	<0,0006	0,0005	<0,0004	<0,0005
Fer	Fe	mg/l	0,013	0,073	<0,007	<0,007	0,007	<0,007	<0,007	0,007	<0,007	<0,007	0,009
Potassium	K	mg/l	0,138	0,141	0,085	0,106	0,110	0,100	0,100	0,106	0,087	0,087	0,067
Lithium	Li	mg/l	0,0115	0,0093	0,0062	0,0061	0,0060	0,0064	0,0065	0,0064	0,0057	0,0059	0,0058
Magnésium	Mg	mg/l	0,261	0,287	0,171	0,189	0,20	0,184	0,190	0,203	0,186	0,180	0,16
Manganese	Mn	mg/l	0,00686	0,01050	0,00597	0,00609	0,00719	0,00867	0,00753	0,01090	0,00737	0,01060	0,0097
Molybdène	Mo	mg/l	0,00006	0,00018	0,00014	0,00013	0,00016	0,00010	0,00133	0,00015	0,00008	0,00078	0,00057
Sodium	Na	mg/l	0,36	0,33	0,21	0,24	0,22	0,19	0,18	0,22	0,19	0,15	0,16
Nickel	Ni	mg/l	0,0001	0,0002	0,0002	0,0002	0,0001	0,0001	0,0001	0,0001	0,0001	0,0001	0,0001
Plomb	Pb	mg/l	<0,00009	<0,00009	<0,00009	<0,00009	0,00009	0,00009	<0,00009	<0,00009	<0,00009	0,00009	0,00009
Antimoine	Sb	mg/l	0,0049	0,0042	0,0037	0,0032	0,0035	0,0035	0,0032	0,0032	0,0027	0,0030	0,0024
Sélénium	Se	mg/l	0,00013	0,00016	0,00012	0,00014	0,00011	0,00014	0,00014	0,00015	0,00014	0,00012	0,00011
Etain	Sn	mg/l	<0,00006	<0,00054	0,00018	<0,00011	<0,00007	<0,00008	<0,00007	<0,00007	<0,00007	<0,00006	<0,00006
Strontium	Sr	mg/l	0,0042	0,0047	0,00327	0,0034	0,0040	0,0040	0,0036	0,0041	0,0035	0,0037	0,00328
Titane	Ti	mg/l	0,00091	0,00022	0,00019	0,00023	0,00024	0,00035	0,00028	0,00028	0,00015	0,00010	0,0001
Thallium	Th	mg/l	0,000013	<0,000006	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	0,000005	<0,000005
Uranium	U	mg/l	0,000032	0,00079	0,000179	0,002270	0,000053	0,000585	0,00012	0,000075	0,000133	0,00005	0,000042
Vanadium	V	mg/l	0,00126	0,00122	0,00093	0,00095	0,00099	0,00086	0,00098	0,00099	0,00094	0,00084	0,00074
Tungstène	W	mg/l	0,00027	0,00017	0,00010	0,00010	0,00009	0,00015	0,00016	0,00007	0,00011	0,00008	0,00006
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l					0,00001	<0,00001		<0,00001		<0,00001	
Cérium (total)	Ce	mg/l					<0,00001	<0,00001		0,00001		<0,00001	
Césium (total)	Cs	mg/l					0,0055	0,0058		0,0058		0,0050	
Dysprosium (total)	Dy	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Erbium (total)	Er	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Europium (total)	Eu	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Gallium (total)	Ga	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Gadolinium (total)	Gd	mg/l					<0,00001	<0,00001		<0,00001		<0,00001	
Germanium (total)	Ge	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Hafnium (total)	Hf	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Holmium (total)	Ho	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Indium (total)	In	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Iridium (total)	Ir	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Lanthanum (total)	La	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Lutetium (total)	Lu	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Niobium (total)	Nb	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Néodymium (total)	Nd	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Osmium (total)	Os	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Palladium (total)	Pd	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Praseodymium (total)	Pr	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Platinum (total)	Pt	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Rubidium (total)	Rb	mg/l					0,0010	0,0009		0,0009		0,0008	
Rhenium (total)	Re	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Rhodium (total)	Rh	mg/l					<0,00001	<0,00001		<0,00001		<0,00001	
Scandium (total)	Sc	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Samarium (total)	Sm	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Tantalum (total)	Ta	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Terbium (total)	Tb	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Tellurium (total)	Te	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Thorium (total)	Th	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Thulium (total)	Tm	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Ytterbium (total)	Yb	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	

Résultats HCT – CV5-WR-HCT-33

Analyse	Symbole	Unité	Sem. #22	Sem. #23	Sem. #24	Sem. #25	Sem. #26	Sem. #27	Sem. #28	Sem. #29	Sem. #30	Sem. #31	Sem. #32
			2023-09-28	2023-10-05	2023-10-12	2023-10-19	2023-10-26	2023-11-02	2023-11-09	2023-11-16	2023-11-23	2023-11-30	2023-12-07
Volume du lixiviat	V	mL	988	981	1004	930	961	970	945	975	948	995	954
pH	pH	No unit	7,27	7,08	7,17	7,14	7,22	7,32	7,34	7,26	7,19	7,18	7,21
Alkalinité	Alkalinité	$mgCaCO_3/l$	6	5	6	12	7	6	6	6	6	5	6
Conductivité	Conductivité	µS/cm	14	12	15	29	15	15	13	14	15	15	14
Acidité	Acidité	$mgCaCO_3/l$	<2,0	2	<2,0	2	2	<2,0	2	<2,0	2	<2,0	<2,0
Fluoride	F	mg/l				<0,06					<0,06		
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<0,03	<0,03	<0,24	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Sulfate	SO_4^{2-}	mg/l	2	2	2	2	2	2	2	2	2	2	2
Chlore	Cl^-	mg/l				1					<1,0		
Nitrite	NO_2^-	mgN/l				0,03					<0,03		
Nitrate	NO_3^-	mgN/l				0,06					<0,06		
Bromide	Br	mg/l				0,3					<0,3		
Mercure	Hg	mg/l				<0,00001					<0,00001		
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,063	0,074	0,055	0,103	0,063	0,058	0,068	0,055	0,064	0,050	0,062
Arsenic	As	mg/l	0,0043	0,0038	0,004	0,007	0,0046	0,0042	0,0042	0,0041	0,0041	0,0038	0,0043
Baryum	Ba	mg/l	0,00024	0,00013	0,00017	0,00025	0,00019	0,00017	0,00011	0,00021	0,00018	0,00019	0,00013
Beryllium	Be	mg/l	<0,000007	<0,000007	0,000018	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	0,000008	<0,000007	<0,000007
Bore	B	mg/l	0,002	0,002	0,002	0,002	0,002	0,002	0,002	0,002	0,002	0,002	0,002
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	2,49	2,29	2,5	5,04	2,81	2,88	2,61	2,36	2,78	2,40	2,40
Cadmium	Cd	mg/l	0,000003	<0,000003	0,000003	<0,000004	<0,000003	0,000003	<0,000003	0,000003	0,000003	0,000003	<0,000003
Cobalt	Co	mg/l	0,000055	0,000056	0,000063	0,000194	0,000037	0,000052	0,000036	0,000049	0,000041	0,000043	0,000038
Chrome	Cr	mg/l	<0,00008	<0,00008	<0,00008	<0,00014	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008
Cuivre	Cu	mg/l	<0,0007	<0,0015	0,0008	<0,0012	<0,0005	<0,0004	<0,0005	0,0006	<0,0005	<0,0004	<0,0004
Fer	Fe	mg/l	<0,007	<0,008	<0,016	<0,018	<0,009	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007
Potassium	K	mg/l	0,065	0,053	0,049	0,081	0,077	0,060	0,056	0,04	0,062	0,054	0,049
Lithium	Li	mg/l	0,0043	0,0034	0,0044	0,0041	0,0034	0,0036	0,0038	0,0029	0,0044	0,0041	0,0036
Magnésium	Mg	mg/l	0,119	0,108	0,121	0,177	0,117	0,137	0,122	0,106	0,141	0,121	0,115
Manganese	Mn	mg/l	0,00725	0,00661	0,00813	0,0237	0,00884	0,00923	0,00733	0,00933	0,00863	0,00872	0,00835
Molybdène	Mo	mg/l	0,00017	0,00013	0,00007	0,00012	0,00012	0,00032	0,00011	0,00005	0,00026	0,00025	0,00012
Sodium	Na	mg/l	0,12	0,1	0,1	0,18	0,17	0,12	0,12	0,1	0,11	0,09	0,12
Nickel	Ni	mg/l	0,0001	0,0001	0,0001	0,0002	0,0001	0,0001	0,0001	0,0001	0,0001	0,0001	0,0001
Plomb	Pb	mg/l	0,00009	<0,00009	<0,00009	0,00009	0,00009	0,00009	<0,00009	<0,00009	<0,00009	0,00009	<0,00009
Antimoine	Sb	mg/l	0,0018	0,0018	0,0021	0,0034	0,0015	0,0015	0,001	0,0013	0,0013	0,0014	0,0010
Sélénium	Se	mg/l	0,00010	0,00009	0,00007	0,0001	0,00017	0,00005	0,00009	0,0001	0,00012	0,00010	0,00005
Etain	Sn	mg/l	<0,00006	<0,00006	<0,00006	0,00007	<0,00006	<0,00006	<0,00006	<0,00007	<0,00006	<0,00006	<0,00006
Strontium	Sr	mg/l	0,0026	0,00231	0,00277	0,0045	0,00258	0,0026	0,00224	0,00234	0,0024	0,0022	0,0022
Titane	Ti	mg/l	0,00022	<0,00055	0,00029	0,00108	0,00017	0,00028	<0,0002	0,00018	0,00007	0,00007	<0,00007
Thallium	Th	mg/l	0,000005	<0,000005	<0,000005	<0,000005	<0,000005	0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005
Uranium	U	mg/l	0,000038	0,000318	0,000071	0,00162	0,00034	0,000068	0,000124	0,000216	0,00463	0,00003	0,000049
Vanadium	V	mg/l	0,00067	0,00064	0,00066	0,00085	0,00061	0,00063	0,00068	0,0006	0,00063	0,00060	0,00065
Tungstène	W	mg/l	0,00006	0,00005	0,00006	0,00005	0,00005	0,00004	0,00003	0,00004	0,00003	0,00006	0,00003
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l				0,00001					<0,00001		
Cérium (total)	Ce	mg/l				0,00002					<0,00001		
Césium (total)	Cs	mg/l				0,0051					0,0029		
Dysprosium (total)	Dy	mg/l				0,0001					<0,0001		
Erbium (total)	Er	mg/l				0,0001					<0,0001		
Europium (total)	Eu	mg/l				0,0001					<0,0001		
Gallium (total)	Ga	mg/l				0,0001					<0,0001		
Gadolinium (total)	Gd	mg/l				0,00001					<0,00001		
Germanium (total)	Ge	mg/l				0,0001					<0,0001		
Hafnium (total)	Hf	mg/l				0,0001					<0,0001		
Holmium (total)	Ho	mg/l				0,0001					<0,0001		
Indium (total)	In	mg/l				0,0001					<0,0001		
Iridium (total)	Ir	mg/l				0,0001					<0,0001		
Lanthanum (total)	La	mg/l				0,0001					<0,0001		
Lutetium (total)	Lu	mg/l				0,0001					<0,0001		
Niobium (total)	Nb	mg/l				0,0001					<0,0001		
Néodymium (total)	Nd	mg/l				0,0001					<0,0001		
Osmium (total)	Os	mg/l				0,0001					<0,0001		
Palladium (total)	Pd	mg/l				0,0001					<0,0001		
Praseodymium (total)	Pr	mg/l				0,0001					<0,0001		
Platinum (total)	Pt	mg/l				0,0001					<0,0001		
Rubidium (total)	Rb	mg/l				0,0007					0,0006		
Rhenium (total)	Re	mg/l				0,0001					<0,0001		
Rhodium (total)	Rh	mg/l				0,00001					<0,00001		
Scandium (total)	Sc	mg/l				0,0001					<0,0001		
Samarium (total)	Sm	mg/l				0,0001					<0,0001		
Tantalum (total)	Ta	mg/l				0,0001					<0,0001		
Terbium (total)	Tb	mg/l				0,0001					<0,0001		
Tellurium (total)	Te	mg/l				0,0001					<0,0001		
Thorium (total)	Th	mg/l				0,0001					<0,0001		
Thulium (total)	Tm	mg/l				0,0001					<0,0001		
Ytterbium (total)	Yb	mg/l				0,0001					<0,0001		

Résultats HCT – CV5-WR-HCT-33

Analyse	Symbole	Unité	Sem. #33	Sem. #34	Sem. #35	Sem. #36	Sem. #37	Sem. #38	Sem. #39	Sem. #40	Sem. #41	Sem. #42	Sem. #43
			2023-12-14	2023-12-21	2023-12-28	2024-01-04	2024-01-11	2024-01-18	2024-01-25	2024-02-01	2024-02-08	2024-02-15	2024-02-22
Volume du lixiviat	V	mL	982	991	988	892	987	1020	952	937	1049	1022	993
pH	pH	No unit	7,23	7,08	7,19	7,29	7,22	7,10	7,19	7,25	7,33	7,42	7,25
Alkalinité	Alkalinité	$mgCaCO_3/l$	7	6	8	6	6	8	5	4	7	7	7
Conductivité	Conductivité	µS/cm	18	17	18	15	14	18	13	12	18	17	17
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0
Fluoride	F	mg/l	<0,06		<0,06					<0,06			
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Sulfate	SO_4^{2-}	mg/l	2	2	2	2	2	2	2	2	2	2	2
Chlore	Cl^-	mg/l	***		<1,0					1			
Nitrite	NO_2^-	mgN/l	***		<0,03					<0,03			
Nitrate	NO_3^-	mgN/l	***		<0,06					<0,06			
Bromide	Br	mg/l	***		<0,3					<0,3			
Mercure	Hg	mg/l	***		<0,00001					<0,00001			
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,055	0,056	0,053	0,066	0,056	0,053	0,068	0,067	0,058	0,057	0,054
Arsenic	As	mg/l	0,0052	0,0037	0,0040	0,0041	0,0036	0,0039	0,0044	0,0040	0,0043	0,0052	0,0046
Baryum	Ba	mg/l	0,00016	0,00018	0,00016	0,00014	0,00017	0,00016	0,00077	0,00017	0,00090	0,00025	0,00041
Beryllium	Be	mg/l	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007
Bore	B	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	2,82	2,53	3,07	2,44	2,30	2,99	2,45	2,33	3,23	2,94	3,35
Cadmium	Cd	mg/l	<0,000003	<0,000003	<0,000003	<0,000004	<0,000003	<0,000003	0,000003	<0,000003	<0,000003	<0,000003	<0,000003
Cobalt	Co	mg/l	0,000052	0,000041	0,000053	0,000043	0,000046	0,000069	0,000054	0,000041	0,000074	0,000071	0,000112
Chrome	Cr	mg/l	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008
Cuivre	Cu	mg/l	<0,0004	0,0004	<0,0004	<0,0005	0,0007	<0,0009	<0,002	<0,002	<0,002	<0,001	<0,001
Fer	Fe	mg/l	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	0,007	<0,007	<0,007	<0,007
Potassium	K	mg/l	0,049	0,038	0,049	0,062	0,058	0,054	0,054	0,054	0,057	0,035	0,089
Lithium	Li	mg/l	0,0044	0,0031	0,0039	0,0038	0,0065	0,0038	0,0029	0,0031	0,0035	0,0027	0,0030
Magnésium	Mg	mg/l	0,128	0,104	0,117	0,113	0,103	0,109	0,094	0,096	0,100	0,086	0,093
Manganese	Mn	mg/l	0,00941	0,00864	0,00982	0,00567	0,00754	0,01020	0,00655	0,00576	0,01140	0,00882	0,01220
Molybdène	Mo	mg/l	0,00018	0,00013	0,00022	0,00120	0,00029	0,00224	0,00041	<0,0004	<0,0004	<0,0004	<0,0004
Sodium	Na	mg/l	0,09	0,08	0,09	0,18	0,11	0,09	0,12	0,14	0,11	0,09	0,17
Nickel	Ni	mg/l	0,0001	0,0001	0,0001	0,0001	0,0003	0,0003	0,0006	0,0002	0,0001	0,0002	0,0005
Plomb	Pb	mg/l	0,00009	<0,00009	<0,00009	<0,00036	0,00009	<0,00009	<0,00047	<0,00009	<0,00009	<0,00009	<0,00031
Antimoine	Sb	mg/l	0,0027	0,0013	0,0018	0,0010	0,0012	0,0018	0,0012	0,0011	0,0017	0,0020	0,0016
Sélénium	Se	mg/l	0,00007	0,00004	0,00009	0,00011	0,00007	0,00007	0,00007	0,00008	0,00008	0,00008	0,00010
Etain	Sn	mg/l	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00016
Strontium	Sr	mg/l	0,0030	0,0024	0,0032	0,0024	0,0020	0,0031	0,0037	0,00247	0,00369	0,00299	0,00365
Titane	Ti	mg/l	<0,00007	0,00017	<0,00007	0,00033	0,00020	0,00009	0,00027	0,0004	0,0001	<0,0001	<0,00011
Thallium	Th	mg/l	<0,000009	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005
Uranium	U	mg/l	0,003100	0,000023	0,00004	0,000260	0,000091	0,00006	0,00019	0,000043	0,000585	0,000147	0,000847
Vanadium	V	mg/l	0,00058	0,00061	0,00065	0,00068	0,00051	0,00058	0,00060	0,00061	0,00067	0,00061	0,00058
Tungstène	W	mg/l	0,00004	0,00003	0,00004	0,00003	0,00003	0,00004	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,008
Gold (total)	Au	mg/l			<0,00001					<0,00001			
Cérium (total)	Ce	mg/l			<0,00001					0,00001			
Césium (total)	Cs	mg/l			0,0031					0,0030			
Dysprosium (total)	Dy	mg/l			<0,0001					<0,00001			
Erbium (total)	Er	mg/l			<0,0001					<0,00001			
Europium (total)	Eu	mg/l			<0,0001					<0,00001			
Gallium (total)	Ga	mg/l			<0,0001					<0,0001			
Gadolinium (total)	Gd	mg/l			<0,00001					<0,00001			
Germanium (total)	Ge	mg/l			<0,0001					<0,0001			
Hafnium (total)	Hf	mg/l			<0,0001					<0,0001			
Holmium (total)	Ho	mg/l			<0,0001					<0,00001			
Indium (total)	In	mg/l			<0,0001					<0,00001			
Iridium (total)	Ir	mg/l			<0,0001					<0,00001			
Lanthanum (total)	La	mg/l			<0,0001					<0,00001			
Lutetium (total)	Lu	mg/l			<0,0001					<0,0001			
Niobium (total)	Nb	mg/l			<0,0001					<0,00001			
Néodymium (total)	Nd	mg/l			<0,0001					<0,00001			
Osmium (total)	Os	mg/l			<0,0001					<0,0001			
Palladium (total)	Pd	mg/l			<0,0001					<0,0001			
Praseodymium (total)	Pr	mg/l			<0,0001					<0,00001			
Platinum (total)	Pt	mg/l			<0,0001					<0,0001			
Rubidium (total)	Rb	mg/l			0,0006					0,0005			
Rhenium (total)	Re	mg/l			<0,0001					<0,0001			
Rhodium (total)	Rh	mg/l			<0,00001					<0,00001			
Scandium (total)	Sc	mg/l			<0,0001					<0,0001			
Samarium (total)	Sm	mg/l			<0,0001					<0,00001			
Tantalum (total)	Ta	mg/l			<0,0001					<0,0001			
Terbium (total)	Tb	mg/l			<0,0001					<0,00001			
Tellurium (total)	Te	mg/l			<0,0001					<0,0001			
Thorium (total)	Th	mg/l			<0,0001					<0,0001			
Thulium (total)	Tm	mg/l			<0,0001					<0,00001			
Ytterbium (total)	Yb	mg/l			<0,0001					<0,00001			

Résultats HCT – CV5-WR-HCT-33

Analyse	Symbole	Unité	Sem. #44	Sem. #45	Sem. #46	Sem. #47	Sem. #48	Sem. #49	Sem. #50	Sem. #51	Sem. #52	Sem. #53	Sem. #54
			2024-02-29	2024-03-07	2024-03-14	2024-03-21	2024-03-28	2024-04-04	2024-04-11	2024-04-18	2024-04-25	2024-05-02	2024-05-09
Volume du lixiviat	V	mL	1000	1004	987	998	916	951	971	1012	1000	996	982
pH	pH	No unit	7,21	7,40	7,36	7,39	7,26	7,47	7,24	7,24	7,45	7,34	7,37
Alkalinité	Alkalinité	$mgCaCO_3/l$	7	6	7	6	5	5	5	7	7	7	5
Conductivité	Conductivité	µS/cm	17	13	16	13	12	12	12	16	15	14	12
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0
Fluoride	F	mg/l		<0,06					<0,06				
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Sulfate	SO_4^{2-}	mg/l	2	2	2	2	2	2	2	2	2	2	2
Chlore	Cl^-	mg/l		<1,0					<1,0				
Nitrite	NO_2^-	mgN/l		<0,03					<0,03				
Nitrate	NO_3^-	mgN/l		<0,06					<0,06				
Bromide	Br	mg/l		<0,3					<0,3				
Mercure	Hg	mg/l		<0,00001					<0,00001				
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,048	0,051	0,053	0,052	0,062	0,051	0,064	0,049	0,066	0,052	0,067
Arsenic	As	mg/l	0,0040	0,0035	0,0043	0,0043	0,0042	0,0040	0,0042	0,0040	0,0039	0,0051	0,0039
Baryum	Ba	mg/l	0,00018	0,00018	0,00014	0,00013	0,00011	0,00013	0,00011	0,00013	0,00020	0,00043	0,00018
Beryllium	Be	mg/l	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007
Bore	B	mg/l	<0,002	<0,002	<0,002	<0,003	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	2,68	2,72	2,51	2,36	1,92	1,89	2,30	2,83	3,05	2,74	2,40
Cadmium	Cd	mg/l	<0,000003	<0,000005	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003
Cobalt	Co	mg/l	0,000067	0,000069	0,000055	0,000048	0,000057	0,000050	0,000043	0,000075	0,000074	0,000079	0,000062
Chrome	Cr	mg/l	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008
Cuivre	Cu	mg/l	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001
Fer	Fe	mg/l	<0,007	<0,007	<0,007	<0,038	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007
Potassium	K	mg/l	0,034	0,043	0,025	0,040	0,029	0,034	0,028	0,044	0,031	0,037	0,027
Lithium	Li	mg/l	0,0026	0,0021	0,0022	0,0020	0,0017	0,0015	0,0020	0,0023	0,0020	0,0022	0,0017
Magnésium	Mg	mg/l	0,076	0,072	0,064	0,070	0,055	0,063	0,067	0,070	0,071	0,066	0,059
Manganese	Mn	mg/l	0,00880	0,00913	0,00737	0,00735	0,00442	0,00579	0,00571	0,00914	0,00953	0,00866	0,00746
Molybdène	Mo	mg/l	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004
Sodium	Na	mg/l	0,06	0,07	0,06	0,06	0,07	0,08	0,06	0,07	0,08	0,08	0,06
Nickel	Ni	mg/l	0,0002	0,0001	0,0001	0,0001	0,0002	0,0001	0,0001	0,0001	0,0001	0,0003	0,0001
Plomb	Pb	mg/l	<0,00019	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009
Antimoine	Sb	mg/l	0,0013	0,0012	0,0011	0,0010	0,0009	0,0009	0,0009	0,0012	0,0011	0,0014	0,0009
Sélénium	Se	mg/l	0,00006	0,00006	0,00009	0,00025	0,00008	0,00006	0,00008	0,00007	0,00006	0,00004	0,00005
Etain	Sn	mg/l	<0,00006	<0,00006	<0,00011	<0,00006	<0,00006	<0,00009	<0,00006	<0,00006	<0,00007	<0,00006	<0,00006
Strontium	Sr	mg/l	0,00288	0,00259	0,00237	0,00199	0,00170	0,00175	0,00215	0,00264	0,00268	0,00241	0,00209
Titane	Ti	mg/l	0,0001	<0,00013	<0,0001	0,0001	0,0001	<0,00014	0,0001	<0,00011	<0,0001	<0,0001	<0,0001
Thallium	Th	mg/l	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005
Uranium	U	mg/l	0,000200	0,000023	0,000020	0,000024	0,000020	0,000038	0,000077	0,000060	0,000032	0,000077	0,000018
Vanadium	V	mg/l	0,00047	0,00052	0,00046	0,00044	0,00050	0,00048	0,00054	0,00044	0,00049	0,00045	0,00052
Tungstène	W	mg/l	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l		<0,00001					<0,00001				
Cérium (total)	Ce	mg/l		<0,00001					<0,00001				
Césium (total)	Cs	mg/l		0,0027					0,0022				
Dysprosium (total)	Dy	mg/l		<0,00001					<0,00001				
Erbium (total)	Er	mg/l		<0,00001					<0,00001				
Europium (total)	Eu	mg/l		<0,00001					<0,00001				
Gallium (total)	Ga	mg/l		<0,0001					<0,0001				
Gadolinium (total)	Gd	mg/l		<0,00001					<0,00001				
Germanium (total)	Ge	mg/l		<0,0001					<0,0001				
Hafnium (total)	Hf	mg/l		<0,0001					<0,0001				
Holmium (total)	Ho	mg/l		<0,00001					<0,00001				
Indium (total)	In	mg/l		<0,00001					<0,00001				
Iridium (total)	Ir	mg/l		<0,00001					<0,00001				
Lanthanum (total)	La	mg/l		<0,00001					<0,00001				
Lutetium (total)	Lu	mg/l		<0,0001					<0,0001				
Niobium (total)	Nb	mg/l		<0,00001					<0,00001				
Néodymium (total)	Nd	mg/l		<0,00001					<0,00001				
Osmium (total)	Os	mg/l		<0,0001					<0,0001				
Palladium (total)	Pd	mg/l		<0,0001					<0,0001				
Praseodymium (total)	Pr	mg/l		<0,00001					<0,00001				
Platinum (total)	Pt	mg/l		<0,0001					<0,0001				
Rubidium (total)	Rb	mg/l		0,0005					0,0004				
Rhenium (total)	Re	mg/l		<0,0001					<0,0001				
Rhodium (total)	Rh	mg/l		<0,00001					<0,00001				
Scandium (total)	Sc	mg/l		<0,0001					<0,0001				
Samarium (total)	Sm	mg/l		<0,00001					<0,00001				
Tantalum (total)	Ta	mg/l		<0,0001					<0,0001				
Terbium (total)	Tb	mg/l		<0,00001					<0,00001				
Tellurium (total)	Te	mg/l		<0,0001					<0,0001				
Thorium (total)	Th	mg/l		<0,0001					<0,0001				
Thulium (total)	Tm	mg/l		<0,00001					<0,00001				
Ytterbium (total)	Yb	mg/l		<0,00001					<0,00001				

Résultats HCT – CV5-WR-HCT-33

Analyse	Symbole	Unité	Sem. #55	Sem. #56	Sem. #57	Sem. #58	Sem. #59	Sem. #60	Sem. #61	Sem. #62	Sem. #63	Sem. #64	Sem. #65
			2024-05-16	2024-05-23	2024-05-30	2024-06-06	2024-06-13	2024-06-20	2024-06-27	2024-07-04	2024-07-11	2024-07-18	2024-07-25
Volume du lixiviat	V	mL	1002	996	1011	970	983	977	965	951	969	948	955
pH	pH	No unit	7,39	7,32	7,28	7,14	7,25	7,09	6,95	6,73	6,96	7,04	7,02
Alkalinité	Alkalinité	$mgCaCO_3/l$	6	6	5	5	5	4	4	4		5	
Conductivité	Conductivité	µS/cm	15	12	11	11	10	10	10	10	11	10	11
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0		<2,0	
Fluoride	F	mg/l	<0,06					<0,06				<0,06	
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03		<0,03	
Sulfate	SO_4^{2-}	mg/l	2	2	2	2	2	2	2	2		2	
Chlore	Cl^-	mg/l	<1,0					<1,0				<1,0	
Nitrite	NO_2^-	mgN/l	<0,03					<0,03				<0,03	
Nitrate	NO_3^-	mgN/l	<0,06					<0,06				<0,06	
Bromide	Br	mg/l	<0,3					<0,3				<0,3	
Mercure	Hg	mg/l	<0,00001					<0,00001				<0,00001	
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005		<0,00005	
Aluminum	Al	mg/l	0,054	0,052	0,043	0,066	0,055	0,072	0,059	0,057		0,064	
Arsenic	As	mg/l	0,0039	0,0035	0,0033	0,0040	0,0038	0,0037	0,0038	0,0043		0,0042	
Baryum	Ba	mg/l	0,00031	0,00012	0,00015	0,00018	0,00016	0,00016	0,00011	0,00014		0,00014	
Beryllium	Be	mg/l	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007		<0,000007	
Bore	B	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002		<0,002	
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001		<0,00001	
Calcium	Ca	mg/l	2,71	2,34	2,13	2,48	2,14	1,95	1,76	1,81		1,91	
Cadmium	Cd	mg/l	<0,000003	<0,000003	<0,000003	<0,000013	<0,000003	<0,000003	<0,000004	<0,000003		<0,000003	
Cobalt	Co	mg/l	0,000070	0,000070	0,000064	0,000058	0,000062	0,000052	0,000228	0,000045		0,000040	
Chrome	Cr	mg/l	<0,00008	<0,00008	<0,00011	<0,00017	<0,00008	<0,00008	<0,00008	<0,00008		<0,00008	
Cuivre	Cu	mg/l	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001		<0,001	
Fer	Fe	mg/l	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007		0,007	
Potassium	K	mg/l	0,031	0,030	0,035	0,039	0,027	0,026	0,028	0,025		0,041	
Lithium	Li	mg/l	0,0021	0,0016	0,0015	0,0017	0,0016	0,0017	0,0015	0,0015		0,0015	
Magnésium	Mg	mg/l	0,061	0,056	0,055	0,065	0,059	0,057	0,058	0,053		0,058	
Manganese	Mn	mg/l	0,00877	0,00756	0,00713	0,00704	0,00677	0,00604	0,00601	0,00479		0,00448	
Molybdène	Mo	mg/l	<0,0004	<0,0004	<0,0004	<0,035	<0,0004	<0,0004	<0,0004	<0,0004		<0,0004	
Sodium	Na	mg/l	0,09	0,06	0,07	0,10	0,06	0,06	0,05	0,06		0,10	
Nickel	Ni	mg/l	0,0001	0,0007	0,0001	0,0001	0,0002	0,0002	0,0008	0,0001		0,0001	
Plomb	Pb	mg/l	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009		<0,00009	
Antimoine	Sb	mg/l	0,0010	0,0009	0,0009	0,0009	0,0009	0,0009	0,0009	0,0009		0,0009	
Sélénium	Se	mg/l	0,00006	0,00005	0,00004	0,00004	0,00006	0,00005	0,00007	0,00005		0,00007	
Etain	Sn	mg/l	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006		<0,00006	
Strontium	Sr	mg/l	0,00238	0,00204	0,00167	0,00262	0,00184	0,00181	0,00154	0,00163		0,00165	
Titane	Ti	mg/l	<0,0001	<0,00016	<0,0001	<0,0002	<0,00019	<0,00015	<0,00015	0,0002		<0,00021	
Thallium	Th	mg/l	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005		<0,000005	
Uranium	U	mg/l	0,000023	0,000017	0,000012	0,000020	0,000015	0,000009	0,000006	0,000008		0,000007	
Vanadium	V	mg/l	0,00048	0,00048	0,00036	0,00050	0,00051	0,00046	0,00047	0,00045		0,00057	
Tungstène	W	mg/l	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002		<0,0002	
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002		<0,00002	
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002		<0,002	
Gold (total)	Au	mg/l	<0,00001					<0,00001				<0,00001	
Cérium (total)	Ce	mg/l	0,00001					<0,00001				<0,00001	
Césium (total)	Cs	mg/l	0,0022					0,0017				0,0019	
Dysprosium (total)	Dy	mg/l	<0,00001					<0,00001				<0,00001	
Erbium (total)	Er	mg/l	<0,00001					<0,00001				<0,00001	
Europium (total)	Eu	mg/l	<0,00001					<0,00001				<0,00001	
Gallium (total)	Ga	mg/l	<0,0001					<0,0001				<0,0001	
Gadolinium (total)	Gd	mg/l	<0,00001					<0,00001				<0,00001	
Germanium (total)	Ge	mg/l	<0,0001					<0,0001				<0,0001	
Hafnium (total)	Hf	mg/l	<0,0001					<0,0001				<0,0001	
Holmium (total)	Ho	mg/l	<0,00001					<0,00001				<0,00001	
Indium (total)	In	mg/l	<0,00001					<0,00001				<0,00001	
Iridium (total)	Ir	mg/l	<0,00001					<0,00001				<0,00001	
Lanthanum (total)	La	mg/l	<0,00001					<0,00001				<0,00001	
Lutetium (total)	Lu	mg/l	<0,0001					<0,0001				<0,0001	
Niobium (total)	Nb	mg/l	<0,00001					<0,00001				<0,00003	
Néodymium (total)	Nd	mg/l	<0,00001					<0,00001				<0,00001	
Osmium (total)	Os	mg/l	<0,0001					<0,0001				<0,0001	
Palladium (total)	Pd	mg/l	<0,0001					<0,0001				<0,0001	
Praseodymium (total)	Pr	mg/l	<0,00001					<0,00001				<0,00001	
Platinum (total)	Pt	mg/l	<0,0001					<0,0001				<0,0001	
Rubidium (total)	Rb	mg/l	0,0004					0,0003				0,0003	
Rhenium (total)	Re	mg/l	<0,0001					<0,0001				<0,0001	
Rhodium (total)	Rh	mg/l	<0,00001					<0,00001				<0,00001	
Scandium (total)	Sc	mg/l	<0,0001					<0,0001				<0,0001	
Samarium (total)	Sm	mg/l	<0,00001					<0,00001				<0,00001	
Tantalum (total)	Ta	mg/l	<0,0001					<0,0001				<0,0001	
Terbium (total)	Tb	mg/l	<0,00001					<0,00001				<0,00001	
Tellurium (total)	Te	mg/l	<0,0001					<0,0001				<0,0001	
Thorium (total)	Th	mg/l	<0,0001					<0,0001				<0,0001	
Thulium (total)	Tm	mg/l	<0,00001					<0,00001				<0,00001	
Ytterbium (total)	Yb	mg/l	<0,00001					<0,00001				<0,00001	

Résultats HCT – CV5-WR-HCT-33

Analyse	Symbole	Unité	Sem. #66	Sem. #67	Sem. #68	Sem. #69	Sem. #70	Sem. #71	Sem. #72	Sem. #73	Sem. #74	Sem. #75	Sem. #76
			2024-08-01	2024-08-08	2024-08-15	2024-08-22	2024-08-29	2024-09-05	2024-09-12	2024-09-19	2024-09-26	2024-10-03	2024-10-10
Volume du lixiviat	V	mL	966	953	995	957	983	929	997	1010	1005	962	1014
pH	pH	No unit	6,95	7,18	6,85	6,81	7,10	7,13	7,22	7,39	7,26	7,15	7,42
Alkalinité	Alkalinité	$mgCaCO_3/l$			6				6				5
Conductivité	Conductivité	µS/cm	12	12	11	10	12	12	12	14	12	12	12
Acidité	Acidité	$mgCaCO_3/l$			<2,0				<2,0				<2,0
Fluoride	F	mg/l			<0,06				<0,06				<0,06
Phosphore réactif total	PO_4^{3-}-P	mg/l			<0,03				<0,03				<0,03
Sulfate	SO_4^{2-}	mg/l			2				2				2
Chlore	Cl^-	mg/l			<1,0				<1,0				<1,0
Nitrite	NO_2^-	mgN/l			<0,03				<0,03				<0,03
Nitrate	NO_3^-	mgN/l			<0,06				<0,06				<0,06
Bromide	Br	mg/l			<0,3				<0,3				<0,3
Mercure	Hg	mg/l			<0,00001				<0,00001				<0,00001
Argent	Ag	mg/l			<0,00005				<0,00005				<0,00005
Aluminum	Al	mg/l			0,050				0,047				0,054
Arsenic	As	mg/l			0,0034				0,0030				0,0029
Baryum	Ba	mg/l			0,00011				0,00018				0,00013
Beryllium	Be	mg/l			<0,000007				<0,000007				<0,000007
Bore	B	mg/l			<0,002				<0,002				<0,002
Bismuth	Bi	mg/l			<0,00001				<0,00001				<0,00001
Calcium	Ca	mg/l			2,07				2,54				2,16
Cadmium	Cd	mg/l			<0,000003				<0,000003				<0,000003
Cobalt	Co	mg/l			0,000041				0,000049				0,000052
Chrome	Cr	mg/l			<0,00008				<0,00008				<0,00008
Cuivre	Cu	mg/l			<0,001				<0,001				<0,001
Fer	Fe	mg/l			<0,007				<0,007				<0,007
Potassium	K	mg/l			0,032				0,035				0,021
Lithium	Li	mg/l			0,0016				0,0016				0,0014
Magnésium	Mg	mg/l			0,058				0,055				0,049
Manganese	Mn	mg/l			0,00459				0,00574				0,00551
Molybdène	Mo	mg/l			<0,0004				<0,0004				<0,0004
Sodium	Na	mg/l			0,08				0,08				0,08
Nickel	Ni	mg/l			0,0001				0,0001				0,0001
Plomb	Pb	mg/l			<0,00009				<0,00009				<0,00009
Antimoine	Sb	mg/l			0,0009				0,0009				0,0009
Sélénium	Se	mg/l			0,00004				0,00004				0,00004
Etain	Sn	mg/l			<0,00006				<0,00006				<0,00006
Strontium	Sr	mg/l			0,00186				0,00203				0,00168
Titane	Ti	mg/l			<0,0001				<0,0001				0,0001
Thallium	Th	mg/l			<0,000005				<0,000005				<0,000005
Uranium	U	mg/l			0,000011				0,000013				0,000011
Vanadium	V	mg/l			0,00042				0,00038				0,00044
Tungstène	W	mg/l			<0,0002				<0,0002				<0,0002
Yttrium	Y	mg/l			<0,00002				<0,00002				<0,00002
Zinc	Zn	mg/l			<0,002				<0,002				<0,002
Gold (total)	Au	mg/l			<0,00001				<0,00001				<0,00001
Cérium (total)	Ce	mg/l			<0,00001				<0,00001				<0,00001
Césium (total)	Cs	mg/l			0,0019				0,0020				0,0018
Dysprosium (total)	Dy	mg/l			<0,00001				<0,00001				<0,00001
Erbium (total)	Er	mg/l			<0,00001				<0,00001				<0,00001
Europium (total)	Eu	mg/l			<0,00001				<0,00001				<0,00001
Gallium (total)	Ga	mg/l			<0,0001				<0,0001				<0,0001
Gadolinium (total)	Gd	mg/l			<0,00001				<0,00001				<0,00001
Germanium (total)	Ge	mg/l			<0,0001				<0,0001				<0,0001
Hafnium (total)	Hf	mg/l			<0,0001				<0,0001				<0,0001
Holmium (total)	Ho	mg/l			<0,00001				<0,00001				<0,00001
Indium (total)	In	mg/l			<0,00001				<0,00001				<0,00001
Iridium (total)	Ir	mg/l			<0,00001				<0,00001				<0,00001
Lanthanum (total)	La	mg/l			<0,00001				<0,00001				<0,00001
Lutetium (total)	Lu	mg/l			<0,0001				<0,0001				<0,0001
Niobium (total)	Nb	mg/l			<0,00002				<0,00001				<0,00001
Néodymium (total)	Nd	mg/l			<0,00001				<0,00001				<0,00001
Osmium (total)	Os	mg/l			<0,0001				<0,0001				<0,0001
Palladium (total)	Pd	mg/l			<0,0001				<0,0001				<0,0001
Praseodymium (total)	Pr	mg/l			<0,00001				<0,00001				<0,00001
Platinum (total)	Pt	mg/l			<0,0001				<0,0001				<0,0001
Rubidium (total)	Rb	mg/l			0,0004				0,0004				0,0005
Rhenium (total)	Re	mg/l			<0,0001				<0,0001				<0,0001
Rhodium (total)	Rh	mg/l			<0,00001				<0,00001				<0,00001
Scandium (total)	Sc	mg/l			<0,0001				<0,0001				<0,0001
Samarium (total)	Sm	mg/l			<0,00001				<0,00001				<0,00001
Tantalum (total)	Ta	mg/l			<0,0001				<0,0001				<0,0001
Terbium (total)	Tb	mg/l			<0,00001				<0,00001				<0,00001
Tellurium (total)	Te	mg/l			<0,0001				<0,0001				<0,0001
Thorium (total)	Th	mg/l			<0,0001				<0,0001				<0,0001
Thulium (total)	Tm	mg/l			<0,00001				<0,00001				<0,00001
Ytterbium (total)	Yb	mg/l			<0,00001				<0,00001				<0,00001

Résultats HCT – CV5-WR-HCT-33

Analyse	Symbole	Unité	Sem. #77	Sem. #78	Sem. #79	Sem. #80	Sem. #81	Sem. #82	Sem. #83	Sem. #84	Sem. #85	Sem. #86	Sem. #87
			2024-10-17	2024-10-24	2024-10-31	2024-11-07	2024-11-14	2024-11-21	2024-11-28	2024-12-05	2024-12-12	2024-12-19	2024-12-26
Volume du lixiviat	V	mL	958	1009	988	1018	995	983	1002	1007	1012	1045	1042
pH	pH	No unit	7,07	7,12	6,95	7,10	7,05	7,04	7,1	7,13	7,11	7,33	7,2
Alkalinité	Alkalinité	$mgCaCO_3/l$				<5,0				5			
Conductivité	Conductivité	µS/cm	11	14	13	14	14	13	14	10	11	17	20
Acidité	Acidité	$mgCaCO_3/l$				2				<2,0			
Fluoride	F	mg/l				<0,06				<0,06			
Phosphore réactif total	PO_4^{3-}-P	mg/l				<0,03				<0,03			
Sulfate	SO_4^{2-}	mg/l				2				2			
Chlore	Cl^-	mg/l				<1,0				<1,0			
Nitrite	NO_2^-	mgN/l				<0,03				<0,03			
Nitrate	NO_3^-	mgN/l				<0,06				<0,06			
Bromide	Br	mg/l				<0,3				<0,3			
Mercure	Hg	mg/l				<0,00001				<0,00001			
Argent	Ag	mg/l				<0,00005				<0,00005			
Aluminum	Al	mg/l				0,048				0,039			
Arsenic	As	mg/l				0,0030				0,0028			
Baryum	Ba	mg/l				0,00014				0,00025			
Beryllium	Be	mg/l				<0,000007				<0,000007			
Bore	B	mg/l				<0,002				<0,002			
Bismuth	Bi	mg/l				<0,00001				<0,00001			
Calcium	Ca	mg/l				2,80				2,14			
Cadmium	Cd	mg/l				<0,000003				<0,000003			
Cobalt	Co	mg/l				0,000058				0,000068			
Chrome	Cr	mg/l				<0,00008				<0,00008			
Cuivre	Cu	mg/l				<0,001				<0,001			
Fer	Fe	mg/l				<0,007				<0,007			
Potassium	K	mg/l				0,025				0,024			
Lithium	Li	mg/l				0,0017				0,0013			
Magnésium	Mg	mg/l				0,054				0,041			
Manganese	Mn	mg/l				0,00848				0,00569			
Molybdène	Mo	mg/l				<0,0004				<0,0004			
Sodium	Na	mg/l				0,08				0,05			
Nickel	Ni	mg/l				0,0001				0,0001			
Plomb	Pb	mg/l				<0,00009				<0,00009			
Antimoine	Sb	mg/l				0,0009				0,0009			
Sélénium	Se	mg/l				0,00004				0,00004			
Etain	Sn	mg/l				<0,00006				<0,00006			
Strontium	Sr	mg/l				0,00228				0,00166			
Titane	Ti	mg/l				<0,0001				<0,0001			
Thallium	Th	mg/l				<0,000005				0,000005			
Uranium	U	mg/l				0,000010				0,000006			
Vanadium	V	mg/l				0,00042				0,00037			
Tungstène	W	mg/l				<0,0002				<0,0002			
Yttrium	Y	mg/l				<0,00002				<0,00002			
Zinc	Zn	mg/l				<0,002				<0,002			
Gold (total)	Au	mg/l				<0,00001				<0,00001			
Cérium (total)	Ce	mg/l				<0,00001				<0,00001			
Césium (total)	Cs	mg/l				0,0016				0,0018			
Dysprosium (total)	Dy	mg/l				<0,00001				<0,00001			
Erbium (total)	Er	mg/l				<0,00001				<0,00001			
Europium (total)	Eu	mg/l				<0,00001				<0,00001			
Gallium (total)	Ga	mg/l				<0,0001				<0,0001			
Gadolinium (total)	Gd	mg/l				<0,00001				<0,00001			
Germanium (total)	Ge	mg/l				<0,0001				<0,0001			
Hafnium (total)	Hf	mg/l				<0,0001				<0,0001			
Holmium (total)	Ho	mg/l				<0,00001				<0,00001			
Indium (total)	In	mg/l				<0,00001				<0,00001			
Iridium (total)	Ir	mg/l				<0,00001				<0,00001			
Lanthanum (total)	La	mg/l				<0,00001				<0,00001			
Lutetium (total)	Lu	mg/l				<0,0001				<0,0001			
Niobium (total)	Nb	mg/l				<0,00001				<0,00001			
Néodymium (total)	Nd	mg/l				<0,00001				<0,00001			
Osmium (total)	Os	mg/l				<0,0001				<0,0001			
Palladium (total)	Pd	mg/l				<0,0001				<0,0001			
Praseodymium (total)	Pr	mg/l				<0,00001				<0,00001			
Platinum (total)	Pt	mg/l				<0,0001				<0,0001			
Rubidium (total)	Rb	mg/l				0,0003				0,0003			
Rhenium (total)	Re	mg/l				<0,0001				<0,0001			
Rhodium (total)	Rh	mg/l				<0,00001				<0,00001			
Scandium (total)	Sc	mg/l				<0,0001				<0,0001			
Samarium (total)	Sm	mg/l				<0,00001				<0,00001			
Tantalum (total)	Ta	mg/l				<0,0001				<0,0001			
Terbium (total)	Tb	mg/l				<0,00001				<0,00001			
Tellurium (total)	Te	mg/l				<0,0001				<0,0001			
Thorium (total)	Th	mg/l				<0,0001				<0,0001			
Thulium (total)	Tm	mg/l				<0,00001				<0,00001			
Ytterbium (total)	Yb	mg/l				<0,00001				<0,00001			

Résultats HCT – CV5-WR-HCT-33

Analyse	Symbole	Unité	Sem. #88	Sem. #89
			2025-01-02	2025-01-09
Volume du lixiviat	V	mL	1030	1004
pH	pH	No unit	6,94	7,1
Alkalinité	Alkalinité	$mgCaCO_3/l$	7	
Conductivité	Conductivité	µS/cm	10	15
Acidité	Acidité	$mgCaCO_3/l$	2	
Fluoride	F	mg/l	<0,06	
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	
Sulfate	SO_4^{2-}	mg/l	2	
Chlore	Cl^-	mg/l	<1,0	
Nitrite	NO_2^-	mgN/l	<0,03	
Nitrate	NO_3^-	mgN/l	<0,06	
Bromide	Br	mg/l	<0,3	
Mercure	Hg	mg/l	<0,00001	
Argent	Ag	mg/l	<0,00005	
Aluminum	Al	mg/l	0,059	
Arsenic	As	mg/l	0,0045	
Baryum	Ba	mg/l	0,00021	
Beryllium	Be	mg/l	<0,000007	
Bore	B	mg/l	<0,002	
Bismuth	Bi	mg/l	<0,00001	
Calcium	Ca	mg/l	2,97	
Cadmium	Cd	mg/l	<0,000003	
Cobalt	Co	mg/l	0,000063	
Chrome	Cr	mg/l	<0,00008	
Cuivre	Cu	mg/l	<0,001	
Fer	Fe	mg/l	<0,007	
Potassium	K	mg/l	0,022	
Lithium	Li	mg/l	0,0015	
Magnésium	Mg	mg/l	0,055	
Manganese	Mn	mg/l	0,00974	
Molybdène	Mo	mg/l	<0,0004	
Sodium	Na	mg/l	0,06	
Nickel	Ni	mg/l	0,0001	
Plomb	Pb	mg/l	<0,00009	
Antimoine	Sb	mg/l	<0,0009	
Sélénium	Se	mg/l	0,00005	
Etain	Sn	mg/l	<0,00006	
Strontium	Sr	mg/l	0,00216	
Titane	Ti	mg/l	<0,0001	
Thallium	Th	mg/l	0,000005	
Uranium	U	mg/l	0,000002	
Vanadium	V	mg/l	0,00038	
Tungstène	W	mg/l	<0,0002	
Yttrium	Y	mg/l	<0,00002	
Zinc	Zn	mg/l	<0,002	
Gold (total)	Au	mg/l	<0,00001	
Cérium (total)	Ce	mg/l	0,00001	
Césium (total)	Cs	mg/l	0,0025	
Dysprosium (total)	Dy	mg/l	<0,00001	
Erbium (total)	Er	mg/l	<0,00001	
Europium (total)	Eu	mg/l	<0,00001	
Gallium (total)	Ga	mg/l	<0,0001	
Gadolinium (total)	Gd	mg/l	<0,00001	
Germanium (total)	Ge	mg/l	<0,0001	
Hafnium (total)	Hf	mg/l	<0,0001	
Holmium (total)	Ho	mg/l	<0,00001	
Indium (total)	In	mg/l	<0,00001	
Iridium (total)	Ir	mg/l	<0,00001	
Lanthanum (total)	La	mg/l	0,00001	
Lutetium (total)	Lu	mg/l	<0,0001	
Niobium (total)	Nb	mg/l	<0,00001	
Néodymium (total)	Nd	mg/l	<0,00001	
Osmium (total)	Os	mg/l	<0,0001	
Palladium (total)	Pd	mg/l	<0,0001	
Praseodymium (total)	Pr	mg/l	<0,00001	
Platinum (total)	Pt	mg/l	<0,0001	
Rubidium (total)	Rb	mg/l	0,0005	
Rhenium (total)	Re	mg/l	<0,0001	
Rhodium (total)	Rh	mg/l	<0,00001	
Scandium (total)	Sc	mg/l	<0,0001	
Samarium (total)	Sm	mg/l	<0,00001	
Tantalum (total)	Ta	mg/l	<0,0001	
Terbium (total)	Tb	mg/l	<0,00001	
Tellurium (total)	Te	mg/l	<0,0001	
Thorium (total)	Th	mg/l	<0,0001	
Thulium (total)	Tm	mg/l	<0,00001	
Ytterbium (total)	Yb	mg/l	<0,00001	

Résultats HCT – CV5-WR-HCT-33

Analyse	Symbole	Unité	Sem. #90	Sem. #91	Sem. #92	Sem. #93	Sem. #94	Sem. #95	Sem. #96	Sem. #97	Sem. #98	Sem. #99	Sem. #100
			2025-01-16	2025-01-23	2025-01-30	2025-02-06	2025-02-13	2025-02-20	2025-02-27	2025-03-06	2025-03-13	2025-03-20	2025-03-27
Volume du lixiviat	V	mL	1040	1032	996	1016	1004	974	972	1009	1007	1021	1018
pH	pH	No unit	6,81	7,16	7,05	7,16	6,86	7,25	7,24	7,1	6,82	7,12	7,16
Alkalinité	Alkalinité	$mgCaCO_3/l$			6				<5,0				<6,0
Conductivité	Conductivité	µS/cm	16	20	11	16	12	12	11	18	15	17	16
Acidité	Acidité	$mgCaCO_3/l$			<2,0				2				2
Fluoride	F	mg/l			<0,06				<0,06				<0,06
Phosphore réactif total	PO_4^{3-}-P	mg/l			<0,03				<0,03				<0,03
Sulfate	SO_4^{2-}	mg/l			2				2				2
Chlore	Cl^-	mg/l			<1,0				<1,0				<1,0
Nitrite	NO_2^-	mgN/l			<0,03				<0,03				<0,03
Nitrate	NO_3^-	mgN/l			<0,06				<0,06				<0,06
Bromide	Br	mg/l			<0,3				<0,3				<0,3
Mercure	Hg	mg/l			<0,00001				<0,00001				<0,00001
Argent	Ag	mg/l			<0,00005				<0,00005				<0,00005
Aluminum	Al	mg/l			0,073				0,058				0,060
Arsenic	As	mg/l			0,0034				0,003				0,0031
Baryum	Ba	mg/l			0,00022				0,00017				0,00016
Beryllium	Be	mg/l			<0,000007				<0,000007				<0,000007
Bore	B	mg/l			<0,002				<0,002				<0,002
Bismuth	Bi	mg/l			<0,00001				<0,00001				<0,00001
Calcium	Ca	mg/l			2,2				2,07				2,96
Cadmium	Cd	mg/l			<0,000003				0,000003				<0,000003
Cobalt	Co	mg/l			0,000045				0,000051				0,000054
Chrome	Cr	mg/l			<0,00008				<0,00008				<0,00008
Cuivre	Cu	mg/l			<0,001				<0,001				<0,001
Fer	Fe	mg/l			<0,007				<0,007				<0,007
Potassium	K	mg/l			0,028				0,027				0,031
Lithium	Li	mg/l			0,001				0,0013				0,0012
Magnésium	Mg	mg/l			0,044				0,043				0,051
Manganese	Mn	mg/l			0,00626				0,00612				0,00990
Molybdène	Mo	mg/l			<0,0004				<0,0004				<0,0004
Sodium	Na	mg/l			0,05				0,05				0,06
Nickel	Ni	mg/l			0,0001				0,0001				0,0001
Plomb	Pb	mg/l			<0,00009				<0,00009				<0,00009
Antimoine	Sb	mg/l			<0,0009				<0,0009				<0,0009
Sélénium	Se	mg/l			0,00005				0,00004				0,00004
Etain	Sn	mg/l			0,00012				<0,00006				<0,00009
Strontium	Sr	mg/l			0,00155				0,0015				0,00196
Titane	Ti	mg/l			<0,0002				<0,0001				<0,0001
Thallium	Th	mg/l			0,000005				<0,000005				<0,000005
Uranium	U	mg/l			0,000009				0,000007				0,000041
Vanadium	V	mg/l			0,00046				0,00035				0,00043
Tungstène	W	mg/l			<0,0002				<0,0002				<0,0002
Yttrium	Y	mg/l			<0,00002				<0,00002				<0,00002
Zinc	Zn	mg/l			<0,002				<0,002				<0,002
Gold (total)	Au	mg/l			<0,00001				<0,00001				<0,00001
Cérium (total)	Ce	mg/l			0,00001				0,00001				<0,00001
Césium (total)	Cs	mg/l			0,0017				0,0016				0,0020
Dysprosium (total)	Dy	mg/l			<0,00001				<0,00001				<0,00001
Erbium (total)	Er	mg/l			<0,00001				<0,00001				<0,00001
Europium (total)	Eu	mg/l			<0,00001				<0,00001				<0,00001
Gallium (total)	Ga	mg/l			<0,0001				<0,0001				<0,0001
Gadolinium (total)	Gd	mg/l			<0,00001				<0,00001				<0,00001
Germanium (total)	Ge	mg/l			<0,0001				<0,0001				<0,0001
Hafnium (total)	Hf	mg/l			<0,0001				<0,0001				<0,0001
Holmium (total)	Ho	mg/l			<0,00001				<0,00001				<0,00001
Indium (total)	In	mg/l			<0,00001				<0,00001				<0,00001
Iridium (total)	Ir	mg/l			<0,00001				<0,00001				<0,00001
Lanthanum (total)	La	mg/l			0,00001				0,00001				<0,00001
Lutetium (total)	Lu	mg/l			<0,0001				<0,0001				<0,0001
Niobium (total)	Nb	mg/l			<0,00001				<0,00001				<0,00001
Néodymium (total)	Nd	mg/l			<0,00001				<0,00001				<0,00001
Osmium (total)	Os	mg/l			<0,0001				<0,0001				<0,0001
Palladium (total)	Pd	mg/l			<0,0001				<0,0001				<0,0001
Praseodymium (total)	Pr	mg/l			<0,00001				<0,00001				<0,00001
Platinum (total)	Pt	mg/l			<0,0001				<0,0001				<0,0001
Rubidium (total)	Rb	mg/l			0,0003				0,0003				0,0003
Rhenium (total)	Re	mg/l			<0,0001				<0,0001				<0,0001
Rhodium (total)	Rh	mg/l			<0,00001				<0,00001				<0,00001
Scandium (total)	Sc	mg/l			<0,0001				<0,0001				<0,0001
Samarium (total)	Sm	mg/l			<0,00001				<0,00001				<0,00001
Tantalum (total)	Ta	mg/l			<0,0001				<0,0001				<0,0001
Terbium (total)	Tb	mg/l			<0,00001				<0,00001				<0,00001
Tellurium (total)	Te	mg/l			<0,0001				<0,0001				<0,0001
Thorium (total)	Th	mg/l			<0,0001				<0,0001				<0,0001
Thulium (total)	Tm	mg/l			<0,00001				<0,00001				<0,00001
Ytterbium (total)	Yb	mg/l			<0,00001				<0,00001				<0,00001

Résultats – CV5-WR-HCT-36

Analyse	Symbole	Unité	Sem. #0	Sem. #1	Sem. #2	Sem. #3	Sem. #4	Sem. #5	Sem. #6	Sem. #7	Sem. #8	Sem. #9	Sem. #10
			2023-04-27	2023-05-04	2023-05-11	2023-05-18	2023-05-25	2023-06-01	2023-06-08	2023-06-15	2023-06-22	2023-06-29	2023-07-06
Volume du lixiviat	V	mL	823	1004	1002	1009	992	994	989	964	961	961	952
pH	pH	No unit	8,49	7,94	7,72	7,87	7,74	7,51	7,26	7,46	7,38	7,57	7,64
Alkalinité	Alkalinité	$mgCaCO_3/l$	17	26	21	15	17	14	9	12	9	8	7
Conductivité	Conductivité	µS/cm	37	80	62	64	47	49	29	34	25	27	27
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2,0	2	2	2	2	2	2	2	2	2
Fluoride	F	mg/l	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,05	<6,36	<4,3	<3,22	<3,07	<2,23	<1,64	<1,97	<1,33	<1,37	<1,22
Sulfate	SO_4^{2-}	mg/l	2	3	3	3	3	3	2	2	2	2	2
Chlore	Cl^-	mg/l	1	7	1	1	1	1	<1,0	<1,0	1	1	1
Nitrite	NO_2^-	mgN/l	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Nitrate	NO_3^-	mgN/l	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06
Bromide	Br	mg/l	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3
Mercure	Hg	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,023	0,006	0,004	0,003	0,003	0,001	0,004	0,003	0,004	0,003	0,004
Arsenic	As	mg/l	0,1950	19,6000	14,6000	10,9000	10,6000	8,2200	5,1500	6,2800	4,0300	4,1700	3,7900
Baryum	Ba	mg/l	0,00100	0,00304	0,00226	0,00184	0,00191	0,00134	0,00095	0,00133	0,00120	0,00095	0,00098
Beryllium	Be	mg/l	<0,000007	<0,000007	0,000009	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007
Bore	B	mg/l	0,056	0,140	0,079	0,064	0,058	0,045	0,029	0,037	0,025	0,025	0,026
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	3,81	6,98	5,74	5,22	5,54	4,90	3,87	4,60	3,68	3,57	3,91
Cadmium	Cd	mg/l	<0,000006	<0,000003	<0,000004	0,000011	0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003
Cobalt	Co	mg/l	0,000046	0,000470	0,000484	0,000408	0,000479	0,000452	0,000285	0,000461	0,000369	0,000316	0,000215
Chrome	Cr	mg/l	0,00376	0,00029	<0,00012	0,00015	<0,00008	<0,00008	<0,00015	<0,00013	<0,00017	0,00025	<0,00013
Cuivre	Cu	mg/l	0,0004	0,0002	<0,0002	<0,0002	0,0004	0,0003	<0,0002	<0,0003	<0,0002	<0,0002	0,0002
Fer	Fe	mg/l	<0,007	0,007	0,007	0,007	<0,007	0,008	0,007	0,007	<0,007	0,007	0,013
Potassium	K	mg/l	0,59	0,55	0,33	0,227	0,204	0,165	0,115	0,110	0,104	0,085	0,091
Lithium	Li	mg/l	0,0232	0,0365	0,0235	0,0160	0,0146	0,0105	0,0070	0,0079	0,0062	0,0058	0,0067
Magnésium	Mg	mg/l	1,480	5,730	3,800	2,710	2,450	2,280	1,300	1,700	1,100	1,010	0,958
Manganese	Mn	mg/l	0,00145	0,00634	0,00572	0,00377	0,00432	0,00539	0,00303	0,00419	0,00288	0,00289	0,00230
Molybdène	Mo	mg/l	0,01230	0,00028	0,00024	0,00028	0,00008	0,00078	0,00047	0,00010	0,00163	0,00226	0,00011
Sodium	Na	mg/l	2,22	2,90	1,27	0,73	0,54	0,37	0,19	0,22	0,17	0,14	0,14
Nickel	Ni	mg/l	0,0021	0,1880	0,1180	0,0862	0,0860	0,0676	0,0308	0,0494	0,0212	0,0183	0,0147
Plomb	Pb	mg/l	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009
Antimoine	Sb	mg/l	0,1610	3,5300	1,9500	1,8700	1,7200	1,6800	1,0900	1,4400	0,8390	0,9570	0,9500
Sélénium	Se	mg/l	0,00004	0,00019	0,00027	0,00004	0,00014	0,00010	0,00015	0,00014	0,00010	0,00007	0,00007
Etain	Sn	mg/l	0,00272	0,00065	0,00033	0,00023	0,00010	0,00012	0,00008	0,00011	<0,00006	<0,00008	0,00013
Strontium	Sr	mg/l	0,0130	0,0297	0,02110	0,0162	0,01610	0,0125	0,0090	0,00998	0,0076	0,00713	0,0076
Titane	Ti	mg/l	0,00006	0,00009	0,00011	0,00023	0,00007	<0,00006	0,00013	0,00005	0,00015	0,00012	0,00007
Thallium	Th	mg/l	0,000019	<0,000018	0,000019	<0,000008	<0,00001	0,000010	<0,000007	<0,000008	<0,000008	<0,000007	<0,000005
Uranium	U	mg/l	0,000117	0,000946	0,001522	0,000025	0,000270	0,000043	0,002520	0,000308	0,00425	0,005520	0,000439
Vanadium	V	mg/l	0,00121	0,00213	0,00136	0,00104	0,00105	0,00086	0,00058	0,00064	0,00054	0,00052	0,00044
Tungstène	W	mg/l	0,00104	0,00154	0,00120	0,00139	0,00058	0,00037	0,00031	0,00032	0,00021	0,00022	0,00022
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l	0,00001	<0,00009	<0,00009	<0,00004	0,00001	<0,00001	<0,00001	<0,00001	0,00001	0,00001	<0,00001
Cérium (total)	Ce	mg/l	0,00001	0,00001	0,00001	0,00001	0,00001	<0,00002	0,00001	0,00001	0,00001	0,00001	0,00001
Césium (total)	Cs	mg/l	0,0655	0,0605	0,0422	0,0322	0,0307	0,0217	0,0198	0,0194	0,0180	0,0146	0,0160
Dysprosium (total)	Dy	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Erbium (total)	Er	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Europium (total)	Eu	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Gallium (total)	Ga	mg/l	0,0001	<0,0001	<0,0001	<0,0001	<0,0001	0,0004	<0,0001	0,0001	<0,0001	<0,0001	<0,0001
Gadolinium (total)	Gd	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Germanium (total)	Ge	mg/l	<0,0001	<0,0005	<0,0001	<0,0001	0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Hafnium (total)	Hf	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Holmium (total)	Ho	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Indium (total)	In	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Iridium (total)	Ir	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Lanthanum (total)	La	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Lutetium (total)	Lu	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Niobium (total)	Nb	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Néodymium (total)	Nd	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Osmium (total)	Os	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Palladium (total)	Pd	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Praseodymium (total)	Pr	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Platinum (total)	Pt	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Rubidium (total)	Rb	mg/l	0,0172	0,0156	0,0094	0,0069	0,0062	0,0049	0,0033	0,0039	0,0030	0,0028	0,0030
Rhenium (total)	Re	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Rhodium (total)	Rh	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Scandium (total)	Sc	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Samarium (total)	Sm	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Tantalum (total)	Ta	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Terbium (total)	Tb	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Tellurium (total)	Te	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Thorium (total)	Th	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Thulium (total)	Tm	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Ytterbium (total)	Yb	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001

Résultats – CV5-WR-HCT-36

Analyse	Symbole	Unité	Sem. #11	Sem. #12	Sem. #13	Sem. #14	Sem. #15	Sem. #16	Sem. #17	Sem. #18	Sem. #19	Sem. #20	Sem. #21
			2023-07-13	2023-07-20	2023-07-27	2023-08-03	2023-08-10	2023-08-17	2023-08-24	2023-08-31	2023-09-07	2023-09-14	2023-09-21
Volume du lixiviat	V	mL	980	932	953	977	933	1014	984	986	934	987	982
pH	pH	No unit	7,34	7,39	7,35	7,29	7,49	7,56	7,36	7,53	7,34	7,24	7,19
Alkalinité	Alkalinité	$mgCaCO_3/l$	7	9	7	7	11	10	7	10	7	8	8
Conductivité	Conductivité	µS/cm	24	26	24	22	20	32	23	27	21	23	23
Acidité	Acidité	$mgCaCO_3/l$	2	2	2	2	2	2	2	6	2	2	2
Fluoride	F	mg/l				<0,06	<0,06	<0,06		<0,06		0,06	
Phosphore réactif total	PO_4^{3-}-P	mg/l	<1,08	<1,0	<0,91	<0,91	<0,81	<1,21	<0,95	<1,21	<0,8	<0,81	<0,8
Sulfate	SO_4^{2-}	mg/l	2	2	2	2	2	2	2	2	2	<2,0	2
Chlore	Cl^-	mg/l					1	<1,0		<1,0		1	
Nitrite	NO_2^-	mgN/l					<0,03	<0,03		<0,03		<0,03	
Nitrate	NO_3^-	mgN/l					<0,06	<0,06		<0,06		<0,06	
Bromide	Br	mg/l					<0,3	<0,3		<0,3		<0,3	
Mercure	Hg	mg/l					<0,00001	<0,00001		<0,00001		<0,00001	
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	0,00009	<0,00005
Aluminum	Al	mg/l	0,022	0,004	0,005	0,003	0,004	0,003	0,003	0,002	0,005	0,002	0,004
Arsenic	As	mg/l	2,9500	3,0400	2,7000	2,5700	2,4200	3,4200	2,7500	3,4500	2,0700	2,5700	2
Baryum	Ba	mg/l	0,00079	0,00090	0,00079	0,00072	0,00080	0,00135	0,00098	0,00117	0,00085	0,00076	0,00095
Beryllium	Be	mg/l	0,000014	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007
Bore	B	mg/l	0,026	0,020	0,019	0,017	0,015	0,021	0,015	0,016	0,011	0,012	0,01
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	3,33	3,56	3,00	3,22	3,32	3,83	3,32	3,96	3,24	3,36	2,94
Cadmium	Cd	mg/l	<0,000003	<0,000003	<0,000003	<0,000003	0,000003	0,000003	<0,000003	<0,000003	<0,000003	0,000003	<0,000003
Cobalt	Co	mg/l	0,000331	0,000220	0,000211	0,000211	0,000202	0,000235	0,000263	0,000241	0,000200	0,000231	0,000268
Chrome	Cr	mg/l	0,00104	0,00020	0,00058	<0,00037	<0,00014	0,00043	<0,00008	0,00017	<0,00019	<0,00009	<0,00008
Cuivre	Cu	mg/l	<0,0002	<0,0013	0,0011	0,0012	0,0002	0,0008	<0,0002	<0,0002	0,0002	<0,0002	<0,0003
Fer	Fe	mg/l	0,050	0,039	<0,007	<0,007	0,007	<0,007	<0,007	0,007	<0,01	<0,007	0,021
Potassium	K	mg/l	0,061	0,063	0,050	0,068	0,072	0,075	0,070	0,081	0,061	0,064	0,048
Lithium	Li	mg/l	0,0062	0,0053	0,0042	0,0043	0,0044	0,0047	0,0044	0,0044	0,0037	0,0040	0,0039
Magnésium	Mg	mg/l	0,944	0,863	0,615	0,751	0,69	0,933	0,845	1,020	0,734	0,816	0,713
Manganese	Mn	mg/l	0,00314	0,00209	0,00395	0,00311	0,00146	0,00191	0,00186	0,00161	0,00145	0,00154	0,00176
Molybdène	Mo	mg/l	0,00004	0,00006	0,00464	0,00033	0,00014	0,00012	0,00021	0,00010	0,00014	0,00007	0,00074
Sodium	Na	mg/l	0,06	0,09	0,07	0,10	0,08	0,08	0,03	0,07	0,06	0,03	0,07
Nickel	Ni	mg/l	0,0123	0,0166	0,0142	0,0113	0,0091	0,0127	0,0127	0,0152	0,0094	0,0118	0,0123
Plomb	Pb	mg/l	<0,00009	<0,00009	<0,00009	<0,00009	0,00009	0,00009	<0,00009	<0,00009	<0,00009	0,00009	0,00009
Antimoine	Sb	mg/l	0,8310	0,8500	0,8320	0,7900	0,8540	1,1500	0,8260	1,0500	0,6570	0,9200	0,646
Sélénium	Se	mg/l	0,00009	0,00008	0,00010	0,00007	0,00011	0,00008	0,00009	0,00008	0,00010	0,00010	0,00007
Etain	Sn	mg/l	<0,00007	<0,00006	0,00012	<0,00007	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006
Strontium	Sr	mg/l	0,0060	0,0063	0,00550	0,0055	0,0059	0,0066	0,0057	0,0065	0,0052	0,0053	0,00458
Titane	Ti	mg/l	0,00068	0,00009	0,00007	0,00007	0,00009	0,00007	0,00009	0,00007	0,00021	0,00007	0,00007
Thallium	Th	mg/l	0,000016	<0,000008	<0,000005	<0,000005	<0,000007	<0,000005	<0,000006	<0,000005	<0,000007	0,000006	<0,000005
Uranium	U	mg/l	0,000090	0,00229	0,000040	0,000018	0,002990	0,000071	0,00004	0,000233	0,000141	0,00104	0,000663
Vanadium	V	mg/l	0,00041	0,00042	0,00033	0,00033	0,00032	0,00040	0,00035	0,00040	0,00031	0,00036	0,00029
Tungstène	W	mg/l	0,00029	0,00019	0,00017	0,00014	0,00015	0,00016	0,00016	0,00020	0,00013	0,00013	0,00011
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l					0,00001	<0,00001		<0,00001		<0,00001	
Cérium (total)	Ce	mg/l					<0,00001	<0,00001		0,00001		<0,00001	
Césium (total)	Cs	mg/l					0,0135	0,0157		0,0158		0,0135	
Dysprosium (total)	Dy	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Erbium (total)	Er	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Europium (total)	Eu	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Gallium (total)	Ga	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Gadolinium (total)	Gd	mg/l					<0,00001	<0,00001		<0,00001		<0,00001	
Germanium (total)	Ge	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Hafnium (total)	Hf	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Holmium (total)	Ho	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Indium (total)	In	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Iridium (total)	Ir	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Lanthanum (total)	La	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Lutetium (total)	Lu	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Niobium (total)	Nb	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Néodymium (total)	Nd	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Osmium (total)	Os	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Palladium (total)	Pd	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Praseodymium (total)	Pr	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Platinum (total)	Pt	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Rubidium (total)	Rb	mg/l					0,0026	0,0027		0,0026		0,0022	
Rhenium (total)	Re	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Rhodium (total)	Rh	mg/l					<0,00001	<0,00001		<0,00001		<0,00001	
Scandium (total)	Sc	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Samarium (total)	Sm	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Tantalum (total)	Ta	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Terbium (total)	Tb	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Tellurium (total)	Te	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Thorium (total)	Th	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Thulium (total)	Tm	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Ytterbium (total)	Yb	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	

Résultats – CV5-WR-HCT-36

Analyse	Symbole	Unité	Sem. #22	Sem. #23	Sem. #24	Sem. #25	Sem. #26	Sem. #27	Sem. #28	Sem. #29	Sem. #30	Sem. #31	Sem. #32
			2023-09-28	2023-10-05	2023-10-12	2023-10-19	2023-10-26	2023-11-02	2023-11-09	2023-11-16	2023-11-23	2023-11-30	2023-12-07
Volume du lixiviat	V	mL	939	984	996	944	977	1000	938	972	958	987	969
pH	pH	No unit	7,24	7,15	7,27	7,54	7,2	7,18	7,23	7,17	7,11	7,14	7,08
Alkalinité	Alkalinité	$mgCaCO_3/l$	6	6	7	23	6	7	7	6	5	4	6
Conductivité	Conductivité	µS/cm	20	19	21	49	18	19	18	17	18	17	17
Acidité	Acidité	$mgCaCO_3/l$	<2,0	2	<2,0	2	2	<2,0	2	<2,0	2	<2,0	<2,0
Fluoride	F	mg/l				<0,06	0,42	0,62	0,37	0,42	<0,06		
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<0,54	<0,75	<1,17	<0,42	<0,62	<0,37	<0,42	<0,38	<0,33	<0,34
Sulfate	SO_4^{2-}	mg/l	2	2	2	2	2	2	2	2	2	2	2
Chlore	Cl^-	mg/l				1					<1,0		
Nitrite	NO_2^-	mgN/l				0,03					<0,03		
Nitrate	NO_3^-	mgN/l				0,06					<0,06		
Bromide	Br	mg/l				0,3					<0,3		
Mercure	Hg	mg/l				<0,00001					<0,00001		
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,003	0,003	0,002	0,008	0,005	0,003	0,003	0,003	0,002	0,003	0,004
Arsenic	As	mg/l	1,7200	1,64	2,2	1,7	1,21	1,6700	1,42	1,44	1,19	1,2600	1,3500
Baryum	Ba	mg/l	0,00068	0,00074	0,00076	0,00111	0,00062	0,00078	0,00056	0,00058	0,00067	0,00051	0,00050
Beryllium	Be	mg/l	<0,000007	<0,000007	0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	0,000012	<0,000007	<0,000007
Bore	B	mg/l	0,009	0,009	0,008	0,007	0,005	0,007	0,006	0,005	0,005	0,005	0,005
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	2,99	2,84	3,07	7,91	2,7	2,99	2,74	2,27	2,76	2,40	2,35
Cadmium	Cd	mg/l	0,000003	<0,000003	0,000003	<0,000003	<0,000003	0,000003	<0,000003	0,000003	0,000016	0,000003	<0,000003
Cobalt	Co	mg/l	0,000226	0,000266	0,000315	0,000718	0,000243	0,000334	0,000156	0,000223	0,000245	0,000230	0,000240
Chrome	Cr	mg/l	<0,00012	<0,00013	<0,00008	<0,00049	<0,0001	<0,00015	<0,00013	<0,0001	<0,00008	<0,0001	<0,00008
Cuivre	Cu	mg/l	<0,0004	<0,0002	0,0002	<0,002	<0,0002	<0,0005	<0,0002	0,0003	<0,0003	<0,0002	<0,0002
Fer	Fe	mg/l	<0,007	<0,007	<0,032	<0,014	<0,011	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007
Potassium	K	mg/l	0,056	0,056	0,047	0,08	0,073	0,049	0,057	0,041	0,068	0,056	0,053
Lithium	Li	mg/l	0,0036	0,0031	0,0035	0,0034	0,002	0,0024	0,0026	0,0019	0,0029	0,0027	0,0027
Magnésium	Mg	mg/l	0,648	0,641	0,74	1,04	0,512	0,655	0,509	0,475	0,604	0,519	0,501
Manganese	Mn	mg/l	0,00158	0,00199	0,0029	0,00979	0,00275	0,00226	0,00142	0,00172	0,00169	0,00176	0,00173
Molybdène	Mo	mg/l	0,00008	0,00084	0,00019	0,00008	0,00012	0,00013	0,00007	0,00029	0,00004	0,00025	0,00014
Sodium	Na	mg/l	0,03	0,04	0,03	0,08	0,11	0,04	0,05	0,02	0,03	0,02	0,06
Nickel	Ni	mg/l	0,0092	0,0099	0,0129	0,0263	0,0081	0,0101	0,0062	0,0075	0,0075	0,0070	0,0072
Plomb	Pb	mg/l	0,00009	<0,00079	<0,00009	0,0001	0,00009	0,00009	<0,00009	<0,00009	<0,00009	0,00009	<0,00009
Antimoine	Sb	mg/l	0,5760	0,629	0,682	0,641	0,413	0,6950	0,518	0,584	0,518	0,5190	0,4850
Sélénium	Se	mg/l	0,00007	0,00006	0,00008	0,00006	0,0001	0,00007	0,00009	0,00004	0,00008	0,00004	0,00004
Etain	Sn	mg/l	<0,00006	<0,00006	<0,00006	0,00019	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006
Strontium	Sr	mg/l	0,0044	0,00419	0,0048	0,00797	0,00351	0,0039	0,00316	0,00333	0,00342	0,0032	0,0033
Titane	Ti	mg/l	0,00007	<0,00007	0,00007	0,00014	0,00007	0,00007	<0,00007	0,00007	0,00007	0,00007	<0,00007
Thallium	Th	mg/l	0,000005	<0,000005	<0,000006	<0,000006	<0,000006	0,000007	<0,000005	<0,000005	<0,000009	<0,000005	<0,000015
Uranium	U	mg/l	0,000177	0,000032	0,000119	0,000141	0,00302	0,001610	0,000122	0,00282	0,00006	0,00151	0,000168
Vanadium	V	mg/l	0,00024	0,00023	0,00027	0,00041	0,00016	0,00020	0,00021	0,00021	0,00017	0,00018	0,00020
Tungstène	W	mg/l	0,00011	0,00009	0,00012	0,0001	0,00008	0,00010	0,00007	0,00007	0,00008	0,00007	0,00008
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00003	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l				0,00001					<0,00001		
Cérium (total)	Ce	mg/l				0,00001					<0,00001		
Césium (total)	Cs	mg/l				0,0187					0,0123		
Dysprosium (total)	Dy	mg/l				0,0001					<0,0001		
Erbium (total)	Er	mg/l				0,0001					<0,0001		
Europium (total)	Eu	mg/l				0,0001					<0,0001		
Gallium (total)	Ga	mg/l				0,0001					<0,0001		
Gadolinium (total)	Gd	mg/l				0,00001					<0,00001		
Germanium (total)	Ge	mg/l				0,0001					<0,0001		
Hafnium (total)	Hf	mg/l				0,0001					<0,0001		
Holmium (total)	Ho	mg/l				0,0001					<0,0001		
Indium (total)	In	mg/l				0,0001					<0,0001		
Iridium (total)	Ir	mg/l				0,0001					<0,0001		
Lanthanum (total)	La	mg/l				0,0001					<0,0001		
Lutetium (total)	Lu	mg/l				0,0001					<0,0001		
Niobium (total)	Nb	mg/l				0,0001					<0,0001		
Néodymium (total)	Nd	mg/l				0,0001					<0,0001		
Osmium (total)	Os	mg/l				0,0001					<0,0001		
Palladium (total)	Pd	mg/l				0,0001					<0,0001		
Praseodymium (total)	Pr	mg/l				0,0001					<0,0001		
Platinum (total)	Pt	mg/l				0,0001					<0,0001		
Rubidium (total)	Rb	mg/l				0,0027					0,0024		
Rhenium (total)	Re	mg/l				0,0001					<0,0001		
Rhodium (total)	Rh	mg/l				0,00001					<0,00001		
Scandium (total)	Sc	mg/l				0,0001					<0,0001		
Samarium (total)	Sm	mg/l				0,0001					<0,0001		
Tantalum (total)	Ta	mg/l				0,0001					<0,0001		
Terbium (total)	Tb	mg/l				0,0001					<0,0001		
Tellurium (total)	Te	mg/l				0,0001					<0,0001		
Thorium (total)	Th	mg/l				0,0001					<0,0001		
Thulium (total)	Tm	mg/l				0,0001					<0,0001		
Ytterbium (total)	Yb	mg/l				0,0001					<0,0001		

Résultats – CV5-WR-HCT-36

Analyse	Symbole	Unité	Sem. #33	Sem. #34	Sem. #35	Sem. #36	Sem. #37	Sem. #38	Sem. #39	Sem. #40	Sem. #41	Sem. #42	Sem. #43
			2023-12-14	2023-12-21	2023-12-28	2024-01-04	2024-01-11	2024-01-18	2024-01-25	2024-02-01	2024-02-08	2024-02-15	2024-02-22
Volume du lixiviat	V	mL	954	993	1000	888	984	996	980	928	1014	1011	993
pH	pH	No unit	7,17	7,02	7,25	7,27	7,17	7,10	6,94	7,05	7,17	7,15	7,06
Alkalinité	Alkalinité	$mgCaCO_3/l$	6	5	7	6	5	8	4	4	6	5	5
Conductivité	Conductivité	µS/cm	17	17	20	19	15	20	13	13	16	15	15
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0
Fluoride	F	mg/l	<0,06		<0,06					<0,06			
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,42	<0,33	<0,44	<0,33	<0,32	<0,5	<0,25	<0,2	<0,38	<0,37	<0,39
Sulfate	SO_4^{2-}	mg/l	2	2	2	3	5	2	2	2	2	2	2
Chlore	Cl^-	mg/l	***		<1,0					1			
Nitrite	NO_2^-	mgN/l	***		<0,03					<0,03			
Nitrate	NO_3^-	mgN/l	***		<0,06					<0,06			
Bromide	Br	mg/l	***		<0,3					<0,3			
Mercure	Hg	mg/l	***		<0,00001					<0,00001			
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,002	0,002	0,001	0,003	0,002	0,002	0,004	0,003	0,001	0,001	0,001
Arsenic	As	mg/l	1,3900	1,1300	1,5800	1,1900	0,9510	1,6100	0,9730	0,8630	1,3400	1,2600	1,4200
Baryum	Ba	mg/l	0,00057	0,00045	0,00062	0,00053	0,00048	0,00071	0,00047	0,00058	0,00056	0,00056	0,00050
Beryllium	Be	mg/l	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007
Bore	B	mg/l	<0,005	<0,004	<0,005	<0,004	<0,004	0,006	<0,003	<0,003	<0,004	<0,004	<0,003
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	2,48	2,10	2,66	2,60	2,01	2,73	1,86	2,05	2,25	1,98	2,11
Cadmium	Cd	mg/l	<0,000004	<0,000004	<0,000005	<0,000003	<0,000023	<0,000003	0,000009	<0,000009	<0,000003	<0,000003	<0,000003
Cobalt	Co	mg/l	0,000291	0,000334	0,000369	0,000242	0,000474	0,000397	0,000237	0,000256	0,000294	0,000386	0,000410
Chrome	Cr	mg/l	<0,00008	<0,00008	<0,00008	<0,00017	<0,00008	<0,00008	<0,00008	<0,00012	<0,00008	<0,00008	<0,00008
Cuivre	Cu	mg/l	<0,0002	0,0002	<0,0002	<0,0002	0,0002	<0,0002	<0,002	<0,002	<0,002	<0,001	<0,001
Fer	Fe	mg/l	<0,007	<0,007	<0,007	<0,009	<0,007	<0,007	<0,007	0,007	<0,007	<0,007	<0,007
Potassium	K	mg/l	0,048	0,035	0,045	0,060	0,078	0,051	0,051	0,048	0,035	0,023	0,032
Lithium	Li	mg/l	0,0029	0,0022	0,0026	0,0027	0,1650	0,0026	0,0018	0,0020	0,0017	0,0019	0,0018
Magnésium	Mg	mg/l	0,546	0,463	0,583	0,525	0,508	0,631	0,395	0,438	0,529	0,480	0,477
Manganese	Mn	mg/l	0,00193	0,00231	0,00200	0,00119	0,00144	0,00186	0,00177	0,00143	0,00176	0,00140	0,00162
Molybdène	Mo	mg/l	0,00236	0,00873	0,00011	0,00004	0,00033	0,00031	0,00040	<0,0004	<0,0004	<0,0004	<0,0004
Sodium	Na	mg/l	0,02	0,02	0,03	0,07	1,06	0,02	0,01	0,06	0,03	0,02	0,03
Nickel	Ni	mg/l	0,0091	0,0109	0,0134	0,0069	0,0078	0,0122	0,0067	0,0067	0,0088	0,0107	0,0119
Plomb	Pb	mg/l	0,00009	<0,00009	<0,00031	<0,00009	0,00009	<0,00009	<0,00011	<0,00009	<0,00009	<0,00009	<0,00009
Antimoine	Sb	mg/l	0,5710	0,4010	0,5140	0,5190	0,3920	0,5990	0,3690	0,3820	0,3970	0,4580	0,4090
Sélénium	Se	mg/l	0,00004	0,00004	0,00006	0,00005	0,00004	0,00004	0,00004	0,00005	0,00004	0,00004	0,00005
Etain	Sn	mg/l	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006
Strontium	Sr	mg/l	0,0033	0,0027	0,0035	0,0031	0,0022	0,0034	0,0024	0,00246	0,00210	0,00229	0,00248
Titane	Ti	mg/l	<0,00007	0,00007	<0,00007	0,00013	0,00007	0,00007	0,00010	0,0001	0,0001	<0,0001	<0,0001
Thallium	Th	mg/l	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000006
Uranium	U	mg/l	0,000036	0,000194	0,00148	0,000266	0,000045	0,00008	0,00003	0,000029	0,000040	0,001220	0,000849
Vanadium	V	mg/l	0,00017	0,00017	0,00018	0,00017	0,00010	0,00016	0,00014	0,00012	0,00015	0,00013	0,00013
Tungstène	W	mg/l	0,00008	0,00006	0,00007	0,00007	0,00005	0,00008	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l			<0,00001					<0,00001			
Cérium (total)	Ce	mg/l			<0,00001					0,00001			
Césium (total)	Cs	mg/l			0,0114					0,0099			
Dysprosium (total)	Dy	mg/l			<0,0001					<0,00001			
Erbium (total)	Er	mg/l			<0,0001					<0,00001			
Europium (total)	Eu	mg/l			<0,0001					<0,00001			
Gallium (total)	Ga	mg/l			<0,0001					<0,0001			
Gadolinium (total)	Gd	mg/l			<0,00001					<0,00001			
Germanium (total)	Ge	mg/l			<0,0001					<0,0001			
Hafnium (total)	Hf	mg/l			<0,0001					<0,0001			
Holmium (total)	Ho	mg/l			<0,0001					<0,00001			
Indium (total)	In	mg/l			<0,0001					<0,00001			
Iridium (total)	Ir	mg/l			<0,0001					<0,00001			
Lanthanum (total)	La	mg/l			<0,0001					<0,00002			
Lutetium (total)	Lu	mg/l			<0,0001					<0,0001			
Niobium (total)	Nb	mg/l			<0,0001					<0,00001			
Néodymium (total)	Nd	mg/l			<0,0001					<0,00001			
Osmium (total)	Os	mg/l			<0,0001					<0,0001			
Palladium (total)	Pd	mg/l			<0,0001					<0,0001			
Praseodymium (total)	Pr	mg/l			<0,0001					<0,00001			
Platinum (total)	Pt	mg/l			<0,0001					<0,0001			
Rubidium (total)	Rb	mg/l			0,0021					0,0016			
Rhenium (total)	Re	mg/l			<0,0001					<0,0001			
Rhodium (total)	Rh	mg/l			<0,00001					<0,00001			
Scandium (total)	Sc	mg/l			<0,0001					<0,0001			
Samarium (total)	Sm	mg/l			<0,0001					<0,00001			
Tantalum (total)	Ta	mg/l			<0,0001					<0,0001			
Terbium (total)	Tb	mg/l			<0,0001					<0,00001			
Tellurium (total)	Te	mg/l			<0,0001					<0,0001			
Thorium (total)	Th	mg/l			<0,0001					<0,0001			
Thulium (total)	Tm	mg/l			<0,0001					<0,00001			
Ytterbium (total)	Yb	mg/l			<0,0001					<0,00001			

Résultats – CV5-WR-HCT-36

Analyse	Symbole	Unité	Sem. #44	Sem. #45	Sem. #46	Sem. #47	Sem. #48	Sem. #49	Sem. #50	Sem. #51	Sem. #52	Sem. #53	Sem. #54
			2024-02-29	2024-03-07	2024-03-14	2024-03-21	2024-03-28	2024-04-04	2024-04-11	2024-04-18	2024-04-25	2024-05-02	2024-05-09
Volume du lixiviat	V	mL	1000	1010	989	971	968	990	1005	996	989	1003	972
pH	pH	No unit	7,10	7,23	7,10	7,06	7,13	7,07	7,06	7,12	7,21	7,11	7,12
Alkalinité	Alkalinité	$mgCaCO_3/l$	5	6	5	4	5	5	5	7	7	5	5
Conductivité	Conductivité	µS/cm	15	14	13	13	14	15	15	20	16	12	13
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0
Fluoride	F	mg/l		<0,06					<0,06				
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,36	<0,32	<0,24	<0,25	<0,26	<0,28	<0,3	<0,35	<0,29	<0,18	<0,18
Sulfate	SO_4^{2-}	mg/l	2	2	2	2	2	2	2	2	2	2	2
Chlore	Cl^-	mg/l		<1,0					<1,0				
Nitrite	NO_2^-	mgN/l		<0,03					<0,03				
Nitrate	NO_3^-	mgN/l		<0,06					<0,06				
Bromide	Br	mg/l		<0,3					<0,3				
Mercure	Hg	mg/l		<0,00001					<0,00001				
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,001	0,001	0,001	0,001	0,001	0,001	0,001	0,002	0,001	0,002	0,002
Arsenic	As	mg/l	1,2700	1,1600	0,9100	0,9180	1,0800	1,2100	1,1000	1,3600	1,1200	0,8000	0,7450
Baryum	Ba	mg/l	0,00043	0,00043	0,00032	0,00039	0,00034	0,00049	0,00046	0,00051	0,00045	0,00050	0,00050
Beryllium	Be	mg/l	<0,000007	<0,000007	<0,000007	<0,000007	<0,00155	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007
Bore	B	mg/l	<0,003	<0,003	<0,003	<0,002	<0,005	<0,003	<0,003	<0,003	<0,003	<0,002	<0,002
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	2,01	2,21	1,52	1,81	1,82	2,00	2,24	2,63	2,34	1,90	1,97
Cadmium	Cd	mg/l	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003
Cobalt	Co	mg/l	0,000345	0,000458	0,000328	0,000346	0,000329	0,000395	0,000389	0,000582	0,000430	0,000461	0,000369
Chrome	Cr	mg/l	<0,00008	<0,00015	<0,00008	<0,00008	<0,0001	<0,00008	<0,00008	<0,00016	<0,00009	<0,00014	<0,00013
Cuivre	Cu	mg/l	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001
Fer	Fe	mg/l	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007
Potassium	K	mg/l	0,029	0,039	0,019	0,029	0,027	0,035	0,024	0,049	0,023	0,029	0,022
Lithium	Li	mg/l	0,0017	0,0016	0,0013	0,0013	0,0018	0,0016	0,0016	0,0020	0,0015	0,0013	0,0013
Magnésium	Mg	mg/l	0,488	0,518	0,361	0,395	0,413	0,463	0,488	0,584	0,482	0,441	0,452
Manganese	Mn	mg/l	0,00143	0,00167	0,00190	0,00156	0,00130	0,00150	0,00154	0,00207	0,00174	0,00233	0,00190
Molybdène	Mo	mg/l	<0,0004	<0,0004	<0,0018	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004
Sodium	Na	mg/l	0,01	0,02	0,01	0,01	0,02	0,03	0,01	0,02	0,02	0,03	0,03
Nickel	Ni	mg/l	0,0106	0,0114	0,0083	0,0083	0,0085	0,0093	0,0105	0,0119	0,0102	0,0096	0,0074
Plomb	Pb	mg/l	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00011	<0,00009
Antimoine	Sb	mg/l	0,3990	0,4080	0,2980	0,3150	0,3350	0,3370	0,3430	0,4150	0,3700	0,2550	0,2480
Sélénium	Se	mg/l	0,00004	0,00004	0,00004	0,00005	0,00004	0,00004	0,00004	0,00007	0,00004	0,00004	0,00004
Etain	Sn	mg/l	<0,00006	<0,00006	<0,00008	<0,00006	<0,00006	<0,00013	<0,00006	<0,00006	<0,00009	<0,00006	<0,00006
Strontium	Sr	mg/l	0,00239	0,00239	0,00166	0,00186	0,00185	0,00210	0,00222	0,00259	0,00210	0,00165	0,00190
Titane	Ti	mg/l	0,0001	<0,0001	<0,0001	0,0001	0,0001	<0,0001	0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Thallium	Th	mg/l	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005
Uranium	U	mg/l	0,000048	0,000033	0,000054	0,000014	0,000021	0,000016	0,000021	0,000019	0,000016	0,000011	0,000016
Vanadium	V	mg/l	0,00013	0,00013	0,00008	0,00012	0,00011	0,00013	0,00012	0,00017	0,00015	0,00011	0,00012
Tungstène	W	mg/l	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,009	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l		<0,00001					<0,00001				
Cérium (total)	Ce	mg/l		<0,00001					<0,00001				
Césium (total)	Cs	mg/l		0,0093					0,0084				
Dysprosium (total)	Dy	mg/l		<0,00001					<0,00001				
Erbium (total)	Er	mg/l		<0,00001					<0,00001				
Europium (total)	Eu	mg/l		<0,00001					<0,00001				
Gallium (total)	Ga	mg/l		<0,0001					<0,0001				
Gadolinium (total)	Gd	mg/l		<0,00001					<0,00001				
Germanium (total)	Ge	mg/l		<0,0001					<0,0001				
Hafnium (total)	Hf	mg/l		<0,0001					<0,0001				
Holmium (total)	Ho	mg/l		<0,00001					<0,00001				
Indium (total)	In	mg/l		<0,00001					<0,00001				
Iridium (total)	Ir	mg/l		<0,00001					<0,00001				
Lanthanum (total)	La	mg/l		<0,00002					<0,00003				
Lutetium (total)	Lu	mg/l		<0,0001					<0,0001				
Niobium (total)	Nb	mg/l		<0,00001					<0,00001				
Néodymium (total)	Nd	mg/l		<0,00001					<0,00001				
Osmium (total)	Os	mg/l		<0,0001					<0,0001				
Palladium (total)	Pd	mg/l		<0,0001					<0,0001				
Praseodymium (total)	Pr	mg/l		<0,00001					<0,00001				
Platinum (total)	Pt	mg/l		<0,0001					<0,0001				
Rubidium (total)	Rb	mg/l		0,0015					0,0014				
Rhenium (total)	Re	mg/l		<0,0001					<0,0001				
Rhodium (total)	Rh	mg/l		<0,00001					<0,00001				
Scandium (total)	Sc	mg/l		<0,0001					<0,0001				
Samarium (total)	Sm	mg/l		<0,00001					<0,00001				
Tantalum (total)	Ta	mg/l		<0,0001					<0,0001				
Terbium (total)	Tb	mg/l		<0,00001					<0,00001				
Tellurium (total)	Te	mg/l		<0,0001					<0,0001				
Thorium (total)	Th	mg/l		<0,0001					<0,0001				
Thulium (total)	Tm	mg/l		<0,00001					<0,00001				
Ytterbium (total)	Yb	mg/l		<0,00001					<0,00001				

Résultats – CV5-WR-HCT-36

Analyse	Symbole	Unité	Sem. #55	Sem. #56	Sem. #57	Sem. #58	Sem. #59	Sem. #60	Sem. #61	Sem. #62	Sem. #63	Sem. #64	Sem. #65
			2024-05-16	2024-05-23	2024-05-30	2024-06-06	2024-06-13	2024-06-20	2024-06-27	2024-07-04	2024-07-11	2024-07-18	2024-07-25
Volume du lixiviat	V	mL	995	1010	982	974	951	973	976	951	969	950	960
pH	pH	No unit	7,29	7,12	7,24	7,34	7,18	7,06	6,90	7,19	7,04	7,23	7,17
Alkalinité	Alkalinité	$mgCaCO_3/l$	4	5	4	4	6	5	5	5		7	
Conductivité	Conductivité	µS/cm	13	14	12	14	14	14	13	14	16	13	18
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0		<2,0	
Fluoride	F	mg/l	<0,06					<0,06				<0,06	
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,21	<0,03	<0,14	<0,27	<0,21	<0,2	<0,2	<0,13		<0,21	
Sulfate	SO_4^{2-}	mg/l	2	6	2	2	2	2	2	2		2	
Chlore	Cl^-	mg/l	<1,0					<1,0				<1,0	
Nitrite	NO_2^-	mgN/l	<0,03					<0,03				<0,03	
Nitrate	NO_3^-	mgN/l	<0,06					<0,06				<0,06	
Bromide	Br	mg/l	<0,3					<0,3				<0,3	
Mercure	Hg	mg/l	<0,00001					<0,00001				<0,00001	
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005		<0,00005	
Aluminum	Al	mg/l	0,001	0,002	0,001	0,001	0,002	0,002	0,002	0,002		0,001	
Arsenic	As	mg/l	0,7350	0,8210	0,7250	0,7620	0,9170	0,8420	0,7390	0,8100		0,8070	
Baryum	Ba	mg/l	0,00040	0,00059	0,00041	0,00051	0,00051	0,00051	0,00054	0,00051		0,00041	
Beryllium	Be	mg/l	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007		<0,000007	
Bore	B	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,003	<0,002	<0,002		<0,002	
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001		<0,00001	
Calcium	Ca	mg/l	1,90	2,01	1,83	2,08	2,24	2,11	1,80	2,08		1,94	
Cadmium	Cd	mg/l	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003		<0,000003	
Cobalt	Co	mg/l	0,000453	0,000512	0,000392	0,000383	0,000303	0,000355	0,000287	0,000273		0,000233	
Chrome	Cr	mg/l	<0,00008	<0,00013	<0,00015	<0,0002	<0,00008	<0,00008	<0,00008	<0,00008		<0,00008	
Cuivre	Cu	mg/l	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001		<0,001	
Fer	Fe	mg/l	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007		0,007	
Potassium	K	mg/l	0,024	0,028	0,031	0,035	0,031	0,030	0,031	0,035		0,052	
Lithium	Li	mg/l	0,0014	0,0014	0,0011	0,0014	0,0015	0,0018	0,0013	0,0016		0,0014	
Magnésium	Mg	mg/l	0,422	0,463	0,436	0,498	0,513	0,513	0,423	0,464		0,481	
Manganese	Mn	mg/l	0,00208	0,00215	0,00180	0,00194	0,00167	0,00176	0,00158	0,00148		0,00115	
Molybdène	Mo	mg/l	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0005	<0,0004	<0,0004		<0,0005	
Sodium	Na	mg/l	0,03	0,01	0,03	0,01	0,01	0,01	0,01	0,02		0,06	
Nickel	Ni	mg/l	0,0085	0,0096	0,0074	0,0070	0,0062	0,0068	0,0054	0,0055		0,0043	
Plomb	Pb	mg/l	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009		<0,00009	
Antimoine	Sb	mg/l	0,2830	0,3190	0,2450	0,2950	0,3170	0,3490	0,2950	0,3730		0,3590	
Sélénium	Se	mg/l	0,00004	0,00004	0,00004	0,00004	0,00004	0,00004	0,00004	0,00004		0,00004	
Etain	Sn	mg/l	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006		<0,00006	
Strontium	Sr	mg/l	0,00183	0,00186	0,00144	0,00176	0,00196	0,00203	0,00158	0,00196		0,00165	
Titane	Ti	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	0,0001		<0,0001	
Thallium	Th	mg/l	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005		<0,000005	
Uranium	U	mg/l	0,000015	0,000016	0,000014	0,000012	0,000015	0,000017	0,000014	0,000017		0,000018	
Vanadium	V	mg/l	0,00011	0,00012	0,00012	0,00015	0,00014	0,00011	0,00011	0,00012		0,00013	
Tungstène	W	mg/l	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002		<0,0002	
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002		<0,00002	
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002		<0,002	
Gold (total)	Au	mg/l	<0,00001					<0,00001				<0,00001	
Cérium (total)	Ce	mg/l	0,00001					<0,00001				<0,00001	
Césium (total)	Cs	mg/l	0,0066					0,0085				0,0107	
Dysprosium (total)	Dy	mg/l	<0,00001					<0,00001				<0,00001	
Erbium (total)	Er	mg/l	<0,00001					<0,00001				<0,00001	
Europium (total)	Eu	mg/l	<0,00001					<0,00001				<0,00001	
Gallium (total)	Ga	mg/l	<0,0001					<0,0001				<0,0001	
Gadolinium (total)	Gd	mg/l	<0,00001					<0,00001				<0,00001	
Germanium (total)	Ge	mg/l	<0,0001					<0,0001				<0,0001	
Hafnium (total)	Hf	mg/l	<0,0001					<0,0001				<0,0001	
Holmium (total)	Ho	mg/l	<0,00001					<0,00001				<0,00001	
Indium (total)	In	mg/l	<0,00001					<0,00001				<0,00001	
Iridium (total)	Ir	mg/l	<0,00001					<0,00001				<0,00001	
Lanthanum (total)	La	mg/l	<0,00001					<0,00001				<0,00002	
Lutetium (total)	Lu	mg/l	<0,0001					<0,0001				<0,0001	
Niobium (total)	Nb	mg/l	<0,00001					<0,00001				<0,00001	
Néodymium (total)	Nd	mg/l	<0,00001					<0,00001				<0,00001	
Osmium (total)	Os	mg/l	<0,0001					<0,0001				<0,0001	
Palladium (total)	Pd	mg/l	<0,0001					<0,0001				<0,0001	
Praseodymium (total)	Pr	mg/l	<0,00001					<0,00001				<0,00001	
Platinum (total)	Pt	mg/l	<0,0001					<0,0001				<0,0001	
Rubidium (total)	Rb	mg/l	0,0012					0,0015				0,0020	
Rhenium (total)	Re	mg/l	<0,0001					<0,0001				<0,0001	
Rhodium (total)	Rh	mg/l	<0,00001					<0,00001				<0,00001	
Scandium (total)	Sc	mg/l	<0,0001					<0,0001				<0,0001	
Samarium (total)	Sm	mg/l	<0,00001					<0,00001				<0,00001	
Tantalum (total)	Ta	mg/l	<0,0001					<0,0001				<0,0001	
Terbium (total)	Tb	mg/l	<0,00001					<0,00001				<0,00001	
Tellurium (total)	Te	mg/l	<0,0001					<0,0001				<0,0001	
Thorium (total)	Th	mg/l	<0,0001					<0,0001				<0,0001	
Thulium (total)	Tm	mg/l	<0,00001					<0,00001				<0,00001	
Ytterbium (total)	Yb	mg/l	<0,00001					<0,00001				<0,00001	

Résultats – CV5-WR-HCT-36

Analyse	Symbole	Unité	Sem. #66	Sem. #67	Sem. #68	Sem. #69	Sem. #70	Sem. #71	Sem. #72	Sem. #73	Sem. #74	Sem. #75	Sem. #76
			2024-08-01	2024-08-08	2024-08-15	2024-08-22	2024-08-29	2024-09-05	2024-09-12	2024-09-19	2024-09-26	2024-10-03	2024-10-10
Volume du lixiviat	V	mL	969	959	976	940	966	955	953	979	985	972	998
pH	pH	No unit	6,94	7,23	6,98	6,80	7,14	7,16	7,00	7,03	7,31	7,23	7,19
Alkalinité	Alkalinité	$mgCaCO_3/l$			5				4				5
Conductivité	Conductivité	µS/cm	16	18	13	13	17	16	11	15	13	15	13
Acidité	Acidité	$mgCaCO_3/l$			<2,0				<2,0				<2,0
Fluoride	F	mg/l			<0,06				<0,06				<0,06
Phosphore réactif total	PO_4^{3-}-P	mg/l			<0,14				<0,2				<0,21
Sulfate	SO_4^{2-}	mg/l			2				2				2
Chlore	Cl^-	mg/l			<1,0				<1,0				<1,0
Nitrite	NO_2^-	mgN/l			<0,03				<0,03				<0,03
Nitrate	NO_3^-	mgN/l			<0,06				<0,06				<0,06
Bromide	Br	mg/l			<0,3				<0,3				<0,3
Mercure	Hg	mg/l			<0,00001				<0,00001				<0,00001
Argent	Ag	mg/l			<0,00005				<0,00005				<0,00005
Aluminum	Al	mg/l			0,002				0,001				0,001
Arsenic	As	mg/l			0,7750				0,7040				0,6940
Baryum	Ba	mg/l			0,00096				0,00028				0,00032
Beryllium	Be	mg/l			<0,000007				<0,000007				<0,000007
Bore	B	mg/l			<0,002				<0,002				<0,002
Bismuth	Bi	mg/l			<0,00001				<0,00001				<0,00001
Calcium	Ca	mg/l			1,92				1,82				1,89
Cadmium	Cd	mg/l			<0,000003				<0,000003				<0,000004
Cobalt	Co	mg/l			0,000272				0,000290				0,000388
Chrome	Cr	mg/l			<0,00017				<0,00008				<0,00008
Cuivre	Cu	mg/l			<0,001				<0,001				<0,001
Fer	Fe	mg/l			<0,007				<0,007				<0,007
Potassium	K	mg/l			0,044				0,037				0,030
Lithium	Li	mg/l			0,0014				0,0011				0,0012
Magnésium	Mg	mg/l			0,481				0,435				0,448
Manganese	Mn	mg/l			0,00134				0,00110				0,00146
Molybdène	Mo	mg/l			<0,0004				<0,0004				<0,0004
Sodium	Na	mg/l			0,02				0,02				0,01
Nickel	Ni	mg/l			0,0047				0,0045				0,0055
Plomb	Pb	mg/l			<0,00009				<0,00009				<0,00074
Antimoine	Sb	mg/l			0,3050				0,2240				0,1980
Sélénium	Se	mg/l			0,00004				0,00004				0,00004
Etain	Sn	mg/l			<0,00006				<0,00006				<0,00006
Strontium	Sr	mg/l			0,00225				0,00129				0,00133
Titane	Ti	mg/l			<0,0001				<0,0001				0,0001
Thallium	Th	mg/l			<0,000005				<0,000005				<0,000005
Uranium	U	mg/l			0,000020				0,000015				0,000014
Vanadium	V	mg/l			0,00015				0,00011				0,00011
Tungstène	W	mg/l			<0,0002				<0,0002				<0,0002
Yttrium	Y	mg/l			<0,00002				<0,00002				<0,00002
Zinc	Zn	mg/l			<0,002				<0,002				<0,002
Gold (total)	Au	mg/l			<0,00001				<0,00001				<0,00001
Cérium (total)	Ce	mg/l			<0,00001				<0,00001				<0,00001
Césium (total)	Cs	mg/l			0,0109				0,0088				0,0085
Dysprosium (total)	Dy	mg/l			<0,00001				<0,00001				<0,00001
Erbium (total)	Er	mg/l			<0,00001				<0,00001				<0,00001
Europium (total)	Eu	mg/l			<0,00001				<0,00001				<0,00001
Gallium (total)	Ga	mg/l			<0,0001				<0,0001				<0,0001
Gadolinium (total)	Gd	mg/l			<0,00001				<0,00001				<0,00001
Germanium (total)	Ge	mg/l			<0,0001				<0,0001				<0,0001
Hafnium (total)	Hf	mg/l			<0,0001				<0,0001				<0,0001
Holmium (total)	Ho	mg/l			<0,00001				<0,00001				<0,00001
Indium (total)	In	mg/l			<0,00001				<0,00001				<0,00001
Iridium (total)	Ir	mg/l			<0,00001				<0,00001				<0,00001
Lanthanum (total)	La	mg/l			<0,00002				<0,00001				<0,00001
Lutetium (total)	Lu	mg/l			<0,0001				<0,0001				<0,0001
Niobium (total)	Nb	mg/l			<0,00001				<0,00001				<0,00001
Néodymium (total)	Nd	mg/l			<0,00001				<0,00001				<0,00001
Osmium (total)	Os	mg/l			<0,0001				<0,0001				<0,0001
Palladium (total)	Pd	mg/l			<0,0001				<0,0001				<0,0001
Praseodymium (total)	Pr	mg/l			<0,00001				<0,00001				<0,00001
Platinum (total)	Pt	mg/l			<0,0001				<0,0001				<0,0001
Rubidium (total)	Rb	mg/l			0,0020				0,0015				0,0018
Rhenium (total)	Re	mg/l			<0,0001				<0,0001				<0,0001
Rhodium (total)	Rh	mg/l			<0,00001				<0,00001				<0,00001
Scandium (total)	Sc	mg/l			<0,0001				<0,0001				<0,0001
Samarium (total)	Sm	mg/l			<0,00001				<0,00001				<0,00001
Tantalum (total)	Ta	mg/l			<0,0001				<0,0001				<0,0001
Terbium (total)	Tb	mg/l			<0,00001				<0,00001				<0,00001
Tellurium (total)	Te	mg/l			<0,0001				<0,0001				<0,0001
Thorium (total)	Th	mg/l			<0,0001				<0,0001				<0,0001
Thulium (total)	Tm	mg/l			<0,00001				<0,00001				<0,00001
Ytterbium (total)	Yb	mg/l			<0,00001				<0,00001				<0,00001

Résultats – CV5-WR-HCT-36

Analyse	Symbole	Unité	Sem. #77	Sem. #78	Sem. #79	Sem. #80	Sem. #81	Sem. #82	Sem. #83	Sem. #84	Sem. #85	Sem. #86	Sem. #87
			2024-10-17	2024-10-24	2024-10-31	2024-11-07	2024-11-14	2024-11-21	2024-11-28	2024-12-05	2024-12-12	2024-12-19	2024-12-26
Volume du lixiviat	V	mL	970	994	973	1010	1001	956	999	988	1019	1015	1028
pH	pH	No unit	7,03	6,96	7,28	6,93	7	7,08	7,29	7,15	7,23	7,09	7,08
Alkalinité	Alkalinité	$mgCaCO_3/l$				<5,0				7			
Conductivité	Conductivité	µS/cm	14	15	13	15	28	15	18	13	17	16	19
Acidité	Acidité	$mgCaCO_3/l$				2				<2,0			
Fluoride	F	mg/l				<0,06				<0,06			
Phosphore réactif total	PO_4^{3-}-P	mg/l				<0,23				<0,14			
Sulfate	SO_4^{2-}	mg/l				2				2			
Chlore	Cl^-	mg/l				<1,0				<1,0			
Nitrite	NO_2^-	mgN/l				<0,03				<0,03			
Nitrate	NO_3^-	mgN/l				<0,06				<0,06			
Bromide	Br	mg/l				<0,3				<0,3			
Mercure	Hg	mg/l				<0,00001				<0,00001			
Argent	Ag	mg/l				<0,00005				<0,00005			
Aluminum	Al	mg/l				0,001				0,001			
Arsenic	As	mg/l				0,8730				0,675			
Baryum	Ba	mg/l				0,00037				0,00030			
Beryllium	Be	mg/l				<0,000007				<0,000007			
Bore	B	mg/l				<0,002				<0,002			
Bismuth	Bi	mg/l				<0,00001				<0,00001			
Calcium	Ca	mg/l				2,33				1,85			
Cadmium	Cd	mg/l				<0,000003				<0,000003			
Cobalt	Co	mg/l				0,000481				0,000384			
Chrome	Cr	mg/l				<0,00008				<0,00011			
Cuivre	Cu	mg/l				<0,001				<0,001			
Fer	Fe	mg/l				<0,007				<0,007			
Potassium	K	mg/l				0,031				0,022			
Lithium	Li	mg/l				0,0015				0,0011			
Magnésium	Mg	mg/l				0,510				0,405			
Manganese	Mn	mg/l				0,00157				0,00121			
Molybdène	Mo	mg/l				<0,0004				<0,0004			
Sodium	Na	mg/l				0,03				0,01			
Nickel	Ni	mg/l				0,0068				0,0058			
Plomb	Pb	mg/l				<0,00009				<0,00009			
Antimoine	Sb	mg/l				0,2680				0,208			
Sélénium	Se	mg/l				0,00004				0,00004			
Etain	Sn	mg/l				<0,00006				<0,00006			
Strontium	Sr	mg/l				0,00173				0,00126			
Titane	Ti	mg/l				<0,0001				<0,0001			
Thallium	Th	mg/l				<0,000005				0,000005			
Uranium	U	mg/l				0,000015				0,000008			
Vanadium	V	mg/l				0,00013				0,00011			
Tungstène	W	mg/l				<0,0002				<0,0002			
Yttrium	Y	mg/l				<0,00002				<0,00002			
Zinc	Zn	mg/l				<0,002				<0,002			
Gold (total)	Au	mg/l				<0,00001				<0,00001			
Cérium (total)	Ce	mg/l				<0,00001				<0,00001			
Césium (total)	Cs	mg/l				0,0071				0,0076			
Dysprosium (total)	Dy	mg/l				<0,00001				<0,00001			
Erbium (total)	Er	mg/l				<0,00001				<0,00001			
Europium (total)	Eu	mg/l				<0,00001				<0,00001			
Gallium (total)	Ga	mg/l				<0,0001				<0,0001			
Gadolinium (total)	Gd	mg/l				<0,00001				<0,00001			
Germanium (total)	Ge	mg/l				<0,0001				<0,0001			
Hafnium (total)	Hf	mg/l				<0,0001				<0,0001			
Holmium (total)	Ho	mg/l				<0,00001				<0,00001			
Indium (total)	In	mg/l				<0,00001				<0,00001			
Iridium (total)	Ir	mg/l				<0,00001				<0,00001			
Lanthanum (total)	La	mg/l				<0,00001				<0,00001			
Lutetium (total)	Lu	mg/l				<0,0001				<0,0001			
Niobium (total)	Nb	mg/l				<0,00001				<0,00001			
Néodymium (total)	Nd	mg/l				<0,00001				<0,00001			
Osmium (total)	Os	mg/l				<0,0001				<0,0001			
Palladium (total)	Pd	mg/l				<0,0001				<0,0001			
Praseodymium (total)	Pr	mg/l				<0,00001				<0,00001			
Platinum (total)	Pt	mg/l				<0,0001				<0,0001			
Rubidium (total)	Rb	mg/l				0,0013				0,0011			
Rhenium (total)	Re	mg/l				<0,0001				<0,0001			
Rhodium (total)	Rh	mg/l				<0,00001				<0,00001			
Scandium (total)	Sc	mg/l				<0,0001				<0,0001			
Samarium (total)	Sm	mg/l				<0,00001				<0,00001			
Tantalum (total)	Ta	mg/l				<0,0001				<0,0001			
Terbium (total)	Tb	mg/l				<0,00001				<0,00001			
Tellurium (total)	Te	mg/l				<0,0001				<0,0001			
Thorium (total)	Th	mg/l				<0,0001				<0,0001			
Thulium (total)	Tm	mg/l				<0,00001				<0,00001			
Ytterbium (total)	Yb	mg/l				<0,00001				<0,00001			

Résultats – CV5-WR-HCT-36

Analyse	Symbole	Unité	Sem. #88	Sem. #89
			2025-01-02	2025-01-09
Volume du lixiviat	V	mL	1008	1045
pH	pH	No unit	6,99	7,03
Alkalinité	Alkalinité	$mgCaCO_3/l$	8	
Conductivité	Conductivité	µS/cm	26	18
Acidité	Acidité	$mgCaCO_3/l$	2	
Fluoride	F	mg/l	<0,06	
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,44	
Sulfate	SO_4^{2-}	mg/l	2	
Chlore	Cl^-	mg/l	<1,0	
Nitrite	NO_2^-	mgN/l	<0,03	
Nitrate	NO_3^-	mgN/l	<0,06	
Bromide	Br	mg/l	<0,3	
Mercure	Hg	mg/l	<0,00001	
Argent	Ag	mg/l	<0,00005	
Aluminum	Al	mg/l	0,003	
Arsenic	As	mg/l	1,3	
Baryum	Ba	mg/l	0,00063	
Beryllium	Be	mg/l	<0,000007	
Bore	B	mg/l	<0,002	
Bismuth	Bi	mg/l	<0,00001	
Calcium	Ca	mg/l	3,64	
Cadmium	Cd	mg/l	<0,000003	
Cobalt	Co	mg/l	0,000821	
Chrome	Cr	mg/l	<0,00023	
Cuivre	Cu	mg/l	<0,001	
Fer	Fe	mg/l	<0,009	
Potassium	K	mg/l	0,044	
Lithium	Li	mg/l	0,002	
Magnésium	Mg	mg/l	0,766	
Manganese	Mn	mg/l	0,0026	
Molybdène	Mo	mg/l	<0,0004	
Sodium	Na	mg/l	0,01	
Nickel	Ni	mg/l	0,0107	
Plomb	Pb	mg/l	<0,00009	
Antimoine	Sb	mg/l	<0,439	
Sélénium	Se	mg/l	0,00004	
Etain	Sn	mg/l	<0,00006	
Strontium	Sr	mg/l	0,00249	
Titane	Ti	mg/l	<0,00016	
Thallium	Th	mg/l	0,00001	
Uranium	U	mg/l	0,000002	
Vanadium	V	mg/l	0,00020	
Tungstène	W	mg/l	<0,0002	
Yttrium	Y	mg/l	<0,00002	
Zinc	Zn	mg/l	<0,002	
Gold (total)	Au	mg/l	<0,00001	
Cérium (total)	Ce	mg/l	0,00001	
Césium (total)	Cs	mg/l	0,0135	
Dysprosium (total)	Dy	mg/l	<0,00001	
Erbium (total)	Er	mg/l	<0,00001	
Europium (total)	Eu	mg/l	<0,00001	
Gallium (total)	Ga	mg/l	<0,0001	
Gadolinium (total)	Gd	mg/l	<0,00001	
Germanium (total)	Ge	mg/l	<0,0001	
Hafnium (total)	Hf	mg/l	<0,0001	
Holmium (total)	Ho	mg/l	<0,00001	
Indium (total)	In	mg/l	<0,00001	
Iridium (total)	Ir	mg/l	<0,00001	
Lanthanum (total)	La	mg/l	0,00003	
Lutetium (total)	Lu	mg/l	<0,0001	
Niobium (total)	Nb	mg/l	<0,00001	
Néodymium (total)	Nd	mg/l	<0,00001	
Osmium (total)	Os	mg/l	<0,0001	
Palladium (total)	Pd	mg/l	<0,0001	
Praseodymium (total)	Pr	mg/l	<0,00001	
Platinum (total)	Pt	mg/l	<0,0001	
Rubidium (total)	Rb	mg/l	0,0023	
Rhenium (total)	Re	mg/l	<0,0001	
Rhodium (total)	Rh	mg/l	<0,00001	
Scandium (total)	Sc	mg/l	<0,0001	
Samarium (total)	Sm	mg/l	<0,00001	
Tantalum (total)	Ta	mg/l	<0,0001	
Terbium (total)	Tb	mg/l	<0,00001	
Tellurium (total)	Te	mg/l	<0,0001	
Thorium (total)	Th	mg/l	<0,0001	
Thulium (total)	Tm	mg/l	<0,00001	
Ytterbium (total)	Yb	mg/l	<0,00001	

Résultats – CV5-WR-HCT-36

Analyse	Symbole	Unité	Sem. #90	Sem. #91	Sem. #92	Sem. #93	Sem. #94	Sem. #95	Sem. #96	Sem. #97	Sem. #98	Sem. #99	Sem. #100
			2025-01-16	2025-01-23	2025-01-30	2025-02-06	2025-02-13	2025-02-20	2025-02-27	2025-03-06	2025-03-13	2025-03-20	2025-03-27
Volume du lixiviat	V	mL	1029	1049	1019	1019	1006	971	1012	1013	1000	974	976
pH	pH	No unit	7,06	7,18	7,13	7,15	7,06	7,15	7,17	6,87	6,51	6,98	6,95
Alkalinité	Alkalinité	$mgCaCO_3/l$			9				<8,0				<4,0
Conductivité	Conductivité	µS/cm	20	33	18	26	24	20	20	23	18	17	13
Acidité	Acidité	$mgCaCO_3/l$			<2,0				2				2
Fluoride	F	mg/l			<0,06				<0,08				<0,06
Phosphore réactif total	PO_4^{3-}-P	mg/l			<0,25				<0,26				<0,1
Sulfate	SO_4^{2-}	mg/l			2				2				2
Chlore	Cl^-	mg/l			<1,0				<1,0				<1,0
Nitrite	NO_2^-	mgN/l			<0,03				<0,03				<0,03
Nitrate	NO_3^-	mgN/l			<0,06				<0,06				<0,06
Bromide	Br	mg/l			<0,3				<0,3				<0,3
Mercure	Hg	mg/l			<0,00001				<0,00001				<0,00001
Argent	Ag	mg/l			<0,00005				<0,00005				<0,00005
Aluminum	Al	mg/l			0,002				0,002				0,001
Arsenic	As	mg/l			1,1400				1,07				0,5650
Baryum	Ba	mg/l			0,00041				0,00046				0,00027
Beryllium	Be	mg/l			<0,000007				<0,000007				<0,000007
Bore	B	mg/l			<0,002				<0,002				<0,002
Bismuth	Bi	mg/l			<0,00001				<0,00001				<0,00001
Calcium	Ca	mg/l			2,94				3,16				1,99
Cadmium	Cd	mg/l			<0,000003				0,000003				<0,000003
Cobalt	Co	mg/l			0,000652				0,0007				0,000539
Chrome	Cr	mg/l			<0,00011				<0,00011				<0,00013
Cuivre	Cu	mg/l			<0,001				<0,001				<0,001
Fer	Fe	mg/l			<0,007				<0,007				<0,007
Potassium	K	mg/l			0,034				0,041				0,027
Lithium	Li	mg/l			0,0014				0,0015				0,0010
Magnésium	Mg	mg/l			0,587				0,669				0,456
Manganese	Mn	mg/l			0,002				0,00205				0,00142
Molybdène	Mo	mg/l			<0,0004				<0,0004				<0,0004
Sodium	Na	mg/l			0,01				0,02				0,01
Nickel	Ni	mg/l			0,0083				0,0083				0,0057
Plomb	Pb	mg/l			<0,00009				<0,00009				<0,00009
Antimoine	Sb	mg/l			<0,243				<0,253				<0,145
Sélénium	Se	mg/l			0,00004				0,00004				0,00004
Etain	Sn	mg/l			0,00009				<0,00006				<0,00006
Strontium	Sr	mg/l			0,00189				0,00193				0,00115
Titane	Ti	mg/l			<0,0001				<0,0001				<0,0001
Thallium	Th	mg/l			0,000005				<0,000007				<0,000005
Uranium	U	mg/l			0,000014				0,000031				0,000032
Vanadium	V	mg/l			0,00018				0,00018				0,00011
Tungstène	W	mg/l			<0,0002				<0,0002				<0,00023
Yttrium	Y	mg/l			<0,00002				<0,00002				<0,00002
Zinc	Zn	mg/l			<0,002				<0,002				<0,002
Gold (total)	Au	mg/l			<0,00001				<0,00001				<0,00001
Cérium (total)	Ce	mg/l			0,00001				0,00001				<0,00001
Césium (total)	Cs	mg/l			0,0103				0,0117				0,0078
Dysprosium (total)	Dy	mg/l			<0,00001				<0,00001				<0,00001
Erbium (total)	Er	mg/l			<0,00001				<0,00001				<0,00001
Europium (total)	Eu	mg/l			<0,00001				<0,00001				<0,00001
Gallium (total)	Ga	mg/l			<0,0001				<0,0001				<0,0001
Gadolinium (total)	Gd	mg/l			<0,00001				<0,00001				<0,00001
Germanium (total)	Ge	mg/l			<0,0001				<0,0001				<0,0001
Hafnium (total)	Hf	mg/l			<0,0001				<0,0001				<0,0001
Holmium (total)	Ho	mg/l			<0,00001				<0,00001				<0,00001
Indium (total)	In	mg/l			<0,00001				<0,00001				<0,00001
Iridium (total)	Ir	mg/l			<0,00001				<0,00001				<0,00001
Lanthanum (total)	La	mg/l			0,00002				0,00001				<0,00001
Lutetium (total)	Lu	mg/l			<0,0001				<0,0001				<0,0001
Niobium (total)	Nb	mg/l			<0,00001				<0,00001				<0,00003
Néodymium (total)	Nd	mg/l			<0,00001				<0,00001				<0,00001
Osmium (total)	Os	mg/l			<0,0001				<0,0001				<0,0001
Palladium (total)	Pd	mg/l			<0,0001				<0,0001				<0,0001
Praseodymium (total)	Pr	mg/l			<0,00001				<0,00001				<0,00001
Platinum (total)	Pt	mg/l			<0,0001				<0,0001				<0,0001
Rubidium (total)	Rb	mg/l			0,0017				0,0019				0,0010
Rhenium (total)	Re	mg/l			<0,0001				<0,0001				<0,0001
Rhodium (total)	Rh	mg/l			<0,00001				<0,00001				<0,00001
Scandium (total)	Sc	mg/l			<0,0001				<0,0001				<0,0001
Samarium (total)	Sm	mg/l			<0,00001				<0,00001				<0,00001
Tantalum (total)	Ta	mg/l			<0,0001				<0,0001				<0,0001
Terbium (total)	Tb	mg/l			<0,00001				<0,00001				<0,00001
Tellurium (total)	Te	mg/l			<0,0001				<0,0001				<0,0001
Thorium (total)	Th	mg/l			<0,0001				<0,0001				<0,0001
Thulium (total)	Tm	mg/l			<0,00001				<0,00001				<0,00001
Ytterbium (total)	Yb	mg/l			<0,00001				<0,00001				<0,00001

Résultats HCT – CV5-WR-HCT-39

Analyse	Symbole	Unité	Sem. #0	Sem. #1	Sem. #2	Sem. #3	Sem. #4	Sem. #5	Sem. #6	Sem. #7	Sem. #8	Sem. #9	Sem. #10
			2023-04-27	2023-05-04	2023-05-11	2023-05-18	2023-05-25	2023-06-01	2023-06-08	2023-06-15	2023-06-22	2023-06-29	2023-07-06
Volume du lixiviat	V	mL	830	925	1003	1014	972	1004	1009	986	975	939	972
pH	pH	No unit	7,34	7,30	7,22	7,22	7,02	6,82	6,97	7,16	6,89	6,94	6,97
Alkalinité	Alkalinité	$mgCaCO_3/l$	8	7	7	9	4	5	5	7	4	3	3
Conductivité	Conductivité	µS/cm	33	59	59	60	34	45	34	38	20	29	28
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2,0	2	2	2	2	2	2	2	2	2
Fluoride	F	mg/l	<0,17	<0,21	<0,23	<0,2	<0,19	<0,17	<0,15	<0,2	<0,18	<0,16	<0,14
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<0,03	<0,05	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Sulfate	SO_4^{2-}	mg/l	5	16	18	14	11	10	10	10	8	8	7
Chlore	Cl^-	mg/l	2	2	1	1	1	1	<1,0	<1,0	1	1	1
Nitrite	NO_2^-	mgN/l	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Nitrate	NO_3^-	mgN/l	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06
Bromide	Br	mg/l	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3
Mercure	Hg	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,084	0,063	0,051	0,033	0,038	0,010	0,031	0,037	0,033	0,034	0,027
Arsenic	As	mg/l	0,0095	0,0479	0,0661	0,0549	0,0538	0,0588	0,0487	0,0499	0,0515	0,0391	0,0395
Baryum	Ba	mg/l	0,00030	0,00048	0,00063	0,00061	0,00046	0,00084	0,00051	0,00053	0,00046	0,00033	0,00032
Beryllium	Be	mg/l	<0,000007	<0,000007	0,000011	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007
Bore	B	mg/l	0,005	0,016	0,016	0,014	0,012	0,009	0,008	0,008	0,006	0,005	0,004
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	2,14	4,50	4,72	4,66	4,07	4,14	4,02	4,53	3,71	3,40	3,26
Cadmium	Cd	mg/l	<0,000003	<0,000003	<0,000005	0,000019	0,000003	<0,000005	<0,000005	<0,000006	<0,000008	<0,000005	<0,000015
Cobalt	Co	mg/l	0,000023	0,000081	0,000142	0,000214	0,000204	0,000248	0,000222	0,000277	0,000217	0,000185	0,000188
Chrome	Cr	mg/l	0,00012	0,00010	<0,00008	0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	0,00008	<0,00008
Cuivre	Cu	mg/l	0,0002	0,0004	<0,0002	<0,0002	0,0004	0,0002	<0,0003	<0,0002	<0,0003	<0,0002	0,0006
Fer	Fe	mg/l	<0,007	0,007	0,007	0,007	<0,007	0,007	0,007	0,007	<0,007	0,007	0,016
Potassium	K	mg/l	1,49	1,42	1,42	1,150	0,940	0,861	0,762	0,788	0,653	0,495	0,486
Lithium	Li	mg/l	0,0459	0,0769	0,0654	0,0597	0,0507	0,0405	0,0405	0,0346	0,0301	0,0249	0,0225
Magnésium	Mg	mg/l	0,241	0,604	0,776	0,747	0,619	0,686	0,631	0,744	0,570	0,491	0,513
Manganese	Mn	mg/l	0,00085	0,00235	0,00317	0,00322	0,00301	0,00337	0,00318	0,00368	0,00289	0,00218	0,00231
Molybdène	Mo	mg/l	0,00178	0,00523	0,00366	0,00232	0,00164	0,00133	0,00170	0,00291	0,00058	0,00042	0,00052
Sodium	Na	mg/l	3,58	5,29	3,74	2,39	1,66	1,38	0,97	1,03	0,73	0,55	0,44
Nickel	Ni	mg/l	0,0003	0,0009	0,0009	0,0010	0,0008	0,0008	0,0007	0,0009	0,0005	0,0004	0,0004
Plomb	Pb	mg/l	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009
Antimoine	Sb	mg/l	0,0051	0,0898	0,0903	0,0813	0,0545	0,0630	0,0563	0,0593	0,0372	0,0333	0,0350
Sélénium	Se	mg/l	0,00022	0,00049	0,00051	0,00023	0,00020	0,00017	0,00017	0,00024	0,00015	0,00016	0,00006
Etain	Sn	mg/l	0,00082	0,00201	0,00034	0,00014	0,00016	0,00013	0,00008	0,00009	<0,00007	<0,00007	0,00006
Strontium	Sr	mg/l	0,0074	0,0192	0,02104	0,0201	0,01720	0,0167	0,0163	0,01763	0,0142	0,01321	0,0122
Titane	Ti	mg/l	0,00021	0,00024	0,00025	0,00044	0,00016	<0,00005	0,00023	0,00038	0,00016	0,00018	0,00010
Thallium	Th	mg/l	0,000022	<0,000006	0,000021	<0,000012	<0,000011	0,000013	<0,000013	<0,000013	<0,000012	<0,000008	<0,000008
Uranium	U	mg/l	0,000466	0,001770	0,000421	0,000784	0,000512	0,000440	0,000557	0,002714	0,00920	0,000353	0,000446
Vanadium	V	mg/l	0,00036	0,00078	0,00078	0,00060	0,00066	0,00061	0,00057	0,00063	0,00059	0,00055	0,00051
Tungstène	W	mg/l	0,00045	0,00094	0,00098	0,00066	0,00041	0,00032	0,00041	0,00029	0,00021	0,00015	0,00015
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l	0,00001	<0,00001	<0,00001	<0,00001	0,00001	<0,00001	<0,00001	<0,00001	0,00001	0,00001	<0,00001
Cérium (total)	Ce	mg/l	0,00003	0,00002	0,00002	0,00004	0,00002	<0,00001	0,00001	0,00003	0,00004	0,00001	0,00001
Césium (total)	Cs	mg/l	0,0127	0,0091	0,0093	0,0093	0,0069	0,0056	0,0058	0,0059	0,0055	0,0040	0,0037
Dysprosium (total)	Dy	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Erbium (total)	Er	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Europium (total)	Eu	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Gallium (total)	Ga	mg/l	0,0002	<0,0001	<0,0001	<0,0001	<0,0001	0,0005	<0,0001	0,0002	<0,0001	<0,0001	<0,0001
Gadolinium (total)	Gd	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Germanium (total)	Ge	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Hafnium (total)	Hf	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Holmium (total)	Ho	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Indium (total)	In	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Iridium (total)	Ir	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Lanthanum (total)	La	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Lutetium (total)	Lu	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Niobium (total)	Nb	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Néodymium (total)	Nd	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Osmium (total)	Os	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Palladium (total)	Pd	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Praseodymium (total)	Pr	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Platinum (total)	Pt	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Rubidium (total)	Rb	mg/l	0,0182	0,0107	0,0102	0,0085	0,0071	0,0064	0,0056	0,0063	0,0053	0,0041	0,0038
Rhenium (total)	Re	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Rhodium (total)	Rh	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Scandium (total)	Sc	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Samarium (total)	Sm	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Tantalum (total)	Ta	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Terbium (total)	Tb	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Tellurium (total)	Te	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Thorium (total)	Th	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Thulium (total)	Tm	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Ytterbium (total)	Yb	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001

Résultats HCT – CV5-WR-HCT-39

Analyse	Symbole	Unité	Sem. #11	Sem. #12	Sem. #13	Sem. #14	Sem. #15	Sem. #16	Sem. #17	Sem. #18	Sem. #19	Sem. #20	Sem. #21
			2023-07-13	2023-07-20	2023-07-27	2023-08-03	2023-08-10	2023-08-17	2023-08-24	2023-08-31	2023-09-07	2023-09-14	2023-09-21
Volume du lixiviat	V	mL	959	930	952	954	900	929	925	936	897	941	945
pH	pH	No unit	6,72	6,74	6,61	6,61	6,40	6,94	6,75	7,02	6,71	6,83	6,62
Alkalinité	Alkalinité	$mgCaCO_3/l$	2	3	2	2	4	2	2	3	2	2	2
Conductivité	Conductivité	µS/cm	26	27	23	23	29	30	23	23	23	21	21
Acidité	Acidité	$mgCaCO_3/l$	2	2	2	2	3	2	2	2	2	2	2
Fluoride	F	mg/l				<0,13	<0,15	<0,14		<0,19		0,13	
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Sulfate	SO_4^{2-}	mg/l	7	7	7	6	9	7	6	6	7	<6,0	5
Chlore	Cl^-	mg/l					1	<1,0		<1,0		1	
Nitrite	NO_2^-	mgN/l					<0,03	<0,03		<0,03		<0,03	
Nitrate	NO_3^-	mgN/l					<0,06	<0,06		<0,06		<0,06	
Bromide	Br	mg/l					<0,3	<0,3		<0,3		<0,3	
Mercure	Hg	mg/l					<0,00001	<0,00001		<0,00001		<0,00001	
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	0,00011	<0,00005
Aluminum	Al	mg/l	0,050	0,030	0,028	0,024	0,043	0,036	0,040	0,054	0,130	0,026	0,021
Arsenic	As	mg/l	0,0330	0,0342	0,0349	0,0285	0,0391	0,0335	0,0366	0,0428	0,0379	0,0345	0,0312
Baryum	Ba	mg/l	0,00038	0,00047	0,00024	0,00030	0,00036	0,00030	0,00034	0,00050	0,00046	0,00030	0,00026
Beryllium	Be	mg/l	0,000013	<0,000007	<0,000007	<0,000007	<0,000007	<0,000008	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007
Bore	B	mg/l	0,004	0,004	0,003	0,003	0,003	0,003	0,003	0,003	0,003	0,003	0,002
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	2,78	3,40	2,98	2,90	3,78	3,05	3,02	3,20	3,22	2,77	2,62
Cadmium	Cd	mg/l	<0,000003	<0,000009	<0,000005	<0,000006	0,000006	0,000006	<0,000007	<0,000004	<0,000004	0,000003	<0,000007
Cobalt	Co	mg/l	0,000165	0,000192	0,000181	0,000179	0,000186	0,000146	0,000155	0,000149	0,000143	0,000126	0,000127
Chrome	Cr	mg/l	0,00016	0,00008	0,00026	<0,00008	<0,00008	0,00011	<0,00009	0,00014	<0,00012	<0,00008	<0,00008
Cuivre	Cu	mg/l	<0,0002	<0,0002	0,0003	0,0002	0,0002	0,0003	<0,0002	<0,0002	0,0002	<0,0002	<0,0002
Fer	Fe	mg/l	0,024	0,007	<0,007	<0,007	0,011	<0,008	<0,008	0,015	<0,02	<0,007	0,007
Potassium	K	mg/l	0,406	0,404	0,336	0,357	0,393	0,331	0,332	0,347	0,369	0,305	0,256
Lithium	Li	mg/l	0,0238	0,0190	0,0171	0,0164	0,0220	0,0160	0,0180	0,0164	0,0173	0,0150	0,0148
Magnésium	Mg	mg/l	0,460	0,490	0,401	0,420	0,56	0,386	0,445	0,463	0,530	0,420	0,379
Manganese	Mn	mg/l	0,00220	0,00256	0,00498	0,00185	0,00168	0,00162	0,00200	0,00205	0,00169	0,00161	0,0016
Molybdène	Mo	mg/l	0,00035	0,00105	0,00079	0,00040	0,00030	0,00013	0,00024	0,00029	0,00032	0,00019	0,00057
Sodium	Na	mg/l	0,38	0,37	0,31	0,31	0,37	0,26	0,24	0,26	0,28	0,18	0,18
Nickel	Ni	mg/l	0,0003	0,0005	0,0018	0,0004	0,0004	0,0003	0,0003	0,0004	0,0005	0,0003	0,0003
Plomb	Pb	mg/l	<0,00014	<0,00009	<0,00009	<0,00009	0,00014	0,00012	<0,00011	<0,00014	<0,00025	0,00009	0,00009
Antimoine	Sb	mg/l	0,0293	0,0255	0,0274	0,0235	0,0300	0,0229	0,0235	0,0289	0,0217	0,0252	0,0236
Sélénium	Se	mg/l	0,00015	0,00013	0,00006	0,00009	0,00015	0,00012	0,00013	0,00014	0,00016	0,00010	0,00009
Etain	Sn	mg/l	<0,00006	<0,00006	0,00007	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006
Strontium	Sr	mg/l	0,0102	0,0119	0,01099	0,0104	0,0141	0,0110	0,0110	0,0117	0,0119	0,0097	0,00877
Titane	Ti	mg/l	0,00096	0,00026	0,00017	0,00021	0,00071	0,00035	0,00048	0,00071	0,00072	0,00013	0,0001
Thallium	Th	mg/l	0,000018	<0,000009	<0,000007	<0,000006	<0,000006	<0,000007	<0,000007	<0,000006	<0,000009	0,000005	<0,000005
Uranium	U	mg/l	0,000176	0,00045	0,000420	0,000600	0,000546	0,000418	0,00038	0,000404	0,000455	0,00034	0,000475
Vanadium	V	mg/l	0,00054	0,00048	0,00045	0,00039	0,00047	0,00044	0,00048	0,00060	0,00052	0,00049	0,0004
Tungstène	W	mg/l	0,00022	0,00013	0,00013	0,00011	0,00014	0,00005	0,00009	0,00013	0,00020	0,00009	0,00007
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,003	<0,002	<0,003	0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l					0,00001	<0,00001		<0,00001		<0,00001	
Cérium (total)	Ce	mg/l					<0,00004	<0,00003		0,00004		<0,00001	
Césium (total)	Cs	mg/l					0,0032	0,0032		0,0032		0,0027	
Dysprosium (total)	Dy	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Erbium (total)	Er	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Europium (total)	Eu	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Gallium (total)	Ga	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Gadolinium (total)	Gd	mg/l					<0,00001	<0,00001		<0,00001		<0,00001	
Germanium (total)	Ge	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Hafnium (total)	Hf	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Holmium (total)	Ho	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Indium (total)	In	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Iridium (total)	Ir	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Lanthanum (total)	La	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Lutetium (total)	Lu	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Niobium (total)	Nb	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Néodymium (total)	Nd	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Osmium (total)	Os	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Palladium (total)	Pd	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Praseodymium (total)	Pr	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Platinum (total)	Pt	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Rubidium (total)	Rb	mg/l					0,0036	0,0030		0,0031		0,0027	
Rhenium (total)	Re	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Rhodium (total)	Rh	mg/l					<0,00001	<0,00001		<0,00001		<0,00001	
Scandium (total)	Sc	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Samarium (total)	Sm	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Tantalum (total)	Ta	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Terbium (total)	Tb	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Tellurium (total)	Te	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Thorium (total)	Th	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Thulium (total)	Tm	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Ytterbium (total)	Yb	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	

Résultats HCT – CV5-WR-HCT-39

Analyse	Symbole	Unité	Sem. #22	Sem. #23	Sem. #24	Sem. #25	Sem. #26	Sem. #27	Sem. #28	Sem. #29	Sem. #30	Sem. #31	Sem. #32
			2023-09-28	2023-10-05	2023-10-12	2023-10-19	2023-10-26	2023-11-02	2023-11-09	2023-11-16	2023-11-23	2023-11-30	2023-12-07
Volume du lixiviat	V	mL	907	926	1000	946	969	956	929	959	947	962	945
pH	pH	No unit	6,70	6,64	6,82	6,89	6,47	6,49	6,64	6,6	6,54	6,39	6,56
Alkalinité	Alkalinité	$mgCaCO_3/l$	2	2	3	4	2	3	2	2	2	2	2
Conductivité	Conductivité	µS/cm	23	21	19	29	18	18	18	16	20	19	18
Acidité	Acidité	$mgCaCO_3/l$	<2,0	2	<2,0	2	2	<2,0	2	<2,0	2	<4,0	<2,0
Fluoride	F	mg/l				<0,26					<0,16		
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<0,03	<0,03	<0,4	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Sulfate	SO_4^{2-}	mg/l	6	6	5	7	5	6	5	4	6	6	5
Chlore	Cl^-	mg/l				1					<1,0		
Nitrite	NO_2^-	mgN/l				0,03					<0,03		
Nitrate	NO_3^-	mgN/l				0,06					<0,06		
Bromide	Br	mg/l				0,3					<0,3		
Mercure	Hg	mg/l				<0,00001					<0,00001		
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,044	0,047	0,021	0,07	0,022	0,018	0,028	0,019	0,021	0,020	0,020
Arsenic	As	mg/l	0,0330	0,0316	0,0315	0,0481	0,0238	0,0244	0,0251	0,0201	0,0217	0,0218	0,0222
Baryum	Ba	mg/l	0,00028	0,0003	0,00022	0,00048	0,00023	0,00023	0,00022	0,0004	0,00031	0,00037	0,00022
Beryllium	Be	mg/l	<0,000007	<0,000007	0,000007	<0,000013	<0,000008	<0,000007	<0,000007	<0,000011	0,000012	<0,000007	<0,000007
Bore	B	mg/l	0,002	0,002	0,002	0,003	0,002	0,002	0,002	0,002	0,002	0,002	0,002
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	2,84	2,78	2,38	4,06	2,49	2,81	2,71	1,72	2,76	2,36	2,21
Cadmium	Cd	mg/l	0,000007	<0,00001	0,000003	<0,000015	<0,000009	0,000013	<0,000009	0,000003	0,00001	0,000006	<0,000005
Cobalt	Co	mg/l	0,000144	0,000183	0,000137	0,000541	0,000216	0,000215	0,000196	0,000177	0,000254	0,000140	0,000267
Chrome	Cr	mg/l	<0,00008	<0,0001	<0,00008	<0,00028	<0,00008	<0,00008	<0,00009	<0,00008	<0,00008	<0,00008	<0,00008
Cuivre	Cu	mg/l	<0,0007	<0,0012	0,0006	<0,0012	<0,0002	<0,0002	<0,0002	0,0002	<0,0002	<0,0002	<0,0003
Fer	Fe	mg/l	<0,014	<0,016	<0,007	<0,026	<0,007	<0,007	<0,008	<0,011	<0,007	<0,014	<0,007
Potassium	K	mg/l	0,297	0,284	0,241	0,388	0,233	0,212	0,226	0,141	0,234	0,195	0,193
Lithium	Li	mg/l	0,0137	0,0137	0,0125	0,0152	0,009	0,0088	0,011	0,0078	0,0113	0,0104	0,0092
Magnésium	Mg	mg/l	0,404	0,394	0,351	0,567	0,324	0,361	0,339	0,228	0,379	0,317	0,305
Manganese	Mn	mg/l	0,00170	0,0018	0,00171	0,00618	0,00214	0,00226	0,00195	0,00184	0,0019	0,00222	0,00150
Molybdène	Mo	mg/l	0,00031	0,00026	0,00032	0,00023	0,00016	0,00013	0,00014	0,00058	0,00016	0,00015	0,00120
Sodium	Na	mg/l	0,22	0,17	0,13	0,32	0,16	0,14	0,15	0,08	0,13	0,11	0,14
Nickel	Ni	mg/l	0,0003	0,0004	0,0001	0,0011	0,0004	0,0004	0,0004	0,0005	0,0004	0,0003	0,0006
Plomb	Pb	mg/l	0,00018	<0,00019	<0,00009	0,00036	0,00009	0,00009	<0,00009	<0,00009	<0,00009	0,00009	<0,0001
Antimoine	Sb	mg/l	0,0167	0,0175	0,0215	0,0239	0,0131	0,0150	0,0122	0,0134	0,0124	0,0133	0,0115
Sélénium	Se	mg/l	0,00012	0,00009	0,0001	0,00015	0,00011	0,00004	0,0001	0,00008	0,00011	0,00007	0,00011
Etain	Sn	mg/l	<0,00006	<0,00006	<0,00006	0,00007	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006
Strontium	Sr	mg/l	0,0103	0,00983	0,00836	0,014	0,00838	0,0087	0,00815	0,00621	0,00862	0,0076	0,0080
Titane	Ti	mg/l	0,00052	<0,00058	0,00013	0,00124	0,00018	0,00015	<0,00026	0,00025	0,00021	0,00022	<0,00026
Thallium	Th	mg/l	0,000008	<0,000005	<0,000007	<0,000013	<0,000008	0,000007	<0,000006	<0,000007	<0,000005	<0,000006	<0,000009
Uranium	U	mg/l	0,000341	0,000318	0,000829	0,000407	0,000484	0,000275	0,000582	0,000225	0,00133	0,00025	0,016910
Vanadium	V	mg/l	0,00047	0,00043	0,00045	0,00084	0,00033	0,00033	0,00039	0,0003	0,00031	0,00033	0,00032
Tungstène	W	mg/l	0,00007	0,00005	0,00007	0,00004	0,00004	0,00004	0,00003	0,00003	0,00003	0,00004	0,00004
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,003	<0,002	<0,003	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l				0,00001					<0,00001		
Cérium (total)	Ce	mg/l				0,00007					<0,00002		
Césium (total)	Cs	mg/l				0,005					0,002		
Dysprosium (total)	Dy	mg/l				0,0001					<0,0001		
Erbium (total)	Er	mg/l				0,0001					<0,0001		
Europium (total)	Eu	mg/l				0,0001					<0,0001		
Gallium (total)	Ga	mg/l				0,0001					<0,0001		
Gadolinium (total)	Gd	mg/l				0,00001					<0,00001		
Germanium (total)	Ge	mg/l				0,0001					<0,0001		
Hafnium (total)	Hf	mg/l				0,0001					<0,0001		
Holmium (total)	Ho	mg/l				0,0001					<0,0001		
Indium (total)	In	mg/l				0,0001					<0,0001		
Iridium (total)	Ir	mg/l				0,0001					<0,0001		
Lanthanum (total)	La	mg/l				0,0001					<0,0001		
Lutetium (total)	Lu	mg/l				0,0001					<0,0001		
Niobium (total)	Nb	mg/l				0,0001					<0,0001		
Néodymium (total)	Nd	mg/l				0,0001					<0,0001		
Osmium (total)	Os	mg/l				0,0001					<0,0001		
Palladium (total)	Pd	mg/l				0,0001					<0,0001		
Praseodymium (total)	Pr	mg/l				0,0001					<0,0001		
Platinum (total)	Pt	mg/l				0,0001					<0,0001		
Rubidium (total)	Rb	mg/l				0,004					0,0022		
Rhenium (total)	Re	mg/l				0,0001					<0,0001		
Rhodium (total)	Rh	mg/l				0,00001					<0,00001		
Scandium (total)	Sc	mg/l				0,0001					<0,0001		
Samarium (total)	Sm	mg/l				0,0001					<0,0001		
Tantalum (total)	Ta	mg/l				0,0001					<0,0001		
Terbium (total)	Tb	mg/l				0,0001					<0,0001		
Tellurium (total)	Te	mg/l				0,0001					<0,0001		
Thorium (total)	Th	mg/l				0,0001					<0,0001		
Thulium (total)	Tm	mg/l				0,0001					<0,0001		
Ytterbium (total)	Yb	mg/l				0,0001					<0,0001		

Résultats HCT – CV5-WR-HCT-39

Analyse	Symbole	Unité	Sem. #33	Sem. #34	Sem. #35	Sem. #36	Sem. #37	Sem. #38	Sem. #39	Sem. #40	Sem. #41	Sem. #42	Sem. #43
			2023-12-14	2023-12-21	2023-12-28	2024-01-04	2024-01-11	2024-01-18	2024-01-25	2024-02-01	2024-02-08	2024-02-15	2024-02-22
Volume du lixiviat	V	mL	931	981	998	877	986	998	938	936	1022	1011	990
pH	pH	No unit	6,55	6,37	6,73	6,74	6,57	6,74	6,48	6,48	6,72	6,70	6,55
Alkalinité	Alkalinité	$mgCaCO_3/l$	2	2	3	3	2	4	2	2	3	3	2
Conductivité	Conductivité	µS/cm	19	22	23	27	22	26	23	22	21	20	20
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2,0	<2,0	<2,0	<3,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0
Fluoride	F	mg/l	<0,11		<0,11					<0,14			
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Sulfate	SO_4^{2-}	mg/l	5	6	6	8	6	6	7	6	6	6	6
Chlore	Cl^-	mg/l	***		<1,0					1			
Nitrite	NO_2^-	mgN/l	***		<0,03					<0,03			
Nitrate	NO_3^-	mgN/l	***		<0,06					<0,06			
Bromide	Br	mg/l	***		<0,3					<0,3			
Mercure	Hg	mg/l	***		<0,00001					<0,00001			
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,013	0,012	0,013	0,035	0,015	0,015	0,027	0,017	0,013	0,012	0,009
Arsenic	As	mg/l	0,0215	0,0193	0,0232	0,0239	0,0185	0,0254	0,0219	0,0195	0,0196	0,0176	0,0172
Baryum	Ba	mg/l	0,00017	0,00017	0,00020	0,00075	0,00022	0,00017	0,00082	0,00021	0,00023	0,00017	0,00022
Beryllium	Be	mg/l	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007
Bore	B	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	2,29	2,42	2,84	3,24	2,65	3,32	3,10	2,97	2,64	2,48	2,28
Cadmium	Cd	mg/l	<0,000005	<0,000004	<0,000004	<0,000005	<0,000003	<0,000006	0,000007	<0,000012	<0,000004	<0,000005	<0,000003
Cobalt	Co	mg/l	0,000132	0,000139	0,000130	0,000171	0,000135	0,000173	0,000127	0,000139	0,000154	0,000122	0,000133
Chrome	Cr	mg/l	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008
Cuivre	Cu	mg/l	<0,0002	0,0002	<0,0002	<0,0002	0,0004	<0,0002	<0,002	<0,002	<0,002	<0,001	<0,001
Fer	Fe	mg/l	<0,007	<0,007	<0,007	<0,013	<0,007	<0,007	<0,009	0,007	<0,007	<0,007	<0,007
Potassium	K	mg/l	0,155	0,156	0,178	0,213	0,185	0,212	0,201	0,185	0,145	0,133	0,113
Lithium	Li	mg/l	0,0086	0,0076	0,0080	0,0097	0,0082	0,0093	0,0077	0,0072	0,0061	0,0056	0,0054
Magnésium	Mg	mg/l	0,301	0,307	0,341	0,441	0,324	0,372	0,333	0,338	0,259	0,262	0,231
Manganese	Mn	mg/l	0,00153	0,00152	0,00186	0,00139	0,00156	0,00240	0,00165	0,00173	0,00278	0,00165	0,00170
Molybdène	Mo	mg/l	0,00064	0,00054	0,00030	0,00016	0,00007	0,00021	0,00054	<0,0004	<0,0004	<0,0004	<0,0009
Sodium	Na	mg/l	0,09	0,10	0,10	0,19	0,08	0,10	0,13	0,14	0,08	0,08	0,08
Nickel	Ni	mg/l	0,0003	0,0005	0,0004	0,0004	0,0005	0,0006	0,0005	0,0005	0,0004	0,0003	0,0006
Plomb	Pb	mg/l	0,00009	<0,00009	<0,00009	<0,00017	0,00009	<0,00009	<0,0001	<0,00009	<0,00009	<0,00009	<0,00009
Antimoine	Sb	mg/l	0,0153	0,0129	0,0154	0,0118	0,0129	0,0166	0,0114	0,0106	0,0129	0,0111	0,0096
Sélénium	Se	mg/l	0,00008	0,00005	0,00006	0,00011	0,00006	0,00007	0,00007	0,00006	0,00009	0,00006	0,00007
Etain	Sn	mg/l	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006
Strontium	Sr	mg/l	0,0076	0,0077	0,0082	0,0100	0,0075	0,0090	0,0098	0,00807	0,00680	0,00670	0,00652
Titane	Ti	mg/l	<0,00007	0,00008	<0,0001	0,00043	0,00011	0,00014	0,00035	0,0002	0,0001	<0,0001	<0,0001
Thallium	Th	mg/l	<0,000005	<0,000005	<0,000006	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000007	<0,000005
Uranium	U	mg/l	0,000320	0,002540	0,00042	0,000471	0,000291	0,00098	0,00037	0,000342	0,000378	0,000447	0,000415
Vanadium	V	mg/l	0,00026	0,00027	0,00033	0,00033	0,00024	0,00033	0,00032	0,00029	0,00025	0,00027	0,00020
Tungstène	W	mg/l	0,00004	0,00003	0,00004	0,00005	0,00002	0,00003	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l			<0,00001					<0,00001			
Cérium (total)	Ce	mg/l			<0,00001					0,00002			
Césium (total)	Cs	mg/l			0,0019					0,0021			
Dysprosium (total)	Dy	mg/l			<0,0001					<0,00001			
Erbium (total)	Er	mg/l			<0,0001					<0,00001			
Europium (total)	Eu	mg/l			<0,0001					<0,00001			
Gallium (total)	Ga	mg/l			<0,0001					<0,0001			
Gadolinium (total)	Gd	mg/l			<0,00001					<0,00001			
Germanium (total)	Ge	mg/l			<0,0001					<0,0001			
Hafnium (total)	Hf	mg/l			<0,0001					<0,0001			
Holmium (total)	Ho	mg/l			<0,0001					<0,00001			
Indium (total)	In	mg/l			<0,0001					<0,00001			
Iridium (total)	Ir	mg/l			<0,0001					<0,00001			
Lanthanum (total)	La	mg/l			<0,0001					<0,00001			
Lutetium (total)	Lu	mg/l			<0,0001					<0,0001			
Niobium (total)	Nb	mg/l			<0,0001					<0,00001			
Néodymium (total)	Nd	mg/l			<0,0001					<0,00001			
Osmium (total)	Os	mg/l			<0,0001					<0,0001			
Palladium (total)	Pd	mg/l			<0,0001					<0,0001			
Praseodymium (total)	Pr	mg/l			<0,0001					<0,00001			
Platinum (total)	Pt	mg/l			<0,0001					<0,0001			
Rubidium (total)	Rb	mg/l			0,0020					0,0021			
Rhenium (total)	Re	mg/l			<0,0001					<0,0001			
Rhodium (total)	Rh	mg/l			<0,00001					<0,00001			
Scandium (total)	Sc	mg/l			<0,0001					<0,0001			
Samarium (total)	Sm	mg/l			<0,0001					<0,00001			
Tantalum (total)	Ta	mg/l			<0,0001					<0,0001			
Terbium (total)	Tb	mg/l			<0,0001					<0,00001			
Tellurium (total)	Te	mg/l			<0,0001					<0,0001			
Thorium (total)	Th	mg/l			<0,0001					<0,0001			
Thulium (total)	Tm	mg/l			<0,0001					<0,00001			
Ytterbium (total)	Yb	mg/l			<0,0001					<0,00001			

Résultats HCT – CV5-WR-HCT-39

Analyse	Symbole	Unité	Sem. #44	Sem. #45	Sem. #46	Sem. #47	Sem. #48	Sem. #49	Sem. #50	Sem. #51	Sem. #52	Sem. #53	Sem. #54
			2024-02-29	2024-03-07	2024-03-14	2024-03-21	2024-03-28	2024-04-04	2024-04-11	2024-04-18	2024-04-25	2024-05-02	2024-05-09
Volume du lixiviat	V	mL	996	1004	944	949	898	920	923	977	1004	968	934
pH	pH	No unit	6,51	6,68	6,63	6,51	6,55	6,44	6,39	6,47	6,78	6,38	6,48
Alkalinité	Alkalinité	$mgCaCO_3/l$	2	2	2	2	3	2	2	2	2	2	2
Conductivité	Conductivité	µS/cm	20	18	25	21	21	20	21	19	19	16	19
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0
Fluoride	F	mg/l		<0,11					<0,15				
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Sulfate	SO_4^{2-}	mg/l	6	5	8	7	7	6	6	5	5	5	7
Chlore	Cl^-	mg/l		<1,0					<1,0				
Nitrite	NO_2^-	mgN/l		<0,03					<0,03				
Nitrate	NO_3^-	mgN/l		<0,06					<0,06				
Bromide	Br	mg/l		<0,3					<0,3				
Mercure	Hg	mg/l		<0,00001					<0,00001				
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,011	0,010	0,014	0,011	0,020	0,017	0,016	0,007	0,008	0,011	0,013
Arsenic	As	mg/l	0,0157	0,0149	0,0129	0,0151	0,0157	0,0154	0,0157	0,0133	0,0159	0,0131	0,0132
Baryum	Ba	mg/l	0,00017	0,00018	0,00086	0,00021	0,00025	0,00016	0,00018	0,00027	0,00014	0,00014	0,00017
Beryllium	Be	mg/l	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007
Bore	B	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	2,49	2,54	2,98	2,90	2,43	2,49	2,88	2,24	2,59	2,24	2,96
Cadmium	Cd	mg/l	<0,000004	<0,000024	<0,000009	<0,000004	<0,000005	<0,000005	<0,000005	<0,000003	<0,000009	<0,000006	<0,000006
Cobalt	Co	mg/l	0,000141	0,000151	0,000122	0,000131	0,000111	0,000135	0,000128	0,000093	0,000164	0,000105	0,000131
Chrome	Cr	mg/l	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008
Cuivre	Cu	mg/l	<0,001	<0,001	<0,002	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001
Fer	Fe	mg/l	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007
Potassium	K	mg/l	0,129	0,126	0,109	0,128	0,126	0,134	0,139	0,107	0,111	0,106	0,131
Lithium	Li	mg/l	0,0057	0,0047	0,0051	0,0050	0,0050	0,0055	0,0059	0,0046	0,0052	0,0050	0,0054
Magnésium	Mg	mg/l	0,266	0,231	0,277	0,269	0,275	0,253	0,294	0,223	0,239	0,193	0,248
Manganese	Mn	mg/l	0,00182	0,00200	0,00153	0,00150	0,00135	0,00150	0,00142	0,00127	0,00202	0,00143	0,00164
Molybdène	Mo	mg/l	<0,0005	<0,0045	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004
Sodium	Na	mg/l	0,06	0,06	0,07	0,09	0,09	0,08	0,08	0,08	0,07	0,08	0,08
Nickel	Ni	mg/l	0,0006	0,0003	0,0003	0,0005	0,0004	0,0003	0,0003	0,0002	0,0006	0,0004	0,0003
Plomb	Pb	mg/l	<0,00009	<0,00009	<0,00026	<0,00015	<0,00009	<0,00009	<0,00012	<0,00009	<0,00009	<0,00009	<0,00009
Antimoine	Sb	mg/l	0,0100	0,0080	0,0073	0,0091	0,0093	0,0075	0,0086	0,0085	0,0112	0,0063	0,0068
Sélénium	Se	mg/l	0,00005	0,00005	0,00004	0,00008	0,00008	0,00008	0,00007	0,00007	0,00007	0,00004	0,00005
Etain	Sn	mg/l	<0,00006	<0,00008	<0,00026	<0,00006	<0,00006	<0,00013	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006
Strontium	Sr	mg/l	0,00688	0,00613	0,00773	0,00684	0,00589	0,00647	0,00728	0,00541	0,00562	0,00490	0,00668
Titane	Ti	mg/l	0,0001	<0,0001	<0,0002	0,0001	0,0002	<0,00018	0,0001	<0,0001	<0,0001	<0,00012	<0,00011
Thallium	Th	mg/l	<0,000006	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000006	<0,000005	<0,000005	<0,000007
Uranium	U	mg/l	0,000462	0,000304	0,000303	0,000270	0,000311	0,000232	0,000237	0,000191	0,000342	0,000217	0,000212
Vanadium	V	mg/l	0,00022	0,00024	0,00021	0,00022	0,00022	0,00024	0,00025	0,00019	0,00023	0,00019	0,00022
Tungstène	W	mg/l	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,003	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l		<0,00001					<0,00001				
Cérium (total)	Ce	mg/l		<0,00001					<0,00001				
Césium (total)	Cs	mg/l		0,0017					0,0017				
Dysprosium (total)	Dy	mg/l		<0,00001					<0,00001				
Erbium (total)	Er	mg/l		<0,00001					<0,00001				
Europium (total)	Eu	mg/l		<0,00001					<0,00001				
Gallium (total)	Ga	mg/l		<0,0001					<0,0001				
Gadolinium (total)	Gd	mg/l		<0,00001					<0,00001				
Germanium (total)	Ge	mg/l		<0,0001					<0,0001				
Hafnium (total)	Hf	mg/l		<0,0001					<0,0001				
Holmium (total)	Ho	mg/l		<0,00001					<0,00001				
Indium (total)	In	mg/l		<0,00001					<0,00001				
Iridium (total)	Ir	mg/l		<0,00001					<0,00001				
Lanthanum (total)	La	mg/l		<0,00001					<0,00001				
Lutetium (total)	Lu	mg/l		<0,0001					<0,0001				
Niobium (total)	Nb	mg/l		<0,00001					<0,00001				
Néodymium (total)	Nd	mg/l		<0,00001					<0,00001				
Osmium (total)	Os	mg/l		<0,0001					<0,0001				
Palladium (total)	Pd	mg/l		<0,0001					<0,0001				
Praseodymium (total)	Pr	mg/l		<0,00001					<0,00001				
Platinum (total)	Pt	mg/l		<0,0001					<0,0001				
Rubidium (total)	Rb	mg/l		0,0014					0,0017				
Rhenium (total)	Re	mg/l		<0,0001					<0,0001				
Rhodium (total)	Rh	mg/l		<0,00001					<0,00001				
Scandium (total)	Sc	mg/l		<0,0001					<0,0001				
Samarium (total)	Sm	mg/l		<0,00001					<0,00001				
Tantalum (total)	Ta	mg/l		<0,0001					<0,0001				
Terbium (total)	Tb	mg/l		<0,00001					<0,00001				
Tellurium (total)	Te	mg/l		<0,0001					<0,0001				
Thorium (total)	Th	mg/l		<0,0001					<0,0001				
Thulium (total)	Tm	mg/l		<0,00001					<0,00001				
Ytterbium (total)	Yb	mg/l		<0,00001					<0,00001				

Résultats HCT – CV5-WR-HCT-39

Analyse	Symbole	Unité	Sem. #55	Sem. #56	Sem. #57	Sem. #58	Sem. #59	Sem. #60	Sem. #61	Sem. #62	Sem. #63	Sem. #64	Sem. #65
			2024-05-16	2024-05-23	2024-05-30	2024-06-06	2024-06-13	2024-06-20	2024-06-27	2024-07-04	2024-07-11	2024-07-18	2024-07-25
Volume du lixiviat	V	mL	970	957	960	949	953	939	954	946	951	936	947
pH	pH	No unit	6,45	6,42	6,26	6,42	6,44	6,39	6,28	6,14	6,43	6,27	6,50
Alkalinité	Alkalinité	$mgCaCO_3/l$	2	2	2	2	2	2	2	2		2	
Conductivité	Conductivité	µS/cm	20	19	17	17	19	19	18	19	19	20	21
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0		<2,0	
Fluoride	F	mg/l	<0,15					<0,17				<0,18	
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03		<0,03	
Sulfate	SO_4^{2-}	mg/l	6	6	5	5	6	6	5	6		6	
Chlore	Cl^-	mg/l	<1,0					<1,0				<1,0	
Nitrite	NO_2^-	mgN/l	<0,03					<0,03				<0,03	
Nitrate	NO_3^-	mgN/l	<0,06					<0,06				<0,06	
Bromide	Br	mg/l	<0,3					<0,3				<0,3	
Mercure	Hg	mg/l	<0,00001					<0,00001				<0,00001	
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005		<0,00005	
Aluminum	Al	mg/l	0,008	0,007	0,008	0,011	0,009	0,009	0,008	0,009		0,009	
Arsenic	As	mg/l	0,0125	0,0115	0,0106	0,0126	0,0126	0,0118	0,0118	0,0124		0,0110	
Baryum	Ba	mg/l	0,00019	0,00014	0,00015	0,00018	0,00019	0,00022	0,00015	0,00019		0,00024	
Beryllium	Be	mg/l	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007		<0,000007	
Bore	B	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002		<0,002	
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001		<0,00001	
Calcium	Ca	mg/l	2,86	2,48	2,38	2,66	2,93	2,73	2,38	2,72		2,88	
Cadmium	Cd	mg/l	<0,000005	<0,000004	<0,000007	<0,000006	<0,000006	<0,000008	<0,000004	<0,000008		<0,000003	
Cobalt	Co	mg/l	0,000196	0,000123	0,000124	0,000135	0,000124	0,000130	0,000128	0,000157		0,000142	
Chrome	Cr	mg/l	<0,00008	<0,00008	<0,00011	<0,0001	<0,00008	<0,00008	<0,00008	<0,00008		<0,00008	
Cuivre	Cu	mg/l	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001		<0,001	
Fer	Fe	mg/l	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007		0,007	
Potassium	K	mg/l	0,114	0,106	0,108	0,128	0,131	0,122	0,114	0,122		0,139	
Lithium	Li	mg/l	0,0051	0,0045	0,0044	0,0053	0,0054	0,0052	0,0049	0,0052		0,0051	
Magnésium	Mg	mg/l	0,232	0,221	0,222	0,243	0,262	0,260	0,208	0,230		0,250	
Manganese	Mn	mg/l	0,00164	0,00148	0,00144	0,00171	0,00175	0,00181	0,00166	0,00185		0,00228	
Molybdène	Mo	mg/l	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004		<0,0004	
Sodium	Na	mg/l	0,08	0,06	0,08	0,08	0,08	0,07	0,06	0,08		0,12	
Nickel	Ni	mg/l	0,0003	0,0006	0,0004	0,0004	0,0005	0,0004	0,0004	0,0005		0,0005	
Plomb	Pb	mg/l	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009		<0,00009	
Antimoine	Sb	mg/l	0,0072	0,0068	0,0062	0,0067	0,0071	0,0068	0,0062	0,0072		0,0063	
Sélénium	Se	mg/l	0,00004	0,00004	0,00004	0,00004	0,00004	0,00005	0,00004	0,00005		0,00007	
Etain	Sn	mg/l	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006		<0,00006	
Strontium	Sr	mg/l	0,00637	0,00586	0,00484	0,00572	0,00646	0,00647	0,00542	0,00603		0,00613	
Titane	Ti	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,00016	<0,0001	0,0001		<0,0001	
Thallium	Th	mg/l	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005		<0,000005	
Uranium	U	mg/l	0,000187	0,000189	0,000169	0,000161	0,000164	0,000176	0,000138	0,000164		0,000142	
Vanadium	V	mg/l	0,00020	0,00020	0,00019	0,00021	0,00022	0,00018	0,00020	0,00018		0,00019	
Tungstène	W	mg/l	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002		<0,0002	
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002		<0,00002	
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002		<0,002	
Gold (total)	Au	mg/l	<0,00001					<0,00001				<0,00001	
Cérium (total)	Ce	mg/l	0,00001					<0,00001				<0,00001	
Césium (total)	Cs	mg/l	0,0015					0,0015				0,0017	
Dysprosium (total)	Dy	mg/l	<0,00001					<0,00001				<0,00001	
Erbium (total)	Er	mg/l	<0,00001					<0,00001				<0,00001	
Europium (total)	Eu	mg/l	<0,00001					<0,00001				<0,00001	
Gallium (total)	Ga	mg/l	<0,0001					<0,0001				<0,0001	
Gadolinium (total)	Gd	mg/l	<0,00001					<0,00001				<0,00001	
Germanium (total)	Ge	mg/l	<0,0001					<0,0001				<0,0001	
Hafnium (total)	Hf	mg/l	<0,0001					<0,0001				<0,0001	
Holmium (total)	Ho	mg/l	<0,00001					<0,00001				<0,00001	
Indium (total)	In	mg/l	<0,00001					<0,00001				<0,00001	
Iridium (total)	Ir	mg/l	<0,00001					<0,00001				<0,00001	
Lanthanum (total)	La	mg/l	<0,00001					<0,00001				<0,00001	
Lutetium (total)	Lu	mg/l	<0,0001					<0,0001				<0,0001	
Niobium (total)	Nb	mg/l	<0,00001					<0,00001				<0,00002	
Néodymium (total)	Nd	mg/l	<0,00001					<0,00001				<0,00001	
Osmium (total)	Os	mg/l	<0,0001					<0,0001				<0,0001	
Palladium (total)	Pd	mg/l	<0,0001					<0,0001				<0,0001	
Praseodymium (total)	Pr	mg/l	<0,00001					<0,00001				<0,00001	
Platinum (total)	Pt	mg/l	<0,0001					<0,0001				<0,0001	
Rubidium (total)	Rb	mg/l	0,0014					0,0015				0,0015	
Rhenium (total)	Re	mg/l	<0,0001					<0,0001				<0,0001	
Rhodium (total)	Rh	mg/l	<0,00001					<0,00001				<0,00001	
Scandium (total)	Sc	mg/l	<0,0001					<0,0001				<0,0001	
Samarium (total)	Sm	mg/l	<0,00001					<0,00001				<0,00001	
Tantalum (total)	Ta	mg/l	<0,0001					<0,0001				<0,0001	
Terbium (total)	Tb	mg/l	<0,00001					<0,00001				<0,00001	
Tellurium (total)	Te	mg/l	<0,0001					<0,0001				<0,0001	
Thorium (total)	Th	mg/l	<0,0001					<0,0001				<0,0001	
Thulium (total)	Tm	mg/l	<0,00001					<0,00001				<0,00001	
Ytterbium (total)	Yb	mg/l	<0,00001					<0,00001				<0,00001	

Résultats HCT – CV5-WR-HCT-39

Analyse	Symbole	Unité	Sem. #66	Sem. #67	Sem. #68	Sem. #69	Sem. #70	Sem. #71	Sem. #72	Sem. #73	Sem. #74	Sem. #75	Sem. #76
			2024-08-01	2024-08-08	2024-08-15	2024-08-22	2024-08-29	2024-09-05	2024-09-12	2024-09-19	2024-09-26	2024-10-03	2024-10-10
Volume du lixiviat	V	mL	958	950	951	936	938	920	936	948	952	925	945
pH	pH	No unit	6,29	6,20	6,35	6,50	6,49	6,54	6,21	6,46	6,65	6,40	6,28
Alkalinité	Alkalinité	$mgCaCO_3/l$			2				2				2
Conductivité	Conductivité	µS/cm	17	24	16	18	21	21	17	18	18	20	18
Acidité	Acidité	$mgCaCO_3/l$			<2,0				<2,0				<2,0
Fluoride	F	mg/l			<0,2				<0,19				<0,21
Phosphore réactif total	PO_4^{3-}-P	mg/l			<0,03				<0,03				<0,03
Sulfate	SO_4^{2-}	mg/l			6				5				5
Chlore	Cl^-	mg/l			<1,0				<1,0				<1,0
Nitrite	NO_2^-	mgN/l			<0,03				<0,03				<0,03
Nitrate	NO_3^-	mgN/l			<0,06				<0,06				<0,06
Bromide	Br	mg/l			<0,3				<0,3				<0,3
Mercure	Hg	mg/l			<0,00001				<0,00001				<0,00001
Argent	Ag	mg/l			<0,00005				<0,00005				<0,00005
Aluminum	Al	mg/l			0,012				0,007				0,006
Arsenic	As	mg/l			0,0100				0,0095				0,0077
Baryum	Ba	mg/l			0,00019				0,00018				0,00017
Beryllium	Be	mg/l			<0,000007				<0,000007				<0,000007
Bore	B	mg/l			<0,002				<0,002				<0,002
Bismuth	Bi	mg/l			<0,00001				<0,00001				<0,00001
Calcium	Ca	mg/l			3,04				2,64				2,37
Cadmium	Cd	mg/l			<0,000006				<0,00002				<0,000013
Cobalt	Co	mg/l			0,000201				0,000191				0,000225
Chrome	Cr	mg/l			<0,00009				<0,00008				<0,00008
Cuivre	Cu	mg/l			<0,001				<0,001				<0,001
Fer	Fe	mg/l			<0,007				<0,007				<0,007
Potassium	K	mg/l			0,130				0,116				0,101
Lithium	Li	mg/l			0,0050				0,0044				0,0045
Magnésium	Mg	mg/l			0,245				0,214				0,214
Manganese	Mn	mg/l			0,00231				0,00255				0,00257
Molybdène	Mo	mg/l			<0,0004				<0,0004				<0,0004
Sodium	Na	mg/l			0,09				0,09				0,05
Nickel	Ni	mg/l			0,0005				0,0006				0,0005
Plomb	Pb	mg/l			<0,00009				<0,00111				<0,00081
Antimoine	Sb	mg/l			0,0061				0,0054				0,0046
Sélénium	Se	mg/l			0,00009				0,00004				0,00004
Etain	Sn	mg/l			<0,00006				<0,00006				<0,00006
Strontium	Sr	mg/l			0,00621				0,00503				0,00450
Titane	Ti	mg/l			<0,0002				<0,0001				0,0001
Thallium	Th	mg/l			<0,000005				<0,000006				<0,000006
Uranium	U	mg/l			0,000128				0,000115				0,000075
Vanadium	V	mg/l			0,00020				0,00016				0,00014
Tungstène	W	mg/l			<0,0002				<0,0002				<0,0002
Yttrium	Y	mg/l			<0,00002				<0,00002				<0,00002
Zinc	Zn	mg/l			<0,002				<0,003				<0,002
Gold (total)	Au	mg/l			<0,00001				<0,00001				<0,00001
Cérium (total)	Ce	mg/l			<0,00002				<0,00008				<0,00002
Césium (total)	Cs	mg/l			0,0018				0,0015				0,0015
Dysprosium (total)	Dy	mg/l			<0,00001				<0,00001				<0,00001
Erbium (total)	Er	mg/l			<0,00001				<0,00001				<0,00001
Europium (total)	Eu	mg/l			<0,00001				<0,00001				<0,00001
Gallium (total)	Ga	mg/l			<0,0001				<0,0001				<0,0001
Gadolinium (total)	Gd	mg/l			<0,00001				<0,00001				<0,00001
Germanium (total)	Ge	mg/l			<0,0001				<0,0001				<0,0001
Hafnium (total)	Hf	mg/l			<0,0001				<0,0001				<0,0001
Holmium (total)	Ho	mg/l			<0,00001				<0,00001				<0,00001
Indium (total)	In	mg/l			<0,00001				<0,00001				<0,00001
Iridium (total)	Ir	mg/l			<0,00001				<0,00001				<0,00001
Lanthanum (total)	La	mg/l			<0,00001				<0,00007				<0,00001
Lutetium (total)	Lu	mg/l			<0,0001				<0,0001				<0,0001
Niobium (total)	Nb	mg/l			<0,00001				<0,00001				<0,00001
Néodymium (total)	Nd	mg/l			<0,00001				<0,00002				<0,00001
Osmium (total)	Os	mg/l			<0,0001				<0,0001				<0,0001
Palladium (total)	Pd	mg/l			<0,0001				<0,0001				<0,0001
Praseodymium (total)	Pr	mg/l			<0,00001				<0,00001				<0,00001
Platinum (total)	Pt	mg/l			<0,0001				<0,0001				<0,0001
Rubidium (total)	Rb	mg/l			0,0017				0,0014				0,0019
Rhenium (total)	Re	mg/l			<0,0001				<0,0001				<0,0001
Rhodium (total)	Rh	mg/l			<0,00001				<0,00001				<0,00001
Scandium (total)	Sc	mg/l			<0,0001				<0,0001				<0,0001
Samarium (total)	Sm	mg/l			<0,00001				<0,00001				<0,00001
Tantalum (total)	Ta	mg/l			<0,0001				<0,0001				<0,0001
Terbium (total)	Tb	mg/l			<0,00001				<0,00001				<0,00001
Tellurium (total)	Te	mg/l			<0,0001				<0,0001				<0,0001
Thorium (total)	Th	mg/l			<0,0001				<0,0001				<0,0001
Thulium (total)	Tm	mg/l			<0,00001				<0,00001				<0,00001
Ytterbium (total)	Yb	mg/l			<0,00001				<0,00001				<0,00001

Résultats HCT – CV5-WR-HCT-39

Analyse	Symbole	Unité	Sem. #77	Sem. #78	Sem. #79	Sem. #80	Sem. #81	Sem. #82	Sem. #83	Sem. #84	Sem. #85	Sem. #86	Sem. #87
			2024-10-17	2024-10-24	2024-10-31	2024-11-07	2024-11-14	2024-11-21	2024-11-28	2024-12-05	2024-12-12	2024-12-19	2024-12-26
Volume du lixiviat	V	mL	927	944	910	950	954	928	930	936	958	1057	1037
pH	pH	No unit	6,45	6,42	6,51	5,67	6,45	6,41	6,49	6,3	6,59	6,97	6,49
Alkalinité	Alkalinité	$mgCaCO_3/l$				<2,0				2			
Conductivité	Conductivité	µS/cm	21	20	19	18	22	24	20	18	18	19	31
Acidité	Acidité	$mgCaCO_3/l$				3				<2,0			
Fluoride	F	mg/l				<0,27				<0,22			
Phosphore réactif total	PO_4^{3-}-P	mg/l				<0,03				<0,03			
Sulfate	SO_4^{2-}	mg/l				5				6			
Chlore	Cl^-	mg/l				<1,0				<1,0			
Nitrite	NO_2^-	mgN/l				<0,03				<0,03			
Nitrate	NO_3^-	mgN/l				<0,06				<0,06			
Bromide	Br	mg/l				<0,3				<0,3			
Mercure	Hg	mg/l				<0,00001				<0,00001			
Argent	Ag	mg/l				<0,00005				<0,00005			
Aluminum	Al	mg/l				0,005				0,006			
Arsenic	As	mg/l				0,0072				0,0065			
Baryum	Ba	mg/l				0,00016				0,00012			
Beryllium	Be	mg/l				<0,000007				<0,000007			
Bore	B	mg/l				<0,002				<0,002			
Bismuth	Bi	mg/l				<0,00001				<0,00001			
Calcium	Ca	mg/l				2,45				2,49			
Cadmium	Cd	mg/l				<0,000012				<0,000012			
Cobalt	Co	mg/l				0,000289				0,000312			
Chrome	Cr	mg/l				<0,00008				<0,00008			
Cuivre	Cu	mg/l				<0,001				<0,001			
Fer	Fe	mg/l				<0,007				<0,007			
Potassium	K	mg/l				0,090				0,097			
Lithium	Li	mg/l				0,0048				0,0048			
Magnésium	Mg	mg/l				0,201				0,21			
Manganese	Mn	mg/l				0,00307				0,0032			
Molybdène	Mo	mg/l				<0,0004				<0,0004			
Sodium	Na	mg/l				0,08				0,06			
Nickel	Ni	mg/l				0,0008				0,0016			
Plomb	Pb	mg/l				<0,00009				<0,00009			
Antimoine	Sb	mg/l				0,0047				0,0048			
Sélénium	Se	mg/l				0,00004				0,00004			
Etain	Sn	mg/l				<0,00006				<0,00007			
Strontium	Sr	mg/l				0,00492				0,00493			
Titane	Ti	mg/l				<0,0001				<0,0001			
Thallium	Th	mg/l				<0,000005				0,000006			
Uranium	U	mg/l				0,000058				0,000039			
Vanadium	V	mg/l				0,00013				0,00012			
Tungstène	W	mg/l				<0,0002				<0,0002			
Yttrium	Y	mg/l				<0,00002				<0,00002			
Zinc	Zn	mg/l				<0,002				<0,002			
Gold (total)	Au	mg/l				<0,00001				<0,00001			
Cérium (total)	Ce	mg/l				<0,00001				<0,00001			
Césium (total)	Cs	mg/l				0,0013				0,0015			
Dysprosium (total)	Dy	mg/l				<0,00001				<0,00001			
Erbium (total)	Er	mg/l				<0,00001				<0,00001			
Europium (total)	Eu	mg/l				<0,00001				<0,00001			
Gallium (total)	Ga	mg/l				<0,0001				<0,0001			
Gadolinium (total)	Gd	mg/l				<0,00001				<0,00001			
Germanium (total)	Ge	mg/l				<0,0001				<0,0001			
Hafnium (total)	Hf	mg/l				<0,0001				<0,0001			
Holmium (total)	Ho	mg/l				<0,00001				<0,00001			
Indium (total)	In	mg/l				<0,00002				<0,00001			
Iridium (total)	Ir	mg/l				<0,00001				<0,00001			
Lanthanum (total)	La	mg/l				<0,00001				<0,00001			
Lutetium (total)	Lu	mg/l				<0,0001				<0,0001			
Niobium (total)	Nb	mg/l				<0,00001				<0,00001			
Néodymium (total)	Nd	mg/l				<0,00001				<0,00001			
Osmium (total)	Os	mg/l				<0,0001				<0,0001			
Palladium (total)	Pd	mg/l				<0,0001				<0,0001			
Praseodymium (total)	Pr	mg/l				<0,00001				<0,00001			
Platinum (total)	Pt	mg/l				<0,0001				<0,0001			
Rubidium (total)	Rb	mg/l				0,0011				0,0013			
Rhenium (total)	Re	mg/l				<0,0001				<0,0001			
Rhodium (total)	Rh	mg/l				<0,00001				<0,00001			
Scandium (total)	Sc	mg/l				<0,0001				<0,0001			
Samarium (total)	Sm	mg/l				<0,00001				<0,00001			
Tantalum (total)	Ta	mg/l				<0,0001				<0,0001			
Terbium (total)	Tb	mg/l				<0,00002				<0,00001			
Tellurium (total)	Te	mg/l				<0,0001				<0,0001			
Thorium (total)	Th	mg/l				<0,0001				<0,0001			
Thulium (total)	Tm	mg/l				<0,00002				<0,00001			
Ytterbium (total)	Yb	mg/l				<0,00001				<0,00001			

Résultats HCT – CV5-WR-HCT-39

Analyse	Symbole	Unité	Sem. #88	Sem. #89
			2025-01-02	2025-01-09
Volume du lixiviat	V	mL	1002	1011
pH	pH	No unit	6,41	7,62
Alkalinité	Alkalinité	mg$CaCO_3$/l	2	
Conductivité	Conductivité	µS/cm	11	27
Acidité	Acidité	mg$CaCO_3$/l	2	
Fluoride	F	mg/l	<0,3	
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	
Sulfate	SO_4^{2-}	mg/l	6	
Chlore	Cl^-	mg/l	<1,0	
Nitrite	NO_2^-	mgN/l	<0,03	
Nitrate	NO_3^-	mgN/l	<0,06	
Bromide	Br	mg/l	<0,3	
Mercure	Hg	mg/l	<0,00001	
Argent	Ag	mg/l	<0,00005	
Aluminum	Al	mg/l	0,008	
Arsenic	As	mg/l	0,0075	
Baryum	Ba	mg/l	0,00017	
Beryllium	Be	mg/l	<0,000007	
Bore	B	mg/l	<0,002	
Bismuth	Bi	mg/l	<0,00001	
Calcium	Ca	mg/l	3,04	
Cadmium	Cd	mg/l	<0,00002	
Cobalt	Co	mg/l	0,000438	
Chrome	Cr	mg/l	<0,00008	
Cuivre	Cu	mg/l	<0,001	
Fer	Fe	mg/l	<0,007	
Potassium	K	mg/l	0,12	
Lithium	Li	mg/l	0,0052	
Magnésium	Mg	mg/l	0,288	
Manganese	Mn	mg/l	0,00723	
Molybdène	Mo	mg/l	<0,0004	
Sodium	Na	mg/l	0,08	
Nickel	Ni	mg/l	0,0009	
Plomb	Pb	mg/l	<0,00009	
Antimoine	Sb	mg/l	<0,0055	
Sélénium	Se	mg/l	0,00009	
Etain	Sn	mg/l	<0,00006	
Strontium	Sr	mg/l	0,00509	
Titane	Ti	mg/l	<0,0001	
Thallium	Th	mg/l	0,00001	
Uranium	U	mg/l	0,000039	
Vanadium	V	mg/l	0,00015	
Tungstène	W	mg/l	<0,0002	
Yttrium	Y	mg/l	<0,00002	
Zinc	Zn	mg/l	<0,002	
Gold (total)	Au	mg/l	<0,00001	
Cérium (total)	Ce	mg/l	0,00001	
Césium (total)	Cs	mg/l	0,0024	
Dysprosium (total)	Dy	mg/l	<0,00001	
Erbium (total)	Er	mg/l	<0,00001	
Europium (total)	Eu	mg/l	<0,00001	
Gallium (total)	Ga	mg/l	<0,0001	
Gadolinium (total)	Gd	mg/l	<0,00001	
Germanium (total)	Ge	mg/l	<0,0001	
Hafnium (total)	Hf	mg/l	<0,0001	
Holmium (total)	Ho	mg/l	<0,00001	
Indium (total)	In	mg/l	<0,00001	
Iridium (total)	Ir	mg/l	<0,00001	
Lanthanum (total)	La	mg/l	0,00001	
Lutetium (total)	Lu	mg/l	<0,0001	
Niobium (total)	Nb	mg/l	<0,00001	
Néodymium (total)	Nd	mg/l	<0,00001	
Osmium (total)	Os	mg/l	<0,0001	
Palladium (total)	Pd	mg/l	<0,0001	
Praseodymium (total)	Pr	mg/l	<0,00001	
Platinum (total)	Pt	mg/l	<0,0001	
Rubidium (total)	Rb	mg/l	0,0017	
Rhenium (total)	Re	mg/l	<0,0001	
Rhodium (total)	Rh	mg/l	<0,00001	
Scandium (total)	Sc	mg/l	<0,0001	
Samarium (total)	Sm	mg/l	<0,00001	
Tantalum (total)	Ta	mg/l	<0,0001	
Terbium (total)	Tb	mg/l	<0,00001	
Tellurium (total)	Te	mg/l	<0,0001	
Thorium (total)	Th	mg/l	<0,0001	
Thulium (total)	Tm	mg/l	<0,00001	
Ytterbium (total)	Yb	mg/l	<0,00001	

Résultats HCT – CV5-WR-HCT-39

Analyse	Symbole	Unité	Sem. #90	Sem. #91	Sem. #92	Sem. #93	Sem. #94	Sem. #95	Sem. #96	Sem. #97	Sem. #98	Sem. #99	Sem. #100
			2025-01-16	2025-01-23	2025-01-30	2025-02-06	2025-02-13	2025-02-20	2025-02-27	2025-03-06	2025-03-13	2025-03-20	2025-03-27
Volume du lixiviat	V	mL	983	1029	959	985	963	964	1006	1008	943	947	937
pH	pH	No unit	6,4	6,45	6,29	6,47	6,47	6,76	6,04	6,66	6,49	6,16	5,94
Alkalinité	Alkalinité	$mgCaCO_3/l$			2				<2,0				<2,0
Conductivité	Conductivité	µS/cm	26	27	18	28	22	22	17	31	26	26	22
Acidité	Acidité	$mgCaCO_3/l$			<2,0				4				3
Fluoride	F	mg/l			<0,27				<0,18				<0,29
Phosphore réactif total	PO_4^{3-}-P	mg/l			<0,03				<0,03				<0,03
Sulfate	SO_4^{2-}	mg/l			6				5				8
Chlore	Cl^-	mg/l			<1,0				<1,0				<1,0
Nitrite	NO_2^-	mgN/l			<0,03				<0,03				<0,03
Nitrate	NO_3^-	mgN/l			<0,06				<0,06				<0,06
Bromide	Br	mg/l			<0,3				<0,3				<0,3
Mercure	Hg	mg/l			<0,00001				<0,00001				<0,00001
Argent	Ag	mg/l			<0,00005				<0,00005				<0,00005
Aluminum	Al	mg/l			0,007				0,006				0,005
Arsenic	As	mg/l			0,0059				0,0048				0,0039
Baryum	Ba	mg/l			0,00018				0,00017				0,00019
Beryllium	Be	mg/l			<0,000009				<0,000007				<0,000009
Bore	B	mg/l			<0,002				<0,002				<0,002
Bismuth	Bi	mg/l			<0,00001				<0,00001				<0,00001
Calcium	Ca	mg/l			2,69				2,24				2,92
Cadmium	Cd	mg/l			<0,000014				0,000018				<0,000017
Cobalt	Co	mg/l			0,000326				0,000498				0,000665
Chrome	Cr	mg/l			<0,00008				<0,00008				<0,00008
Cuivre	Cu	mg/l			<0,001				<0,001				<0,001
Fer	Fe	mg/l			<0,007				<0,007				<0,007
Potassium	K	mg/l			0,090				0,081				0,105
Lithium	Li	mg/l			0,0042				0,0047				0,0056
Magnésium	Mg	mg/l			0,219				0,193				0,307
Manganese	Mn	mg/l			0,00488				0,00593				0,00826
Molybdène	Mo	mg/l			<0,0004				<0,0004				<0,0004
Sodium	Na	mg/l			0,06				0,06				0,08
Nickel	Ni	mg/l			0,0007				0,001				0,0015
Plomb	Pb	mg/l			<0,00009				<0,00009				<0,00009
Antimoine	Sb	mg/l			<0,0036				<0,0029				<0,0029
Sélénium	Se	mg/l			0,00006				0,00004				0,00006
Etain	Sn	mg/l			0,00008				<0,00006				<0,00006
Strontium	Sr	mg/l			0,00448				0,00385				0,00484
Titane	Ti	mg/l			<0,0001				<0,0001				<0,0001
Thallium	Th	mg/l			0,000007				<0,000005				<0,000008
Uranium	U	mg/l			0,000057				0,000041				0,000040
Vanadium	V	mg/l			0,00012				0,00009				0,00010
Tungstène	W	mg/l			<0,0002				<0,0002				<0,0002
Yttrium	Y	mg/l			<0,00002				<0,00002				<0,00002
Zinc	Zn	mg/l			<0,002				<0,003				<0,003
Gold (total)	Au	mg/l			<0,00001				<0,00001				<0,00001
Cérium (total)	Ce	mg/l			0,00001				0,00001				<0,00002
Césium (total)	Cs	mg/l			0,0016				0,0014				0,0018
Dysprosium (total)	Dy	mg/l			<0,00001				<0,00001				<0,00001
Erbium (total)	Er	mg/l			<0,00001				<0,00001				<0,00001
Europium (total)	Eu	mg/l			<0,00001				<0,00001				<0,00001
Gallium (total)	Ga	mg/l			<0,0001				<0,0001				<0,0001
Gadolinium (total)	Gd	mg/l			<0,00001				<0,00001				<0,00001
Germanium (total)	Ge	mg/l			<0,0001				<0,0001				<0,0001
Hafnium (total)	Hf	mg/l			<0,0001				<0,0001				<0,0001
Holmium (total)	Ho	mg/l			<0,00001				<0,00001				<0,00001
Indium (total)	In	mg/l			<0,00001				<0,00001				<0,00001
Iridium (total)	Ir	mg/l			<0,00001				<0,00001				<0,00001
Lanthanum (total)	La	mg/l			0,00001				0,00001				<0,00002
Lutetium (total)	Lu	mg/l			<0,0001				<0,0001				<0,0001
Niobium (total)	Nb	mg/l			<0,00001				<0,00001				<0,00001
Néodymium (total)	Nd	mg/l			<0,00001				<0,00001				<0,00001
Osmium (total)	Os	mg/l			<0,0001				<0,0001				<0,0001
Palladium (total)	Pd	mg/l			<0,0001				<0,0001				<0,0001
Praseodymium (total)	Pr	mg/l			<0,00001				<0,00001				<0,00001
Platinum (total)	Pt	mg/l			<0,0001				<0,0001				<0,0001
Rubidium (total)	Rb	mg/l			0,0014				0,0012				0,0013
Rhenium (total)	Re	mg/l			<0,0001				<0,0001				<0,0001
Rhodium (total)	Rh	mg/l			<0,00001				<0,00001				<0,00001
Scandium (total)	Sc	mg/l			<0,0001				<0,0001				<0,0001
Samarium (total)	Sm	mg/l			<0,00001				<0,00001				<0,00001
Tantalum (total)	Ta	mg/l			<0,0001				<0,0001				<0,0001
Terbium (total)	Tb	mg/l			<0,00001				<0,00001				<0,00001
Tellurium (total)	Te	mg/l			<0,0001				<0,0001				<0,0001
Thorium (total)	Th	mg/l			<0,0001				<0,0001				<0,0001
Thulium (total)	Tm	mg/l			<0,00001				<0,00001				<0,00001
Ytterbium (total)	Yb	mg/l			<0,00001				<0,00001				<0,00001

Résultats HCT – CV5-WR-HCT-50

Analyse	Symbole	Unité	Sem. #0	Sem. #1	Sem. #2	Sem. #3	Sem. #4	Sem. #5	Sem. #6	Sem. #7	Sem. #8	Sem. #9	Sem. #10
			2023-04-27	2023-05-04	2023-05-11	2023-05-18	2023-05-25	2023-06-01	2023-06-08	2023-06-15	2023-06-22	2023-06-29	2023-07-06
Volume du lixiviat	V	mL	803	992	1009	1008	1001	996	1010	991	981	970	1010
pH	pH	No unit	7,37	7,48	7,58	7,67	7,46	7,32	7,34	7,18	7,54	7,51	7,53
Alkalinité	Alkalinité	$mgCaCO_3/l$	14	21	23	21	15	13	13	13	17	16	15
Conductivité	Conductivité	µS/cm	114	164	108	88	59	60	57	55	47	62	64
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2,0	2	2	2	2	2	2	2	2	2
Fluoride	F	mg/l	<0,2	<0,34	<0,4	<0,34	<0,31	<0,28	<0,26	<0,31	<0,39	<0,39	<0,37
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Sulfate	SO_4^{2-}	mg/l	37	53	31	16	15	13	14	12	14	11	11
Chlore	Cl^-	mg/l	8	5	1	1	1	1	<1,0	<1,0	1	1	1
Nitrite	NO_2^-	mgN/l	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Nitrate	NO_3^-	mgN/l	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06
Bromide	Br	mg/l	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3
Mercure	Hg	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,087	0,095	0,086	0,085	0,072	0,046	0,064	0,061	0,090	0,095	0,092
Arsenic	As	mg/l	0,0207	0,0386	0,0332	0,0271	0,0289	0,0254	0,0252	0,0223	0,0282	0,0260	0,0273
Baryum	Ba	mg/l	0,00156	0,00260	0,00167	0,00092	0,00098	0,00072	0,00066	0,00064	0,00080	0,00080	0,00063
Beryllium	Be	mg/l	<0,000007	<0,000007	0,000010	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000016	<0,000007
Bore	B	mg/l	0,008	0,025	0,015	0,009	0,009	0,005	0,005	0,004	0,004	0,003	0,002
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	8,57	15,90	12,80	9,36	9,84	8,73	9,27	9,10	11,10	9,72	10,40
Cadmium	Cd	mg/l	<0,000005	<0,000018	<0,000029	0,000024	0,000012	<0,000027	<0,000019	<0,00002	<0,000027	<0,00003	<0,000041
Cobalt	Co	mg/l	0,000493	0,001907	0,002873	0,001350	0,001320	0,001190	0,001820	0,001747	0,001820	0,001660	0,001681
Chrome	Cr	mg/l	0,00008	0,00093	<0,00008	0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	0,00010	<0,00008
Cuivre	Cu	mg/l	0,0004	0,0003	<0,0002	<0,0002	0,0003	0,0046	<0,0002	<0,0003	<0,0002	<0,0002	0,0002
Fer	Fe	mg/l	<0,007	0,007	0,007	0,007	<0,007	0,008	0,007	0,007	<0,007	0,007	0,015
Potassium	K	mg/l	7,66	7,65	4,64	2,600	2,090	1,590	1,360	1,140	1,330	0,977	0,939
Lithium	Li	mg/l	0,1890	0,2210	0,1110	0,0591	0,0464	0,0338	0,0298	0,0229	0,0283	0,0225	0,0204
Magnésium	Mg	mg/l	1,370	2,780	1,800	0,963	0,832	0,743	0,674	0,581	0,662	0,507	0,504
Manganese	Mn	mg/l	0,00607	0,01630	0,01815	0,00953	0,01050	0,01060	0,01080	0,01045	0,01180	0,00983	0,01040
Molybdène	Mo	mg/l	0,00395	0,00923	0,00617	0,00337	0,00209	0,00192	0,00142	0,00112	0,00104	0,00083	0,00090
Sodium	Na	mg/l	8,00	6,37	2,26	0,78	0,54	0,41	0,30	0,29	0,31	0,23	0,21
Nickel	Ni	mg/l	0,0087	0,0091	0,0069	0,0027	0,0021	0,0014	0,0019	0,0018	0,0018	0,0017	0,0013
Plomb	Pb	mg/l	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009
Antimoine	Sb	mg/l	0,0443	0,5920	0,3710	0,2600	0,2010	0,1790	0,1530	0,1320	0,1270	0,1130	0,1040
Sélénium	Se	mg/l	0,00430	0,00406	0,00238	0,00127	0,00128	0,00110	0,00116	0,00096	0,00117	0,00095	0,00108
Etain	Sn	mg/l	0,00038	0,00026	0,00018	0,00008	0,00011	0,00011	0,00006	0,00006	<0,00006	<0,00006	0,00008
Strontium	Sr	mg/l	0,0233	0,0417	0,02803	0,0166	0,01610	0,0135	0,0135	0,01212	0,0145	0,01233	0,0118
Titane	Ti	mg/l	0,00022	0,00019	0,00007	0,00051	0,00016	<0,0001	0,00013	0,00016	0,00015	0,00016	0,00011
Thallium	Th	mg/l	0,000070	<0,000047	0,000059	<0,000033	<0,000035	0,000031	<0,000032	<0,00003	<0,000036	<0,000032	<0,000031
Uranium	U	mg/l	0,000327	0,005580	0,004679	0,006910	0,002440	0,002260	0,003200	0,002409	0,00371	0,003770	0,002750
Vanadium	V	mg/l	0,00015	0,00042	0,00034	0,00036	0,00033	0,00030	0,00031	0,00030	0,00036	0,00043	0,00039
Tungstène	W	mg/l	0,00031	0,00030	0,00032	0,00027	0,00020	0,00024	0,00014	0,00014	0,00014	0,00012	0,00011
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,003	<0,003	<0,004	<0,003	<0,004
Gold (total)	Au	mg/l	0,00001	<0,0001	<0,00014	<0,00001	0,00001	<0,00001	<0,00001	<0,00001	0,00001	0,00009	<0,00001
Cérium (total)	Ce	mg/l	0,00002	0,00001	0,00001	0,00001	0,00001	<0,00001	0,00001	0,00001	0,00002	0,00001	0,00001
Césium (total)	Cs	mg/l	0,1550	0,1830	0,1470	0,1040	0,1060	0,0690	0,0897	0,0708	0,0893	0,0731	0,0720
Dysprosium (total)	Dy	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Erbium (total)	Er	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Europium (total)	Eu	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Gallium (total)	Ga	mg/l	0,0002	<0,0002	<0,0002	<0,0001	<0,0002	0,0003	<0,0002	0,0002	<0,0002	<0,0002	<0,0003
Gadolinium (total)	Gd	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Germanium (total)	Ge	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Hafnium (total)	Hf	mg/l	<0,0001	<0,0001	<0,0002	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Holmium (total)	Ho	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Indium (total)	In	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Iridium (total)	Ir	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Lanthanum (total)	La	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Lutetium (total)	Lu	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Niobium (total)	Nb	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Néodymium (total)	Nd	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Osmium (total)	Os	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Palladium (total)	Pd	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Praseodymium (total)	Pr	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Platinum (total)	Pt	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Rubidium (total)	Rb	mg/l	0,1710	0,1540	0,0995	0,0604	0,0493	0,0378	0,0330	0,0300	0,0357	0,0291	0,0272
Rhenium (total)	Re	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Rhodium (total)	Rh	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Scandium (total)	Sc	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Samarium (total)	Sm	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Tantalum (total)	Ta	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Terbium (total)	Tb	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Tellurium (total)	Te	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0002	<0,0001	<0,0001
Thorium (total)	Th	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Thulium (total)	Tm	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Ytterbium (total)	Yb	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001

Résultats HCT – CV5-WR-HCT-50

Analyse	Symbole	Unité	Sem. #11	Sem. #12	Sem. #13	Sem. #14	Sem. #15	Sem. #16	Sem. #17	Sem. #18	Sem. #19	Sem. #20	Sem. #21
			2023-07-13	2023-07-20	2023-07-27	2023-08-03	2023-08-10	2023-08-17	2023-08-24	2023-08-31	2023-09-07	2023-09-14	2023-09-21
Volume du lixiviat	V	mL	1002	1004	1004	1016	1008	1024	962	924	1031	988	954
pH	pH	No unit	7,44	7,51	7,31	7,36	7,37	7,26	7,12	7,20	7,09	6,96	6,98
Alkalinité	Alkalinité	$mgCaCO_3/l$	13	13	11	13	18	12	6	6	8	4	7
Conductivité	Conductivité	µS/cm	58	54	50	58	48	51	43	52	49	35	56
Acidité	Acidité	$mgCaCO_3/l$	2	2	2	2	2	2	4	8	2	4	6
Fluoride	F	mg/l				<0,34	<0,3	<0,32		<0,25		0,21	
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Sulfate	SO_4^{2-}	mg/l	10	8	10	10	8	8	8	11	11	<7,0	11
Chlore	Cl^-	mg/l					1	<1,0		<4,0		2	
Nitrite	NO_2^-	mgN/l					<0,03	<0,03		<0,03		<0,03	
Nitrate	NO_3^-	mgN/l					<0,06	<0,06		<0,06		<0,06	
Bromide	Br	mg/l					<0,3	<0,3		<0,3		<0,3	
Mercure	Hg	mg/l					<0,00001	<0,00001		<0,00001		<0,00001	
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	0,00015	<0,00005
Aluminum	Al	mg/l	0,031	0,054	0,079	0,077	0,057	0,061	0,038	0,046	0,044	0,024	0,055
Arsenic	As	mg/l	0,0242	0,0217	0,0235	0,0222	0,0206	0,0214	0,0128	0,0127	0,0133	0,0095	0,012
Baryum	Ba	mg/l	0,00052	0,00052	0,00043	0,00051	0,00050	0,00046	0,00034	0,00059	0,00058	0,00028	0,00061
Beryllium	Be	mg/l	0,000010	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007
Bore	B	mg/l	0,002	0,002	0,002	0,002	0,002	0,002	0,002	0,002	0,002	0,002	0,002
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	9,20	8,55	8,72	10,00	9,19	8,54	6,88	8,68	9,01	5,73	8,91
Cadmium	Cd	mg/l	<0,000007	<0,00003	<0,00002	<0,000035	0,000028	0,000021	<0,000022	<0,00003	<0,000038	0,000023	<0,000028
Cobalt	Co	mg/l	0,001040	0,001540	0,000933	0,001460	0,001460	0,001330	0,001100	0,001284	0,002280	0,001050	0,0014
Chrome	Cr	mg/l	0,00008	0,00008	0,00010	<0,00008	<0,00008	0,00010	<0,00008	0,00008	<0,00008	<0,00008	<0,00008
Cuivre	Cu	mg/l	<0,0002	<0,0002	0,0003	0,0002	0,0002	0,0002	<0,0002	<0,0003	0,0003	<0,0002	<0,0002
Fer	Fe	mg/l	0,007	0,007	<0,007	<0,007	0,007	<0,007	<0,007	0,007	<0,007	<0,053	0,008
Potassium	K	mg/l	0,751	0,596	0,581	0,644	0,533	0,469	0,289	0,358	0,393	0,225	0,354
Lithium	Li	mg/l	0,0208	0,0138	0,0133	0,0147	0,0116	0,0113	0,0089	0,0133	0,0181	0,0092	0,0207
Magnésium	Mg	mg/l	0,433	0,351	0,303	0,339	0,28	0,232	0,192	0,258	0,287	0,155	0,249
Manganese	Mn	mg/l	0,00837	0,00866	0,00668	0,00899	0,00841	0,00781	0,00576	0,00675	0,01020	0,00520	0,00763
Molybdène	Mo	mg/l	0,00075	0,00054	0,00064	0,00086	0,00074	0,00043	0,00071	0,00084	0,00054	0,00048	0,00071
Sodium	Na	mg/l	0,16	0,15	0,15	0,20	0,16	0,14	0,08	0,16	0,15	0,07	0,15
Nickel	Ni	mg/l	0,0010	0,0013	0,0010	0,0118	0,0011	0,0009	0,0008	0,0011	0,0019	0,0007	0,001
Plomb	Pb	mg/l	<0,00009	<0,00009	<0,00009	<0,00009	0,00012	0,00009	<0,00009	<0,00009	<0,00009	0,00009	0,00009
Antimoine	Sb	mg/l	0,0867	0,0740	0,0769	0,0703	0,0698	0,0641	0,0824	0,0820	0,0721	0,0455	0,0582
Sélénium	Se	mg/l	0,00082	0,00071	0,00085	0,00092	0,00075	0,00075	0,00084	0,00116	0,00090	0,00068	0,00086
Etain	Sn	mg/l	<0,00006	<0,00006	0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006
Strontium	Sr	mg/l	0,0103	0,0091	0,00944	0,0103	0,0096	0,0083	0,0064	0,0083	0,0092	0,0053	0,00812
Titane	Ti	mg/l	0,00027	0,00014	0,00019	0,00012	0,00009	0,00007	0,00016	0,00016	0,00012	0,00007	0,00011
Thallium	Th	mg/l	0,000035	<0,00003	<0,000026	<0,000031	<0,000028	<0,000025	<0,000018	<0,00002	<0,000028	0,000015	<0,000022
Uranium	U	mg/l	0,001201	0,00268	0,002360	0,003720	0,010100	0,002000	0,00290	0,002930	0,004480	0,00363	0,00258
Vanadium	V	mg/l	0,00032	0,00029	0,00030	0,00032	0,00025	0,00028	0,00015	0,00018	0,00016	0,00010	0,00017
Tungstène	W	mg/l	0,00021	0,00008	0,00008	0,00008	0,00007	0,00005	0,00006	0,00004	0,00015	0,00004	0,00004
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,005	<0,004	<0,005	0,005	<0,004	<0,005	<0,006	<0,007	<0,005	<0,005
Gold (total)	Au	mg/l					0,00001	<0,00001		<0,00001		<0,00001	
Cérium (total)	Ce	mg/l					<0,00001	<0,00001		0,00001		<0,00001	
Césium (total)	Cs	mg/l					0,0567	0,0573		0,0445		0,0307	
Dysprosium (total)	Dy	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Erbium (total)	Er	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Europium (total)	Eu	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Gallium (total)	Ga	mg/l					<0,0002	<0,0002		<0,0001		<0,0001	
Gadolinium (total)	Gd	mg/l					<0,00001	<0,00001		<0,00001		<0,00001	
Germanium (total)	Ge	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Hafnium (total)	Hf	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Holmium (total)	Ho	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Indium (total)	In	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Iridium (total)	Ir	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Lanthanum (total)	La	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Lutetium (total)	Lu	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Niobium (total)	Nb	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Néodymium (total)	Nd	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Osmium (total)	Os	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Palladium (total)	Pd	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Praseodymium (total)	Pr	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Platinum (total)	Pt	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Rubidium (total)	Rb	mg/l					0,0196	0,0176		0,0124		0,0083	
Rhenium (total)	Re	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Rhodium (total)	Rh	mg/l					<0,00001	<0,00001		<0,00001		<0,00001	
Scandium (total)	Sc	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Samarium (total)	Sm	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Tantalum (total)	Ta	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Terbium (total)	Tb	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Tellurium (total)	Te	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Thorium (total)	Th	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Thulium (total)	Tm	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Ytterbium (total)	Yb	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	

Résultats HCT – CV5-WR-HCT-50

Analyse	Symbole	Unité	Sem. #22	Sem. #23	Sem. #24	Sem. #25	Sem. #26	Sem. #27	Sem. #28	Sem. #29	Sem. #30	Sem. #31	Sem. #32
			2023-09-28	2023-10-05	2023-10-12	2023-10-19	2023-10-26	2023-11-02	2023-11-09	2023-11-16	2023-11-23	2023-11-30	2023-12-07
Volume du lixiviat	V	mL	948	971	997	970	1006	983	961	957	985	999	983
pH	pH	No unit	6,98	6,66	7,23	7,62	6,44	6,54	6,41	6,47	6,51	6,30	6,56
Alkalinité	Alkalinité	$mgCaCO_3/l$	4	4	8	7	2	2	3	2	3	2	2
Conductivité	Conductivité	µS/cm	34	33	50	34	21	22	31	35	40	37	41
Acidité	Acidité	$mgCaCO_3/l$	<6,0	7	<5,0	8	6	<6,0	7	<9,0	7	<9,0	<7,0
Fluoride	F	mg/l				<0,22					<0,2		
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,28	<0,03	<0,03	<0,22	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Sulfate	SO_4^{2-}	mg/l	7	8	9	7	5	5	8	10	13	12	12
Chlore	Cl^-	mg/l				7					<2,0		
Nitrite	NO_2^-	mgN/l				0,03					<0,03		
Nitrate	NO_3^-	mgN/l				0,06					<0,06		
Bromide	Br	mg/l				0,3					<0,3		
Mercure	Hg	mg/l				<0,00001					<0,00001		
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,032	0,024	0,043	0,038	0,009	0,005	0,006	0,006	0,008	0,007	0,007
Arsenic	As	mg/l	0,0079	0,0064	0,0104	0,0092	0,0035	0,0029	0,0031	0,0035	0,0035	0,0027	0,0032
Baryum	Ba	mg/l	0,00028	0,00026	0,00041	0,0003	0,00021	0,00018	0,00048	0,0003	0,00057	0,00033	0,00044
Beryllium	Be	mg/l	<0,000007	<0,000007	0,000007	<0,000007	<0,000008	<0,000007	<0,000007	<0,000007	0,00001	<0,000007	<0,000007
Bore	B	mg/l	0,002	0,002	0,002	0,002	0,002	0,002	0,002	0,002	0,002	0,002	0,002
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	5,48	5,66	7,6	5,65	3,62	3,77	5,45	5,12	7,19	5,88	6,25
Cadmium	Cd	mg/l	0,000022	<0,000027	0,000029	<0,000055	<0,000021	0,000027	<0,000042	0,000047	0,000049	0,000038	<0,000044
Cobalt	Co	mg/l	0,001080	0,001361	0,0016	0,0031	0,00104	0,001290	0,00226	0,00233	0,00251	0,002093	0,002699
Chrome	Cr	mg/l	<0,00008	<0,00008	<0,00008	<0,00015	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008
Cuivre	Cu	mg/l	<0,0006	<0,0004	0,0002	<0,0015	<0,0002	<0,0005	<0,0002	0,0003	<0,0003	<0,0003	<0,0002
Fer	Fe	mg/l	<0,007	<0,007	<0,007	<0,01	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007
Potassium	K	mg/l	0,217	0,191	0,338	0,221	0,129	0,092	0,129	0,121	0,195	0,151	0,163
Lithium	Li	mg/l	0,0101	0,0093	0,0202	0,0097	0,0051	0,0042	0,0069	0,0066	0,0106	0,0090	0,0109
Magnésium	Mg	mg/l	0,146	0,135	0,211	0,125	0,079	0,080	0,112	0,116	0,161	0,122	0,122
Manganese	Mn	mg/l	0,00496	0,00558	0,00759	0,01	0,00353	0,00354	0,00537	0,00615	0,00743	0,00623	0,00751
Molybdène	Mo	mg/l	0,00086	0,00039	0,00057	0,00024	0,00014	0,00025	0,00035	0,00011	0,00067	0,00121	0,00017
Sodium	Na	mg/l	0,08	0,09	0,28	0,1	0,09	0,06	0,1	0,08	0,13	0,08	0,14
Nickel	Ni	mg/l	0,0010	0,001	0,0012	0,0021	0,0008	0,0009	0,0018	0,002	0,002	0,0017	0,0022
Plomb	Pb	mg/l	0,00009	<0,00009	<0,00009	0,00014	0,00023	0,00009	<0,00009	<0,00009	<0,00009	0,00009	<0,00009
Antimoine	Sb	mg/l	0,0314	0,0286	0,043	0,031	0,0135	0,0129	0,0118	0,0139	0,0163	0,0164	0,0172
Sélénium	Se	mg/l	0,00058	0,00051	0,00085	0,00053	0,0004	0,00035	0,00048	0,00054	0,00083	0,00053	0,00054
Etain	Sn	mg/l	<0,00006	<0,00006	<0,00006	0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006
Strontium	Sr	mg/l	0,0051	0,00529	0,00742	0,00498	0,00335	0,0031	0,00451	0,00523	0,00613	0,0052	0,0060
Titane	Ti	mg/l	0,00015	<0,00023	0,00009	0,00084	0,0001	0,00007	<0,00007	0,00009	0,00007	0,00007	<0,00007
Thallium	Th	mg/l	0,000017	<0,00002	<0,000021	<0,00003	<0,00001	0,000010	<0,00001	<0,000014	<0,00002	<0,000014	<0,000017
Uranium	U	mg/l	0,001630	0,00186	0,00175	0,00112	0,00163	0,000943	0,00117	0,00126	0,0014	0,00132	0,001350
Vanadium	V	mg/l	0,00011	0,00008	0,00013	0,0002	0,00004	0,00003	0,00004	0,00003	0,00007	0,00004	0,00004
Tungstène	W	mg/l	0,00004	0,00002	0,00004	0,00002	0,00002	0,00002	0,00002	0,00002	0,0004	0,00002	0,00002
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,005	<0,007	<0,006	<0,017	<0,006	<0,008	<0,014	<0,017	<0,015	<0,011	<0,013
Gold (total)	Au	mg/l				0,00004					<0,00001		
Cérium (total)	Ce	mg/l				0,00003					<0,00002		
Césium (total)	Cs	mg/l				0,0392					0,0244		
Dysprosium (total)	Dy	mg/l				0,0001					<0,0001		
Erbium (total)	Er	mg/l				0,0001					<0,0001		
Europium (total)	Eu	mg/l				0,0001					<0,0001		
Gallium (total)	Ga	mg/l				0,0001					<0,0001		
Gadolinium (total)	Gd	mg/l				0,00001					<0,00001		
Germanium (total)	Ge	mg/l				0,0001					<0,0001		
Hafnium (total)	Hf	mg/l				0,0001					<0,0001		
Holmium (total)	Ho	mg/l				0,0001					<0,0001		
Indium (total)	In	mg/l				0,0001					<0,0001		
Iridium (total)	Ir	mg/l				0,0001					<0,0001		
Lanthanum (total)	La	mg/l				0,0001					<0,0001		
Lutetium (total)	Lu	mg/l				0,0001					<0,0001		
Niobium (total)	Nb	mg/l				0,0001					<0,0001		
Néodymium (total)	Nd	mg/l				0,0001					<0,0001		
Osmium (total)	Os	mg/l				0,0001					<0,0001		
Palladium (total)	Pd	mg/l				0,0001					<0,0001		
Praseodymium (total)	Pr	mg/l				0,0001					<0,0001		
Platinum (total)	Pt	mg/l				0,0001					<0,0001		
Rubidium (total)	Rb	mg/l				0,0087					0,0068		
Rhenium (total)	Re	mg/l				0,0001					<0,0001		
Rhodium (total)	Rh	mg/l				0,00001					<0,00001		
Scandium (total)	Sc	mg/l				0,0001					<0,0001		
Samarium (total)	Sm	mg/l				0,0001					<0,0001		
Tantalum (total)	Ta	mg/l				0,0001					<0,0001		
Terbium (total)	Tb	mg/l				0,0001					<0,0001		
Tellurium (total)	Te	mg/l				0,0001					<0,0001		
Thorium (total)	Th	mg/l				0,0001					<0,0001		
Thulium (total)	Tm	mg/l				0,0001					<0,0001		
Ytterbium (total)	Yb	mg/l				0,0001					<0,0001		

Résultats HCT – CV5-WR-HCT-50

Analyse	Symbole	Unité	Sem. #33	Sem. #34	Sem. #35	Sem. #36	Sem. #37	Sem. #38	Sem. #39	Sem. #40	Sem. #41	Sem. #42	Sem. #43
			2023-12-14	2023-12-21	2023-12-28	2024-01-04	2024-01-11	2024-01-18	2024-01-25	2024-02-01	2024-02-08	2024-02-15	2024-02-22
Volume du lixiviat	V	mL	946	999	1005	937	987	996	986	983	1047	998	1008
pH	pH	No unit	6,95	6,59	6,92	6,76	6,96	6,97	6,84	7,00	6,88	7,18	7,22
Alkalinité	Alkalinité	$mgCaCO_3/l$	5	3	7	3	3	7	4	3	5	10	10
Conductivité	Conductivité	µS/cm	54	37	58	34	51	56	50	43	56	59	58
Acidité	Acidité	$mgCaCO_3/l$	<6,0	<2,0	<6,0	<2,0	<2,0	<4,0	<6,0	<2,0	<2,0	<2,0	<2,0
Fluoride	F	mg/l	<0,24		<0,22					<0,21			
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Sulfate	SO_4^{2-}	mg/l	12	9	14	9	11	12	10	8	13	12	9
Chlore	Cl^-	mg/l	***		<4,0					3			
Nitrite	NO_2^-	mgN/l	***		<0,03					<0,03			
Nitrate	NO_3^-	mgN/l	***		<0,06					<0,06			
Bromide	Br	mg/l	***		<0,3					<0,3			
Mercure	Hg	mg/l	***		<0,00001					<0,00001			
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,025	0,006	0,017	0,007	0,014	0,016	0,022	0,011	0,026	0,021	0,020
Arsenic	As	mg/l	0,0054	0,0027	0,0046	0,0052	0,0040	0,0049	0,0039	0,0029	0,0046	0,0040	0,0039
Baryum	Ba	mg/l	0,00035	0,00034	0,00056	0,00146	0,00040	0,00036	0,00034	0,00120	0,00045	0,00034	0,00051
Beryllium	Be	mg/l	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007
Bore	B	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00002	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	7,45	4,95	8,93	4,92	6,84	8,04	6,83	6,08	7,63	7,66	7,02
Cadmium	Cd	mg/l	<0,000032	<0,000028	<0,000039	<0,000021	<0,000035	<0,000041	0,000033	<0,000032	<0,000044	<0,000054	<0,000062
Cobalt	Co	mg/l	0,001900	0,001530	0,002290	0,001580	0,002260	0,002260	0,001917	0,001930	0,002470	0,003230	0,003162
Chrome	Cr	mg/l	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008
Cuivre	Cu	mg/l	<0,0002	0,0002	<0,0003	<0,0002	0,0004	<0,0003	<0,002	<0,002	<0,002	<0,001	<0,001
Fer	Fe	mg/l	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	0,007	<0,007	<0,007	<0,007
Potassium	K	mg/l	0,236	0,117	0,221	0,126	0,201	0,229	0,211	0,165	0,216	0,195	0,168
Lithium	Li	mg/l	0,0167	0,0076	0,0145	0,0069	0,0120	0,0152	0,0118	0,0078	0,0129	0,0128	0,0115
Magnésium	Mg	mg/l	0,139	0,081	0,145	0,082	0,114	0,130	0,098	0,086	0,096	0,097	0,083
Manganese	Mn	mg/l	0,00803	0,00646	0,01110	0,00507	0,00789	0,01030	0,00773	0,00709	0,00909	0,01210	0,01210
Molybdène	Mo	mg/l	0,00224	0,00018	0,00027	0,00039	0,00025	0,00032	0,00053	<0,0008	<0,0004	<0,0005	<0,0004
Sodium	Na	mg/l	0,13	0,06	0,12	0,15	0,25	0,12	0,10	0,14	0,13	0,11	0,10
Nickel	Ni	mg/l	0,0014	0,0014	0,0018	0,0012	0,0020	0,0019	0,0015	0,0016	0,0020	0,0023	0,0022
Plomb	Pb	mg/l	0,00009	<0,00009	<0,00009	<0,00009	0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009
Antimoine	Sb	mg/l	0,0282	0,0155	0,0233	0,0119	0,0194	0,0240	0,0192	0,0150	0,0200	0,0212	0,0193
Sélénium	Se	mg/l	0,00064	0,00038	0,00065	0,00054	0,00055	0,00066	0,00051	0,00045	0,00066	0,00056	0,00070
Etain	Sn	mg/l	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006
Strontium	Sr	mg/l	0,0068	0,0044	0,0075	0,0042	0,0092	0,0066	0,0053	0,00509	0,00580	0,00579	0,00528
Titane	Ti	mg/l	<0,00007	0,00007	<0,00007	0,00007	0,00007	0,00007	0,00010	0,0001	0,0001	<0,0001	<0,0001
Thallium	Th	mg/l	<0,000023	<0,00001	<0,000024	<0,000005	<0,000014	<0,000021	<0,000031	<0,000012	<0,000027	<0,000022	<0,000025
Uranium	U	mg/l	0,009660	0,001120	0,00257	0,001020	0,001310	0,00318	0,00205	0,001240	0,001520	0,006450	0,001860
Vanadium	V	mg/l	0,00008	0,00004	0,00007	0,00003	0,00003	0,00006	0,00007	0,00004	0,00005	0,00007	0,00014
Tungstène	W	mg/l	0,00002	0,00002	0,00002	0,00002	0,00002	0,00002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,007	<0,007	<0,007	<0,007	<0,011	<0,008	<0,008	<0,008	<0,008	<0,01	<0,01
Gold (total)	Au	mg/l			<0,00001					<0,00001			
Cérium (total)	Ce	mg/l			<0,00001					0,00001			
Césium (total)	Cs	mg/l			0,0365					0,0287			
Dysprosium (total)	Dy	mg/l			<0,0001					<0,00001			
Erbium (total)	Er	mg/l			<0,0001					<0,00001			
Europium (total)	Eu	mg/l			<0,0001					<0,00001			
Gallium (total)	Ga	mg/l			<0,0001					<0,0001			
Gadolinium (total)	Gd	mg/l			<0,00001					<0,00001			
Germanium (total)	Ge	mg/l			<0,0001					<0,0001			
Hafnium (total)	Hf	mg/l			<0,0001					<0,0001			
Holmium (total)	Ho	mg/l			<0,0001					<0,00001			
Indium (total)	In	mg/l			<0,0001					<0,00001			
Iridium (total)	Ir	mg/l			<0,0001					<0,00001			
Lanthanum (total)	La	mg/l			<0,0001					<0,00001			
Lutetium (total)	Lu	mg/l			<0,0001					<0,0001			
Niobium (total)	Nb	mg/l			<0,0001					<0,00001			
Néodymium (total)	Nd	mg/l			<0,0001					<0,00001			
Osmium (total)	Os	mg/l			<0,0001					<0,0001			
Palladium (total)	Pd	mg/l			<0,0001					<0,0001			
Praseodymium (total)	Pr	mg/l			<0,0001					<0,00001			
Platinum (total)	Pt	mg/l			<0,0001					<0,0001			
Rubidium (total)	Rb	mg/l			0,0097					0,0067			
Rhenium (total)	Re	mg/l			<0,0001					<0,0001			
Rhodium (total)	Rh	mg/l			<0,00001					<0,00001			
Scandium (total)	Sc	mg/l			<0,0001					<0,0001			
Samarium (total)	Sm	mg/l			<0,0001					<0,00001			
Tantalum (total)	Ta	mg/l			<0,0001					<0,0001			
Terbium (total)	Tb	mg/l			<0,0001					<0,00001			
Tellurium (total)	Te	mg/l			<0,0001					<0,0001			
Thorium (total)	Th	mg/l			<0,0001					<0,0001			
Thulium (total)	Tm	mg/l			<0,0001					<0,00001			
Ytterbium (total)	Yb	mg/l			<0,0001					<0,00001			

Résultats HCT – CV5-WR-HCT-50

Analyse	Symbole	Unité	Sem. #44	Sem. #45	Sem. #46	Sem. #47	Sem. #48	Sem. #49	Sem. #50	Sem. #51	Sem. #52	Sem. #53	Sem. #54
			2024-02-29	2024-03-07	2024-03-14	2024-03-21	2024-03-28	2024-04-04	2024-04-11	2024-04-18	2024-04-25	2024-05-02	2024-05-09
Volume du lixiviat	V	mL	1001	978	1003	1001	977	999	1000	1008	995	998	997
pH	pH	No unit	7,11	7,08	7,19	7,30	7,11	7,25	7,29	7,12	7,25	7,23	7,31
Alkalinité	Alkalinité	$mgCaCO_3/l$	11	7	8	8	9	9	9	9	9	7	8
Conductivité	Conductivité	µS/cm	55	48	46	46	50	48	50	52	48	46	46
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2,0	<2,0	<2,0	<3,0	<2,0	<2,0	<3,0	<2,0	<2,0	<3,0
Fluoride	F	mg/l		<0,41					<0,48				
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Sulfate	SO_4^{2-}	mg/l	6	9	7	7	8	8	6	4	6	7	9
Chlore	Cl^-	mg/l		<4,0					<2,0				
Nitrite	NO_2^-	mgN/l		<0,03					<0,03				
Nitrate	NO_3^-	mgN/l		<0,06					<0,06				
Bromide	Br	mg/l		<0,3					<0,3				
Mercure	Hg	mg/l		<0,00001					<0,00001				
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,023	0,024	0,017	0,032	0,036	0,021	0,043	0,031	0,029	0,025	0,029
Arsenic	As	mg/l	0,0030	0,0033	0,0028	0,0036	0,0036	0,0035	0,0036	0,0029	0,0032	0,0032	0,0034
Baryum	Ba	mg/l	0,00027	0,00026	0,00022	0,00030	0,00031	0,00023	0,00022	0,00020	0,00025	0,00028	0,00034
Beryllium	Be	mg/l	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007
Bore	B	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	5,85	7,46	5,88	6,53	6,29	7,22	6,64	5,74	6,79	7,68	8,71
Cadmium	Cd	mg/l	<0,000041	<0,000041	<0,00005	<0,000034	<0,000029	<0,000055	<0,000042	<0,000033	<0,000056	<0,000048	<0,000048
Cobalt	Co	mg/l	0,002590	0,002527	0,002650	0,001848	0,001920	0,003400	0,002150	0,002610	0,002880	0,002910	0,003260
Chrome	Cr	mg/l	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008
Cuivre	Cu	mg/l	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001
Fer	Fe	mg/l	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007
Potassium	K	mg/l	0,166	0,171	0,117	0,157	0,140	0,141	0,146	0,132	0,126	0,137	0,146
Lithium	Li	mg/l	0,0105	0,0079	0,0076	0,0090	0,0076	0,0083	0,0088	0,0083	0,0082	0,0082	0,0077
Magnésium	Mg	mg/l	0,074	0,081	0,065	0,074	0,064	0,076	0,066	0,057	0,065	0,078	0,089
Manganese	Mn	mg/l	0,00926	0,00843	0,00867	0,00758	0,00693	0,01067	0,00711	0,00745	0,00874	0,00907	0,00998
Molybdène	Mo	mg/l	<0,0022	<0,0004	<0,0007	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004
Sodium	Na	mg/l	0,10	0,09	0,07	0,09	0,09	0,09	0,08	0,09	0,10	0,11	0,10
Nickel	Ni	mg/l	0,0020	0,0019	0,0018	0,0028	0,0015	0,0023	0,0017	0,0018	0,0020	0,0023	0,0025
Plomb	Pb	mg/l	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009
Antimoine	Sb	mg/l	0,0169	0,0174	0,0144	0,0175	0,0150	0,0147	0,0145	0,0128	0,0149	0,0145	0,0158
Sélénium	Se	mg/l	0,00040	0,00046	0,00044	0,00063	0,00045	0,00052	0,00043	0,00041	0,00053	0,00055	0,00062
Etain	Sn	mg/l	<0,00006	<0,00006	<0,00013	<0,00006	<0,00006	<0,00012	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006
Strontium	Sr	mg/l	0,00460	0,00481	0,00395	0,00393	0,00363	0,00444	0,00398	0,00340	0,00392	0,00401	0,00472
Titane	Ti	mg/l	0,0001	<0,0001	<0,0001	0,0001	0,0001	<0,0001	0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Thallium	Th	mg/l	<0,000024	<0,000021	<0,00002	<0,00002	<0,00002	<0,000023	<0,000023	<0,000021	<0,00002	<0,000022	<0,000025
Uranium	U	mg/l	0,001110	0,001292	0,001260	0,001100	0,001010	0,001430	0,000839	0,000879	0,001300	0,001440	0,001283
Vanadium	V	mg/l	0,00005	0,00006	0,00004	0,00005	0,00006	0,00004	0,00007	0,00004	0,00005	0,00005	0,00006
Tungstène	W	mg/l	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,011	<0,008	<0,008	<0,006	<0,005	<0,01	<0,006	<0,007	<0,007	<0,008	<0,008
Gold (total)	Au	mg/l		<0,00001					<0,00001				
Cérium (total)	Ce	mg/l		<0,00001					<0,00001				
Césium (total)	Cs	mg/l		0,0353					0,0363				
Dysprosium (total)	Dy	mg/l		<0,00001					<0,00001				
Erbium (total)	Er	mg/l		<0,00001					<0,00001				
Europium (total)	Eu	mg/l		<0,00001					<0,00001				
Gallium (total)	Ga	mg/l		<0,0001					<0,0001				
Gadolinium (total)	Gd	mg/l		<0,00001					<0,00001				
Germanium (total)	Ge	mg/l		<0,0001					<0,0001				
Hafnium (total)	Hf	mg/l		<0,0001					<0,0001				
Holmium (total)	Ho	mg/l		<0,00001					<0,00001				
Indium (total)	In	mg/l		<0,00001					<0,00001				
Iridium (total)	Ir	mg/l		<0,00001					<0,00001				
Lanthanum (total)	La	mg/l		<0,00001					<0,00001				
Lutetium (total)	Lu	mg/l		<0,0001					<0,0001				
Niobium (total)	Nb	mg/l		<0,00001					<0,00001				
Néodymium (total)	Nd	mg/l		<0,00001					<0,00001				
Osmium (total)	Os	mg/l		<0,0001					<0,0001				
Palladium (total)	Pd	mg/l		<0,0001					<0,0001				
Praseodymium (total)	Pr	mg/l		<0,00001					<0,00001				
Platinum (total)	Pt	mg/l		<0,0001					<0,0001				
Rubidium (total)	Rb	mg/l		0,0077					0,0077				
Rhenium (total)	Re	mg/l		<0,0001					<0,0001				
Rhodium (total)	Rh	mg/l		<0,00001					<0,00001				
Scandium (total)	Sc	mg/l		<0,0001					<0,0001				
Samarium (total)	Sm	mg/l		<0,00001					<0,00001				
Tantalum (total)	Ta	mg/l		<0,0001					<0,0001				
Terbium (total)	Tb	mg/l		<0,00001					<0,00001				
Tellurium (total)	Te	mg/l		<0,0001					<0,0001				
Thorium (total)	Th	mg/l		<0,0001					<0,0001				
Thulium (total)	Tm	mg/l		<0,00001					<0,00001				
Ytterbium (total)	Yb	mg/l		<0,00001					<0,00001				

Résultats HCT – CV5-WR-HCT-50

Analyse	Symbole	Unité	Sem. #55	Sem. #56	Sem. #57	Sem. #58	Sem. #59	Sem. #60	Sem. #61	Sem. #62	Sem. #63	Sem. #64	Sem. #65
			2024-05-16	2024-05-23	2024-05-30	2024-06-06	2024-06-13	2024-06-20	2024-06-27	2024-07-04	2024-07-11	2024-07-18	2024-07-25
Volume du lixiviat	V	mL	1003	1010	993	993	1005	995	1008	895	983	991	1000
pH	pH	No unit	6,92	7,19	7,04	7,16	7,00	7,05	6,77	6,86	7,09	6,78	6,73
Alkalinité	Alkalinité	$mgCaCO_3/l$	8	7	6	6	5	6	3	4		3	
Conductivité	Conductivité	µS/cm	50	44	40	54	47	48	44	54	54	44	45
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<6,0	<5,0	<9,0	<12,0	<10,0	<12,0	<17,0		<13,0	
Fluoride	F	mg/l	<0,5					<0,52				<0,51	
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<0,22	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03		<0,03	
Sulfate	SO_4^{2-}	mg/l	6	2	7	9	7	9	8	11		8	
Chlore	Cl^-	mg/l	<2,0					<6,0				<5,0	
Nitrite	NO_2^-	mgN/l	<0,03					<0,03				<0,03	
Nitrate	NO_3^-	mgN/l	<0,06					<0,06				<0,06	
Bromide	Br	mg/l	<0,3					<0,3				<0,3	
Mercure	Hg	mg/l	<0,00001					<0,00001				<0,00001	
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005		<0,00008	
Aluminum	Al	mg/l	0,036	0,033	0,016	0,030	0,022	0,020	0,011	0,014		0,013	
Arsenic	As	mg/l	0,0032	0,0088	0,0024	0,0026	0,0021	0,0025	0,0017	0,0021		0,0015	
Baryum	Ba	mg/l	0,00026	0,00029	0,00022	0,00028	0,00022	0,00047	0,00028	0,00043		0,00034	
Beryllium	Be	mg/l	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007		<0,000007	
Bore	B	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002		<0,002	
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001		<0,00001	
Calcium	Ca	mg/l	6,97	4,64	7,18	8,39	6,66	8,17	6,54	8,58		6,89	
Cadmium	Cd	mg/l	<0,000049	<0,000003	<0,000048	<0,000103	<0,000053	<0,00008	<0,000089	<0,000132		<0,000117	
Cobalt	Co	mg/l	0,002930	0,000057	0,003470	0,004370	0,004130	0,006400	0,006540	0,010200		0,008610	
Chrome	Cr	mg/l	<0,00008	<0,00008	<0,00012	<0,0002	<0,00008	<0,00008	<0,00008	<0,00008		<0,00008	
Cuivre	Cu	mg/l	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001		<0,001	
Fer	Fe	mg/l	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007		0,007	
Potassium	K	mg/l	0,141	0,134	0,107	0,149	0,114	0,122	0,094	0,120		0,115	
Lithium	Li	mg/l	0,0080	0,0017	0,0058	0,0089	0,0068	0,0073	0,0055	0,0076		0,0059	
Magnésium	Mg	mg/l	0,066	0,136	0,070	0,086	0,067	0,090	0,071	0,101		0,083	
Manganese	Mn	mg/l	0,00767	0,00566	0,00892	0,00972	0,00786	0,01130	0,01040	0,01360		0,01210	
Molybdène	Mo	mg/l	<0,0004	<0,0004	<0,0004	<0,0316	<0,0004	<0,0004	<0,0004	<0,0004		<0,0202	
Sodium	Na	mg/l	0,12	0,05	0,08	0,12	0,08	0,09	0,06	0,10		0,13	
Nickel	Ni	mg/l	0,0020	0,0007	0,0026	0,0034	0,0036	0,0053	0,0056	0,0086		0,0077	
Plomb	Pb	mg/l	<0,00009	<0,00009	<0,00009	<0,00013	<0,00009	<0,00009	<0,00009	<0,00009		<0,00009	
Antimoine	Sb	mg/l	0,0139	0,0009	0,0105	0,0128	0,0103	0,0110	0,0085	0,0105		0,0087	
Sélénium	Se	mg/l	0,00048	0,00004	0,00046	0,00062	0,00043	0,00060	0,00055	0,00067		0,00052	
Etain	Sn	mg/l	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006		<0,00006	
Strontium	Sr	mg/l	0,00382	0,00410	0,00329	0,00429	0,00330	0,00463	0,00347	0,00456		0,00362	
Titane	Ti	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	0,0001		<0,0001	
Thallium	Th	mg/l	<0,000025	<0,000005	<0,000014	<0,000019	<0,000023	<0,000026	<0,00002	<0,000028		<0,000025	
Uranium	U	mg/l	0,001050	0,000363	0,001200	0,001370	0,001100	0,001630	0,001260	0,001510		0,001050	
Vanadium	V	mg/l	0,00004	0,00028	0,00006	0,00006	0,00004	0,00002	0,00002	0,00001		0,00002	
Tungstène	W	mg/l	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002		<0,0002	
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002		<0,00002	
Zinc	Zn	mg/l	<0,009	<0,002	<0,011	<0,015	<0,015	<0,022	<0,027	<0,043		<0,035	
Gold (total)	Au	mg/l	<0,00001					<0,00001				<0,00001	
Cérium (total)	Ce	mg/l	0,00001					<0,00001				<0,00001	
Césium (total)	Cs	mg/l	0,0336					0,0358				0,0334	
Dysprosium (total)	Dy	mg/l	<0,00001					<0,00001				<0,00001	
Erbium (total)	Er	mg/l	<0,00001					<0,00001				<0,00001	
Europium (total)	Eu	mg/l	<0,00001					<0,00001				<0,00001	
Gallium (total)	Ga	mg/l	<0,0001					<0,0001				<0,0001	
Gadolinium (total)	Gd	mg/l	<0,00001					<0,00001				<0,00001	
Germanium (total)	Ge	mg/l	<0,0001					<0,0001				<0,0001	
Hafnium (total)	Hf	mg/l	<0,0001					<0,0001				<0,0001	
Holmium (total)	Ho	mg/l	<0,00001					<0,00001				<0,00001	
Indium (total)	In	mg/l	<0,00001					<0,00001				<0,00001	
Iridium (total)	Ir	mg/l	<0,00001					<0,00001				<0,00001	
Lanthanum (total)	La	mg/l	<0,00001					<0,00001				<0,00001	
Lutetium (total)	Lu	mg/l	<0,0001					<0,0001				<0,0001	
Niobium (total)	Nb	mg/l	<0,00001					<0,00001				<0,00001	
Néodymium (total)	Nd	mg/l	<0,00001					<0,00001				<0,00001	
Osmium (total)	Os	mg/l	<0,0001					<0,0001				<0,0001	
Palladium (total)	Pd	mg/l	<0,0001					<0,0001				<0,0001	
Praseodymium (total)	Pr	mg/l	<0,00001					<0,00001				<0,00001	
Platinum (total)	Pt	mg/l	<0,0001					<0,0001				<0,0001	
Rubidium (total)	Rb	mg/l	0,0070					0,0067				0,0059	
Rhenium (total)	Re	mg/l	<0,0001					<0,0001				<0,0001	
Rhodium (total)	Rh	mg/l	<0,00001					<0,00001				<0,00001	
Scandium (total)	Sc	mg/l	<0,0001					<0,0001				<0,0001	
Samarium (total)	Sm	mg/l	<0,00001					<0,00001				<0,00001	
Tantalum (total)	Ta	mg/l	<0,0001					<0,0001				<0,0001	
Terbium (total)	Tb	mg/l	<0,00001					<0,00001				<0,00001	
Tellurium (total)	Te	mg/l	<0,0001					<0,0001				<0,0001	
Thorium (total)	Th	mg/l	<0,0001					<0,0001				<0,0001	
Thulium (total)	Tm	mg/l	<0,00001					<0,00001				<0,00001	
Ytterbium (total)	Yb	mg/l	<0,00001					<0,00001				<0,00001	

Résultats HCT – CV5-WR-HCT-50

Analyse	Symbole	Unité	Sem. #66	Sem. #67	Sem. #68	Sem. #69	Sem. #70	Sem. #71	Sem. #72	Sem. #73	Sem. #74	Sem. #75	Sem. #76
			2024-08-01	2024-08-08	2024-08-15	2024-08-22	2024-08-29	2024-09-05	2024-09-12	2024-09-19	2024-09-26	2024-10-03	2024-10-10
Volume du lixiviat	V	mL	967	982	1002	967	996	983	994	994	1012	992	1001
pH	pH	No unit	6,60	6,79	6,30	6,33	6,50	6,66	6,56	6,80	6,89	6,49	6,71
Alkalinité	Alkalinité	$mgCaCO_3/l$			2				2				4
Conductivité	Conductivité	µS/cm	47	45	38	46	49	51	47	49	43	46	46
Acidité	Acidité	$mgCaCO_3/l$			<14,0				<13,0				<10,0
Fluoride	F	mg/l			<0,44				<0,59				<0,73
Phosphore réactif total	PO_4^{3-}-P	mg/l			<0,03				<0,03				<0,03
Sulfate	SO_4^{2-}	mg/l			12				11				6
Chlore	Cl^-	mg/l			<4,0				<4,0				<2,0
Nitrite	NO_2^-	mgN/l			<0,03				<0,03				<0,03
Nitrate	NO_3^-	mgN/l			<0,06				<0,06				<0,06
Bromide	Br	mg/l			<0,3				<0,3				<0,3
Mercure	Hg	mg/l			<0,00001				<0,00001				<0,00001
Argent	Ag	mg/l			<0,00005				<0,00005				<0,00005
Aluminum	Al	mg/l			0,029				0,031				0,020
Arsenic	As	mg/l			0,0014				0,0008				0,0011
Baryum	Ba	mg/l			0,00038				0,00037				0,00036
Beryllium	Be	mg/l			<0,000029				<0,000042				<0,000028
Bore	B	mg/l			<0,002				<0,002				<0,002
Bismuth	Bi	mg/l			<0,00001				<0,00001				<0,00001
Calcium	Ca	mg/l			7,40				7,70				5,30
Cadmium	Cd	mg/l			<0,000406				<0,000318				<0,000213
Cobalt	Co	mg/l			0,028500				0,022600				0,013400
Chrome	Cr	mg/l			<0,00008				<0,00008				<0,00011
Cuivre	Cu	mg/l			<0,002				<0,002				<0,001
Fer	Fe	mg/l			<0,028				<0,05				<0,041
Potassium	K	mg/l			0,106				0,113				0,104
Lithium	Li	mg/l			0,0068				0,0079				0,0084
Magnésium	Mg	mg/l			0,123				0,130				0,090
Manganese	Mn	mg/l			0,02510				0,01990				0,01240
Molybdène	Mo	mg/l			<0,0004				<0,0004				<0,0004
Sodium	Na	mg/l			0,10				0,10				0,12
Nickel	Ni	mg/l			0,0294				0,0304				0,0184
Plomb	Pb	mg/l			<0,00009				<0,00009				<0,00009
Antimoine	Sb	mg/l			0,0050				0,0053				0,0061
Sélénium	Se	mg/l			0,00056				0,00056				0,00038
Etain	Sn	mg/l			<0,00006				<0,00006				<0,00006
Strontium	Sr	mg/l			0,00420				0,00372				0,00269
Titane	Ti	mg/l			<0,0001				<0,0001				0,0001
Thallium	Th	mg/l			<0,000035				<0,000035				<0,000033
Uranium	U	mg/l			0,000880				0,000707				0,000359
Vanadium	V	mg/l			0,00001				0,00001				0,00001
Tungstène	W	mg/l			<0,0002				<0,0002				<0,0002
Yttrium	Y	mg/l			<0,00003				<0,00003				<0,00002
Zinc	Zn	mg/l			<0,17				<0,13				<0,076
Gold (total)	Au	mg/l			<0,00001				<0,00002				<0,00001
Cérium (total)	Ce	mg/l			<0,00017				<0,00018				<0,00006
Césium (total)	Cs	mg/l			0,0317				0,0353				0,0325
Dysprosium (total)	Dy	mg/l			<0,00001				<0,00001				<0,00001
Erbium (total)	Er	mg/l			<0,00001				<0,00001				<0,00001
Europium (total)	Eu	mg/l			<0,00001				<0,00001				<0,00001
Gallium (total)	Ga	mg/l			<0,0001				<0,0001				<0,0001
Gadolinium (total)	Gd	mg/l			<0,00001				<0,00001				<0,00001
Germanium (total)	Ge	mg/l			<0,0001				<0,0001				<0,0001
Hafnium (total)	Hf	mg/l			<0,0001				<0,0001				<0,0001
Holmium (total)	Ho	mg/l			<0,00001				<0,00001				<0,00001
Indium (total)	In	mg/l			<0,00001				<0,00001				<0,00001
Iridium (total)	Ir	mg/l			<0,00001				<0,00001				<0,00001
Lanthanum (total)	La	mg/l			<0,00013				<0,00015				<0,00005
Lutetium (total)	Lu	mg/l			<0,0001				<0,0001				<0,0001
Niobium (total)	Nb	mg/l			<0,00001				<0,00001				<0,00001
Néodymium (total)	Nd	mg/l			<0,00005				<0,00005				<0,00002
Osmium (total)	Os	mg/l			<0,0001				<0,0001				<0,0001
Palladium (total)	Pd	mg/l			<0,0001				<0,0001				<0,0001
Praseodymium (total)	Pr	mg/l			<0,00001				<0,00002				<0,00001
Platinum (total)	Pt	mg/l			<0,0001				<0,0001				<0,0001
Rubidium (total)	Rb	mg/l			0,0063				0,0064				0,0077
Rhenium (total)	Re	mg/l			<0,0001				<0,0001				<0,0001
Rhodium (total)	Rh	mg/l			<0,00001				<0,00001				<0,00001
Scandium (total)	Sc	mg/l			<0,0001				<0,0001				<0,0001
Samarium (total)	Sm	mg/l			<0,00001				<0,00001				<0,00001
Tantalum (total)	Ta	mg/l			<0,0001				<0,0001				<0,0001
Terbium (total)	Tb	mg/l			<0,00001				<0,00001				<0,00001
Tellurium (total)	Te	mg/l			<0,0001				<0,0001				<0,0001
Thorium (total)	Th	mg/l			<0,0001				<0,0001				<0,0001
Thulium (total)	Tm	mg/l			<0,00001				<0,00001				<0,00001
Ytterbium (total)	Yb	mg/l			<0,00001				<0,00001				<0,00001

Résultats HCT – CV5-WR-HCT-50

Analyse	Symbole	Unité	Sem. #77	Sem. #78	Sem. #79	Sem. #80	Sem. #81	Sem. #82	Sem. #83	Sem. #84	Sem. #85	Sem. #86	Sem. #87
			2024-10-17	2024-10-24	2024-10-31	2024-11-07	2024-11-14	2024-11-21	2024-11-28	2024-12-05	2024-12-12	2024-12-19	2024-12-26
Volume du lixiviat	V	mL	1003	1011	983	1015	1003	1004	1012	1010	1015	1022	1040
pH	pH	No unit	6,68	6,91	6,82	6,58	6,77	6,69	6,79	6,62	6,77	6,58	6,59
Alkalinité	Alkalinité	$mgCaCO_3/l$				<2,0				4			
Conductivité	Conductivité	µS/cm	50	47	50	44	47	48	52	44	49	50	56
Acidité	Acidité	$mgCaCO_3/l$				8				<10,0			
Fluoride	F	mg/l				<0,8				<0,81			
Phosphore réactif total	PO_4^{3-}-P	mg/l				<0,03				<0,03			
Sulfate	SO_4^{2-}	mg/l				11				11			
Chlore	Cl^-	mg/l				<3,0				<2,0			
Nitrite	NO_2^-	mgN/l				<0,03				<0,03			
Nitrate	NO_3^-	mgN/l				<0,06				<0,06			
Bromide	Br	mg/l				<0,3				<0,3			
Mercure	Hg	mg/l				<0,00001				<0,00001			
Argent	Ag	mg/l				<0,00005				<0,00005			
Aluminum	Al	mg/l				0,021				0,021			
Arsenic	As	mg/l				0,0008				0,0005			
Baryum	Ba	mg/l				0,00038				0,00039			
Beryllium	Be	mg/l				<0,000042				<0,000048			
Bore	B	mg/l				<0,002				<0,002			
Bismuth	Bi	mg/l				<0,00001				<0,00001			
Calcium	Ca	mg/l				7,30				7,03			
Cadmium	Cd	mg/l				<0,000321				<0,000351			
Cobalt	Co	mg/l				0,024200				0,0253			
Chrome	Cr	mg/l				<0,00008				<0,00008			
Cuivre	Cu	mg/l				<0,001				<0,001			
Fer	Fe	mg/l				<0,132				<0,154			
Potassium	K	mg/l				0,107				0,107			
Lithium	Li	mg/l				0,0107				0,0092			
Magnésium	Mg	mg/l				0,137				0,138			
Manganese	Mn	mg/l				0,02420				0,0265			
Molybdène	Mo	mg/l				<0,0004				<0,0004			
Sodium	Na	mg/l				0,11				0,09			
Nickel	Ni	mg/l				0,0336				0,0384			
Plomb	Pb	mg/l				<0,00009				<0,00009			
Antimoine	Sb	mg/l				0,0071				0,0068			
Sélénium	Se	mg/l				0,00065				0,00045			
Etain	Sn	mg/l				<0,00006				<0,00006			
Strontium	Sr	mg/l				0,00374				0,00353			
Titane	Ti	mg/l				<0,0001				<0,0001			
Thallium	Th	mg/l				<0,000029				0,000043			
Uranium	U	mg/l				0,000446				0,000237			
Vanadium	V	mg/l				0,00001				0,00003			
Tungstène	W	mg/l				<0,0002				<0,0002			
Yttrium	Y	mg/l				<0,00003				<0,00002			
Zinc	Zn	mg/l				<0,123				<0,146			
Gold (total)	Au	mg/l				<0,00001				<0,00001			
Cérium (total)	Ce	mg/l				<0,00001				<0,00008			
Césium (total)	Cs	mg/l				0,0364				0,0405			
Dysprosium (total)	Dy	mg/l				<0,00001				<0,00001			
Erbium (total)	Er	mg/l				<0,00001				<0,00001			
Europium (total)	Eu	mg/l				<0,00001				<0,00001			
Gallium (total)	Ga	mg/l				<0,0001				<0,0001			
Gadolinium (total)	Gd	mg/l				<0,00001				<0,00001			
Germanium (total)	Ge	mg/l				<0,0001				<0,0001			
Hafnium (total)	Hf	mg/l				<0,0001				<0,0001			
Holmium (total)	Ho	mg/l				<0,00001				<0,00001			
Indium (total)	In	mg/l				<0,00001				<0,00001			
Iridium (total)	Ir	mg/l				<0,00001				<0,00001			
Lanthanum (total)	La	mg/l				<0,00001				<0,00009			
Lutetium (total)	Lu	mg/l				<0,0001				<0,0001			
Niobium (total)	Nb	mg/l				<0,00001				<0,00001			
Néodymium (total)	Nd	mg/l				<0,00001				<0,00002			
Osmium (total)	Os	mg/l				<0,0001				<0,0001			
Palladium (total)	Pd	mg/l				<0,0001				<0,0001			
Praseodymium (total)	Pr	mg/l				<0,00001				<0,00001			
Platinum (total)	Pt	mg/l				<0,0001				<0,0001			
Rubidium (total)	Rb	mg/l				0,0063				0,0067			
Rhenium (total)	Re	mg/l				<0,0001				<0,0001			
Rhodium (total)	Rh	mg/l				<0,00001				<0,00001			
Scandium (total)	Sc	mg/l				<0,0001				<0,0001			
Samarium (total)	Sm	mg/l				<0,00001				<0,00001			
Tantalum (total)	Ta	mg/l				<0,0001				<0,0001			
Terbium (total)	Tb	mg/l				<0,00001				<0,00001			
Tellurium (total)	Te	mg/l				<0,0001				<0,0001			
Thorium (total)	Th	mg/l				<0,0001				<0,0001			
Thulium (total)	Tm	mg/l				<0,00001				<0,00001			
Ytterbium (total)	Yb	mg/l				<0,00001				<0,00001			

Résultats HCT – CV5-WR-HCT-50

Analyse	Symbole	Unité	Sem. #88	Sem. #89
			2025-01-02	2025-01-09
Volume du lixiviat	V	mL	1020	1009
pH	pH	No unit	6,44	6,48
Alkalinité	Alkalinité	mg$CaCO_3$/l	3	
Conductivité	Conductivité	µS/cm	53	56
Acidité	Acidité	mg$CaCO_3$/l	10	
Fluoride	F	mg/l	<0,79	
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	
Sulfate	SO_4^{2-}	mg/l	14	
Chlore	Cl^-	mg/l	<1,0	
Nitrite	NO_2^-	mgN/l	<0,03	
Nitrate	NO_3^-	mgN/l	<0,06	
Bromide	Br	mg/l	<0,3	
Mercure	Hg	mg/l	<0,00001	
Argent	Ag	mg/l	<0,00005	
Aluminum	Al	mg/l	0,024	
Arsenic	As	mg/l	0,001	
Baryum	Ba	mg/l	0,00048	
Beryllium	Be	mg/l	<0,000057	
Bore	B	mg/l	<0,002	
Bismuth	Bi	mg/l	<0,00001	
Calcium	Ca	mg/l	7,14	
Cadmium	Cd	mg/l	<0,000386	
Cobalt	Co	mg/l	0,0327	
Chrome	Cr	mg/l	<0,00008	
Cuivre	Cu	mg/l	<0,002	
Fer	Fe	mg/l	<0,239	
Potassium	K	mg/l	0,111	
Lithium	Li	mg/l	0,0099	
Magnésium	Mg	mg/l	0,177	
Manganese	Mn	mg/l	0,0392	
Molybdène	Mo	mg/l	<0,0004	
Sodium	Na	mg/l	0,11	
Nickel	Ni	mg/l	0,0427	
Plomb	Pb	mg/l	<0,00009	
Antimoine	Sb	mg/l	<0,0066	
Sélénium	Se	mg/l	0,00042	
Etain	Sn	mg/l	<0,00006	
Strontium	Sr	mg/l	0,00394	
Titane	Ti	mg/l	<0,0001	
Thallium	Th	mg/l	0,000031	
Uranium	U	mg/l	0,000244	
Vanadium	V	mg/l	0,00001	
Tungstène	W	mg/l	<0,0002	
Yttrium	Y	mg/l	<0,00004	
Zinc	Zn	mg/l	<0,174	
Gold (total)	Au	mg/l	<0,00002	
Cérium (total)	Ce	mg/l	0,00017	
Césium (total)	Cs	mg/l	0,0431	
Dysprosium (total)	Dy	mg/l	<0,00001	
Erbium (total)	Er	mg/l	<0,00001	
Europium (total)	Eu	mg/l	<0,00001	
Gallium (total)	Ga	mg/l	<0,0001	
Gadolinium (total)	Gd	mg/l	<0,00001	
Germanium (total)	Ge	mg/l	<0,0001	
Hafnium (total)	Hf	mg/l	<0,0001	
Holmium (total)	Ho	mg/l	<0,00001	
Indium (total)	In	mg/l	<0,00001	
Iridium (total)	Ir	mg/l	<0,00001	
Lanthanum (total)	La	mg/l	0,00016	
Lutetium (total)	Lu	mg/l	<0,0001	
Niobium (total)	Nb	mg/l	<0,00002	
Néodymium (total)	Nd	mg/l	<0,00004	
Osmium (total)	Os	mg/l	<0,0001	
Palladium (total)	Pd	mg/l	<0,0001	
Praseodymium (total)	Pr	mg/l	<0,00001	
Platinum (total)	Pt	mg/l	<0,0001	
Rubidium (total)	Rb	mg/l	0,0072	
Rhenium (total)	Re	mg/l	<0,0001	
Rhodium (total)	Rh	mg/l	<0,00001	
Scandium (total)	Sc	mg/l	<0,0001	
Samarium (total)	Sm	mg/l	<0,00001	
Tantalum (total)	Ta	mg/l	<0,0001	
Terbium (total)	Tb	mg/l	<0,00001	
Tellurium (total)	Te	mg/l	<0,0001	
Thorium (total)	Th	mg/l	<0,0001	
Thulium (total)	Tm	mg/l	<0,00001	
Ytterbium (total)	Yb	mg/l	<0,00001	

Résultats HCT – CV5-WR-HCT-50

Analyse	Symbole	Unité	Sem. #90	Sem. #91	Sem. #92	Sem. #93	Sem. #94	Sem. #95	Sem. #96	Sem. #97	Sem. #98	Sem. #99	Sem. #100
			2025-01-16	2025-01-23	2025-01-30	2025-02-06	2025-02-13	2025-02-20	2025-02-27	2025-03-06	2025-03-13	2025-03-20	2025-03-27
Volume du lixiviat	V	mL	993	1013	1008	1014	1008	1026	1021	1011	1018	1021	1023
pH	pH	No unit	5,92	6,55	6,05	5,9	6,21	6,09	6,19	6,49	6,37	6,4	6,20
Alkalinité	Alkalinité	$mgCaCO_3/l$			2				<3,0				<2,0
Conductivité	Conductivité	µS/cm	63	59	53	61	60	60	53	51	54	58	51
Acidité	Acidité	$mgCaCO_3/l$			<7,0				7				5
Fluoride	F	mg/l			<0,86				<0,66				<0,83
Phosphore réactif total	PO_4^{3-}-P	mg/l			<0,03				<0,03				<0,03
Sulfate	SO_4^{2-}	mg/l			19				19				21
Chlore	Cl^-	mg/l			<1,0				<1,0				<1,0
Nitrite	NO_2^-	mgN/l			<0,03				<0,03				<0,03
Nitrate	NO_3^-	mgN/l			<0,06				<0,06				<0,06
Bromide	Br	mg/l			<0,3				<0,3				<0,3
Mercure	Hg	mg/l			<0,00001				<0,00001				<0,00001
Argent	Ag	mg/l			<0,00005				<0,00005				<0,00005
Aluminum	Al	mg/l			0,042				0,055				0,062
Arsenic	As	mg/l			0,0020				0,0008				0,0006
Baryum	Ba	mg/l			0,00065				0,0006				0,00058
Beryllium	Be	mg/l			<0,00012				<0,000119				<0,000112
Bore	B	mg/l			<0,002				<0,002				<0,002
Bismuth	Bi	mg/l			<0,00001				<0,00001				<0,00001
Calcium	Ca	mg/l			7,84				7,16				7,03
Cadmium	Cd	mg/l			<0,000638				0,000589				<0,000579
Cobalt	Co	mg/l			0,0505				0,0509				0,050300
Chrome	Cr	mg/l			<0,00008				<0,00008				<0,00008
Cuivre	Cu	mg/l			<0,002				<0,001				<0,001
Fer	Fe	mg/l			<0,552				<0,724				<0,716
Potassium	K	mg/l			0,151				0,323				0,135
Lithium	Li	mg/l			0,0126				0,0126				0,0116
Magnésium	Mg	mg/l			0,266				0,277				0,286
Manganese	Mn	mg/l			0,0573				0,0642				0,07130
Molybdène	Mo	mg/l			<0,0004				<0,0004				<0,0004
Sodium	Na	mg/l			0,13				0,12				0,12
Nickel	Ni	mg/l			0,0834				0,0836				0,0867
Plomb	Pb	mg/l			<0,00009				<0,00012				<0,00009
Antimoine	Sb	mg/l			<0,0054				<0,0044				<0,0041
Sélénium	Se	mg/l			0,00058				0,00031				0,00023
Etain	Sn	mg/l			0,00022				<0,00006				<0,00007
Strontium	Sr	mg/l			0,0046				0,00434				0,00419
Titane	Ti	mg/l			<0,0001				<0,0001				<0,0001
Thallium	Th	mg/l			0,000058				<0,000043				<0,000045
Uranium	U	mg/l			0,000309				0,000357				0,000260
Vanadium	V	mg/l			0,00001				0,00001				0,00001
Tungstène	W	mg/l			<0,0002				<0,0002				<0,0002
Yttrium	Y	mg/l			<0,00008				<0,00011				<0,0001
Zinc	Zn	mg/l			<0,353				<0,333				<0,332
Gold (total)	Au	mg/l			<0,00001				<0,00001				<0,00001
Cérium (total)	Ce	mg/l			0,00034				0,00039				<0,00038
Césium (total)	Cs	mg/l			0,0513				0,0465				0,0489
Dysprosium (total)	Dy	mg/l			<0,00001				<0,00001				<0,00001
Erbium (total)	Er	mg/l			<0,00001				<0,00001				<0,00001
Europium (total)	Eu	mg/l			<0,00001				<0,00001				<0,00001
Gallium (total)	Ga	mg/l			<0,0001				<0,0001				<0,0001
Gadolinium (total)	Gd	mg/l			<0,00002				<0,00002				<0,00003
Germanium (total)	Ge	mg/l			<0,0001				<0,0001				<0,0001
Hafnium (total)	Hf	mg/l			<0,0001				<0,0001				<0,0001
Holmium (total)	Ho	mg/l			<0,00001				<0,00001				<0,00001
Indium (total)	In	mg/l			<0,00001				<0,00001				<0,00001
Iridium (total)	Ir	mg/l			<0,00001				<0,00001				<0,00001
Lanthanum (total)	La	mg/l			0,00028				0,00031				<0,00031
Lutetium (total)	Lu	mg/l			<0,0001				<0,0001				<0,0001
Niobium (total)	Nb	mg/l			<0,00001				<0,00001				<0,00007
Néodymium (total)	Nd	mg/l			<0,00009				<0,00011				<0,00011
Osmium (total)	Os	mg/l			<0,0001				<0,0001				<0,0001
Palladium (total)	Pd	mg/l			<0,0001				<0,0001				<0,0001
Praseodymium (total)	Pr	mg/l			<0,00003				<0,00003				<0,00004
Platinum (total)	Pt	mg/l			<0,0001				<0,0001				<0,0001
Rubidium (total)	Rb	mg/l			0,0093				0,0082				0,0080
Rhenium (total)	Re	mg/l			<0,0001				<0,0001				<0,0001
Rhodium (total)	Rh	mg/l			<0,00001				<0,00001				<0,00001
Scandium (total)	Sc	mg/l			<0,0001				<0,0001				<0,0001
Samarium (total)	Sm	mg/l			<0,00001				<0,00002				<0,00002
Tantalum (total)	Ta	mg/l			<0,0001				<0,0001				<0,0001
Terbium (total)	Tb	mg/l			<0,00001				<0,00001				<0,00001
Tellurium (total)	Te	mg/l			<0,0001				<0,0001				<0,0001
Thorium (total)	Th	mg/l			<0,0001				<0,0001				<0,0001
Thulium (total)	Tm	mg/l			<0,00001				<0,00001				<0,00001
Ytterbium (total)	Yb	mg/l			<0,00001				<0,00001				<0,00001

Résultats HCT – CV5-WR-HCT-56

Analyse	Symbole	Unité	Sem. #0	Sem. #1	Sem. #2	Sem. #3	Sem. #4	Sem. #5	Sem. #6	Sem. #7	Sem. #8	Sem. #9	Sem. #10
			2023-04-27	2023-05-04	2023-05-11	2023-05-18	2023-05-25	2023-06-01	2023-06-08	2023-06-15	2023-06-22	2023-06-29	2023-07-06
Volume du lixiviat	V	mL	876	932	978	1002	966	1005	1012	996	963	996	1014
pH	pH	No unit	8,82	7,95	8,82	8,62	7,27	7,81	7,35	7,42	7,74	8,00	8,04
Alkalinité	Alkalinité	$mgCaCO_3/l$	17	13	12	15	11	18	10	13	10	10	10
Conductivité	Conductivité	µS/cm	45	39	38	44	31	34	26	29	27	30	31
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2,0	2	2	2	2	2	2	2	2	2
Fluoride	F	mg/l	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<0,03	<0,03	<0,03	<0,04	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Sulfate	SO_4^{2-}	mg/l	2	2	2	2	2	2	2	2	3	3	3
Chlore	Cl^-	mg/l	3	4	2	1	1	1	<1,0	<1,0	1	1	1
Nitrite	NO_2^-	mgN/l	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Nitrate	NO_3^-	mgN/l	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06
Bromide	Br	mg/l	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3
Mercure	Hg	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,161	0,064	0,061	0,040	0,046	0,063	0,037	0,044	0,054	0,041	0,040
Arsenic	As	mg/l	0,0023	0,0049	0,0095	0,0120	0,0145	0,0170	0,0183	0,0215	0,0199	0,0236	0,0249
Baryum	Ba	mg/l	0,00161	0,00095	0,00087	0,00081	0,00070	0,00115	0,00062	0,00064	0,00064	0,00060	0,00110
Beryllium	Be	mg/l	<0,000007	<0,000007	0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007
Bore	B	mg/l	0,009	0,019	0,018	0,016	0,012	0,011	0,008	0,007	0,006	0,006	0,006
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	5,04	4,11	3,69	4,06	3,93	4,76	3,99	4,18	4,15	3,95	4,45
Cadmium	Cd	mg/l	<0,000003	<0,000003	<0,000003	0,000012	0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003
Cobalt	Co	mg/l	0,000034	0,000033	0,000036	0,000040	0,000046	0,000088	0,000066	0,000073	0,000054	0,000085	0,000090
Chrome	Cr	mg/l	0,00008	0,00011	<0,00008	0,00018	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	0,00012	<0,00008
Cuivre	Cu	mg/l	0,0005	0,0002	<0,0004	<0,0002	0,0003	0,0003	<0,0002	<0,0002	<0,0002	<0,0007	0,0002
Fer	Fe	mg/l	<0,007	0,007	0,007	0,007	<0,007	0,007	0,008	0,007	<0,007	0,007	0,022
Potassium	K	mg/l	3,15	2,40	2,30	1,960	1,410	1,580	1,280	1,170	0,975	0,939	0,946
Lithium	Li	mg/l	0,0269	0,0391	0,0394	0,0286	0,0204	0,0206	0,0158	0,0136	0,0130	0,0133	0,0124
Magnésium	Mg	mg/l	0,363	0,398	0,373	0,422	0,340	0,492	0,489	0,447	0,398	0,444	0,532
Manganese	Mn	mg/l	0,00268	0,01220	0,01430	0,01670	0,01680	0,02170	0,01550	0,01684	0,01700	0,01489	0,01630
Molybdène	Mo	mg/l	0,00092	0,00056	0,00057	0,00046	0,00028	0,00027	0,00023	0,00025	0,00017	0,00028	0,00018
Sodium	Na	mg/l	2,30	2,40	2,01	1,35	0,91	0,89	1,14	0,52	0,44	0,38	0,33
Nickel	Ni	mg/l	0,0003	0,0003	0,0002	0,0002	0,0002	0,0002	0,0002	0,0002	0,0002	0,0002	0,0001
Plomb	Pb	mg/l	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009
Antimoine	Sb	mg/l	0,0009	0,0014	0,0012	0,0015	0,0009	0,0019	0,0009	0,0015	0,0009	0,0009	0,0009
Sélénium	Se	mg/l	0,00006	0,00010	0,00025	0,00004	0,00006	0,00008	0,00010	0,00012	0,00006	0,00008	0,00004
Etain	Sn	mg/l	0,00027	0,00012	0,00009	0,00006	0,00007	0,00006	0,00006	0,00006	<0,00006	<0,00006	0,00006
Strontium	Sr	mg/l	0,0086	0,0069	0,00604	0,0070	0,00588	0,0071	0,0158	0,00657	0,0057	0,00653	0,0072
Titane	Ti	mg/l	0,00017	0,00028	0,00042	0,00071	0,00042	<0,00026	0,00032	0,00040	0,00042	0,00025	0,00012
Thallium	Th	mg/l	0,000005	<0,000009	0,000008	<0,000005	<0,000005	0,000005	<0,000009	<0,000005	<0,000005	<0,000005	<0,000005
Uranium	U	mg/l	0,002230	0,002570	0,002203	0,002410	0,000540	0,000717	0,003000	0,006933	0,00076	0,001230	0,001136
Vanadium	V	mg/l	0,00141	0,00136	0,00130	0,00104	0,00109	0,00102	0,00084	0,00100	0,00087	0,00094	0,00081
Tungstène	W	mg/l	0,00391	0,00433	0,00390	0,00245	0,00147	0,00088	0,00081	0,00068	0,00050	0,00048	0,00043
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l	0,00001	<0,00005	<0,00004	<0,00001	0,00001	<0,00001	<0,00001	<0,00001	0,00001	0,00001	<0,00001
Cérium (total)	Ce	mg/l	0,00001	0,00001	0,00002	0,00001	0,00002	<0,00001	0,00001	0,00002	0,00003	0,00001	0,00001
Césium (total)	Cs	mg/l	0,0207	0,0247	0,0255	0,0283	0,0264	0,0258	0,0347	0,0289	0,0279	0,0294	0,0301
Dysprosium (total)	Dy	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Erbium (total)	Er	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Europium (total)	Eu	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Gallium (total)	Ga	mg/l	0,0002	<0,0001	<0,0001	<0,0001	<0,0001	0,0003	<0,0001	0,0002	<0,0001	<0,0001	<0,0001
Gadolinium (total)	Gd	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Germanium (total)	Ge	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Hafnium (total)	Hf	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Holmium (total)	Ho	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Indium (total)	In	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Iridium (total)	Ir	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Lanthanum (total)	La	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Lutetium (total)	Lu	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Niobium (total)	Nb	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Néodymium (total)	Nd	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Osmium (total)	Os	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Palladium (total)	Pd	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Praseodymium (total)	Pr	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Platinum (total)	Pt	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Rubidium (total)	Rb	mg/l	0,0094	0,0061	0,0055	0,0052	0,0040	0,0043	0,0036	0,0036	0,0029	0,0030	0,0029
Rhenium (total)	Re	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Rhodium (total)	Rh	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Scandium (total)	Sc	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Samarium (total)	Sm	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Tantalum (total)	Ta	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Terbium (total)	Tb	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Tellurium (total)	Te	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Thorium (total)	Th	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Thulium (total)	Tm	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Ytterbium (total)	Yb	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001

Résultats HCT – CV5-WR-HCT-56

Analyse	Symbole	Unité	Sem. #11	Sem. #12	Sem. #13	Sem. #14	Sem. #15	Sem. #16	Sem. #17	Sem. #18	Sem. #19	Sem. #20	Sem. #21
			2023-07-13	2023-07-20	2023-07-27	2023-08-03	2023-08-10	2023-08-17	2023-08-24	2023-08-31	2023-09-07	2023-09-14	2023-09-21
Volume du lixiviat	V	mL	981	969	980	940	897	978	961	945	910	936	950
pH	pH	No unit	7,65	7,45	7,31	7,45	7,26	7,56	7,46	7,61	7,25	7,49	7,04
Alkalinité	Alkalinité	$mgCaCO_3/l$	8	9	7	8	9	9	9	8	6	6	7
Conductivité	Conductivité	µS/cm	27	26	18	28	30	25	26	28	29	25	25
Acidité	Acidité	$mgCaCO_3/l$	2	2	2	2	2	2	2	2	2	2	2
Fluoride	F	mg/l				<0,06	<0,06	<0,06		<0,06		0,06	
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Sulfate	SO_4^{2-}	mg/l	4	3	4	4	6	3	4	5	7	<4,0	4
Chlore	Cl^-	mg/l					1	<1,0		<1,0		1	
Nitrite	NO_2^-	mgN/l					<0,03	<0,03		<0,03		<0,03	
Nitrate	NO_3^-	mgN/l					<0,06	<0,06		<0,06		<0,06	
Bromide	Br	mg/l					<0,3	<0,3		<0,3		<0,3	
Mercure	Hg	mg/l					<0,00001	<0,00002		<0,00001		<0,00001	
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	0,00011	<0,00005
Aluminum	Al	mg/l	0,056	0,048	0,044	0,044	0,037	0,034	0,038	0,039	0,041	0,037	0,036
Arsenic	As	mg/l	0,0180	0,0207	0,0223	0,0174	0,0276	0,0199	0,0220	0,0270	0,0261	0,0235	0,0187
Baryum	Ba	mg/l	0,00110	0,00059	0,00054	0,00063	0,00076	0,00052	0,00051	0,00061	0,00064	0,00047	0,00046
Beryllium	Be	mg/l	0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007
Bore	B	mg/l	0,004	0,003	0,004	0,004	0,004	0,003	0,003	0,003	0,003	0,003	0,002
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	3,64	4,16	3,89	4,20	4,08	3,77	4,09	4,33	4,40	3,62	3,74
Cadmium	Cd	mg/l	<0,000003	<0,000003	<0,000003	<0,000003	0,000003	0,000003	<0,000003	<0,000003	<0,000003	0,000003	<0,000003
Cobalt	Co	mg/l	0,000085	0,000066	0,000087	0,000063	0,000069	0,000044	0,000059	0,000058	0,000064	0,000057	0,000059
Chrome	Cr	mg/l	0,00016	0,00008	0,00055	<0,00008	<0,00008	0,00009	<0,00008	0,00008	<0,00036	<0,00008	<0,00008
Cuivre	Cu	mg/l	<0,0002	<0,0002	0,0032	0,0005	0,0002	0,0002	<0,0002	<0,0003	0,0002	<0,0002	<0,0002
Fer	Fe	mg/l	0,030	0,007	<0,007	<0,007	0,007	<0,007	<0,007	0,007	<0,008	<0,007	0,007
Potassium	K	mg/l	0,652	0,635	0,615	0,692	1,020	0,525	0,551	0,562	0,610	0,444	0,352
Lithium	Li	mg/l	0,0115	0,0080	0,0080	0,0081	0,0154	0,0068	0,0078	0,0072	0,0080	0,0061	0,0059
Magnésium	Mg	mg/l	0,444	0,416	0,402	0,461	0,77	0,405	0,493	0,503	0,623	0,427	0,391
Manganese	Mn	mg/l	0,01180	0,01580	0,01640	0,01490	0,01140	0,01360	0,01360	0,01300	0,01110	0,00983	0,00995
Molybdène	Mo	mg/l	0,00013	0,00010	0,00078	0,00037	0,00018	0,00008	0,00022	0,00018	0,00020	0,00039	0,00038
Sodium	Na	mg/l	0,25	0,22	0,22	0,24	0,34	0,14	0,13	0,17	0,18	0,10	0,11
Nickel	Ni	mg/l	0,0001	0,0002	0,0212	0,0003	0,0001	0,0001	0,0001	0,0001	0,0002	0,0001	0,0002
Plomb	Pb	mg/l	<0,00009	<0,00009	<0,00009	<0,00009	0,00009	0,00009	<0,00009	<0,00009	<0,00009	0,00009	0,00009
Antimoine	Sb	mg/l	0,0009	0,0009	0,0009	0,0009	0,0009	0,0009	0,0009	0,0009	0,0009	0,0009	0,0009
Sélénium	Se	mg/l	0,00009	0,00006	0,00004	0,00006	0,00011	0,00007	0,00007	0,00004	0,00008	0,00008	0,00008
Etain	Sn	mg/l	<0,00006	<0,00006	0,00012	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006
Strontium	Sr	mg/l	0,0052	0,0056	0,00574	0,0058	0,0070	0,0051	0,0058	0,0062	0,0065	0,0050	0,00478
Titane	Ti	mg/l	0,00262	0,00025	0,00010	0,00015	0,00009	0,00026	0,00018	0,00011	0,00019	0,00010	0,0001
Thallium	Th	mg/l	0,000011	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	0,000005	<0,000005
Uranium	U	mg/l	0,000233	0,00056	0,002430	0,000387	0,000654	0,000574	0,00089	0,000674	0,001240	0,00048	0,00299
Vanadium	V	mg/l	0,00080	0,00074	0,00066	0,00065	0,00085	0,00066	0,00069	0,00079	0,00073	0,00062	0,00054
Tungstène	W	mg/l	0,00043	0,00022	0,00018	0,00013	0,00028	0,00015	0,00027	0,00016	0,00017	0,00012	0,00011
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l					0,00001	<0,00001		<0,00001		<0,00001	
Cérium (total)	Ce	mg/l					<0,00001	<0,00001		0,00002		<0,00001	
Césium (total)	Cs	mg/l					0,0288	0,0232		0,0282		0,0228	
Dysprosium (total)	Dy	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Erbium (total)	Er	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Europium (total)	Eu	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Gallium (total)	Ga	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Gadolinium (total)	Gd	mg/l					<0,00001	<0,00001		<0,00001		<0,00001	
Germanium (total)	Ge	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Hafnium (total)	Hf	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Holmium (total)	Ho	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Indium (total)	In	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Iridium (total)	Ir	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Lanthanum (total)	La	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Lutetium (total)	Lu	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Niobium (total)	Nb	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Néodymium (total)	Nd	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Osmium (total)	Os	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Palladium (total)	Pd	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Praseodymium (total)	Pr	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Platinum (total)	Pt	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Rubidium (total)	Rb	mg/l					0,0034	0,0020		0,0020		0,0017	
Rhenium (total)	Re	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Rhodium (total)	Rh	mg/l					<0,00001	<0,00001		<0,00001		<0,00001	
Scandium (total)	Sc	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Samarium (total)	Sm	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Tantalum (total)	Ta	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Terbium (total)	Tb	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Tellurium (total)	Te	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Thorium (total)	Th	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Thulium (total)	Tm	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Ytterbium (total)	Yb	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	

Résultats HCT – CV5-WR-HCT-56

Analyse	Symbole	Unité	Sem. #22	Sem. #23	Sem. #24	Sem. #25	Sem. #26	Sem. #27	Sem. #28	Sem. #29	Sem. #30	Sem. #31	Sem. #32
			2023-09-28	2023-10-05	2023-10-12	2023-10-19	2023-10-26	2023-11-02	2023-11-09	2023-11-16	2023-11-23	2023-11-30	2023-12-07
Volume du lixiviat	V	mL	936	941	1000	954	972	960	955	960	937	965	986
pH	pH	No unit	7,27	7,26	7,33	7,2	7,1	7,14	7,4	7,35	7,66	7,04	7,22
Alkalinité	Alkalinité	$mgCaCO_3/l$	6	6	7	6	6	6	7	6	5	5	6
Conductivité	Conductivité	µS/cm	25	24	23	30	26	26	27	28	25	25	26
Acidité	Acidité	$mgCaCO_3/l$	<2,0	2	<2,0	2	2	<2,0	2	<2,0	2	<2,0	<2,0
Fluoride	F	mg/l				<0,06					<0,06		
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Sulfate	SO_4^{2-}	mg/l	5	5	4	5	5	6	5	5	5	5	5
Chlore	Cl^-	mg/l				7					<1,0		
Nitrite	NO_2^-	mgN/l				0,03					<0,03		
Nitrate	NO_3^-	mgN/l				0,06					<0,06		
Bromide	Br	mg/l				0,3					<0,3		
Mercure	Hg	mg/l				<0,00001					<0,00001		
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,033	0,038	0,033	0,038	0,036	0,034	0,042	0,034	0,038	0,034	0,035
Arsenic	As	mg/l	0,0189	0,0189	0,018	0,0187	0,0168	0,0168	0,0176	0,0169	0,0159	0,0149	0,0153
Baryum	Ba	mg/l	0,00044	0,00038	0,00054	0,00043	0,00048	0,00038	0,0004	0,00051	0,00039	0,00036	0,00033
Beryllium	Be	mg/l	<0,000007	<0,000007	0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	0,000008	<0,000007	<0,000007
Bore	B	mg/l	0,002	0,002	0,002	0,002	0,002	0,002	0,002	0,002	0,002	0,002	0,002
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	3,86	3,94	3,84	4,25	4,36	4,51	4,8	4,04	4,49	4,00	3,79
Cadmium	Cd	mg/l	0,000003	<0,000003	0,000003	<0,000003	<0,000003	0,000003	<0,000003	0,000003	0,000003	0,000003	<0,000004
Cobalt	Co	mg/l	0,000059	0,00005	0,000059	0,000065	0,000063	0,000062	0,000047	0,000053	0,000055	0,000078	0,000061
Chrome	Cr	mg/l	<0,00008	<0,00008	<0,00008	<0,00014	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008
Cuivre	Cu	mg/l	<0,0005	<0,0004	0,0002	<0,0007	<0,0002	<0,0013	<0,0002	0,0002	<0,0002	<0,0002	<0,0002
Fer	Fe	mg/l	<0,007	<0,007	<0,017	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007
Potassium	K	mg/l	0,376	0,348	0,339	0,311	0,316	0,283	0,298	0,24	0,284	0,232	0,197
Lithium	Li	mg/l	0,0054	0,005	0,0048	0,0041	0,004	0,0037	0,0046	0,0033	0,005	0,0039	0,0035
Magnésium	Mg	mg/l	0,395	0,374	0,361	0,358	0,328	0,343	0,331	0,282	0,329	0,287	0,255
Manganese	Mn	mg/l	0,00919	0,00974	0,01149	0,00897	0,00786	0,00792	0,00755	0,00718	0,00692	0,00656	0,00663
Molybdène	Mo	mg/l	0,00028	0,00032	0,0017	0,0003	0,00014	0,00029	0,00009	0,00004	0,00016	0,00017	0,00533
Sodium	Na	mg/l	0,10	0,09	0,22	0,15	0,16	0,09	0,11	0,06	0,09	0,12	0,08
Nickel	Ni	mg/l	0,0002	0,0001	0,0002	0,0002	0,0002	0,0001	0,0001	0,0002	0,0001	0,0001	0,0002
Plomb	Pb	mg/l	0,00009	<0,00009	<0,00009	0,00009	0,00009	0,00016	<0,00009	<0,00014	<0,00009	0,00009	<0,00009
Antimoine	Sb	mg/l	0,0009	0,0009	0,0009	0,0009	0,0009	0,0009	0,0009	0,0009	0,0009	0,0009	0,0009
Sélénium	Se	mg/l	0,00006	0,00004	0,00005	0,00005	0,00012	0,00004	0,00004	0,00004	0,00006	0,00008	0,00005
Etain	Sn	mg/l	<0,00006	<0,00006	<0,00006	0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006
Strontium	Sr	mg/l	0,0054	0,00504	0,00509	0,00575	0,00535	0,0050	0,00503	0,0049	0,00446	0,0044	0,0043
Titane	Ti	mg/l	0,00013	<0,00013	0,00016	0,00011	0,00007	0,00014	<0,00007	0,00008	0,00007	0,00009	<0,00014
Thallium	Th	mg/l	0,000005	<0,000005	<0,000005	<0,000005	<0,000005	0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005
Uranium	U	mg/l	0,002990	0,000517	0,00256	0,00451	0,000451	0,002050	0,000514	0,000388	0,000975	0,00030	0,005680
Vanadium	V	mg/l	0,00053	0,0005	0,00052	0,00049	0,00043	0,00038	0,00043	0,00044	0,00037	0,00036	0,00035
Tungstène	W	mg/l	0,00020	0,00009	0,00011	0,00008	0,00007	0,00006	0,00006	0,00006	0,00009	0,00006	0,00007
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l				0,00001					<0,00001		
Cérium (total)	Ce	mg/l				0,00001					<0,00001		
Césium (total)	Cs	mg/l				0,0223					0,0186		
Dysprosium (total)	Dy	mg/l				0,0001					<0,0001		
Erbium (total)	Er	mg/l				0,0001					<0,0001		
Europium (total)	Eu	mg/l				0,0001					<0,0001		
Gallium (total)	Ga	mg/l				0,0001					<0,0001		
Gadolinium (total)	Gd	mg/l				0,00001					<0,00001		
Germanium (total)	Ge	mg/l				0,0001					<0,0001		
Hafnium (total)	Hf	mg/l				0,0001					<0,0001		
Holmium (total)	Ho	mg/l				0,0001					<0,0001		
Indium (total)	In	mg/l				0,0001					<0,0001		
Iridium (total)	Ir	mg/l				0,0001					<0,0001		
Lanthanum (total)	La	mg/l				0,0001					<0,0001		
Lutetium (total)	Lu	mg/l				0,0001					<0,0001		
Niobium (total)	Nb	mg/l				0,0001					<0,0001		
Néodymium (total)	Nd	mg/l				0,0001					<0,0001		
Osmium (total)	Os	mg/l				0,0001					<0,0001		
Palladium (total)	Pd	mg/l				0,0001					<0,0001		
Praseodymium (total)	Pr	mg/l				0,0001					<0,0001		
Platinum (total)	Pt	mg/l				0,0001					<0,0001		
Rubidium (total)	Rb	mg/l				0,0012					0,0012		
Rhenium (total)	Re	mg/l				0,0001					<0,0001		
Rhodium (total)	Rh	mg/l				0,00001					<0,00001		
Scandium (total)	Sc	mg/l				0,0001					<0,0001		
Samarium (total)	Sm	mg/l				0,0001					<0,0001		
Tantalum (total)	Ta	mg/l				0,0001					<0,0001		
Terbium (total)	Tb	mg/l				0,0001					<0,0001		
Tellurium (total)	Te	mg/l				0,0001					<0,0001		
Thorium (total)	Th	mg/l				0,0001					<0,0001		
Thulium (total)	Tm	mg/l				0,0001					<0,0001		
Ytterbium (total)	Yb	mg/l				0,0001					<0,0001		

Résultats HCT – CV5-WR-HCT-56

Analyse	Symbole	Unité	Sem. #33	Sem. #34	Sem. #35	Sem. #36	Sem. #37	Sem. #38	Sem. #39	Sem. #40	Sem. #41	Sem. #42	Sem. #43
			2023-12-14	2023-12-21	2023-12-28	2024-01-04	2024-01-11	2024-01-18	2024-01-25	2024-02-01	2024-02-08	2024-02-15	2024-02-22
Volume du lixiviat	V	mL	947	998	971	925	982	953	982	904	1004	1000	934
pH	pH	No unit	7,19	6,93	7,19	7,11	7,84	6,99	7,54	7,46	7,51	7,77	7,45
Alkalinité	Alkalinité	$mgCaCO_3/l$	6	6	7	6	6	7	15	8	8	8	8
Conductivité	Conductivité	µS/cm	24	32	29	30	29	31	55	33	30	26	28
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0
Fluoride	F	mg/l	<0,06		<0,06					<0,06			
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,05	<0,03	<0,03	<0,03	<0,03
Sulfate	SO_4^{2-}	mg/l	4	6	6	7	6	7	9	7	5	5	6
Chlore	Cl^-	mg/l	***		<1,0					1			
Nitrite	NO_2^-	mgN/l	***		<0,03					<0,03			
Nitrate	NO_3^-	mgN/l	***		<0,06					<0,06			
Bromide	Br	mg/l	***		<0,3					<0,3			
Mercure	Hg	mg/l	***		<0,00001					<0,00001			
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,032	0,036	0,037	0,036	0,039	0,042	0,119	0,064	0,049	0,042	0,042
Arsenic	As	mg/l	0,0134	0,0137	0,0128	0,0157	0,0116	0,0124	0,0284	0,0146	0,0128	0,0117	0,0125
Baryum	Ba	mg/l	0,00033	0,00051	0,00039	0,00035	0,00031	0,00031	0,00112	0,00044	0,00037	0,00031	0,00054
Beryllium	Be	mg/l	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007
Bore	B	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	3,72	4,29	4,46	4,54	4,28	4,70	8,52	5,98	4,71	4,41	4,89
Cadmium	Cd	mg/l	<0,000003	<0,000006	<0,000003	<0,000003	<0,000004	<0,000003	0,000003	<0,000003	<0,000003	<0,000003	<0,000003
Cobalt	Co	mg/l	0,000062	0,000065	0,000067	0,000054	0,000076	0,000060	0,000133	0,000050	0,000044	0,000046	0,000052
Chrome	Cr	mg/l	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008
Cuivre	Cu	mg/l	<0,0002	0,0002	<0,0002	<0,0002	0,0004	<0,0002	<0,002	<0,002	<0,002	<0,001	<0,001
Fer	Fe	mg/l	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,021	0,007	<0,007	<0,007	<0,007
Potassium	K	mg/l	0,174	0,174	0,169	0,207	0,185	0,186	0,360	0,235	0,146	0,129	0,174
Lithium	Li	mg/l	0,0031	0,0029	0,0026	0,0032	0,0029	0,0029	0,0048	0,0029	0,0022	0,0018	0,0025
Magnésium	Mg	mg/l	0,221	0,224	0,210	0,247	0,206	0,220	0,344	0,229	0,153	0,127	0,173
Manganese	Mn	mg/l	0,00680	0,00665	0,00677	0,00724	0,00779	0,00691	0,01700	0,01180	0,00989	0,00847	0,00896
Molybdène	Mo	mg/l	0,00017	0,01170	0,00031	0,00009	0,00005	0,00023	0,00040	<0,0004	<0,0004	<0,0004	<0,0028
Sodium	Na	mg/l	0,05	0,10	0,06	0,10	0,09	0,06	0,09	0,11	0,07	0,05	0,07
Nickel	Ni	mg/l	0,0001	0,0002	0,0002	0,0002	0,0003	0,0003	0,0004	0,0003	0,0002	0,0002	0,0002
Plomb	Pb	mg/l	0,00009	<0,00009	<0,00009	<0,00009	0,00067	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009
Antimoine	Sb	mg/l	0,0009	0,0009	0,0009	0,0009	0,0009	0,0009	0,0009	0,0009	0,0009	0,0009	0,0009
Sélénium	Se	mg/l	0,00004	0,00005	0,00006	0,00004	0,00004	0,00004	0,00009	0,00007	0,00004	0,00005	0,00006
Etain	Sn	mg/l	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006
Strontium	Sr	mg/l	0,0042	0,0048	0,0046	0,0044	0,0041	0,0048	0,0083	0,00504	0,00395	0,00357	0,00438
Titane	Ti	mg/l	<0,00007	0,00012	<0,00008	0,00011	0,00020	0,00017	0,00100	0,0001	0,0001	<0,0001	<0,0001
Thallium	Th	mg/l	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005
Uranium	U	mg/l	0,000581	0,000391	0,00040	0,000440	0,000381	0,00042	0,00074	0,001270	0,000442	0,002960	0,000270
Vanadium	V	mg/l	0,00031	0,00034	0,00032	0,00033	0,00027	0,00031	0,00071	0,00039	0,00030	0,00029	0,00027
Tungstène	W	mg/l	0,00006	0,00007	0,00011	0,00006	0,00005	0,00005	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l			<0,00001					<0,00001			
Cérium (total)	Ce	mg/l			<0,00001					0,00001			
Césium (total)	Cs	mg/l			0,0170					0,0232			
Dysprosium (total)	Dy	mg/l			<0,0001					<0,00001			
Erbium (total)	Er	mg/l			<0,0001					<0,00001			
Europium (total)	Eu	mg/l			<0,0001					<0,00001			
Gallium (total)	Ga	mg/l			<0,0001					<0,0001			
Gadolinium (total)	Gd	mg/l			<0,00001					<0,00001			
Germanium (total)	Ge	mg/l			<0,0001					<0,0001			
Hafnium (total)	Hf	mg/l			<0,0001					<0,0001			
Holmium (total)	Ho	mg/l			<0,0001					<0,00001			
Indium (total)	In	mg/l			<0,0001					<0,00001			
Iridium (total)	Ir	mg/l			<0,0001					<0,00001			
Lanthanum (total)	La	mg/l			<0,0001					<0,00001			
Lutetium (total)	Lu	mg/l			<0,0001					<0,0001			
Niobium (total)	Nb	mg/l			<0,0001					<0,00001			
Néodymium (total)	Nd	mg/l			<0,0001					<0,00001			
Osmium (total)	Os	mg/l			<0,0001					<0,0001			
Palladium (total)	Pd	mg/l			<0,0001					<0,0001			
Praseodymium (total)	Pr	mg/l			<0,0001					<0,00001			
Platinum (total)	Pt	mg/l			<0,0001					<0,0001			
Rubidium (total)	Rb	mg/l			0,0009					0,0010			
Rhenium (total)	Re	mg/l			<0,0001					<0,0001			
Rhodium (total)	Rh	mg/l			<0,00001					<0,00001			
Scandium (total)	Sc	mg/l			<0,0001					<0,0001			
Samarium (total)	Sm	mg/l			<0,0001					<0,00001			
Tantalum (total)	Ta	mg/l			<0,0001					<0,0001			
Terbium (total)	Tb	mg/l			<0,0001					<0,00001			
Tellurium (total)	Te	mg/l			<0,0001					<0,0001			
Thorium (total)	Th	mg/l			<0,0001					<0,0001			
Thulium (total)	Tm	mg/l			<0,0001					<0,00001			
Ytterbium (total)	Yb	mg/l			<0,0001					<0,00001			

Résultats HCT – CV5-WR-HCT-56

Analyse	Symbole	Unité	Sem. #44	Sem. #45	Sem. #46	Sem. #47	Sem. #48	Sem. #49	Sem. #50	Sem. #51	Sem. #52	Sem. #53	Sem. #54
			2024-02-29	2024-03-07	2024-03-14	2024-03-21	2024-03-28	2024-04-04	2024-04-11	2024-04-18	2024-04-25	2024-05-02	2024-05-09
Volume du lixiviat	V	mL	952	963	1003	981	957	1003	978	984	1003	998	973
pH	pH	No unit	7,33	7,18	7,35	7,34	7,41	7,29	7,26	7,55	7,41	7,09	7,41
Alkalinité	Alkalinité	$mgCaCO_3/l$	7	6	8	8	6	6	6	6	7	6	8
Conductivité	Conductivité	µS/cm	30	27	28	26	29	27	27	29	27	30	27
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0
Fluoride	F	mg/l		<0,06					<0,06				
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Sulfate	SO_4^{2-}	mg/l	6	5	6	5	6	6	5	6	5	6	6
Chlore	Cl^-	mg/l		<1,0					<1,0				
Nitrite	NO_2^-	mgN/l		<0,03					<0,03				
Nitrate	NO_3^-	mgN/l		<0,06					<0,06				
Bromide	Br	mg/l		<0,3					<0,3				
Mercure	Hg	mg/l		<0,00001					<0,00001				
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,036	0,038	0,033	0,032	0,037	0,035	0,038	0,033	0,042	0,041	0,036
Arsenic	As	mg/l	0,0106	0,0106	0,0114	0,0126	0,0111	0,0116	0,0095	0,0087	0,0089	0,0085	0,0088
Baryum	Ba	mg/l	0,00035	0,00036	0,00037	0,00031	0,00027	0,00034	0,00032	0,00027	0,00033	0,00036	0,00027
Beryllium	Be	mg/l	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007
Bore	B	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	4,45	4,66	4,32	4,33	4,13	4,73	4,64	4,50	5,16	5,06	4,20
Cadmium	Cd	mg/l	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003
Cobalt	Co	mg/l	0,000070	0,000056	0,000054	0,000059	0,000049	0,000070	0,000041	0,000050	0,000057	0,000050	0,000040
Chrome	Cr	mg/l	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008
Cuivre	Cu	mg/l	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001
Fer	Fe	mg/l	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007
Potassium	K	mg/l	0,155	0,171	0,148	0,152	0,129	0,144	0,119	0,123	0,118	0,133	0,098
Lithium	Li	mg/l	0,0024	0,0022	0,0023	0,0019	0,0017	0,0018	0,0016	0,0016	0,0017	0,0018	0,0015
Magnésium	Mg	mg/l	0,172	0,173	0,155	0,141	0,136	0,147	0,133	0,125	0,135	0,146	0,118
Manganese	Mn	mg/l	0,00810	0,00779	0,00656	0,00582	0,00597	0,00691	0,00586	0,00548	0,00583	0,00541	0,00425
Molybdène	Mo	mg/l	<0,0004	<0,0004	<0,0021	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004
Sodium	Na	mg/l	0,04	0,06	0,05	0,04	0,05	0,06	0,04	0,05	0,05	0,06	0,04
Nickel	Ni	mg/l	0,0004	0,0002	0,0001	0,0003	0,0002	0,0003	0,0002	0,0001	0,0002	0,0005	0,0001
Plomb	Pb	mg/l	<0,00009	<0,00016	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009
Antimoine	Sb	mg/l	0,0009	0,0009	0,0009	0,0009	0,0009	0,0009	0,0009	0,0009	0,0009	0,0009	0,0009
Sélénium	Se	mg/l	0,00004	0,00004	0,00005	0,00006	0,00005	0,00004	0,00004	0,00004	0,00004	0,00004	0,00004
Etain	Sn	mg/l	<0,00006	<0,00006	<0,00014	<0,00006	<0,00006	<0,00009	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006
Strontium	Sr	mg/l	0,00396	0,00411	0,00431	0,00404	0,00364	0,00431	0,00411	0,00398	0,00405	0,00382	0,00317
Titane	Ti	mg/l	0,0001	<0,0001	<0,0001	0,0001	0,0001	<0,0001	0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Thallium	Th	mg/l	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005
Uranium	U	mg/l	0,000838	0,000407	0,000603	0,000486	0,000381	0,000463	0,000354	0,000278	0,000328	0,000228	0,000226
Vanadium	V	mg/l	0,00025	0,00027	0,00026	0,00027	0,00025	0,00029	0,00026	0,00022	0,00024	0,00022	0,00023
Tungstène	W	mg/l	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l		<0,00001					<0,00001				
Cérium (total)	Ce	mg/l		<0,00001					<0,00001				
Césium (total)	Cs	mg/l		0,0188					0,0165				
Dysprosium (total)	Dy	mg/l		<0,00001					<0,00001				
Erbium (total)	Er	mg/l		<0,00001					<0,00001				
Europium (total)	Eu	mg/l		<0,00001					<0,00001				
Gallium (total)	Ga	mg/l		<0,0001					<0,0001				
Gadolinium (total)	Gd	mg/l		<0,00001					<0,00001				
Germanium (total)	Ge	mg/l		<0,0001					<0,0001				
Hafnium (total)	Hf	mg/l		<0,0001					<0,0001				
Holmium (total)	Ho	mg/l		<0,00001					<0,00001				
Indium (total)	In	mg/l		<0,00001					<0,00001				
Iridium (total)	Ir	mg/l		<0,00001					<0,00001				
Lanthanum (total)	La	mg/l		<0,00001					<0,00001				
Lutetium (total)	Lu	mg/l		<0,0001					<0,0001				
Niobium (total)	Nb	mg/l		<0,00001					<0,00001				
Néodymium (total)	Nd	mg/l		<0,00001					<0,00001				
Osmium (total)	Os	mg/l		<0,0001					<0,0001				
Palladium (total)	Pd	mg/l		<0,0001					<0,0001				
Praseodymium (total)	Pr	mg/l		<0,00001					<0,00001				
Platinum (total)	Pt	mg/l		<0,0001					<0,0001				
Rubidium (total)	Rb	mg/l		0,0009					0,0007				
Rhenium (total)	Re	mg/l		<0,0001					<0,0001				
Rhodium (total)	Rh	mg/l		<0,00001					<0,00001				
Scandium (total)	Sc	mg/l		<0,0001					<0,0001				
Samarium (total)	Sm	mg/l		<0,00001					<0,00001				
Tantalum (total)	Ta	mg/l		<0,0001					<0,0001				
Terbium (total)	Tb	mg/l		<0,00001					<0,00001				
Tellurium (total)	Te	mg/l		<0,0001					<0,0001				
Thorium (total)	Th	mg/l		<0,0001					<0,0001				
Thulium (total)	Tm	mg/l		<0,00001					<0,00001				
Ytterbium (total)	Yb	mg/l		<0,00001					<0,00001				

Résultats HCT – CV5-WR-HCT-56

Analyse	Symbole	Unité	Sem. #55	Sem. #56	Sem. #57	Sem. #58	Sem. #59	Sem. #60	Sem. #61	Sem. #62	Sem. #63	Sem. #64	Sem. #65
			2024-05-16	2024-05-23	2024-05-30	2024-06-06	2024-06-13	2024-06-20	2024-06-27	2024-07-04	2024-07-11	2024-07-18	2024-07-25
Volume du lixiviat	V	mL	971	981	1010	990	1001	1002	1015	945	935	968	969
pH	pH	No unit	7,47	7,28	7,27	7,19	7,26	6,93	7,02	6,87	6,99	7,24	7,11
Alkalinité	Alkalinité	$mgCaCO_3/l$	5	7	7	7	6	6	7	6		5	
Conductivité	Conductivité	µS/cm	30	26	25	24	25	30	31	31	29	25	29
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0		<2,0	
Fluoride	F	mg/l	<0,06					<0,06				<0,06	
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03		<0,03	
Sulfate	SO_4^{2-}	mg/l	6	8	5	5	6	6	6	7		6	
Chlore	Cl^-	mg/l	<1,0					<1,0				<1,0	
Nitrite	NO_2^-	mgN/l	<0,03					<0,03				<0,03	
Nitrate	NO_3^-	mgN/l	<0,06					<0,06				<0,06	
Bromide	Br	mg/l	<0,3					<0,3				<0,3	
Mercure	Hg	mg/l	<0,00001					<0,00001				<0,00001	
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005		<0,00005	
Aluminum	Al	mg/l	0,037	0,025	0,031	0,039	0,035	0,034	0,037	0,043		0,036	
Arsenic	As	mg/l	0,0086	0,0027	0,0082	0,0085	0,0076	0,0081	0,0088	0,0071		0,0077	
Baryum	Ba	mg/l	0,00031	0,00024	0,00035	0,00034	0,00039	0,00040	0,00037	0,00054		0,00040	
Beryllium	Be	mg/l	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007		<0,000007	
Bore	B	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002		<0,002	
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001		<0,00001	
Calcium	Ca	mg/l	4,82	6,86	4,69	4,79	4,80	4,99	4,70	5,23		4,58	
Cadmium	Cd	mg/l	<0,000003	<0,000049	<0,000003	<0,000012	<0,000003	<0,000003	<0,000003	<0,000003		<0,000003	
Cobalt	Co	mg/l	0,000046	0,003100	0,000044	0,000057	0,000061	0,000060	0,000059	0,000070		0,000065	
Chrome	Cr	mg/l	<0,00008	<0,00008	<0,00009	<0,00013	<0,00008	<0,00008	<0,00008	<0,00008		<0,00008	
Cuivre	Cu	mg/l	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001		<0,001	
Fer	Fe	mg/l	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007		0,007	
Potassium	K	mg/l	0,120	0,118	0,113	0,128	0,114	0,116	0,116	0,106		0,128	
Lithium	Li	mg/l	0,0017	0,0062	0,0015	0,0015	0,0015	0,0017	0,0017	0,0014		0,0013	
Magnésium	Mg	mg/l	0,133	0,069	0,124	0,129	0,125	0,141	0,121	0,120		0,120	
Manganese	Mn	mg/l	0,00515	0,00748	0,00450	0,00512	0,00548	0,00549	0,00564	0,00497		0,00513	
Molybdène	Mo	mg/l	<0,0004	<0,0004	<0,0004	<0,0294	<0,0004	<0,0004	<0,0004	<0,0004		<0,0009	
Sodium	Na	mg/l	0,06	0,08	0,06	0,07	0,05	0,07	0,04	0,05		0,14	
Nickel	Ni	mg/l	0,0001	0,0027	0,0002	0,0002	0,0004	0,0003	0,0003	0,0005		0,0003	
Plomb	Pb	mg/l	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009		<0,00009	
Antimoine	Sb	mg/l	0,0009	0,0115	0,0009	0,0009	0,0009	0,0009	0,0009	0,0009		0,0009	
Sélénium	Se	mg/l	0,00004	0,00055	0,00004	0,00004	0,00004	0,00005	0,00004	0,00004		0,00005	
Etain	Sn	mg/l	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006		<0,00006	
Strontium	Sr	mg/l	0,00374	0,00382	0,00321	0,00375	0,00375	0,00446	0,00398	0,00408		0,00342	
Titane	Ti	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	0,0001		<0,0001	
Thallium	Th	mg/l	<0,000005	<0,000019	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005		<0,000005	
Uranium	U	mg/l	0,000217	0,001280	0,000278	0,000276	0,000278	0,000359	0,000339	0,000231		0,000176	
Vanadium	V	mg/l	0,00024	0,00005	0,00022	0,00027	0,00021	0,00022	0,00024	0,00019		0,00023	
Tungstène	W	mg/l	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002		<0,0002	
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002		<0,00002	
Zinc	Zn	mg/l	<0,002	<0,01	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002		<0,002	
Gold (total)	Au	mg/l	<0,00001					<0,00001				<0,00001	
Cérium (total)	Ce	mg/l	0,00001					<0,00001				<0,00001	
Césium (total)	Cs	mg/l	0,0162					0,0165				0,0170	
Dysprosium (total)	Dy	mg/l	<0,00001					<0,00001				<0,00001	
Erbium (total)	Er	mg/l	<0,00001					<0,00001				<0,00001	
Europium (total)	Eu	mg/l	<0,00001					<0,00001				<0,00001	
Gallium (total)	Ga	mg/l	<0,0001					<0,0001				<0,0001	
Gadolinium (total)	Gd	mg/l	<0,00001					<0,00001				<0,00001	
Germanium (total)	Ge	mg/l	<0,0001					<0,0001				<0,0001	
Hafnium (total)	Hf	mg/l	<0,0001					<0,0001				<0,0001	
Holmium (total)	Ho	mg/l	<0,00001					<0,00001				<0,00001	
Indium (total)	In	mg/l	<0,00001					<0,00001				<0,00001	
Iridium (total)	Ir	mg/l	<0,00001					<0,00001				<0,00001	
Lanthanum (total)	La	mg/l	<0,00001					<0,00001				<0,00001	
Lutetium (total)	Lu	mg/l	<0,0001					<0,0001				<0,0001	
Niobium (total)	Nb	mg/l	<0,00001					<0,00001				<0,00001	
Néodymium (total)	Nd	mg/l	<0,00001					<0,00001				<0,00001	
Osmium (total)	Os	mg/l	<0,0001					<0,0001				<0,0001	
Palladium (total)	Pd	mg/l	<0,0001					<0,0001				<0,0001	
Praseodymium (total)	Pr	mg/l	<0,00001					<0,00001				<0,00001	
Platinum (total)	Pt	mg/l	<0,0001					<0,0001				<0,0001	
Rubidium (total)	Rb	mg/l	0,0007					0,0007				0,0006	
Rhenium (total)	Re	mg/l	<0,0001					<0,0001				<0,0001	
Rhodium (total)	Rh	mg/l	<0,00001					<0,00001				<0,00001	
Scandium (total)	Sc	mg/l	<0,0001					<0,0001				<0,0001	
Samarium (total)	Sm	mg/l	<0,00001					<0,00001				<0,00001	
Tantalum (total)	Ta	mg/l	<0,0001					<0,0001				<0,0001	
Terbium (total)	Tb	mg/l	<0,00001					<0,00001				<0,00001	
Tellurium (total)	Te	mg/l	<0,0001					<0,0001				<0,0001	
Thorium (total)	Th	mg/l	<0,0001					<0,0001				<0,0001	
Thulium (total)	Tm	mg/l	<0,00001					<0,00001				<0,00001	
Ytterbium (total)	Yb	mg/l	<0,00001					<0,00001				<0,00001	

Résultats HCT – CV5-WR-HCT-56

Analyse	Symbole	Unité	Sem. #66	Sem. #67	Sem. #68	Sem. #69	Sem. #70	Sem. #71	Sem. #72	Sem. #73	Sem. #74	Sem. #75	Sem. #76
			2024-08-01	2024-08-08	2024-08-15	2024-08-22	2024-08-29	2024-09-05	2024-09-12	2024-09-19	2024-09-26	2024-10-03	2024-10-10
Volume du lixiviat	V	mL	976	975	982	950	980	966	997	1010	1026	984	986
pH	pH	No unit	7,09	7,16	7,15	6,85	7,07	7,12	7,14	7,16	7,28	7,15	7,02
Alkalinité	Alkalinité	$mgCaCO_3/l$			9				6				5
Conductivité	Conductivité	µS/cm	32	30	25	29	32	30	26	31	30	30	26
Acidité	Acidité	$mgCaCO_3/l$			<2,0				<2,0				<2,0
Fluoride	F	mg/l			<0,06				<0,06				<0,06
Phosphore réactif total	PO_4^{3-}-P	mg/l			<0,03				<0,03				<0,03
Sulfate	SO_4^{2-}	mg/l			6				6				6
Chlore	Cl^-	mg/l			<1,0				<1,0				<1,0
Nitrite	NO_2^-	mgN/l			<0,03				<0,03				<0,03
Nitrate	NO_3^-	mgN/l			<0,06				<0,06				<0,06
Bromide	Br	mg/l			<0,3				<0,3				<0,3
Mercure	Hg	mg/l			<0,00001				<0,00001				<0,00001
Argent	Ag	mg/l			<0,00005				<0,00005				<0,00005
Aluminum	Al	mg/l			0,037				0,029				0,031
Arsenic	As	mg/l			0,0062				0,0050				0,0045
Baryum	Ba	mg/l			0,00027				0,00040				0,00035
Beryllium	Be	mg/l			<0,000007				<0,000007				<0,000007
Bore	B	mg/l			<0,002				<0,002				<0,002
Bismuth	Bi	mg/l			<0,00001				<0,00001				<0,00001
Calcium	Ca	mg/l			4,75				4,97				4,79
Cadmium	Cd	mg/l			<0,000003				<0,000003				<0,000003
Cobalt	Co	mg/l			0,000051				0,000070				0,000058
Chrome	Cr	mg/l			<0,00008				<0,00008				<0,00008
Cuivre	Cu	mg/l			<0,001				<0,001				<0,001
Fer	Fe	mg/l			<0,007				<0,007				<0,007
Potassium	K	mg/l			0,103				0,097				0,079
Lithium	Li	mg/l			0,0014				0,0012				0,0010
Magnésium	Mg	mg/l			0,113				0,107				0,106
Manganese	Mn	mg/l			0,00535				0,00561				0,00462
Molybdène	Mo	mg/l			<0,0004				<0,0004				<0,0004
Sodium	Na	mg/l			0,06				0,06				0,08
Nickel	Ni	mg/l			0,0003				0,0001				0,0001
Plomb	Pb	mg/l			<0,00009				<0,00009				<0,00009
Antimoine	Sb	mg/l			0,0009				0,0009				0,0009
Sélénium	Se	mg/l			0,00004				0,00004				0,00004
Etain	Sn	mg/l			<0,00006				<0,00008				<0,00006
Strontium	Sr	mg/l			0,00317				0,00296				0,00299
Titane	Ti	mg/l			<0,0001				<0,0001				0,0001
Thallium	Th	mg/l			<0,000005				<0,000005				<0,000005
Uranium	U	mg/l			0,000206				0,000301				0,000246
Vanadium	V	mg/l			0,00023				0,00016				0,00016
Tungstène	W	mg/l			<0,0002				<0,0002				<0,0002
Yttrium	Y	mg/l			<0,00002				<0,00002				<0,00002
Zinc	Zn	mg/l			<0,002				<0,002				<0,002
Gold (total)	Au	mg/l			<0,00001				<0,00001				<0,00001
Cérium (total)	Ce	mg/l			<0,00001				<0,00001				<0,00001
Césium (total)	Cs	mg/l			0,0160				0,0156				0,0137
Dysprosium (total)	Dy	mg/l			<0,00001				<0,00001				<0,00001
Erbium (total)	Er	mg/l			<0,00001				<0,00001				<0,00001
Europium (total)	Eu	mg/l			<0,00001				<0,00001				<0,00001
Gallium (total)	Ga	mg/l			<0,0001				<0,0001				<0,0001
Gadolinium (total)	Gd	mg/l			<0,00001				<0,00001				<0,00001
Germanium (total)	Ge	mg/l			<0,0001				<0,0001				<0,0001
Hafnium (total)	Hf	mg/l			<0,0001				<0,0001				<0,0001
Holmium (total)	Ho	mg/l			<0,00001				<0,00001				<0,00001
Indium (total)	In	mg/l			<0,00001				<0,00001				<0,00001
Iridium (total)	Ir	mg/l			<0,00001				<0,00001				<0,00001
Lanthanum (total)	La	mg/l			<0,00001				<0,00001				<0,00001
Lutetium (total)	Lu	mg/l			<0,0001				<0,0001				<0,0001
Niobium (total)	Nb	mg/l			<0,00001				<0,00001				<0,00001
Néodymium (total)	Nd	mg/l			<0,00001				<0,00001				<0,00001
Osmium (total)	Os	mg/l			<0,0001				<0,0001				<0,0001
Palladium (total)	Pd	mg/l			<0,0001				<0,0001				<0,0001
Praseodymium (total)	Pr	mg/l			<0,00001				<0,00001				<0,00001
Platinum (total)	Pt	mg/l			<0,0001				<0,0001				<0,0001
Rubidium (total)	Rb	mg/l			0,0007				0,0006				0,0008
Rhenium (total)	Re	mg/l			<0,0001				<0,0001				<0,0001
Rhodium (total)	Rh	mg/l			<0,00001				<0,00001				<0,00001
Scandium (total)	Sc	mg/l			<0,0001				<0,0001				<0,0001
Samarium (total)	Sm	mg/l			<0,00001				<0,00001				<0,00001
Tantalum (total)	Ta	mg/l			<0,0001				<0,0001				<0,0001
Terbium (total)	Tb	mg/l			<0,00001				<0,00001				<0,00001
Tellurium (total)	Te	mg/l			<0,0001				<0,0001				<0,0001
Thorium (total)	Th	mg/l			<0,0001				<0,0001				<0,0001
Thulium (total)	Tm	mg/l			<0,00001				<0,00001				<0,00001
Ytterbium (total)	Yb	mg/l			<0,00001				<0,00001				<0,00001

Résultats HCT – CV5-WR-HCT-56

Analyse	Symbole	Unité	Sem. #77	Sem. #78	Sem. #79	Sem. #80	Sem. #81	Sem. #82	Sem. #83	Sem. #84	Sem. #85	Sem. #86	Sem. #87
			2024-10-17	2024-10-24	2024-10-31	2024-11-07	2024-11-14	2024-11-21	2024-11-28	2024-12-05	2024-12-12	2024-12-19	2024-12-26
Volume du lixiviat	V	mL	993	999	998	1014	1007	1005	1008	1006	959	1010	1023
pH	pH	No unit	6,96	7,11	7,01	7,00	7,39	7,08	7,25	7,05	7,07	7,25	7,07
Alkalinité	Alkalinité	$mgCaCO_3/l$				<5,0				7			
Conductivité	Conductivité	µS/cm	29	30	28	28	31	32	36	26	31	32	33
Acidité	Acidité	$mgCaCO_3/l$				2				<2,0			
Fluoride	F	mg/l				<0,06				<0,06			
Phosphore réactif total	PO_4^{3-}-P	mg/l				<0,03				<0,03			
Sulfate	SO_4^{2-}	mg/l				6				6			
Chlore	Cl^-	mg/l				<1,0				<1,0			
Nitrite	NO_2^-	mgN/l				<0,03				<0,03			
Nitrate	NO_3^-	mgN/l				<0,06				<0,06			
Bromide	Br	mg/l				<0,3				<0,3			
Mercure	Hg	mg/l				<0,00001				<0,00001			
Argent	Ag	mg/l				<0,00005				<0,00005			
Aluminum	Al	mg/l				0,030				0,027			
Arsenic	As	mg/l				0,0047				0,0039			
Baryum	Ba	mg/l				0,00035				0,00024			
Beryllium	Be	mg/l				<0,000007				<0,000007			
Bore	B	mg/l				<0,002				<0,002			
Bismuth	Bi	mg/l				<0,00001				<0,00001			
Calcium	Ca	mg/l				4,79				4,68			
Cadmium	Cd	mg/l				<0,000006				<0,000003			
Cobalt	Co	mg/l				0,000080				0,000048			
Chrome	Cr	mg/l				<0,00008				<0,00008			
Cuivre	Cu	mg/l				<0,001				<0,001			
Fer	Fe	mg/l				<0,007				<0,007			
Potassium	K	mg/l				0,088				0,071			
Lithium	Li	mg/l				0,0014				0,001			
Magnésium	Mg	mg/l				0,102				0,084			
Manganese	Mn	mg/l				0,00557				0,00393			
Molybdène	Mo	mg/l				<0,0004				<0,0004			
Sodium	Na	mg/l				0,07				0,04			
Nickel	Ni	mg/l				0,0009				0,0003			
Plomb	Pb	mg/l				<0,00009				<0,00009			
Antimoine	Sb	mg/l				0,0009				0,0009			
Sélénium	Se	mg/l				0,00004				0,00005			
Etain	Sn	mg/l				<0,00006				<0,00006			
Strontium	Sr	mg/l				0,00339				0,00304			
Titane	Ti	mg/l				<0,0001				<0,0001			
Thallium	Th	mg/l				<0,000005				0,000005			
Uranium	U	mg/l				0,000289				0,000165			
Vanadium	V	mg/l				0,00016				0,00016			
Tungstène	W	mg/l				<0,0002				<0,0002			
Yttrium	Y	mg/l				<0,00002				<0,00002			
Zinc	Zn	mg/l				<0,002				<0,002			
Gold (total)	Au	mg/l				<0,00001				<0,00001			
Cérium (total)	Ce	mg/l				<0,00001				<0,00001			
Césium (total)	Cs	mg/l				0,0136				0,014			
Dysprosium (total)	Dy	mg/l				<0,00001				<0,00001			
Erbium (total)	Er	mg/l				<0,00001				<0,00001			
Europium (total)	Eu	mg/l				<0,00001				<0,00001			
Gallium (total)	Ga	mg/l				<0,0001				<0,0001			
Gadolinium (total)	Gd	mg/l				<0,00001				<0,00001			
Germanium (total)	Ge	mg/l				<0,0001				<0,0001			
Hafnium (total)	Hf	mg/l				<0,0001				<0,0001			
Holmium (total)	Ho	mg/l				<0,00001				<0,00001			
Indium (total)	In	mg/l				<0,00001				<0,00001			
Iridium (total)	Ir	mg/l				<0,00001				<0,00001			
Lanthanum (total)	La	mg/l				<0,00001				<0,00001			
Lutetium (total)	Lu	mg/l				<0,0001				<0,0001			
Niobium (total)	Nb	mg/l				<0,00001				<0,00001			
Néodymium (total)	Nd	mg/l				<0,00001				<0,00001			
Osmium (total)	Os	mg/l				<0,0001				<0,0001			
Palladium (total)	Pd	mg/l				<0,0001				<0,0001			
Praseodymium (total)	Pr	mg/l				<0,00001				<0,00001			
Platinum (total)	Pt	mg/l				<0,0001				<0,0001			
Rubidium (total)	Rb	mg/l				0,0005				0,0005			
Rhenium (total)	Re	mg/l				<0,0001				<0,0001			
Rhodium (total)	Rh	mg/l				<0,00001				<0,00001			
Scandium (total)	Sc	mg/l				<0,0001				<0,0001			
Samarium (total)	Sm	mg/l				<0,00001				<0,00001			
Tantalum (total)	Ta	mg/l				<0,0001				<0,0001			
Terbium (total)	Tb	mg/l				<0,00001				<0,00001			
Tellurium (total)	Te	mg/l				<0,0001				<0,0001			
Thorium (total)	Th	mg/l				<0,0001				<0,0001			
Thulium (total)	Tm	mg/l				<0,00001				<0,00001			
Ytterbium (total)	Yb	mg/l				<0,00001				<0,00001			

Résultats HCT – CV5-WR-HCT-56

Analyse	Symbole	Unité	Sem. #88	Sem. #89
			2025-01-02	2025-01-09
Volume du lixiviat	V	mL	1016	1002
pH	pH	No unit	6,85	7
Alkalinité	Alkalinité	$mgCaCO_3/l$	6	
Conductivité	Conductivité	µS/cm	32	34
Acidité	Acidité	$mgCaCO_3/l$	2	
Fluoride	F	mg/l	<0,06	
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	
Sulfate	SO_4^{2-}	mg/l	6	
Chlore	Cl^-	mg/l	<1,0	
Nitrite	NO_2^-	mgN/l	<0,03	
Nitrate	NO_3^-	mgN/l	<0,06	
Bromide	Br	mg/l	<0,3	
Mercure	Hg	mg/l	<0,00001	
Argent	Ag	mg/l	<0,00005	
Aluminum	Al	mg/l	0,03	
Arsenic	As	mg/l	0,0047	
Baryum	Ba	mg/l	0,00028	
Beryllium	Be	mg/l	<0,000007	
Bore	B	mg/l	<0,002	
Bismuth	Bi	mg/l	<0,00001	
Calcium	Ca	mg/l	5,08	
Cadmium	Cd	mg/l	<0,000003	
Cobalt	Co	mg/l	0,000113	
Chrome	Cr	mg/l	<0,00008	
Cuivre	Cu	mg/l	<0,001	
Fer	Fe	mg/l	<0,007	
Potassium	K	mg/l	0,064	
Lithium	Li	mg/l	0,001	
Magnésium	Mg	mg/l	0,088	
Manganese	Mn	mg/l	0,00429	
Molybdène	Mo	mg/l	<0,0004	
Sodium	Na	mg/l	0,03	
Nickel	Ni	mg/l	0,0001	
Plomb	Pb	mg/l	<0,00009	
Antimoine	Sb	mg/l	<0,0009	
Sélénium	Se	mg/l	0,00004	
Etain	Sn	mg/l	<0,00006	
Strontium	Sr	mg/l	0,00298	
Titane	Ti	mg/l	<0,0001	
Thallium	Th	mg/l	0,000005	
Uranium	U	mg/l	0,000113	
Vanadium	V	mg/l	0,00015	
Tungstène	W	mg/l	<0,0002	
Yttrium	Y	mg/l	<0,00002	
Zinc	Zn	mg/l	<0,002	
Gold (total)	Au	mg/l	<0,00001	
Cérium (total)	Ce	mg/l	0,00001	
Césium (total)	Cs	mg/l	0,0132	
Dysprosium (total)	Dy	mg/l	<0,00001	
Erbium (total)	Er	mg/l	<0,00001	
Europium (total)	Eu	mg/l	<0,00001	
Gallium (total)	Ga	mg/l	<0,0001	
Gadolinium (total)	Gd	mg/l	<0,00001	
Germanium (total)	Ge	mg/l	<0,0001	
Hafnium (total)	Hf	mg/l	<0,0001	
Holmium (total)	Ho	mg/l	<0,00001	
Indium (total)	In	mg/l	<0,00001	
Iridium (total)	Ir	mg/l	<0,00001	
Lanthanum (total)	La	mg/l	0,00001	
Lutetium (total)	Lu	mg/l	<0,0001	
Niobium (total)	Nb	mg/l	<0,00001	
Néodymium (total)	Nd	mg/l	<0,00001	
Osmium (total)	Os	mg/l	<0,0001	
Palladium (total)	Pd	mg/l	<0,0001	
Praseodymium (total)	Pr	mg/l	<0,00001	
Platinum (total)	Pt	mg/l	<0,0001	
Rubidium (total)	Rb	mg/l	0,0005	
Rhenium (total)	Re	mg/l	<0,0001	
Rhodium (total)	Rh	mg/l	<0,00001	
Scandium (total)	Sc	mg/l	<0,0001	
Samarium (total)	Sm	mg/l	<0,00001	
Tantalum (total)	Ta	mg/l	<0,0001	
Terbium (total)	Tb	mg/l	<0,00001	
Tellurium (total)	Te	mg/l	<0,0001	
Thorium (total)	Th	mg/l	<0,0001	
Thulium (total)	Tm	mg/l	<0,00001	
Ytterbium (total)	Yb	mg/l	<0,00001	

Résultats HCT – CV5-WR-HCT-56

Analyse	Symbole	Unité	Sem. #90	Sem. #91	Sem. #92	Sem. #93	Sem. #94	Sem. #95	Sem. #96	Sem. #97	Sem. #98	Sem. #99	Sem. #100
			2025-01-16	2025-01-23	2025-01-30	2025-02-06	2025-02-13	2025-02-20	2025-02-27	2025-03-06	2025-03-13	2025-03-20	2025-03-27
Volume du lixiviat	V	mL	998	1034	1023	976	958	1010	1003	1003	998	990	968
pH	pH	No unit	6,98	7,07	6,86	6,86	6,72	6,66	6,88	7	6,74	6,77	6,98
Alkalinité	Alkalinité	$mgCaCO_3/l$			8				<6,0				<5,0
Conductivité	Conductivité	µS/cm	35	35	33	37	35	38	30	32	36	32	29
Acidité	Acidité	$mgCaCO_3/l$			<2,0				2				2
Fluoride	F	mg/l			<0,06				<0,06				<0,06
Phosphore réactif total	PO_4^{3-}-P	mg/l			<0,03				<0,03				<0,03
Sulfate	SO_4^{2-}	mg/l			8				7				9
Chlore	Cl^-	mg/l			<1,0				<1,0				<1,0
Nitrite	NO_2^-	mgN/l			<0,03				<0,03				<0,03
Nitrate	NO_3^-	mgN/l			<0,06				<0,06				<0,06
Bromide	Br	mg/l			<0,3				<0,3				<0,3
Mercure	Hg	mg/l			<0,00001				<0,00001				<0,00001
Argent	Ag	mg/l			<0,00005				<0,00005				<0,00005
Aluminum	Al	mg/l			0,031				0,029				0,027
Arsenic	As	mg/l			0,0046				0,0039				0,0032
Baryum	Ba	mg/l			0,00031				0,00032				0,00028
Beryllium	Be	mg/l			<0,000007				<0,000007				<0,000007
Bore	B	mg/l			<0,002				<0,002				<0,002
Bismuth	Bi	mg/l			<0,00001				<0,00001				<0,00001
Calcium	Ca	mg/l			5,87				4,91				4,92
Cadmium	Cd	mg/l			<0,000003				0,000003				<0,000003
Cobalt	Co	mg/l			0,000088				0,000064				0,000060
Chrome	Cr	mg/l			<0,00008				<0,00008				<0,00008
Cuivre	Cu	mg/l			<0,001				<0,001				<0,001
Fer	Fe	mg/l			<0,007				<0,007				<0,007
Potassium	K	mg/l			0,099				0,075				0,078
Lithium	Li	mg/l			0,0012				0,0011				0,0009
Magnésium	Mg	mg/l			0,114				0,094				0,094
Manganese	Mn	mg/l			0,00647				0,00579				0,00655
Molybdène	Mo	mg/l			<0,0004				<0,0004				<0,0004
Sodium	Na	mg/l			0,05				0,05				0,05
Nickel	Ni	mg/l			0,0004				0,0002				0,0001
Plomb	Pb	mg/l			<0,00009				<0,00009				<0,00009
Antimoine	Sb	mg/l			<0,0009				<0,0009				<0,0009
Sélénium	Se	mg/l			0,00004				0,00004				0,00004
Etain	Sn	mg/l			0,00007				<0,00006				<0,00006
Strontium	Sr	mg/l			0,00369				0,00275				0,00256
Titane	Ti	mg/l			<0,0001				<0,0001				<0,0001
Thallium	Th	mg/l			0,000005				<0,000005				<0,000005
Uranium	U	mg/l			0,000269				0,00016				0,000129
Vanadium	V	mg/l			0,00019				0,00013				0,00012
Tungstène	W	mg/l			<0,0002				<0,0002				<0,0002
Yttrium	Y	mg/l			<0,00002				<0,00002				<0,00002
Zinc	Zn	mg/l			<0,002				<0,002				<0,002
Gold (total)	Au	mg/l			<0,00001				<0,00001				<0,00001
Cérium (total)	Ce	mg/l			0,00001				0,00001				<0,00001
Césium (total)	Cs	mg/l			0,0173				0,0133				0,0135
Dysprosium (total)	Dy	mg/l			<0,00001				<0,00001				<0,00001
Erbium (total)	Er	mg/l			<0,00001				<0,00001				<0,00001
Europium (total)	Eu	mg/l			<0,00001				<0,00001				<0,00001
Gallium (total)	Ga	mg/l			<0,0001				<0,0001				<0,0001
Gadolinium (total)	Gd	mg/l			<0,00001				<0,00001				<0,00001
Germanium (total)	Ge	mg/l			<0,0001				<0,0001				<0,0001
Hafnium (total)	Hf	mg/l			<0,0001				<0,0001				<0,0001
Holmium (total)	Ho	mg/l			<0,00001				<0,00001				<0,00001
Indium (total)	In	mg/l			<0,00001				<0,00001				<0,00001
Iridium (total)	Ir	mg/l			<0,00001				<0,00001				<0,00001
Lanthanum (total)	La	mg/l			0,00001				0,00001				<0,00001
Lutetium (total)	Lu	mg/l			<0,0001				<0,0001				<0,0001
Niobium (total)	Nb	mg/l			<0,00001				<0,00001				<0,00001
Néodymium (total)	Nd	mg/l			<0,00001				<0,00001				<0,00001
Osmium (total)	Os	mg/l			<0,0001				<0,0001				<0,0001
Palladium (total)	Pd	mg/l			<0,0001				<0,0001				<0,0001
Praseodymium (total)	Pr	mg/l			<0,00001				<0,00001				<0,00001
Platinum (total)	Pt	mg/l			<0,0001				<0,0001				<0,0001
Rubidium (total)	Rb	mg/l			0,0007				0,0005				0,0005
Rhenium (total)	Re	mg/l			<0,0001				<0,0001				<0,0001
Rhodium (total)	Rh	mg/l			<0,00001				<0,00001				<0,00001
Scandium (total)	Sc	mg/l			<0,0001				<0,0001				<0,0001
Samarium (total)	Sm	mg/l			<0,00001				<0,00001				<0,00001
Tantalum (total)	Ta	mg/l			<0,0001				<0,0001				<0,0001
Terbium (total)	Tb	mg/l			<0,00001				<0,00001				<0,00001
Tellurium (total)	Te	mg/l			<0,0001				<0,0001				<0,0001
Thorium (total)	Th	mg/l			<0,0001				<0,0001				<0,0001
Thulium (total)	Tm	mg/l			<0,00001				<0,00001				<0,00001
Ytterbium (total)	Yb	mg/l			<0,00001				<0,00001				<0,00001

Résultats HCT – CV5-WR-HCT-59

Analyse	Symbole	Unité	Sem. #0	Sem. #1	Sem. #2	Sem. #3	Sem. #4	Sem. #5	Sem. #6	Sem. #7	Sem. #8	Sem. #9	Sem. #10
			2023-04-27	2023-05-04	2023-05-11	2023-05-18	2023-05-25	2023-06-01	2023-06-08	2023-06-15	2023-06-22	2023-06-29	2023-07-06
Volume du lixiviat	V	mL	827	953	1009	1012	996	998	975	984	982	1006	984
pH	pH	No unit	7,31	7,12	7,11	7,08	6,80	6,88	6,69	6,84	6,86	7,02	7,05
Alkalinité	Alkalinité	$mgCaCO_3/l$	9	7	5	7	4	3	2	4	3	4	3
Conductivité	Conductivité	µS/cm	27	27	23	29	25	23	20	20	22	23	24
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2,0	2	4	4	2	3	2	2	2	2
Fluoride	F	mg/l	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<0,04	<0,12	<0,16	<0,19	<0,26	<0,15	<0,21	<0,26	<0,18	<0,21
Sulfate	SO_4^{2-}	mg/l	3	4	5	5	5	5	5	4	5	4	4
Chlore	Cl^-	mg/l	1	3	1	1	1	1	<1,0	<1,0	1	1	1
Nitrite	NO_2^-	mgN/l	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Nitrate	NO_3^-	mgN/l	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06
Bromide	Br	mg/l	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3
Mercure	Hg	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,038	0,012	0,010	0,007	0,007	0,001	0,010	0,007	0,008	0,007	0,007
Arsenic	As	mg/l	0,0432	0,3060	0,5010	0,6030	0,8360	0,8540	0,7290	0,8370	0,9060	0,8860	0,9470
Baryum	Ba	mg/l	0,00045	0,00040	0,00039	0,00034	0,00037	0,00031	0,00029	0,00030	0,00035	0,00026	0,00033
Beryllium	Be	mg/l	<0,000007	<0,000007	0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007
Bore	B	mg/l	0,007	0,009	0,008	0,006	0,008	0,004	0,003	0,003	0,004	0,003	0,002
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	2,62	2,39	2,23	2,24	2,66	2,59	2,33	2,35	2,46	2,36	2,67
Cadmium	Cd	mg/l	<0,000003	<0,000003	<0,000003	0,000016	0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003
Cobalt	Co	mg/l	0,000063	0,000179	0,000373	0,000394	0,000470	0,000782	0,000499	0,000509	0,000555	0,000523	0,000643
Chrome	Cr	mg/l	0,00050	0,00025	<0,00018	0,00025	<0,0001	<0,00008	<0,00017	<0,00011	<0,00012	0,00014	<0,00008
Cuivre	Cu	mg/l	0,0006	0,0002	<0,0004	<0,0002	0,0003	0,0055	<0,0002	<0,0002	<0,0003	<0,0002	0,0002
Fer	Fe	mg/l	<0,014	0,007	0,008	0,007	<0,007	0,007	0,010	0,007	<0,007	0,007	0,023
Potassium	K	mg/l	0,63	0,40	0,31	0,254	0,265	0,238	0,179	0,180	0,190	0,155	0,161
Lithium	Li	mg/l	0,0060	0,0072	0,0068	0,0059	0,0065	0,0060	0,0046	0,0048	0,0056	0,0051	0,0051
Magnésium	Mg	mg/l	0,490	0,714	0,725	0,689	0,769	0,827	0,654	0,691	0,707	0,639	0,726
Manganese	Mn	mg/l	0,00082	0,00188	0,00225	0,00176	0,00157	0,00216	0,00148	0,00136	0,00160	0,00134	0,00183
Molybdène	Mo	mg/l	0,00033	0,00032	0,00029	0,00026	0,00047	0,00132	0,00181	0,00013	0,00046	0,00013	0,00022
Sodium	Na	mg/l	2,27	1,87	1,18	0,79	0,71	0,57	0,36	0,37	0,36	0,26	0,25
Nickel	Ni	mg/l	0,0029	0,0022	0,0030	0,0039	0,0051	0,0074	0,0047	0,0060	0,0055	0,0046	0,0067
Plomb	Pb	mg/l	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009
Antimoine	Sb	mg/l	0,0023	0,0125	0,0135	0,0160	0,0162	0,0209	0,0134	0,0163	0,0151	0,0161	0,0167
Sélénium	Se	mg/l	0,00010	0,00009	0,00017	0,00004	0,00009	0,00009	0,00011	0,00006	0,00007	0,00005	0,00008
Etain	Sn	mg/l	0,00046	0,00016	0,00012	0,00006	0,00006	0,00006	0,00006	0,00006	<0,00006	<0,00006	0,00006
Strontium	Sr	mg/l	0,0154	0,0174	0,01682	0,0158	0,01900	0,0168	0,0151	0,01513	0,0152	0,01449	0,0151
Titane	Ti	mg/l	0,00028	0,00026	0,00019	0,00056	0,00010	<0,00015	0,00026	0,00018	0,00020	0,00013	0,00013
Thallium	Th	mg/l	0,000015	<0,000005	0,000007	<0,000005	<0,000008	0,000007	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005
Uranium	U	mg/l	0,000152	0,000155	0,000206	0,000020	0,001850	0,000119	0,000094	0,000070	0,00022	0,000117	0,001307
Vanadium	V	mg/l	0,00061	0,00100	0,00096	0,00087	0,00104	0,00093	0,00078	0,00085	0,00091	0,00094	0,00093
Tungstène	W	mg/l	0,00221	0,00443	0,00369	0,00241	0,00231	0,00137	0,00122	0,00106	0,00100	0,00082	0,00083
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,003	<0,002
Gold (total)	Au	mg/l	0,00001	<0,00001	<0,00001	<0,00001	0,00001	<0,00001	<0,00001	<0,00001	0,00001	0,00001	<0,00001
Cérium (total)	Ce	mg/l	0,00001	0,00001	0,00001	0,00001	0,00001	<0,00001	0,00001	0,00001	0,00002	0,00001	0,00001
Césium (total)	Cs	mg/l	0,0361	0,0226	0,0188	0,0183	0,0187	0,0145	0,0140	0,0140	0,0163	0,0136	0,0138
Dysprosium (total)	Dy	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Erbium (total)	Er	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Europium (total)	Eu	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Gallium (total)	Ga	mg/l	0,0001	<0,0001	<0,0001	<0,0001	<0,0001	0,0004	<0,0001	0,0001	<0,0001	<0,0001	<0,0001
Gadolinium (total)	Gd	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Germanium (total)	Ge	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Hafnium (total)	Hf	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Holmium (total)	Ho	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Indium (total)	In	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Iridium (total)	Ir	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Lanthanum (total)	La	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Lutetium (total)	Lu	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Niobium (total)	Nb	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Néodymium (total)	Nd	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Osmium (total)	Os	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Palladium (total)	Pd	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Praseodymium (total)	Pr	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Platinum (total)	Pt	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Rubidium (total)	Rb	mg/l	0,0152	0,0099	0,0081	0,0067	0,0071	0,0062	0,0048	0,0053	0,0054	0,0049	0,0051
Rhenium (total)	Re	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Rhodium (total)	Rh	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Scandium (total)	Sc	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Samarium (total)	Sm	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Tantalum (total)	Ta	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Terbium (total)	Tb	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Tellurium (total)	Te	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Thorium (total)	Th	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Thulium (total)	Tm	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Ytterbium (total)	Yb	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001

Résultats HCT – CV5-WR-HCT-59

Analyse	Symbole	Unité	Sem. #11	Sem. #12	Sem. #13	Sem. #14	Sem. #15	Sem. #16	Sem. #17	Sem. #18	Sem. #19	Sem. #20	Sem. #21
			2023-07-13	2023-07-20	2023-07-27	2023-08-03	2023-08-10	2023-08-17	2023-08-24	2023-08-31	2023-09-07	2023-09-14	2023-09-21
Volume du lixiviat	V	mL	1001	1010	983	927	896	937	968	979	962	980	997
pH	pH	No unit	6,85	6,89	6,70	6,80	7,00	6,93	6,86	6,92	6,82	6,77	6,64
Alkalinité	Alkalinité	$mgCaCO_3/l$	3	3	2	2	4	3	3	3	2	2	2
Conductivité	Conductivité	µS/cm	20	20	17	21	29	24	14	14	12	13	13
Acidité	Acidité	$mgCaCO_3/l$	3	3	3	3	3	2	2	2	3	3	2
Fluoride	F	mg/l				<0,06	<0,06	<0,06		<0,06		0,06	
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,22	<0,22	<0,21	<0,21	<0,35	<0,2	<0,21	<0,19	<0,13	<0,13	<0,11
Sulfate	SO_4^{2-}	mg/l	4	4	4	4	5	3	2	2	3	<2,0	3
Chlore	Cl^-	mg/l					1	<1,0		<1,0		1	
Nitrite	NO_2^-	mgN/l					<0,03	<0,03		<0,03		<0,03	
Nitrate	NO_3^-	mgN/l					<0,06	<0,06		<0,06		<0,06	
Bromide	Br	mg/l					<0,3	<0,3		<0,3		<0,3	
Mercure	Hg	mg/l					<0,00001	<0,00001		<0,00001		<0,00001	
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	0,00014	<0,00005
Aluminum	Al	mg/l	0,023	0,006	0,008	0,019	0,017	0,014	0,009	0,008	0,009	0,007	0,005
Arsenic	As	mg/l	0,8540	0,9310	0,8030	0,6580	1,0700	0,7040	0,7500	0,6810	0,4890	0,5270	0,405
Baryum	Ba	mg/l	0,00021	0,00032	0,00021	0,00032	0,00031	0,00021	0,00019	0,00022	0,00022	0,00024	0,00023
Beryllium	Be	mg/l	0,000008	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000013	<0,000007	<0,000007	<0,000007	<0,000007
Bore	B	mg/l	0,002	0,002	0,002	0,002	0,002	0,002	0,002	0,002	0,002	0,002	0,002
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	2,22	2,34	2,14	2,86	3,44	2,12	1,85	1,90	1,64	1,69	1,67
Cadmium	Cd	mg/l	<0,000003	<0,000003	<0,000003	<0,000003	0,000003	0,000003	<0,000003	<0,000003	<0,000003	0,000003	<0,000003
Cobalt	Co	mg/l	0,000615	0,000740	0,000667	0,000696	0,000370	0,000353	0,000469	0,000366	0,000385	0,000430	0,000418
Chrome	Cr	mg/l	0,00086	0,00023	0,00008	<0,00041	<0,00032	0,00047	<0,00019	0,00012	<0,00015	<0,00008	<0,00008
Cuivre	Cu	mg/l	<0,0002	<0,0005	0,0002	0,0006	0,0002	0,0002	<0,0002	<0,0002	0,0003	<0,0002	<0,0002
Fer	Fe	mg/l	0,031	0,008	<0,007	<0,024	0,020	<0,016	<0,009	0,007	<0,009	<0,007	0,012
Potassium	K	mg/l	0,129	0,116	0,093	0,101	0,154	0,087	0,095	0,100	0,071	0,083	0,059
Lithium	Li	mg/l	0,0060	0,0045	0,0036	0,0029	0,0045	0,0029	0,0035	0,0031	0,0025	0,0029	0,0029
Magnésium	Mg	mg/l	0,687	0,658	0,503	0,530	0,84	0,427	0,478	0,470	0,421	0,413	0,384
Manganese	Mn	mg/l	0,00173	0,00178	0,00147	0,00191	0,00136	0,00120	0,00150	0,00140	0,00128	0,00146	0,00153
Molybdène	Mo	mg/l	0,00007	0,00007	0,00162	0,00037	0,00007	0,00006	0,00020	0,00011	0,00101	0,00040	0,00029
Sodium	Na	mg/l	0,19	0,18	0,14	0,17	0,22	0,11	0,08	0,11	0,09	0,07	0,08
Nickel	Ni	mg/l	0,0041	0,0063	0,0057	0,0045	0,0024	0,0023	0,0032	0,0030	0,0029	0,0032	0,0036
Plomb	Pb	mg/l	<0,00009	<0,00009	<0,00009	<0,00009	0,00009	0,00024	<0,00014	<0,00009	<0,00009	0,00009	0,00009
Antimoine	Sb	mg/l	0,0152	0,0148	0,0139	0,0083	0,0165	0,0112	0,0119	0,0141	0,0076	0,0091	0,0074
Sélénium	Se	mg/l	0,00008	0,00006	0,00004	0,00005	0,00012	0,00006	0,00009	0,00004	0,00004	0,00004	0,00005
Etain	Sn	mg/l	<0,00006	<0,00006	0,00006	<0,00009	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006
Strontium	Sr	mg/l	0,0128	0,0133	0,01197	0,0150	0,0194	0,0110	0,0097	0,0099	0,0088	0,0103	0,00817
Titane	Ti	mg/l	0,00089	0,00012	0,00015	0,00065	0,00018	0,00047	0,00030	0,00013	0,00028	0,00012	0,00007
Thallium	Th	mg/l	0,000011	<0,000007	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	0,000005	<0,000005
Uranium	U	mg/l	0,000007	0,00005	0,000187	0,000267	0,000104	0,000016	0,00050	0,000012	0,000037	0,00001	0,000208
Vanadium	V	mg/l	0,00093	0,00088	0,00074	0,00064	0,00081	0,00068	0,00074	0,00075	0,00058	0,00063	0,00053
Tungstène	W	mg/l	0,00088	0,00059	0,00050	0,00040	0,00079	0,00041	0,00045	0,00033	0,00031	0,00028	0,00023
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,003	<0,002	<0,002	0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l					0,00001	<0,00001		<0,00001		<0,00001	
Cérium (total)	Ce	mg/l					<0,00001	<0,00001		0,00001		<0,00001	
Césium (total)	Cs	mg/l					0,0143	0,0105		0,0121		0,0100	
Dysprosium (total)	Dy	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Erbium (total)	Er	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Europium (total)	Eu	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Gallium (total)	Ga	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Gadolinium (total)	Gd	mg/l					<0,00001	<0,00001		<0,00001		<0,00001	
Germanium (total)	Ge	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Hafnium (total)	Hf	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Holmium (total)	Ho	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Indium (total)	In	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Iridium (total)	Ir	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Lanthanum (total)	La	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Lutetium (total)	Lu	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Niobium (total)	Nb	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Néodymium (total)	Nd	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Osmium (total)	Os	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Palladium (total)	Pd	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Praseodymium (total)	Pr	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Platinum (total)	Pt	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Rubidium (total)	Rb	mg/l					0,0058	0,0035		0,0038		0,0032	
Rhenium (total)	Re	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Rhodium (total)	Rh	mg/l					<0,00001	<0,00001		<0,00001		<0,00001	
Scandium (total)	Sc	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Samarium (total)	Sm	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Tantalum (total)	Ta	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Terbium (total)	Tb	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Tellurium (total)	Te	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Thorium (total)	Th	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Thulium (total)	Tm	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Ytterbium (total)	Yb	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	

Résultats HCT – CV5-WR-HCT-59

Analyse	Symbole	Unité	Sem. #22	Sem. #23	Sem. #24	Sem. #25	Sem. #26	Sem. #27	Sem. #28	Sem. #29	Sem. #30	Sem. #31	Sem. #32
			2023-09-28	2023-10-05	2023-10-12	2023-10-19	2023-10-26	2023-11-02	2023-11-09	2023-11-16	2023-11-23	2023-11-30	2023-12-07
Volume du lixiviat	V	mL	981	982	1000	978	1008	996	996	962	951	998	1019
pH	pH	No unit	6,56	6,62	6,64	6,15	6,77	6,40	6,57	6,53	6,54	6,38	6,60
Alkalinité	Alkalinité	$mgCaCO_3/l$	5	2	2	2	2	3	2	2	2	4	2
Conductivité	Conductivité	µS/cm	11	11	12	13	13	11	11	17	14	13	13
Acidité	Acidité	$mgCaCO_3/l$	<2,0	3	<2,0	4	3	<2,0	2	<2,0	3	<3,0	<2,0
Fluoride	F	mg/l				<0,06					<0,06		
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,08	<0,07	<0,07	<0,12	<0,06	<0,11	<0,06	<0,09	<0,06	<0,05	<0,06
Sulfate	SO_4^{2-}	mg/l	2	2	2	3	3	4	2	4	4	3	3
Chlore	Cl^-	mg/l				1					<1,0		
Nitrite	NO_2^-	mgN/l				0,03					<0,03		
Nitrate	NO_3^-	mgN/l				0,06					<0,06		
Bromide	Br	mg/l				0,3					<0,3		
Mercure	Hg	mg/l				<0,00001					<0,00001		
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,018	0,011	0,005	0,006	0,005	0,004	0,006	0,009	0,008	0,004	0,004
Arsenic	As	mg/l	0,3400	0,337	0,372	0,356	0,341	0,3330	0,234	0,268	0,319	0,3130	0,3400
Baryum	Ba	mg/l	0,00177	0,00012	0,00014	0,00012	0,00028	0,00015	0,00015	0,0002	0,00016	0,00013	0,00023
Beryllium	Be	mg/l	<0,000007	<0,000007	0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	0,000007	<0,000007	<0,000007
Bore	B	mg/l	0,002	0,002	0,003	0,002	0,002	0,002	0,002	0,002	0,002	0,002	0,002
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	1,48	1,39	1,41	1,57	1,4	1,50	1,51	1,8	2,1	1,39	1,41
Cadmium	Cd	mg/l	0,000003	<0,000003	0,000039	<0,000003	<0,000003	0,000003	<0,000003	0,000003	0,000003	0,000003	<0,000003
Cobalt	Co	mg/l	0,000459	0,000462	0,000527	0,0005	0,000488	0,000491	0,000536	0,000597	0,000519	0,000428	0,000597
Chrome	Cr	mg/l	<0,00014	<0,00012	<0,00008	<0,0002	<0,00008	<0,0001	<0,00011	<0,00023	<0,00009	<0,00008	<0,00008
Cuivre	Cu	mg/l	<0,0008	<0,0005	0,0011	<0,0002	<0,0002	<0,0008	<0,0002	0,0002	<0,0004	<0,0002	<0,0002
Fer	Fe	mg/l	<0,008	<0,007	<0,016	<0,007	<0,007	<0,007	<0,007	<0,012	<0,007	<0,007	<0,007
Potassium	K	mg/l	0,056	0,051	0,043	0,067	0,07	0,039	0,038	0,016	0,051	0,038	0,039
Lithium	Li	mg/l	0,0028	0,0019	0,0021	0,0022	0,0019	0,0017	0,0016	0,0016	0,0021	0,0019	0,0021
Magnésium	Mg	mg/l	0,321	0,298	0,302	0,365	0,301	0,320	0,27	0,311	0,398	0,292	0,323
Manganese	Mn	mg/l	0,00166	0,00101	0,00221	0,00151	0,00155	0,00128	0,00132	0,00157	0,00152	0,00117	0,00167
Molybdène	Mo	mg/l	0,00017	0,00059	0,00014	0,00034	0,00208	0,00011	0,00006	0,00004	0,00016	0,00086	0,00004
Sodium	Na	mg/l	0,05	0,05	0,07	0,12	0,17	0,06	0,06	0,03	0,07	0,05	0,06
Nickel	Ni	mg/l	0,0036	0,0033	0,0059	0,0041	0,0044	0,0043	0,0045	0,0043	0,0037	0,0031	0,0047
Plomb	Pb	mg/l	0,00012	<0,0001	<0,00022	0,00009	0,00009	0,00009	<0,00009	<0,00009	<0,00009	0,00009	<0,00009
Antimoine	Sb	mg/l	0,0057	0,0063	0,006	0,007	0,0057	0,0066	0,0044	0,0052	0,0051	0,0054	0,0063
Sélénium	Se	mg/l	0,00004	0,00004	0,00013	0,00004	0,00011	0,00004	0,00004	0,00004	0,00004	0,00004	0,00004
Etain	Sn	mg/l	<0,00006	<0,00006	<0,00006	0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006
Strontium	Sr	mg/l	0,0073	0,00696	0,00725	0,00809	0,00701	0,0069	0,00671	0,00955	0,00878	0,0064	0,0072
Titane	Ti	mg/l	0,00028	<0,00016	0,00007	0,0001	0,00007	0,00007	<0,00007	0,00026	0,00022	0,00009	<0,00007
Thallium	Th	mg/l	0,000005	<0,000005	<0,000005	<0,000005	<0,000005	0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005
Uranium	U	mg/l	0,000048	0,000025	0,000076	0,00144	0,000024	0,000015	0,000016	0,000018	0,000016	0,00001	0,000027
Vanadium	V	mg/l	0,00050	0,00042	0,00048	0,00052	0,00039	0,00038	0,00031	0,00028	0,00032	0,00032	0,00039
Tungstène	W	mg/l	0,00024	0,00017	0,00017	0,00016	0,00016	0,00014	0,00011	0,00013	0,00017	0,00011	0,00012
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,003	<0,002	<0,005	<0,002	<0,003	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l				0,00001					<0,00001		
Cérium (total)	Ce	mg/l				0,00001					<0,00001		
Césium (total)	Cs	mg/l				0,0091					0,0065		
Dysprosium (total)	Dy	mg/l				0,0001					<0,0001		
Erbium (total)	Er	mg/l				0,0001					<0,0001		
Europium (total)	Eu	mg/l				0,0001					<0,0001		
Gallium (total)	Ga	mg/l				0,0001					<0,0001		
Gadolinium (total)	Gd	mg/l				0,00001					<0,00001		
Germanium (total)	Ge	mg/l				0,0001					<0,0001		
Hafnium (total)	Hf	mg/l				0,0001					<0,0001		
Holmium (total)	Ho	mg/l				0,0001					<0,0001		
Indium (total)	In	mg/l				0,0001					<0,0001		
Iridium (total)	Ir	mg/l				0,0001					<0,0001		
Lanthanum (total)	La	mg/l				0,0001					<0,0001		
Lutetium (total)	Lu	mg/l				0,0001					<0,0001		
Niobium (total)	Nb	mg/l				0,0001					<0,0001		
Néodymium (total)	Nd	mg/l				0,0001					<0,0001		
Osmium (total)	Os	mg/l				0,0001					<0,0001		
Palladium (total)	Pd	mg/l				0,0001					<0,0001		
Praseodymium (total)	Pr	mg/l				0,0001					<0,0001		
Platinum (total)	Pt	mg/l				0,0001					<0,0001		
Rubidium (total)	Rb	mg/l				0,0024					0,002		
Rhenium (total)	Re	mg/l				0,0001					<0,0001		
Rhodium (total)	Rh	mg/l				0,00001					<0,00001		
Scandium (total)	Sc	mg/l				0,0001					<0,0001		
Samarium (total)	Sm	mg/l				0,0001					<0,0001		
Tantalum (total)	Ta	mg/l				0,0001					<0,0001		
Terbium (total)	Tb	mg/l				0,0001					<0,0001		
Tellurium (total)	Te	mg/l				0,0001					<0,0001		
Thorium (total)	Th	mg/l				0,0001					<0,0001		
Thulium (total)	Tm	mg/l				0,0001					<0,0001		
Ytterbium (total)	Yb	mg/l				0,0001					<0,0001		

Résultats HCT – CV5-WR-HCT-59

Analyse	Symbole	Unité	Sem. #33	Sem. #34	Sem. #35	Sem. #36	Sem. #37	Sem. #38	Sem. #39	Sem. #40	Sem. #41	Sem. #42	Sem. #43
			2023-12-14	2023-12-21	2023-12-28	2024-01-04	2024-01-11	2024-01-18	2024-01-25	2024-02-01	2024-02-08	2024-02-15	2024-02-22
Volume du lixiviat	V	mL	957	996	964	993	992	996	1009	982	1011	1003	941
pH	pH	No unit	6,56	6,49	6,74	6,80	7,00	6,56	6,65	6,75	6,69	6,64	6,47
Alkalinité	Alkalinité	$mgCaCO_3/l$	2	2	3	3	2	2	2	2	2	2	2
Conductivité	Conductivité	µS/cm	12	13	15	15	14	14	18	18	14	13	18
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2,0	<3,0	<6,0	<2,0	<3,0	<3,0	<2,0	<2,0	<2,0	<3,0
Fluoride	F	mg/l	<0,06		<0,06					<0,06			
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,07	<0,06	<0,04	<0,03	<0,06	<0,03	<0,15	<0,05	<0,04	<0,04	<0,03
Sulfate	SO_4^{2-}	mg/l	2	3	3	3	3	3	4	3	3	3	5
Chlore	Cl^-	mg/l	***		<1,0					1			
Nitrite	NO_2^-	mgN/l	***		<0,03					<0,03			
Nitrate	NO_3^-	mgN/l	***		<0,06					<0,06			
Bromide	Br	mg/l	***		<0,3					<0,3			
Mercure	Hg	mg/l	***		<0,00001					<0,00001			
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,006	0,003	0,005	0,004	0,004	0,004	0,025	0,010	0,008	0,006	0,012
Arsenic	As	mg/l	0,2970	0,2660	0,2770	0,2510	0,2420	0,2380	0,3730	0,3280	0,2840	0,2310	0,1720
Baryum	Ba	mg/l	0,00058	0,00015	0,00083	0,00021	0,00017	0,00010	0,00022	0,00020	0,00015	0,00017	0,00017
Beryllium	Be	mg/l	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,001192
Bore	B	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	1,47	1,56	1,74	1,86	1,80	1,79	2,32	2,22	1,79	1,67	2,62
Cadmium	Cd	mg/l	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000004	0,000003	<0,000003	<0,000003	<0,000003	<0,000003
Cobalt	Co	mg/l	0,000579	0,000762	0,000794	0,000927	0,000926	0,000916	0,001605	0,000920	0,000802	0,001060	0,001137
Chrome	Cr	mg/l	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00009	<0,00047	<0,00012	<0,00008	<0,00008	<0,0002
Cuivre	Cu	mg/l	<0,0002	0,0002	<0,0002	<0,0002	0,0012	<0,0004	<0,002	<0,002	<0,002	<0,001	<0,001
Fer	Fe	mg/l	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,035	0,008	<0,007	<0,007	<0,013
Potassium	K	mg/l	0,036	0,030	0,037	0,048	0,047	0,041	0,064	0,056	0,033	0,019	0,031
Lithium	Li	mg/l	0,0019	0,0018	0,0019	0,0022	0,0021	0,0018	0,0025	0,0022	0,0016	0,0016	0,0017
Magnésium	Mg	mg/l	0,306	0,313	0,336	0,357	0,353	0,348	0,449	0,391	0,306	0,285	0,354
Manganese	Mn	mg/l	0,00153	0,00204	0,00194	0,00207	0,00212	0,00211	0,00417	0,00252	0,00216	0,00212	0,00280
Molybdène	Mo	mg/l	0,00025	0,00025	0,00010	0,00024	0,00054	0,00063	0,00040	<0,0004	<0,0004	<0,0004	<0,0004
Sodium	Na	mg/l	0,04	0,03	0,04	0,15	0,04	0,06	0,04	0,09	0,05	0,04	0,03
Nickel	Ni	mg/l	0,0051	0,0068	0,0071	0,0079	0,0082	0,0079	0,0116	0,0076	0,0072	0,0076	0,0081
Plomb	Pb	mg/l	0,00009	<0,00009	<0,00009	<0,00009	0,00009	<0,00018	<0,0005	<0,00024	<0,00009	<0,00009	<0,00009
Antimoine	Sb	mg/l	0,0056	0,0052	0,0049	0,0048	0,0052	0,0050	0,0064	0,0056	0,0050	0,0042	0,0028
Sélénium	Se	mg/l	0,00004	0,00004	0,00004	0,00008	0,00005	0,00004	0,00004	0,00004	0,00004	0,00004	0,00004
Etain	Sn	mg/l	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006
Strontium	Sr	mg/l	0,0071	0,0074	0,0084	0,0076	0,0077	0,0079	0,0104	0,00965	0,00788	0,00716	0,00983
Titane	Ti	mg/l	<0,00012	0,00007	<0,00017	0,00007	0,00007	0,00007	0,00097	0,0003	0,0001	<0,00015	<0,00024
Thallium	Th	mg/l	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000006	<0,000005	<0,000014	<0,000005	<0,000005
Uranium	U	mg/l	0,000010	0,000010	0,00009	0,000049	0,000035	0,00174	0,00001	0,000026	0,000368	0,000201	0,000230
Vanadium	V	mg/l	0,00034	0,00034	0,00038	0,00035	0,00031	0,00034	0,00062	0,00049	0,00040	0,00035	0,00025
Tungstène	W	mg/l	0,00010	0,00010	0,00011	0,00010	0,00008	0,00009	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,003	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l			<0,00001					<0,00001			
Cérium (total)	Ce	mg/l			<0,00001					0,00001			
Césium (total)	Cs	mg/l			0,0076					0,0108			
Dysprosium (total)	Dy	mg/l			<0,0001					<0,00001			
Erbium (total)	Er	mg/l			<0,0001					<0,00001			
Europium (total)	Eu	mg/l			<0,0001					<0,00001			
Gallium (total)	Ga	mg/l			<0,0001					<0,0001			
Gadolinium (total)	Gd	mg/l			<0,00001					<0,00001			
Germanium (total)	Ge	mg/l			<0,0001					<0,0001			
Hafnium (total)	Hf	mg/l			<0,0001					<0,0001			
Holmium (total)	Ho	mg/l			<0,0001					<0,00001			
Indium (total)	In	mg/l			<0,0001					<0,00001			
Iridium (total)	Ir	mg/l			<0,0001					<0,00001			
Lanthanum (total)	La	mg/l			<0,0001					<0,00001			
Lutetium (total)	Lu	mg/l			<0,0001					<0,0001			
Niobium (total)	Nb	mg/l			<0,0001					<0,00001			
Néodymium (total)	Nd	mg/l			<0,0001					<0,00001			
Osmium (total)	Os	mg/l			<0,0001					<0,0001			
Palladium (total)	Pd	mg/l			<0,0001					<0,0001			
Praseodymium (total)	Pr	mg/l			<0,0001					<0,00001			
Platinum (total)	Pt	mg/l			<0,0001					<0,0001			
Rubidium (total)	Rb	mg/l			0,0021					0,0027			
Rhenium (total)	Re	mg/l			<0,0001					<0,0001			
Rhodium (total)	Rh	mg/l			<0,00001					<0,00001			
Scandium (total)	Sc	mg/l			<0,0001					<0,0001			
Samarium (total)	Sm	mg/l			<0,0001					<0,00001			
Tantalum (total)	Ta	mg/l			<0,0001					<0,0001			
Terbium (total)	Tb	mg/l			<0,0001					<0,00001			
Tellurium (total)	Te	mg/l			<0,0001					<0,0001			
Thorium (total)	Th	mg/l			<0,0001					<0,0001			
Thulium (total)	Tm	mg/l			<0,0001					<0,00001			
Ytterbium (total)	Yb	mg/l			<0,0001					<0,00001			

Résultats HCT – CV5-WR-HCT-59

Analyse	Symbole	Unité	Sem. #44	Sem. #45	Sem. #46	Sem. #47	Sem. #48	Sem. #49	Sem. #50	Sem. #51	Sem. #52	Sem. #53	Sem. #54
			2024-02-29	2024-03-07	2024-03-14	2024-03-21	2024-03-28	2024-04-04	2024-04-11	2024-04-18	2024-04-25	2024-05-02	2024-05-09
Volume du lixiviat	V	mL	951	1002	1003	991	983	1004	978	997	1000	935	983
pH	pH	No unit	6,38	6,39	6,24	6,38	6,55	6,13	6,15	6,22	6,21	6,34	6,23
Alkalinité	Alkalinité	$mgCaCO_3/l$	2	2	2	2	2	2	2	2	2	2	2
Conductivité	Conductivité	µS/cm	19	13	13	12	13	10	15	14	13	14	13
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2,0	<2,0	<4,0	<2,0	<2,0	<3,0	<4,0	<4,0	<3,0	<3,0
Fluoride	F	mg/l		<0,06					<0,06				
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Sulfate	SO_4^{2-}	mg/l	6	4	4	3	4	3	4	3	4	4	4
Chlore	Cl^-	mg/l		<1,0					<1,0				
Nitrite	NO_2^-	mgN/l		<0,03					<0,03				
Nitrate	NO_3^-	mgN/l		<0,06					<0,06				
Bromide	Br	mg/l		<0,3					<0,3				
Mercure	Hg	mg/l		<0,00002					<0,00001				
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,012	0,005	0,004	0,013	0,003	0,004	0,005	0,002	0,002	0,002	0,003
Arsenic	As	mg/l	0,1950	0,2040	0,1870	0,1920	0,1860	0,1200	0,1310	0,1360	0,1340	0,1230	0,0862
Baryum	Ba	mg/l	0,00017	0,00015	0,00016	0,00013	0,00016	0,00012	0,00016	0,00015	0,00020	0,00013	0,00029
Beryllium	Be	mg/l	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007
Bore	B	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	2,21	1,68	1,39	1,59	1,75	1,31	1,91	1,73	1,76	1,79	1,80
Cadmium	Cd	mg/l	<0,000003	<0,000003	<0,000003	<0,000009	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000012
Cobalt	Co	mg/l	0,001100	0,000846	0,000703	0,000780	0,000904	0,001203	0,001890	0,002220	0,002070	0,001670	0,001900
Chrome	Cr	mg/l	<0,00029	<0,00013	<0,00008	<0,00008	<0,00008	<0,00009	<0,00011	<0,0001	<0,00008	<0,00008	<0,00008
Cuivre	Cu	mg/l	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001
Fer	Fe	mg/l	<0,016	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007
Potassium	K	mg/l	0,020	0,032	0,016	0,028	0,032	0,023	0,017	0,037	0,016	0,027	0,016
Lithium	Li	mg/l	0,0013	0,0013	0,0013	0,0012	0,0013	0,0009	0,0012	0,0013	0,0013	0,0014	0,0010
Magnésium	Mg	mg/l	0,330	0,315	0,248	0,269	0,283	0,218	0,302	0,289	0,284	0,296	0,249
Manganese	Mn	mg/l	0,00259	0,00195	0,00186	0,00183	0,00222	0,00250	0,00400	0,00419	0,00432	0,00355	0,00380
Molybdène	Mo	mg/l	<0,0005	<0,0004	<0,0004	<0,03	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004
Sodium	Na	mg/l	0,03	0,04	0,03	0,06	0,05	0,03	0,02	0,04	0,03	0,04	0,02
Nickel	Ni	mg/l	0,0080	0,0070	0,0062	0,0072	0,0092	0,0092	0,0148	0,0161	0,0166	0,0145	0,0152
Plomb	Pb	mg/l	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00052
Antimoine	Sb	mg/l	0,0033	0,0039	0,0036	0,0037	0,0036	0,0024	0,0027	0,0030	0,0034	0,0031	0,0020
Sélénium	Se	mg/l	0,00004	0,00004	0,00004	0,00004	0,00004	0,00005	0,00004	0,00004	0,00004	0,00004	0,00004
Etain	Sn	mg/l	<0,00006	<0,00006	<0,00009	<0,00006	<0,00006	<0,00046	<0,00006	<0,00006	<0,00008	<0,00006	<0,00006
Strontium	Sr	mg/l	0,00951	0,00685	0,00585	0,00627	0,00660	0,00529	0,00756	0,00662	0,00655	0,00648	0,00663
Titane	Ti	mg/l	0,0003	<0,0001	<0,0001	0,0001	0,0001	<0,0001	0,0002	<0,0001	<0,0001	<0,0001	<0,00012
Thallium	Th	mg/l	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000006	<0,000006	<0,000005	<0,000005	<0,000006
Uranium	U	mg/l	0,000123	0,000037	0,000014	0,000013	0,000036	0,000015	0,000006	0,000015	0,000006	0,000014	0,000010
Vanadium	V	mg/l	0,00024	0,00028	0,00025	0,00022	0,00025	0,00019	0,00020	0,00018	0,00021	0,00019	0,00014
Tungstène	W	mg/l	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,003	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l		<0,00001					<0,00001				
Cérium (total)	Ce	mg/l		<0,00001					<0,00001				
Césium (total)	Cs	mg/l		0,0075					0,0067				
Dysprosium (total)	Dy	mg/l		<0,00001					<0,00001				
Erbium (total)	Er	mg/l		<0,00001					<0,00001				
Europium (total)	Eu	mg/l		<0,00001					<0,00001				
Gallium (total)	Ga	mg/l		<0,0001					<0,0001				
Gadolinium (total)	Gd	mg/l		<0,00001					<0,00001				
Germanium (total)	Ge	mg/l		<0,0001					<0,0001				
Hafnium (total)	Hf	mg/l		<0,0001					<0,0001				
Holmium (total)	Ho	mg/l		<0,00001					<0,00001				
Indium (total)	In	mg/l		<0,00001					<0,00001				
Iridium (total)	Ir	mg/l		<0,00001					<0,00001				
Lanthanum (total)	La	mg/l		<0,00001					<0,00001				
Lutetium (total)	Lu	mg/l		<0,0001					<0,0001				
Niobium (total)	Nb	mg/l		<0,00001					<0,00001				
Néodymium (total)	Nd	mg/l		<0,00001					<0,00001				
Osmium (total)	Os	mg/l		<0,0001					<0,0001				
Palladium (total)	Pd	mg/l		<0,0001					<0,0001				
Praseodymium (total)	Pr	mg/l		<0,00001					<0,00001				
Platinum (total)	Pt	mg/l		<0,0001					<0,0001				
Rubidium (total)	Rb	mg/l		0,0017					0,0016				
Rhenium (total)	Re	mg/l		<0,0001					<0,0001				
Rhodium (total)	Rh	mg/l		<0,00001					<0,00001				
Scandium (total)	Sc	mg/l		<0,0001					<0,0001				
Samarium (total)	Sm	mg/l		<0,00001					<0,00001				
Tantalum (total)	Ta	mg/l		<0,0001					<0,0001				
Terbium (total)	Tb	mg/l		<0,00001					<0,00001				
Tellurium (total)	Te	mg/l		<0,0001					<0,0001				
Thorium (total)	Th	mg/l		<0,0001					<0,0001				
Thulium (total)	Tm	mg/l		<0,00001					<0,00001				
Ytterbium (total)	Yb	mg/l		<0,00001					<0,00001				

Résultats HCT – CV5-WR-HCT-59

Analyse	Symbole	Unité	Sem. #55	Sem. #56	Sem. #57	Sem. #58	Sem. #59	Sem. #60	Sem. #61	Sem. #62	Sem. #63	Sem. #64	Sem. #65
			2024-05-16	2024-05-23	2024-05-30	2024-06-06	2024-06-13	2024-06-20	2024-06-27	2024-07-04	2024-07-11	2024-07-18	2024-07-25
Volume du lixiviat	V	mL	935	1006	992	995	996	1006	1007	934	934	998	1007
pH	pH	No unit	6,38	6,19	6,39	6,29	6,16	6,17	6,36	6,38	6,34	5,97	6,47
Alkalinité	Alkalinité	$mgCaCO_3/l$	2	2	2	2	2	2	2	2		2	
Conductivité	Conductivité	µS/cm	18	15	11	11	13	14	11	23	20	13	13
Acidité	Acidité	$mgCaCO_3/l$	<6,0	<4,0	<3,0	<2,0	<3,0	<5,0	<5,0	<8,0		<4,0	
Fluoride	F	mg/l	<0,06					<0,06				<0,06	
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,04	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03		<0,03	
Sulfate	SO_4^{2-}	mg/l	6	4	4	3	4	3	3	6		3	
Chlore	Cl^-	mg/l	<1,0					<1,0				<1,0	
Nitrite	NO_2^-	mgN/l	<0,03					<0,03				<0,03	
Nitrate	NO_3^-	mgN/l	<0,06					<0,06				<0,06	
Bromide	Br	mg/l	<0,3					<0,3				<0,3	
Mercure	Hg	mg/l	<0,00001					<0,00001				<0,00001	
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005		<0,00005	
Aluminum	Al	mg/l	0,007	0,004	0,002	0,002	0,002	0,002	0,002	0,007		0,005	
Arsenic	As	mg/l	0,1060	0,1490	0,1010	0,1290	0,1580	0,1440	0,0922	0,1200		0,1270	
Baryum	Ba	mg/l	0,00020	0,00017	0,00014	0,00015	0,00016	0,00018	0,00011	0,00024		0,00014	
Beryllium	Be	mg/l	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007		<0,000007	
Bore	B	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002		<0,002	
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001		<0,00001	
Calcium	Ca	mg/l	2,64	1,95	1,50	1,55	1,85	1,71	1,33	2,59		1,66	
Cadmium	Cd	mg/l	<0,000003	<0,000007	<0,000011	<0,000003	<0,000003	<0,000005	<0,000003	<0,000004		<0,000012	
Cobalt	Co	mg/l	0,002370	0,002590	0,002010	0,002880	0,003320	0,003300	0,003010	0,003690		0,002530	
Chrome	Cr	mg/l	<0,00017	<0,00012	<0,00019	<0,00017	<0,00008	<0,00008	<0,00008	<0,0001		<0,00008	
Cuivre	Cu	mg/l	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001		<0,001	
Fer	Fe	mg/l	<0,014	<0,009	<0,007	<0,008	<0,008	<0,009	<0,012	<0,022		0,011	
Potassium	K	mg/l	0,021	0,028	0,030	0,029	0,024	0,019	0,019	0,022		0,036	
Lithium	Li	mg/l	0,0014	0,0014	0,0010	0,0012	0,0014	0,0015	0,0010	0,0014		0,0012	
Magnésium	Mg	mg/l	0,318	0,340	0,245	0,274	0,314	0,299	0,220	0,330		0,289	
Manganese	Mn	mg/l	0,00461	0,00512	0,00381	0,00499	0,00556	0,00538	0,00472	0,00602		0,00496	
Molybdène	Mo	mg/l	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004		<0,0297	
Sodium	Na	mg/l	0,05	0,03	0,04	0,03	0,05	0,02	0,01	0,04		0,08	
Nickel	Ni	mg/l	0,0184	0,0217	0,0178	0,0235	0,0275	0,0284	0,0254	0,0317		0,0259	
Plomb	Pb	mg/l	<0,00009	<0,00009	<0,00025	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009		<0,00009	
Antimoine	Sb	mg/l	0,0018	0,0028	0,0020	0,0028	0,0035	0,0032	0,0021	0,0024		0,0028	
Sélénium	Se	mg/l	0,00004	0,00004	0,00004	0,00004	0,00004	0,00004	0,00005	0,00008		0,00004	
Etain	Sn	mg/l	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006		<0,00006	
Strontium	Sr	mg/l	0,00958	0,00757	0,00510	0,00551	0,00651	0,00655	0,00508	0,00900		0,00574	
Titane	Ti	mg/l	<0,00017	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	0,0003		<0,0001	
Thallium	Th	mg/l	<0,000005	<0,000005	<0,000005	<0,000005	<0,000007	<0,000006	<0,000005	<0,000006		<0,000005	
Uranium	U	mg/l	0,000006	0,000005	0,000006	0,000003	0,000002	0,000002	0,000004	0,000005		0,000002	
Vanadium	V	mg/l	0,00015	0,00020	0,00014	0,00016	0,00019	0,00016	0,00012	0,00011		0,00015	
Tungstène	W	mg/l	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002		<0,0002	
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002		<0,00002	
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002		<0,002	
Gold (total)	Au	mg/l	<0,00001					<0,00001				<0,00001	
Cérium (total)	Ce	mg/l	0,00001					<0,00001				<0,00001	
Césium (total)	Cs	mg/l	0,0068					0,0074				0,0074	
Dysprosium (total)	Dy	mg/l	<0,00001					<0,00001				<0,00001	
Erbium (total)	Er	mg/l	<0,00001					<0,00001				<0,00001	
Europium (total)	Eu	mg/l	<0,00001					<0,00001				<0,00001	
Gallium (total)	Ga	mg/l	<0,0001					<0,0001				<0,0001	
Gadolinium (total)	Gd	mg/l	<0,00001					<0,00001				<0,00001	
Germanium (total)	Ge	mg/l	<0,0001					<0,0001				<0,0001	
Hafnium (total)	Hf	mg/l	<0,0001					<0,0001				<0,0001	
Holmium (total)	Ho	mg/l	<0,00001					<0,00001				<0,00001	
Indium (total)	In	mg/l	<0,00001					<0,00001				<0,00001	
Iridium (total)	Ir	mg/l	<0,00001					<0,00001				<0,00001	
Lanthanum (total)	La	mg/l	<0,00001					<0,00001				<0,00001	
Lutetium (total)	Lu	mg/l	<0,0001					<0,0001				<0,0001	
Niobium (total)	Nb	mg/l	<0,00001					<0,00001				<0,00001	
Néodymium (total)	Nd	mg/l	<0,00001					<0,00001				<0,00001	
Osmium (total)	Os	mg/l	<0,0001					<0,0001				<0,0001	
Palladium (total)	Pd	mg/l	<0,0001					<0,0001				<0,0001	
Praseodymium (total)	Pr	mg/l	<0,00001					<0,00001				<0,00001	
Platinum (total)	Pt	mg/l	<0,0001					<0,0001				<0,0001	
Rubidium (total)	Rb	mg/l	0,0019					0,0018				0,0018	
Rhenium (total)	Re	mg/l	<0,0001					<0,0001				<0,0001	
Rhodium (total)	Rh	mg/l	<0,00001					<0,00001				<0,00001	
Scandium (total)	Sc	mg/l	<0,0001					<0,0001				<0,0001	
Samarium (total)	Sm	mg/l	<0,00001					<0,00001				<0,00001	
Tantalum (total)	Ta	mg/l	<0,0001					<0,0001				<0,0001	
Terbium (total)	Tb	mg/l	<0,00001					<0,00001				<0,00001	
Tellurium (total)	Te	mg/l	<0,0001					<0,0001				<0,0001	
Thorium (total)	Th	mg/l	<0,0001					<0,0001				<0,0001	
Thulium (total)	Tm	mg/l	<0,00001					<0,00001				<0,00001	
Ytterbium (total)	Yb	mg/l	<0,00001					<0,00001				<0,00001	

Résultats HCT – CV5-WR-HCT-59

Analyse	Symbole	Unité	Sem. #66	Sem. #67	Sem. #68	Sem. #69	Sem. #70	Sem. #71	Sem. #72	Sem. #73	Sem. #74	Sem. #75	Sem. #76
			2024-08-01	2024-08-08	2024-08-15	2024-08-22	2024-08-29	2024-09-05	2024-09-12	2024-09-19	2024-09-26	2024-10-03	2024-10-10
Volume du lixiviat	V	mL	993	1011	1004	968	1004	995	1005	1004	1008	991	1004
pH	pH	No unit	6,37	6,43	6,19	6,09	6,37	6,48	6,07	6,33	6,47	6,60	6,17
Alkalinité	Alkalinité	$mgCaCO_3/l$			2				2				2
Conductivité	Conductivité	µS/cm	14	16	17	14	16	18	15	17	15	20	14
Acidité	Acidité	$mgCaCO_3/l$			<5,0				<5,0				<4,0
Fluoride	F	mg/l			<0,06				<0,06				<0,06
Phosphore réactif total	PO_4^{3-}-P	mg/l			<0,03				<0,03				<0,03
Sulfate	SO_4^{2-}	mg/l			4				4				3
Chlore	Cl^-	mg/l			<1,0				<1,0				<1,0
Nitrite	NO_2^-	mgN/l			<0,03				<0,03				<0,03
Nitrate	NO_3^-	mgN/l			<0,06				<0,06				<0,06
Bromide	Br	mg/l			<0,3				<0,3				<0,3
Mercure	Hg	mg/l			<0,00001				<0,00001				<0,00001
Argent	Ag	mg/l			<0,00005				<0,00005				<0,00005
Aluminum	Al	mg/l			0,005				0,002				0,002
Arsenic	As	mg/l			0,1090				0,0943				0,0698
Baryum	Ba	mg/l			0,00017				0,00017				0,00016
Beryllium	Be	mg/l			<0,000007				<0,000007				<0,000007
Bore	B	mg/l			<0,002				<0,002				<0,002
Bismuth	Bi	mg/l			<0,00001				<0,00001				<0,00001
Calcium	Ca	mg/l			1,70				2,18				1,72
Cadmium	Cd	mg/l			<0,000017				<0,000003				<0,000005
Cobalt	Co	mg/l			0,003840				0,003730				0,002920
Chrome	Cr	mg/l			<0,00011				<0,00008				<0,00008
Cuivre	Cu	mg/l			<0,001				<0,001				<0,001
Fer	Fe	mg/l			<0,015				<0,013				<0,008
Potassium	K	mg/l			0,024				0,026				0,016
Lithium	Li	mg/l			0,0011				0,0012				0,0010
Magnésium	Mg	mg/l			0,272				0,299				0,236
Manganese	Mn	mg/l			0,00607				0,00629				0,00464
Molybdène	Mo	mg/l			<0,0006				<0,0004				<0,0004
Sodium	Na	mg/l			0,04				0,04				0,02
Nickel	Ni	mg/l			0,0348				0,0387				0,0336
Plomb	Pb	mg/l			<0,00063				<0,00009				<0,00009
Antimoine	Sb	mg/l			0,0027				0,0024				0,0019
Sélénium	Se	mg/l			0,00006				0,00004				0,00004
Etain	Sn	mg/l			<0,00006				<0,00006				<0,00006
Strontium	Sr	mg/l			0,00593				0,00642				0,00565
Titane	Ti	mg/l			<0,0001				<0,0001				0,0001
Thallium	Th	mg/l			<0,000006				<0,000008				<0,000006
Uranium	U	mg/l			0,000004				0,000006				0,000003
Vanadium	V	mg/l			0,00013				0,00011				0,00009
Tungstène	W	mg/l			<0,0002				<0,0002				<0,0002
Yttrium	Y	mg/l			<0,00002				<0,00002				<0,00002
Zinc	Zn	mg/l			<0,002				<0,002				<0,002
Gold (total)	Au	mg/l			<0,00001				<0,00001				<0,00001
Cérium (total)	Ce	mg/l			<0,00001				<0,00001				<0,00001
Césium (total)	Cs	mg/l			0,0074				0,0079				0,0066
Dysprosium (total)	Dy	mg/l			<0,00001				<0,00001				<0,00001
Erbium (total)	Er	mg/l			<0,00001				<0,00001				<0,00001
Europium (total)	Eu	mg/l			<0,00001				<0,00001				<0,00001
Gallium (total)	Ga	mg/l			<0,0001				<0,0001				<0,0001
Gadolinium (total)	Gd	mg/l			<0,00001				<0,00001				<0,00001
Germanium (total)	Ge	mg/l			<0,0001				<0,0001				<0,0001
Hafnium (total)	Hf	mg/l			<0,0001				<0,0001				<0,0001
Holmium (total)	Ho	mg/l			<0,00001				<0,00001				<0,00001
Indium (total)	In	mg/l			<0,00001				<0,00001				<0,00001
Iridium (total)	Ir	mg/l			<0,00001				<0,00001				<0,00001
Lanthanum (total)	La	mg/l			<0,00001				<0,00001				<0,00001
Lutetium (total)	Lu	mg/l			<0,0001				<0,0001				<0,0001
Niobium (total)	Nb	mg/l			<0,00001				<0,00001				<0,00001
Néodymium (total)	Nd	mg/l			<0,00001				<0,00001				<0,00001
Osmium (total)	Os	mg/l			<0,0001				<0,0001				<0,0001
Palladium (total)	Pd	mg/l			<0,0001				<0,0001				<0,0001
Praseodymium (total)	Pr	mg/l			<0,00001				<0,00001				<0,00001
Platinum (total)	Pt	mg/l			<0,0001				<0,0001				<0,0001
Rubidium (total)	Rb	mg/l			0,0017				0,0018				0,0018
Rhenium (total)	Re	mg/l			<0,0001				<0,0001				<0,0001
Rhodium (total)	Rh	mg/l			<0,00001				<0,00001				<0,00001
Scandium (total)	Sc	mg/l			<0,0001				<0,0001				<0,0001
Samarium (total)	Sm	mg/l			<0,00001				<0,00001				<0,00001
Tantalum (total)	Ta	mg/l			<0,0001				<0,0001				<0,0001
Terbium (total)	Tb	mg/l			<0,00001				<0,00001				<0,00001
Tellurium (total)	Te	mg/l			<0,0001				<0,0001				<0,0001
Thorium (total)	Th	mg/l			<0,0001				<0,0001				<0,0001
Thulium (total)	Tm	mg/l			<0,00001				<0,00001				<0,00001
Ytterbium (total)	Yb	mg/l			<0,00001				<0,00001				<0,00001

Résultats HCT – CV5-WR-HCT-59

Analyse	Symbole	Unité	Sem. #77	Sem. #78	Sem. #79	Sem. #80	Sem. #81	Sem. #82	Sem. #83	Sem. #84	Sem. #85	Sem. #86	Sem. #87
			2024-10-17	2024-10-24	2024-10-31	2024-11-07	2024-11-14	2024-11-21	2024-11-28	2024-12-05	2024-12-12	2024-12-19	2024-12-26
Volume du lixiviat	V	mL	995	1005	1008	1007	1005	1000	1006	966	939	980	1031
pH	pH	No unit	6,81	6,38	6,50	5,69	5,65	6,43	6,5	5,94	5,83	6,18	6,1
Alkalinité	Alkalinité	$mgCaCO_3/l$				<2,0				2			
Conductivité	Conductivité	µS/cm	18	14	14	13	14	14	12	17	22	16	15
Acidité	Acidité	$mgCaCO_3/l$				7				<9,0			
Fluoride	F	mg/l				<0,06				<0,06			
Phosphore réactif total	PO_4^{3-}-P	mg/l				<0,03				<0,03			
Sulfate	SO_4^{2-}	mg/l				3				5			
Chlore	Cl^-	mg/l				<1,0				<1,0			
Nitrite	NO_2^-	mgN/l				<0,03				<0,03			
Nitrate	NO_3^-	mgN/l				<0,06				<0,06			
Bromide	Br	mg/l				<0,3				<0,3			
Mercure	Hg	mg/l				<0,00001				<0,00001			
Argent	Ag	mg/l				<0,00005				<0,00005			
Aluminum	Al	mg/l				0,001				0,004			
Arsenic	As	mg/l				0,0652				0,0334			
Baryum	Ba	mg/l				0,00012				0,00012			
Beryllium	Be	mg/l				<0,000007				<0,000007			
Bore	B	mg/l				<0,002				<0,002			
Bismuth	Bi	mg/l				<0,00001				<0,00001			
Calcium	Ca	mg/l				1,68				2,1			
Cadmium	Cd	mg/l				<0,000003				<0,000003			
Cobalt	Co	mg/l				0,003200				0,00388			
Chrome	Cr	mg/l				<0,00008				<0,00022			
Cuivre	Cu	mg/l				<0,001				<0,001			
Fer	Fe	mg/l				<0,007				<0,012			
Potassium	K	mg/l				0,017				0,012			
Lithium	Li	mg/l				0,0011				0,0009			
Magnésium	Mg	mg/l				0,218				0,222			
Manganese	Mn	mg/l				0,00512				0,00638			
Molybdène	Mo	mg/l				<0,0004				<0,0004			
Sodium	Na	mg/l				0,05				0,02			
Nickel	Ni	mg/l				0,0441				0,0651			
Plomb	Pb	mg/l				<0,00009				<0,00009			
Antimoine	Sb	mg/l				0,0022				0,0012			
Sélénium	Se	mg/l				0,00004				0,00004			
Etain	Sn	mg/l				<0,00006				<0,00006			
Strontium	Sr	mg/l				0,00555				0,00658			
Titane	Ti	mg/l				<0,0001				<0,0001			
Thallium	Th	mg/l				<0,000005				0,000007			
Uranium	U	mg/l				0,000002				0,000002			
Vanadium	V	mg/l				0,00008				0,00004			
Tungstène	W	mg/l				<0,0002				<0,0002			
Yttrium	Y	mg/l				<0,00002				<0,00002			
Zinc	Zn	mg/l				<0,002				<0,002			
Gold (total)	Au	mg/l				<0,00001				<0,00001			
Cérium (total)	Ce	mg/l				<0,00001				<0,00001			
Césium (total)	Cs	mg/l				0,0058				0,006			
Dysprosium (total)	Dy	mg/l				<0,00001				<0,00001			
Erbium (total)	Er	mg/l				<0,00001				<0,00001			
Europium (total)	Eu	mg/l				<0,00001				<0,00001			
Gallium (total)	Ga	mg/l				<0,0001				<0,0001			
Gadolinium (total)	Gd	mg/l				<0,00001				<0,00001			
Germanium (total)	Ge	mg/l				<0,0001				<0,0001			
Hafnium (total)	Hf	mg/l				<0,0001				<0,0001			
Holmium (total)	Ho	mg/l				<0,00001				<0,00001			
Indium (total)	In	mg/l				<0,00001				<0,00001			
Iridium (total)	Ir	mg/l				<0,00001				<0,00001			
Lanthanum (total)	La	mg/l				<0,00001				<0,00001			
Lutetium (total)	Lu	mg/l				<0,0001				<0,0001			
Niobium (total)	Nb	mg/l				<0,00001				<0,00001			
Néodymium (total)	Nd	mg/l				<0,00001				<0,00001			
Osmium (total)	Os	mg/l				<0,0001				<0,0001			
Palladium (total)	Pd	mg/l				<0,0001				<0,0001			
Praseodymium (total)	Pr	mg/l				<0,00001				<0,00001			
Platinum (total)	Pt	mg/l				<0,0001				<0,0001			
Rubidium (total)	Rb	mg/l				0,0012				0,0010			
Rhenium (total)	Re	mg/l				<0,0001				<0,0001			
Rhodium (total)	Rh	mg/l				<0,00001				<0,00001			
Scandium (total)	Sc	mg/l				<0,0001				<0,0001			
Samarium (total)	Sm	mg/l				<0,00001				<0,00001			
Tantalum (total)	Ta	mg/l				<0,0001				<0,0001			
Terbium (total)	Tb	mg/l				<0,00001				<0,00001			
Tellurium (total)	Te	mg/l				<0,0001				<0,0001			
Thorium (total)	Th	mg/l				<0,0001				<0,0001			
Thulium (total)	Tm	mg/l				<0,00001				<0,00001			
Ytterbium (total)	Yb	mg/l				<0,00001				<0,00001			

Résultats HCT – CV5-WR-HCT-59

Analyse	Symbole	Unité	Sem. #88	Sem. #89
			2025-01-02	2025-01-09
Volume du lixiviat	V	mL	1019	979
pH	pH	No unit	5,8	6,63
Alkalinité	Alkalinité	$mgCaCO_3/l$	2	
Conductivité	Conductivité	µS/cm	16	19
Acidité	Acidité	$mgCaCO_3/l$	5	
Fluoride	F	mg/l	<0,06	
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	
Sulfate	SO_4^{2-}	mg/l	3	
Chlore	Cl^-	mg/l	<1,0	
Nitrite	NO_2^-	mgN/l	<0,03	
Nitrate	NO_3^-	mgN/l	<0,06	
Bromide	Br	mg/l	<0,3	
Mercure	Hg	mg/l	<0,00001	
Argent	Ag	mg/l	<0,00005	
Aluminum	Al	mg/l	0,001	
Arsenic	As	mg/l	0,0354	
Baryum	Ba	mg/l	0,00015	
Beryllium	Be	mg/l	<0,000007	
Bore	B	mg/l	<0,002	
Bismuth	Bi	mg/l	<0,00001	
Calcium	Ca	mg/l	1,6	
Cadmium	Cd	mg/l	<0,000003	
Cobalt	Co	mg/l	0,00567	
Chrome	Cr	mg/l	<0,00008	
Cuivre	Cu	mg/l	<0,001	
Fer	Fe	mg/l	<0,01	
Potassium	K	mg/l	0,015	
Lithium	Li	mg/l	0,0011	
Magnésium	Mg	mg/l	0,265	
Manganese	Mn	mg/l	0,00763	
Molybdène	Mo	mg/l	<0,0004	
Sodium	Na	mg/l	0,02	
Nickel	Ni	mg/l	0,075	
Plomb	Pb	mg/l	<0,00009	
Antimoine	Sb	mg/l	<0,0013	
Sélénium	Se	mg/l	0,00004	
Etain	Sn	mg/l	<0,00006	
Strontium	Sr	mg/l	0,00506	
Titane	Ti	mg/l	<0,0001	
Thallium	Th	mg/l	0,000005	
Uranium	U	mg/l	0,000002	
Vanadium	V	mg/l	0,00005	
Tungstène	W	mg/l	<0,0002	
Yttrium	Y	mg/l	<0,00002	
Zinc	Zn	mg/l	<0,002	
Gold (total)	Au	mg/l	<0,00001	
Cérium (total)	Ce	mg/l	0,00001	
Césium (total)	Cs	mg/l	0,0067	
Dysprosium (total)	Dy	mg/l	<0,00001	
Erbium (total)	Er	mg/l	<0,00001	
Europium (total)	Eu	mg/l	<0,00001	
Gallium (total)	Ga	mg/l	<0,0001	
Gadolinium (total)	Gd	mg/l	<0,00001	
Germanium (total)	Ge	mg/l	<0,0001	
Hafnium (total)	Hf	mg/l	<0,0001	
Holmium (total)	Ho	mg/l	<0,00001	
Indium (total)	In	mg/l	<0,00001	
Iridium (total)	Ir	mg/l	<0,00001	
Lanthanum (total)	La	mg/l	0,00001	
Lutetium (total)	Lu	mg/l	<0,0001	
Niobium (total)	Nb	mg/l	<0,00001	
Néodymium (total)	Nd	mg/l	<0,00001	
Osmium (total)	Os	mg/l	<0,0001	
Palladium (total)	Pd	mg/l	<0,0001	
Praseodymium (total)	Pr	mg/l	<0,00001	
Platinum (total)	Pt	mg/l	<0,0001	
Rubidium (total)	Rb	mg/l	0,0012	
Rhenium (total)	Re	mg/l	<0,0001	
Rhodium (total)	Rh	mg/l	<0,00001	
Scandium (total)	Sc	mg/l	<0,0001	
Samarium (total)	Sm	mg/l	<0,00001	
Tantalum (total)	Ta	mg/l	<0,0001	
Terbium (total)	Tb	mg/l	<0,00001	
Tellurium (total)	Te	mg/l	<0,0001	
Thorium (total)	Th	mg/l	<0,0001	
Thulium (total)	Tm	mg/l	<0,00001	
Ytterbium (total)	Yb	mg/l	<0,00001	

Résultats HCT – CV5-WR-HCT-59

Analyse	Symbole	Unité	Sem. #90	Sem. #91	Sem. #92	Sem. #93	Sem. #94	Sem. #95	Sem. #96	Sem. #97	Sem. #98	Sem. #99	Sem. #100
			2025-01-16	2025-01-23	2025-01-30	2025-02-06	2025-02-13	2025-02-20	2025-02-27	2025-03-06	2025-03-13	2025-03-20	2025-03-27
Volume du lixiviat	V	mL	1003	1030	1025	994	961	1012	1012	1003	1012	1007	970
pH	pH	No unit	6,1	6,54	5,83	6,4	6,07	5,92	6,11	6,21	6,4	6,48	5,83
Alkalinité	Alkalinité	$mgCaCO_3/l$			2				<2,0				<2,0
Conductivité	Conductivité	µS/cm	15	16	14	21	19	18	16	14	15	16	15
Acidité	Acidité	$mgCaCO_3/l$			<7,0				8				9
Fluoride	F	mg/l			<0,06				<0,06				<0,06
Phosphore réactif total	PO_4^{3-}-P	mg/l			<0,03				<0,03				<0,03
Sulfate	SO_4^{2-}	mg/l			3				4				4
Chlore	Cl^-	mg/l			<1,0				<1,0				<1,0
Nitrite	NO_2^-	mgN/l			<0,03				<0,03				<0,03
Nitrate	NO_3^-	mgN/l			<0,06				<0,06				<0,06
Bromide	Br	mg/l			<0,3				<0,3				<0,3
Mercure	Hg	mg/l			<0,00001				<0,00001				<0,00001
Argent	Ag	mg/l			<0,00005				<0,00005				<0,00005
Aluminum	Al	mg/l			0,001				0,002				0,002
Arsenic	As	mg/l			0,0309				0,02				0,0181
Baryum	Ba	mg/l			0,00014				0,00016				0,00015
Beryllium	Be	mg/l			<0,000007				<0,000007				<0,000007
Bore	B	mg/l			<0,002				<0,002				<0,002
Bismuth	Bi	mg/l			<0,00001				<0,00001				<0,00001
Calcium	Ca	mg/l			1,86				1,89				1,84
Cadmium	Cd	mg/l			<0,000003				0,000004				<0,000003
Cobalt	Co	mg/l			0,00525				0,00888				0,009340
Chrome	Cr	mg/l			<0,00008				<0,00008				<0,00008
Cuivre	Cu	mg/l			<0,001				<0,001				<0,001
Fer	Fe	mg/l			<0,009				<0,02				<0,026
Potassium	K	mg/l			0,015				0,018				0,016
Lithium	Li	mg/l			0,0011				0,0011				0,0009
Magnésium	Mg	mg/l			0,257				0,252				0,234
Manganese	Mn	mg/l			0,00827				0,0106				0,01000
Molybdène	Mo	mg/l			<0,0004				<0,0004				<0,0004
Sodium	Na	mg/l			0,02				0,02				0,02
Nickel	Ni	mg/l			0,0829				0,115				0,1130
Plomb	Pb	mg/l			<0,00009				<0,00009				<0,00009
Antimoine	Sb	mg/l			<0,0014				<0,0009				<0,0009
Sélénium	Se	mg/l			0,00006				0,00006				0,00008
Etain	Sn	mg/l			0,00006				<0,00006				<0,00006
Strontium	Sr	mg/l			0,00588				0,00611				0,00541
Titane	Ti	mg/l			<0,0001				<0,0001				<0,0001
Thallium	Th	mg/l			0,00001				<0,000008				<0,000011
Uranium	U	mg/l			0,000002				0,000003				0,000002
Vanadium	V	mg/l			0,00005				0,00002				0,00003
Tungstène	W	mg/l			<0,0002				<0,0002				<0,0002
Yttrium	Y	mg/l			<0,00002				<0,00002				<0,00002
Zinc	Zn	mg/l			<0,002				<0,002				<0,002
Gold (total)	Au	mg/l			<0,00001				<0,00001				<0,00001
Cérium (total)	Ce	mg/l			0,00001				0,00001				<0,00001
Césium (total)	Cs	mg/l			0,0071				0,0065				0,0070
Dysprosium (total)	Dy	mg/l			<0,00001				<0,00001				<0,00001
Erbium (total)	Er	mg/l			<0,00001				<0,00001				<0,00001
Europium (total)	Eu	mg/l			<0,00001				<0,00001				<0,00001
Gallium (total)	Ga	mg/l			<0,0001				<0,0001				<0,0001
Gadolinium (total)	Gd	mg/l			<0,00001				<0,00001				<0,00001
Germanium (total)	Ge	mg/l			<0,0001				<0,0001				<0,0001
Hafnium (total)	Hf	mg/l			<0,0001				<0,0001				<0,0001
Holmium (total)	Ho	mg/l			<0,00001				<0,00001				<0,00001
Indium (total)	In	mg/l			<0,00001				<0,00001				<0,00001
Iridium (total)	Ir	mg/l			<0,00001				<0,00001				<0,00001
Lanthanum (total)	La	mg/l			0,00001				0,00001				<0,00001
Lutetium (total)	Lu	mg/l			<0,0001				<0,0001				<0,0001
Niobium (total)	Nb	mg/l			<0,00001				<0,00001				<0,00001
Néodymium (total)	Nd	mg/l			<0,00001				<0,00001				<0,00001
Osmium (total)	Os	mg/l			<0,0001				<0,0001				<0,0001
Palladium (total)	Pd	mg/l			<0,0001				<0,0001				<0,0001
Praseodymium (total)	Pr	mg/l			<0,00001				<0,00001				<0,00001
Platinum (total)	Pt	mg/l			<0,0001				<0,0001				<0,0001
Rubidium (total)	Rb	mg/l			0,0014				0,0013				0,0011
Rhenium (total)	Re	mg/l			<0,0001				<0,0001				<0,0001
Rhodium (total)	Rh	mg/l			<0,00001				<0,00001				<0,00001
Scandium (total)	Sc	mg/l			<0,0001				<0,0001				<0,0001
Samarium (total)	Sm	mg/l			<0,00001				<0,00001				<0,00001
Tantalum (total)	Ta	mg/l			<0,0001				<0,0001				<0,0001
Terbium (total)	Tb	mg/l			<0,00001				<0,00001				<0,00001
Tellurium (total)	Te	mg/l			<0,0001				<0,0001				<0,0001
Thorium (total)	Th	mg/l			<0,0001				<0,0001				<0,0001
Thulium (total)	Tm	mg/l			<0,00001				<0,00001				<0,00001
Ytterbium (total)	Yb	mg/l			<0,00001				<0,00001				<0,00001

Résultats HCT – CV5-WR-HCT-62

Analyse	Symbole	Unité	Sem. #0	Sem. #1	Sem. #2	Sem. #3	Sem. #4	Sem. #5	Sem. #6	Sem. #7	Sem. #8	Sem. #9	Sem. #10
			2023-04-27	2023-05-04	2023-05-11	2023-05-18	2023-05-25	2023-06-01	2023-06-08	2023-06-15	2023-06-22	2023-06-29	2023-07-06
Volume du lixiviat	V	mL	844	970	1011	1001	1001	1003	997	986	947	983	981
pH	pH	No unit	8,56	7,67	7,92	7,76	7,64	7,54	7,38	7,48	7,57	7,39	7,69
Alkalinité	Alkalinité	$mgCaCO_3/l$	16	14	21	13	14	12	11	12	11	12	10
Conductivité	Conductivité	µS/cm	53	65	60	57	37	37	30	33	29	32	31
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2,0	2	3	2	2	2	2	2	2	2
Fluoride	F	mg/l	<0,06	<0,06	<0,07	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<1,58	<2,03	<1,51	<1,3	<1,15	<0,84	<1,0	<0,76	<0,96	<0,73
Sulfate	SO_4^{2-}	mg/l	2	3	3	2	2	2	2	2	2	2	2
Chlore	Cl^-	mg/l	7	10	5	1	1	1	<1,0	<1,0	1	1	1
Nitrite	NO_2^-	mgN/l	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Nitrate	NO_3^-	mgN/l	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06
Bromide	Br	mg/l	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3
Mercure	Hg	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,010	0,002	0,002	0,002	0,001	0,001	0,003	0,002	0,002	0,001	0,002
Arsenic	As	mg/l	0,1850	6,1500	8,4100	5,3700	4,8200	4,2700	3,1600	3,7300	2,5700	3,3400	2,5300
Baryum	Ba	mg/l	0,00071	0,00191	0,00227	0,00193	0,00189	0,00145	0,00093	0,00157	0,00146	0,00140	0,00097
Beryllium	Be	mg/l	<0,000007	<0,000007	0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007
Bore	B	mg/l	0,011	0,015	0,019	0,013	0,013	0,009	0,007	0,007	0,005	0,006	0,004
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	5,58	4,80	5,00	4,58	4,38	4,50	3,76	4,48	3,99	4,48	4,34
Cadmium	Cd	mg/l	<0,000003	<0,000003	<0,000003	0,000020	0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003
Cobalt	Co	mg/l	0,000072	0,000097	0,000225	0,000227	0,000270	0,000445	0,000234	0,000367	0,000238	0,000401	0,000297
Chrome	Cr	mg/l	0,00047	0,00009	<0,00008	0,00011	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	0,00008	<0,00008
Cuivre	Cu	mg/l	0,0005	0,0002	<0,0002	<0,0002	0,0003	0,0002	<0,0002	<0,0002	<0,0002	<0,0002	0,0002
Fer	Fe	mg/l	<0,012	0,007	0,007	0,007	<0,007	0,007	0,007	0,007	<0,007	0,007	0,017
Potassium	K	mg/l	0,39	0,51	0,43	0,260	0,207	0,176	0,122	0,136	0,101	0,104	0,095
Lithium	Li	mg/l	0,0019	0,0017	0,0023	0,0018	0,0014	0,0013	0,0017	0,0011	0,0009	0,0012	0,0010
Magnésium	Mg	mg/l	1,490	2,910	3,350	2,180	1,810	1,880	1,260	1,650	1,150	1,430	1,250
Manganese	Mn	mg/l	0,00205	0,00497	0,00629	0,00539	0,00445	0,00676	0,00397	0,00465	0,00410	0,00393	0,00369
Molybdène	Mo	mg/l	0,00148	0,00196	0,00167	0,00086	0,00065	0,00056	0,00066	0,00156	0,00209	0,00054	0,00020
Sodium	Na	mg/l	3,11	3,99	2,87	1,30	0,83	0,61	0,32	0,32	0,21	0,17	0,12
Nickel	Ni	mg/l	0,0032	0,0524	0,0833	0,0637	0,0498	0,0514	0,0276	0,0448	0,0179	0,0314	0,0239
Plomb	Pb	mg/l	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009
Antimoine	Sb	mg/l	0,0590	3,1400	3,8600	3,5000	2,8900	2,9400	2,2400	2,7000	1,7500	2,4600	1,9500
Sélénium	Se	mg/l	0,00004	0,00034	0,00041	0,00018	0,00023	0,00021	0,00022	0,00022	0,00016	0,00026	0,00015
Etain	Sn	mg/l	0,00146	0,00029	0,00015	0,00009	0,00007	0,00006	0,00014	0,00006	<0,00006	<0,00006	0,00006
Strontium	Sr	mg/l	0,0069	0,0080	0,00906	0,0071	0,00647	0,0060	0,0049	0,00568	0,0044	0,00538	0,0047
Titane	Ti	mg/l	0,00005	0,00005	0,00005	0,00046	0,00005	<0,00005	0,00005	0,00005	0,00007	0,00007	0,00007
Thallium	Th	mg/l	0,000013	<0,000006	0,000006	<0,000005	<0,000005	0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005
Uranium	U	mg/l	0,000796	0,000117	0,000437	0,000124	0,000134	0,000265	0,001320	0,000116	0,00288	0,000161	0,000117
Vanadium	V	mg/l	0,00042	0,00090	0,00092	0,00069	0,00064	0,00055	0,00046	0,00052	0,00043	0,00047	0,00037
Tungstène	W	mg/l	0,00077	0,00149	0,00146	0,00087	0,00067	0,00044	0,00038	0,00041	0,00030	0,00033	0,00029
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l	0,00001	<0,00005	<0,00001	<0,00001	0,00001	<0,00001	<0,00001	<0,00001	0,00001	0,00001	<0,00001
Cérium (total)	Ce	mg/l	0,00001	0,00001	0,00001	0,00001	0,00001	<0,00001	0,00001	0,00001	0,00001	0,00001	0,00001
Césium (total)	Cs	mg/l	0,0114	0,0122	0,0121	0,0087	0,0070	0,0052	0,0049	0,0051	0,0045	0,0046	0,0041
Dysprosium (total)	Dy	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Erbium (total)	Er	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Europium (total)	Eu	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Gallium (total)	Ga	mg/l	0,0001	<0,0001	<0,0001	<0,0001	<0,0001	0,0003	<0,0001	0,0001	<0,0001	<0,0001	<0,0001
Gadolinium (total)	Gd	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Germanium (total)	Ge	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Hafnium (total)	Hf	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Holmium (total)	Ho	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Indium (total)	In	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Iridium (total)	Ir	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Lanthanum (total)	La	mg/l	<0,0001	<0,0001	<0,0001	<0,0002	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Lutetium (total)	Lu	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Niobium (total)	Nb	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Néodymium (total)	Nd	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Osmium (total)	Os	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Palladium (total)	Pd	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Praseodymium (total)	Pr	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Platinum (total)	Pt	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Rubidium (total)	Rb	mg/l	0,0073	0,0071	0,0068	0,0045	0,0035	0,0030	0,0022	0,0026	0,0019	0,0023	0,0019
Rhenium (total)	Re	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Rhodium (total)	Rh	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Scandium (total)	Sc	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Samarium (total)	Sm	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Tantalum (total)	Ta	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Terbium (total)	Tb	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Tellurium (total)	Te	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Thorium (total)	Th	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Thulium (total)	Tm	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Ytterbium (total)	Yb	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001

Résultats HCT – CV5-WR-HCT-62

Analyse	Symbole	Unité	Sem. #11	Sem. #12	Sem. #13	Sem. #14	Sem. #15	Sem. #16	Sem. #17	Sem. #18	Sem. #19	Sem. #20	Sem. #21
			2023-07-13	2023-07-20	2023-07-27	2023-08-03	2023-08-10	2023-08-17	2023-08-24	2023-08-31	2023-09-07	2023-09-14	2023-09-21
Volume du lixiviat	V	mL	998	1016	980	914	899	1011	943	937	901	954	963
pH	pH	No unit	7,40	7,40	7,42	7,39	7,38	7,67	7,35	7,74	7,55	7,91	8,03
Alkalinité	Alkalinité	$mgCaCO_3/l$	10	12	9	8	12	11	8	11	10	8	8
Conductivité	Conductivité	µS/cm	31	30	30	24	31	31	25	28	27	25	26
Acidité	Acidité	$mgCaCO_3/l$	2	2	2	2	2	2	2	2	2	2	2
Fluoride	F	mg/l				<0,06	<0,06	<0,06		<0,06		0,06	
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,89	<0,78	<0,54	<0,34	<0,65	<0,68	<0,37	<0,56	<0,45	<0,24	<0,32
Sulfate	SO_4^{2-}	mg/l	2	2	3	2	2	2	2	2	3	<2,0	3
Chlore	Cl^-	mg/l					1	<1,0		<1,0		1	
Nitrite	NO_2^-	mgN/l					<0,03	<0,03		<0,03		<0,03	
Nitrate	NO_3^-	mgN/l					<0,06	<0,06		<0,06		<0,06	
Bromide	Br	mg/l					<0,3	<0,3		<0,3		<0,3	
Mercure	Hg	mg/l					<0,00001	<0,00001		<0,00001		<0,00002	
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	0,00010	<0,00005
Aluminum	Al	mg/l	0,006	0,001	0,002	0,001	0,002	0,001	0,002	0,003	0,003	0,001	0,001
Arsenic	As	mg/l	2,5300	2,6000	1,7400	1,1600	2,0700	2,1200	1,2500	1,7900	1,3700	1,1600	1,09
Baryum	Ba	mg/l	0,00098	0,00114	0,00075	0,00065	0,00099	0,00129	0,00077	0,00096	0,00080	0,00055	0,00085
Beryllium	Be	mg/l	0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007
Bore	B	mg/l	0,005	0,005	0,003	0,003	0,004	0,004	0,002	0,003	0,003	0,002	0,002
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	3,87	3,91	3,89	3,59	4,43	4,07	3,61	4,24	3,91	3,43	3,48
Cadmium	Cd	mg/l	<0,000003	<0,000003	<0,000003	<0,000003	0,000003	0,000003	<0,000003	<0,000004	<0,000003	0,000003	<0,000003
Cobalt	Co	mg/l	0,000395	0,000680	0,000308	0,000254	0,000162	0,000429	0,000293	0,000300	0,000237	0,000359	0,000409
Chrome	Cr	mg/l	0,00012	0,00008	0,00011	<0,00012	<0,00013	0,00010	<0,00008	0,00014	<0,0001	<0,00008	<0,00008
Cuivre	Cu	mg/l	<0,0002	<0,0002	0,0003	0,0008	0,0002	0,0002	<0,0002	<0,0002	0,0002	<0,0002	<0,0002
Fer	Fe	mg/l	0,007	0,007	<0,007	<0,007	0,007	<0,007	<0,007	0,007	<0,007	<0,007	0,007
Potassium	K	mg/l	0,068	0,064	0,040	0,057	0,085	0,063	0,048	0,060	0,051	0,043	0,031
Lithium	Li	mg/l	0,0012	0,0010	0,0006	0,0005	0,0008	0,0008	0,0007	0,0006	0,0007	0,0007	0,0007
Magnésium	Mg	mg/l	1,300	1,460	0,875	0,834	1,23	1,160	0,861	1,140	1,180	0,901	0,958
Manganese	Mn	mg/l	0,00388	0,00453	0,00937	0,00380	0,00165	0,00351	0,00324	0,00272	0,00209	0,00285	0,00287
Molybdène	Mo	mg/l	0,00020	0,00029	0,00033	0,00020	0,00022	0,00011	0,00024	0,00016	0,00025	0,00057	0,00036
Sodium	Na	mg/l	0,08	0,07	0,04	0,07	0,06	0,06	0,01	0,05	0,04	0,01	0,04
Nickel	Ni	mg/l	0,0204	0,0319	0,0139	0,0084	0,0072	0,0190	0,0095	0,0117	0,0080	0,0092	0,011
Plomb	Pb	mg/l	<0,00009	<0,00009	<0,00009	<0,00009	0,00009	0,00009	<0,00009	<0,00009	<0,00009	0,00009	0,00009
Antimoine	Sb	mg/l	2,0100	1,9700	1,4500	1,1400	1,9800	1,6700	1,0700	1,3100	1,1500	1,0300	0,847
Sélénium	Se	mg/l	0,00016	0,00014	0,00016	0,00022	0,00020	0,00015	0,00011	0,00014	0,00013	0,00015	0,00017
Etain	Sn	mg/l	<0,00006	<0,00006	0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00015	<0,00006	<0,00006	<0,00006
Strontium	Sr	mg/l	0,0043	0,0045	0,00395	0,0035	0,0050	0,0042	0,0034	0,0042	0,0038	0,0035	0,00312
Titane	Ti	mg/l	0,00007	0,00007	0,00007	0,00007	0,00007	0,00007	0,00007	0,00007	0,00007	0,00007	0,00007
Thallium	Th	mg/l	0,000012	<0,000018	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	0,000005	<0,000005
Uranium	U	mg/l	0,000042	0,00235	0,000147	0,000085	0,000168	0,000637	0,00511	0,000103	0,000139	0,00628	0,000103
Vanadium	V	mg/l	0,00041	0,00038	0,00039	0,00027	0,00040	0,00036	0,00033	0,00037	0,00032	0,00030	0,00026
Tungstène	W	mg/l	0,00037	0,00024	0,00018	0,00012	0,00023	0,00017	0,00015	0,00016	0,00017	0,00014	0,00012
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l					0,00002	<0,00001		<0,00001		<0,00001	
Cérium (total)	Ce	mg/l					<0,00001	<0,00001		0,00001		<0,00001	
Césium (total)	Cs	mg/l					0,0045	0,0044		0,0037		0,0030	
Dysprosium (total)	Dy	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Erbium (total)	Er	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Europium (total)	Eu	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Gallium (total)	Ga	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Gadolinium (total)	Gd	mg/l					<0,00001	<0,00001		<0,00001		<0,00001	
Germanium (total)	Ge	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Hafnium (total)	Hf	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Holmium (total)	Ho	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Indium (total)	In	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Iridium (total)	Ir	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Lanthanum (total)	La	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Lutetium (total)	Lu	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Niobium (total)	Nb	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Néodymium (total)	Nd	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Osmium (total)	Os	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Palladium (total)	Pd	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Praseodymium (total)	Pr	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Platinum (total)	Pt	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Rubidium (total)	Rb	mg/l					0,0024	0,0020		0,0014		0,0012	
Rhenium (total)	Re	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Rhodium (total)	Rh	mg/l					<0,00001	<0,00001		<0,00001		<0,00001	
Scandium (total)	Sc	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Samarium (total)	Sm	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Tantalum (total)	Ta	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Terbium (total)	Tb	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Tellurium (total)	Te	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Thorium (total)	Th	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Thulium (total)	Tm	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Ytterbium (total)	Yb	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	

Résultats HCT – CV5-WR-HCT-62

Analyse	Symbole	Unité	Sem. #22	Sem. #23	Sem. #24	Sem. #25	Sem. #26	Sem. #27	Sem. #28	Sem. #29	Sem. #30	Sem. #31	Sem. #32
			2023-09-28	2023-10-05	2023-10-12	2023-10-19	2023-10-26	2023-11-02	2023-11-09	2023-11-16	2023-11-23	2023-11-30	2023-12-07
Volume du lixiviat	V	mL	910	927	1005	924	970	963	935	947	916	950	973
pH	pH	No unit	7,43	7,24	7,38	7,07	7,3	7,18	7,29	7,43	7,26	7,04	7,22
Alkalinité	Alkalinité	$mgCaCO_3/l$	8	9	10	9	8	7	7	8	7	7	7
Conductivité	Conductivité	µS/cm	25	25	24	27	25	21	22	24	23	24	21
Acidité	Acidité	$mgCaCO_3/l$	<2,0	2	<2,0	2	2	<2,0	2	<2,0	2	<2,0	<2,0
Fluoride	F	mg/l				<0,06					<0,06		
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<0,25	<0,31	<0,28	<0,2	<0,26	<0,2	<0,24	<0,17	<0,15	<0,13
Sulfate	SO_4^{2-}	mg/l	2	2	3	2	2	4	2	2	3	3	2
Chlore	Cl^-	mg/l				4					<1,0		
Nitrite	NO_2^-	mgN/l				0,03					<0,03		
Nitrate	NO_3^-	mgN/l				0,06					<0,06		
Bromide	Br	mg/l				0,3					<0,3		
Mercure	Hg	mg/l				<0,00001					<0,00001		
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,002	0,001	0,001	0,002	0,003	0,001	0,002	0,002	0,002	0,001	0,002
Arsenic	As	mg/l	1,0900	0,925	1,11	0,844	0,869	0,7450	0,849	0,805	0,735	0,7090	0,6580
Baryum	Ba	mg/l	0,00060	0,0005	0,00049	0,00052	0,00052	0,00042	0,00041	0,00044	0,00052	0,00034	0,00030
Beryllium	Be	mg/l	<0,000007	<0,000007	0,000026	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	0,000007	<0,000007	<0,000007
Bore	B	mg/l	0,003	0,002	0,002	0,002	0,002	0,002	0,002	0,002	0,002	0,002	0,002
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	3,62	3,13	3,23	3,34	3,2	2,97	3,26	2,98	3,63	2,92	2,86
Cadmium	Cd	mg/l	0,000003	<0,000003	0,000003	<0,000003	<0,000003	0,000003	<0,000003	0,000003	0,000003	0,000003	<0,000003
Cobalt	Co	mg/l	0,000294	0,000271	0,000676	0,000399	0,00038	0,000409	0,000375	0,000408	0,0004	0,000417	0,000624
Chrome	Cr	mg/l	<0,00009	<0,00009	<0,00008	<0,00021	<0,00008	<0,00008	<0,00014	<0,00008	<0,00008	<0,00008	<0,00008
Cuivre	Cu	mg/l	<0,0002	<0,0005	0,0002	<0,0002	<0,0002	<0,0005	<0,0002	0,0002	<0,0002	<0,0002	<0,0002
Fer	Fe	mg/l	<0,007	<0,007	<0,01	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007
Potassium	K	mg/l	0,046	0,031	0,024	0,045	0,045	0,017	0,03	0,013	0,039	0,027	0,022
Lithium	Li	mg/l	0,0005	0,0005	0,0006	0,0006	0,0005	0,0004	0,0005	0,0004	0,0019	0,0005	0,0005
Magnésium	Mg	mg/l	0,943	0,805	0,934	0,872	0,792	0,775	0,846	0,797	0,985	0,799	0,739
Manganese	Mn	mg/l	0,00247	0,00227	0,00372	0,00296	0,00265	0,00247	0,00217	0,00251	0,00264	0,00255	0,00336
Molybdène	Mo	mg/l	0,00200	0,00202	0,00017	0,00087	0,00012	0,00028	0,0002	0,00009	0,00009	0,00051	0,00019
Sodium	Na	mg/l	0,04	0,02	0,02	0,09	0,09	0,02	0,04	0,01	0,03	0,01	0,04
Nickel	Ni	mg/l	0,0080	0,0065	0,0146	0,0083	0,008	0,0080	0,0076	0,0086	0,0075	0,0075	0,0104
Plomb	Pb	mg/l	0,00009	<0,00009	<0,00009	0,00009	0,00009	0,00009	<0,00009	<0,00009	<0,00009	0,00009	<0,00009
Antimoine	Sb	mg/l	0,8610	0,853	0,757	0,81	0,633	0,7510	0,627	0,711	0,631	0,6040	0,5370
Sélénium	Se	mg/l	0,00015	0,00013	0,00005	0,00012	0,00014	0,00009	0,00013	0,00012	0,0001	0,00012	0,00006
Etain	Sn	mg/l	<0,00006	<0,00006	<0,00006	0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006
Strontium	Sr	mg/l	0,0032	0,00261	0,00295	0,00334	0,00264	0,0023	0,00254	0,00252	0,00239	0,0020	0,0019
Titane	Ti	mg/l	0,00007	<0,00007	0,00007	0,00007	0,00007	0,00007	<0,00007	0,00007	0,00007	0,00007	<0,00007
Thallium	Th	mg/l	0,000005	<0,000005	<0,000005	<0,000005	<0,000005	0,000005	<0,000018	<0,000005	<0,000005	<0,000005	<0,000008
Uranium	U	mg/l	0,000168	0,000074	0,000138	0,000134	0,000075	0,002370	0,0043	0,000993	0,00117	0,00012	0,000074
Vanadium	V	mg/l	0,00027	0,00022	0,00025	0,00029	0,00022	0,00018	0,00022	0,00018	0,00018	0,00017	0,00014
Tungstène	W	mg/l	0,00162	0,00009	0,00011	0,00008	0,00009	0,00006	0,00007	0,00007	0,00008	0,00006	0,00006
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l				0,00001					<0,00001		
Cérium (total)	Ce	mg/l				0,00001					<0,00001		
Césium (total)	Cs	mg/l				0,003					0,0028		
Dysprosium (total)	Dy	mg/l				0,0001					<0,0001		
Erbium (total)	Er	mg/l				0,0001					<0,0001		
Europium (total)	Eu	mg/l				0,0001					<0,0001		
Gallium (total)	Ga	mg/l				0,0001					<0,0001		
Gadolinium (total)	Gd	mg/l				0,00001					<0,00001		
Germanium (total)	Ge	mg/l				0,0001					<0,0001		
Hafnium (total)	Hf	mg/l				0,0001					<0,0001		
Holmium (total)	Ho	mg/l				0,0001					<0,0001		
Indium (total)	In	mg/l				0,0001					<0,0001		
Iridium (total)	Ir	mg/l				0,0001					<0,0001		
Lanthanum (total)	La	mg/l				0,0001					<0,0001		
Lutetium (total)	Lu	mg/l				0,0001					<0,0001		
Niobium (total)	Nb	mg/l				0,0001					<0,0001		
Néodymium (total)	Nd	mg/l				0,0001					<0,0001		
Osmium (total)	Os	mg/l				0,0001					<0,0001		
Palladium (total)	Pd	mg/l				0,0001					<0,0001		
Praseodymium (total)	Pr	mg/l				0,0001					<0,0001		
Platinum (total)	Pt	mg/l				0,0001					<0,0001		
Rubidium (total)	Rb	mg/l				0,0011					0,0013		
Rhenium (total)	Re	mg/l				0,0001					<0,0001		
Rhodium (total)	Rh	mg/l				0,00001					<0,00001		
Scandium (total)	Sc	mg/l				0,0001					<0,0001		
Samarium (total)	Sm	mg/l				0,0001					<0,0001		
Tantalum (total)	Ta	mg/l				0,0001					<0,0001		
Terbium (total)	Tb	mg/l				0,0001					<0,0001		
Tellurium (total)	Te	mg/l				0,0001					<0,0001		
Thorium (total)	Th	mg/l				0,0001					<0,0001		
Thulium (total)	Tm	mg/l				0,0001					<0,0001		
Ytterbium (total)	Yb	mg/l				0,0001					<0,0001		

Résultats HCT – CV5-WR-HCT-62

Analyse	Symbole	Unité	Sem. #33	Sem. #34	Sem. #35	Sem. #36	Sem. #37	Sem. #38	Sem. #39	Sem. #40	Sem. #41	Sem. #42	Sem. #43
			2023-12-14	2023-12-21	2023-12-28	2024-01-04	2024-01-11	2024-01-18	2024-01-25	2024-02-01	2024-02-08	2024-02-15	2024-02-22
Volume du lixiviat	V	mL	921	1000	953	886	948	926	966	880	962	988	900
pH	pH	No unit	7,04	7,17	7,17	7,35	8,29	7,12	7,76	7,39	7,44	7,55	7,71
Alkalinité	Alkalinité	$mgCaCO_3/l$	6	9	7	9	6	9	14	10	8	7	9
Conductivité	Conductivité	µS/cm	22	28	23	28	21	26	39	30	25	21	24
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0
Fluoride	F	mg/l	<0,06		<0,06					<0,06			
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,15	<0,27	<0,14	<0,16	<0,18	<0,15	<0,21	<0,19	<0,14	<0,16	<0,2
Sulfate	SO_4^{2-}	mg/l	2	4	3	4	4	3	4	3	3	2	3
Chlore	Cl^-	mg/l	***		<1,0					1			
Nitrite	NO_2^-	mgN/l	***		<0,03					<0,03			
Nitrate	NO_3^-	mgN/l	***		<0,06					<0,06			
Bromide	Br	mg/l	***		<0,3					<0,3			
Mercure	Hg	mg/l	***		<0,00001					<0,00001			
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,001	0,001	0,001	0,001	0,002	0,001	0,004	0,002	0,002	0,002	0,001
Arsenic	As	mg/l	0,5690	0,9410	0,6520	0,7280	0,5800	0,6540	0,7090	0,8030	0,6870	0,6750	0,7880
Baryum	Ba	mg/l	0,00029	0,00043	0,00033	0,00042	0,00046	0,00041	0,00052	0,00061	0,00031	0,00037	0,00044
Beryllium	Be	mg/l	<0,000007	<0,000007	<0,000011	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007
Bore	B	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	2,43	3,52	2,97	3,50	2,83	3,11	5,79	4,34	3,18	3,04	3,03
Cadmium	Cd	mg/l	<0,000003	<0,000005	<0,000003	<0,000003	<0,000003	<0,000003	0,000003	<0,000003	<0,000003	<0,000003	<0,000003
Cobalt	Co	mg/l	0,000643	0,000971	0,000695	0,000520	0,000670	0,000602	0,000633	0,000413	0,000517	0,000547	0,000373
Chrome	Cr	mg/l	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00017	<0,00008	<0,00008	<0,00008	<0,00008
Cuivre	Cu	mg/l	<0,0002	0,0002	<0,0002	<0,0002	0,0002	<0,0002	<0,002	<0,002	<0,002	<0,001	<0,001
Fer	Fe	mg/l	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,017	0,007	<0,007	<0,007	<0,007
Potassium	K	mg/l	0,014	0,019	0,019	0,036	0,023	0,024	0,030	0,045	0,018	0,011	0,025
Lithium	Li	mg/l	0,0004	0,0005	0,0004	0,0005	0,0004	0,0004	0,0004	0,0005	0,0003	0,0003	0,0003
Magnésium	Mg	mg/l	0,667	0,969	0,717	0,958	0,733	0,844	0,908	1,050	0,598	0,622	0,732
Manganese	Mn	mg/l	0,00291	0,00353	0,00323	0,00269	0,00322	0,00275	0,00557	0,00369	0,00435	0,00429	0,00272
Molybdène	Mo	mg/l	0,00013	0,01130	0,00021	0,00027	0,00017	0,00052	0,00040	<0,0005	<0,0004	<0,0004	<0,0004
Sodium	Na	mg/l	0,01	0,03	0,02	0,05	0,01	0,01	0,01	0,06	0,03	0,02	0,02
Nickel	Ni	mg/l	0,0104	0,0175	0,0111	0,0085	0,0101	0,0091	0,0089	0,0065	0,0082	0,0085	0,0069
Plomb	Pb	mg/l	0,00009	<0,00009	<0,00009	<0,00009	0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009
Antimoine	Sb	mg/l	0,5240	0,7030	0,4890	0,7060	0,5030	0,5600	0,5780	0,7570	0,4710	0,5110	0,6510
Sélénium	Se	mg/l	0,00006	0,00004	0,00008	0,00010	0,00004	0,00007	0,00012	0,00011	0,00005	0,00007	0,00009
Etain	Sn	mg/l	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006
Strontium	Sr	mg/l	0,0016	0,0025	0,0020	0,0021	0,0024	0,0019	0,0029	0,00237	0,00144	0,00160	0,00180
Titane	Ti	mg/l	<0,00007	0,00007	<0,00007	0,00007	0,00007	0,00007	0,00010	0,0001	0,0001	<0,0001	<0,0001
Thallium	Th	mg/l	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005
Uranium	U	mg/l	0,000088	0,001540	0,00122	0,000451	0,000092	0,00011	0,00020	0,000149	0,000870	0,003300	0,000091
Vanadium	V	mg/l	0,00013	0,00014	0,00015	0,00017	0,00012	0,00015	0,00021	0,00019	0,00015	0,00015	0,00013
Tungstène	W	mg/l	0,00006	0,00008	0,00007	0,00005	0,00005	0,00006	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l			<0,00001					<0,00001			
Cérium (total)	Ce	mg/l			<0,00001					0,00001			
Césium (total)	Cs	mg/l			0,0021					0,0038			
Dysprosium (total)	Dy	mg/l			<0,0001					<0,00001			
Erbium (total)	Er	mg/l			<0,0001					<0,00001			
Europium (total)	Eu	mg/l			<0,0001					<0,00001			
Gallium (total)	Ga	mg/l			<0,0001					<0,0001			
Gadolinium (total)	Gd	mg/l			<0,00001					<0,00001			
Germanium (total)	Ge	mg/l			<0,0001					<0,0001			
Hafnium (total)	Hf	mg/l			<0,0001					<0,0001			
Holmium (total)	Ho	mg/l			<0,0001					<0,00001			
Indium (total)	In	mg/l			<0,0001					<0,00001			
Iridium (total)	Ir	mg/l			<0,0001					<0,00001			
Lanthanum (total)	La	mg/l			<0,0001					<0,00004			
Lutetium (total)	Lu	mg/l			<0,0001					<0,0001			
Niobium (total)	Nb	mg/l			<0,0001					<0,00001			
Néodymium (total)	Nd	mg/l			<0,0001					<0,00001			
Osmium (total)	Os	mg/l			<0,0001					<0,0001			
Palladium (total)	Pd	mg/l			<0,0001					<0,0001			
Praseodymium (total)	Pr	mg/l			<0,0001					<0,00001			
Platinum (total)	Pt	mg/l			<0,0001					<0,0001			
Rubidium (total)	Rb	mg/l			0,0008					0,0016			
Rhenium (total)	Re	mg/l			<0,0001					<0,0001			
Rhodium (total)	Rh	mg/l			<0,00001					<0,00001			
Scandium (total)	Sc	mg/l			<0,0001					<0,0001			
Samarium (total)	Sm	mg/l			<0,0001					<0,00001			
Tantalum (total)	Ta	mg/l			<0,0001					<0,0001			
Terbium (total)	Tb	mg/l			<0,0001					<0,00001			
Tellurium (total)	Te	mg/l			<0,0001					<0,0001			
Thorium (total)	Th	mg/l			<0,0001					<0,0001			
Thulium (total)	Tm	mg/l			<0,0001					<0,00001			
Ytterbium (total)	Yb	mg/l			<0,0001					<0,00001			

Résultats HCT – CV5-WR-HCT-62

Analyse	Symbole	Unité	Sem. #44	Sem. #45	Sem. #46	Sem. #47	Sem. #48	Sem. #49	Sem. #50	Sem. #51	Sem. #52	Sem. #53	Sem. #54
			2024-02-29	2024-03-07	2024-03-14	2024-03-21	2024-03-28	2024-04-04	2024-04-11	2024-04-18	2024-04-25	2024-05-02	2024-05-09
Volume du lixiviat	V	mL	914	909	935	952	874	947	897	933	949	1003	921
pH	pH	No unit	7,23	7,32	7,37	7,24	7,48	7,40	7,67	7,16	7,44	7,18	7,44
Alkalinité	Alkalinité	$mgCaCO_3/l$	7	7	7	7	8	7	6	6	9	6	8
Conductivité	Conductivité	µS/cm	25	22	24	18	24	18	26	21	24	17	20
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0
Fluoride	F	mg/l		<0,06					<0,06				
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,14	<0,1	<0,12	<0,1	<0,13	<0,07	<0,12	<0,09	<0,15	<0,08	<0,11
Sulfate	SO_4^{2-}	mg/l	3	3	3	2	4	2	3	2	2	2	3
Chlore	Cl^-	mg/l		<1,0					<1,0				
Nitrite	NO_2^-	mgN/l		<0,03					<0,03				
Nitrate	NO_3^-	mgN/l		<0,06					<0,06				
Bromide	Br	mg/l		<0,3					<0,3				
Mercure	Hg	mg/l		<0,00001					<0,00001				
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,001	0,002	0,002	0,001	0,009	0,001	0,003	0,001	0,001	0,001	0,003
Arsenic	As	mg/l	0,6590	0,5620	0,5200	0,5120	0,7110	0,5020	0,5670	0,5340	0,6620	0,4690	0,5640
Baryum	Ba	mg/l	0,00034	0,00031	0,00024	0,00030	0,00033	0,00028	0,00039	0,00031	0,00031	0,00034	0,00048
Beryllium	Be	mg/l	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007
Bore	B	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	2,89	3,03	2,49	2,50	3,01	2,12	3,26	2,74	3,48	2,27	3,07
Cadmium	Cd	mg/l	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003
Cobalt	Co	mg/l	0,000403	0,000471	0,000445	0,000486	0,000338	0,000456	0,000428	0,000483	0,000500	0,000402	0,000390
Chrome	Cr	mg/l	<0,00008	<0,00009	<0,00008	<0,00008	<0,00008	<0,00008	<0,00009	<0,00008	<0,0001	<0,00008	<0,00008
Cuivre	Cu	mg/l	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001
Fer	Fe	mg/l	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007
Potassium	K	mg/l	0,022	0,029	0,014	0,021	0,035	0,018	0,021	0,029	0,012	0,023	0,025
Lithium	Li	mg/l	0,0002	0,0003	0,0003	0,0003	0,0004	0,0003	0,0003	0,0003	0,0002	0,0003	0,0003
Magnésium	Mg	mg/l	0,725	0,776	0,671	0,648	1,010	0,567	0,904	0,700	0,736	0,627	0,816
Manganese	Mn	mg/l	0,00287	0,00286	0,00246	0,00270	0,00174	0,00259	0,00231	0,00263	0,00255	0,00210	0,00225
Molybdène	Mo	mg/l	<0,0005	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004
Sodium	Na	mg/l	0,01	0,01	0,01	0,01	0,02	0,01	0,01	0,01	0,01	0,02	0,06
Nickel	Ni	mg/l	0,0070	0,0073	0,0067	0,0075	0,0057	0,0063	0,0068	0,0070	0,0073	0,0056	0,0059
Plomb	Pb	mg/l	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00017
Antimoine	Sb	mg/l	0,5880	0,5560	0,4510	0,4380	0,6070	0,3550	0,4620	0,3690	0,4070	0,3710	0,4440
Sélénium	Se	mg/l	0,00005	0,00004	0,00004	0,00010	0,00006	0,00006	0,00007	0,00006	0,00011	0,00004	0,00006
Etain	Sn	mg/l	<0,00006	<0,00006	<0,00009	<0,00006	<0,00006	<0,00008	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006
Strontium	Sr	mg/l	0,00158	0,00165	0,00139	0,00127	0,00159	0,00110	0,00160	0,00142	0,00161	0,00106	0,00139
Titane	Ti	mg/l	0,0001	<0,0001	<0,0001	0,0001	0,0001	<0,0001	0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Thallium	Th	mg/l	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005
Uranium	U	mg/l	0,000595	0,000115	0,000061	0,000044	0,000098	0,000040	0,000139	0,000037	0,000097	0,000040	0,000091
Vanadium	V	mg/l	0,00013	0,00015	0,00011	0,00012	0,00014	0,00011	0,00013	0,00011	0,00018	0,00012	0,00013
Tungstène	W	mg/l	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l		<0,00001					<0,00001				
Cérium (total)	Ce	mg/l		<0,00001					<0,00001				
Césium (total)	Cs	mg/l		0,0026					0,0027				
Dysprosium (total)	Dy	mg/l		<0,00001					<0,00001				
Erbium (total)	Er	mg/l		<0,00001					<0,00001				
Europium (total)	Eu	mg/l		<0,00001					<0,00001				
Gallium (total)	Ga	mg/l		<0,0001					<0,0001				
Gadolinium (total)	Gd	mg/l		<0,00001					<0,00001				
Germanium (total)	Ge	mg/l		<0,0001					<0,0001				
Hafnium (total)	Hf	mg/l		<0,0001					<0,0001				
Holmium (total)	Ho	mg/l		<0,00001					<0,00001				
Indium (total)	In	mg/l		<0,00001					<0,00001				
Iridium (total)	Ir	mg/l		<0,00001					<0,00001				
Lanthanum (total)	La	mg/l		<0,00003					<0,00004				
Lutetium (total)	Lu	mg/l		<0,0001					<0,0001				
Niobium (total)	Nb	mg/l		<0,00001					<0,00001				
Néodymium (total)	Nd	mg/l		<0,00001					<0,00001				
Osmium (total)	Os	mg/l		<0,0001					<0,0001				
Palladium (total)	Pd	mg/l		<0,0001					<0,0001				
Praseodymium (total)	Pr	mg/l		<0,00001					<0,00001				
Platinum (total)	Pt	mg/l		<0,0001					<0,0001				
Rubidium (total)	Rb	mg/l		0,0012					0,0012				
Rhenium (total)	Re	mg/l		<0,0001					<0,0001				
Rhodium (total)	Rh	mg/l		<0,00001					<0,00001				
Scandium (total)	Sc	mg/l		<0,0001					<0,0001				
Samarium (total)	Sm	mg/l		<0,00001					<0,00001				
Tantalum (total)	Ta	mg/l		<0,0001					<0,0001				
Terbium (total)	Tb	mg/l		<0,00001					<0,00001				
Tellurium (total)	Te	mg/l		<0,0001					<0,0001				
Thorium (total)	Th	mg/l		<0,0001					<0,0001				
Thulium (total)	Tm	mg/l		<0,00001					<0,00001				
Ytterbium (total)	Yb	mg/l		<0,00001					<0,00001				

Résultats HCT – CV5-WR-HCT-62

Analyse	Symbole	Unité	Sem. #55	Sem. #56	Sem. #57	Sem. #58	Sem. #59	Sem. #60	Sem. #61	Sem. #62	Sem. #63	Sem. #64	Sem. #65
			2024-05-16	2024-05-23	2024-05-30	2024-06-06	2024-06-13	2024-06-20	2024-06-27	2024-07-04	2024-07-11	2024-07-18	2024-07-25
Volume du lixiviat	V	mL	928	969	937	914	926	943	926	917	917	919	920
pH	pH	No unit	7,02	7,24	7,23	7,25	7,36	7,14	7,10	7,03	7,11	7,24	7,16
Alkalinité	Alkalinité	$mgCaCO_3/l$	7	7	7	8	7	6	7	7		6	
Conductivité	Conductivité	µS/cm	25	19	19	20	20	18	20	21	21	17	19
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0		<2,0	
Fluoride	F	mg/l	<0,06					<0,06				<0,06	
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,14	<0,09	<0,08	<0,16	<0,11	<0,09	<0,12	<0,06		<0,1	
Sulfate	SO_4^{2-}	mg/l	3	4	3	3	3	2	2	2		2	
Chlore	Cl^-	mg/l	<1,0					<1,0				<1,0	
Nitrite	NO_2^-	mgN/l	<0,03					<0,03				<0,03	
Nitrate	NO_3^-	mgN/l	<0,06					<0,06				<0,06	
Bromide	Br	mg/l	<0,3					<0,3				<0,3	
Mercure	Hg	mg/l	<0,00001					<0,00001				<0,00001	
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005		<0,00005	
Aluminum	Al	mg/l	0,002	0,001	0,001	0,002	0,001	0,001	0,001	0,001		0,001	
Arsenic	As	mg/l	0,5410	0,4190	0,4960	0,5090	0,5300	0,4770	0,4660	0,5010		0,4300	
Baryum	Ba	mg/l	0,00040	0,00039	0,00037	0,00037	0,00038	0,00035	0,00024	0,00037		0,00024	
Beryllium	Be	mg/l	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007		<0,000007	
Bore	B	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002		<0,002	
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001		<0,00001	
Calcium	Ca	mg/l	3,11	2,54	2,58	2,99	2,82	2,66	2,42	2,61		2,40	
Cadmium	Cd	mg/l	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003		<0,000003	
Cobalt	Co	mg/l	0,000386	0,000556	0,000369	0,000454	0,000445	0,000511	0,000445	0,000447		0,000374	
Chrome	Cr	mg/l	<0,00008	<0,00008	<0,00013	<0,0001	<0,00008	<0,00008	<0,00008	<0,00008		<0,00008	
Cuivre	Cu	mg/l	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001		<0,001	
Fer	Fe	mg/l	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007		0,015	
Potassium	K	mg/l	0,027	0,019	0,029	0,026	0,019	0,018	0,020	0,019		0,028	
Lithium	Li	mg/l	0,0004	0,0002	0,0002	0,0002	0,0003	0,0005	0,0003	0,0003		0,0002	
Magnésium	Mg	mg/l	0,863	0,707	0,740	0,870	0,782	0,749	0,734	0,756		0,705	
Manganese	Mn	mg/l	0,00208	0,00288	0,00207	0,00271	0,00241	0,00256	0,00244	0,00227		0,00314	
Molybdène	Mo	mg/l	<0,0004	<0,0004	<0,0004	<0,0008	<0,0004	<0,0004	<0,0004	<0,0004		<0,0006	
Sodium	Na	mg/l	0,02	0,01	0,03	0,01	0,01	0,04	0,01	0,01		0,03	
Nickel	Ni	mg/l	0,0058	0,0076	0,0057	0,0064	0,0063	0,0070	0,0061	0,0060		0,0050	
Plomb	Pb	mg/l	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009		<0,00009	
Antimoine	Sb	mg/l	0,4860	0,3640	0,3680	0,3740	0,3520	0,3210	0,3320	0,3860		0,3490	
Sélénium	Se	mg/l	0,00004	0,00004	0,00005	0,00005	0,00004	0,00005	0,00005	0,00006		0,00006	
Etain	Sn	mg/l	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006		<0,00006	
Strontium	Sr	mg/l	0,00141	0,00126	0,00109	0,00130	0,00134	0,00161	0,00119	0,00127		0,00109	
Titane	Ti	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	0,0001		<0,0001	
Thallium	Th	mg/l	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005		<0,000005	
Uranium	U	mg/l	0,000053	0,000031	0,000041	0,000032	0,000032	0,000035	0,000030	0,000036		0,000028	
Vanadium	V	mg/l	0,00015	0,00013	0,00013	0,00012	0,00013	0,00010	0,00011	0,00009		0,00010	
Tungstène	W	mg/l	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002		<0,0002	
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002		<0,00002	
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002		<0,002	
Gold (total)	Au	mg/l	<0,00001					<0,00001				<0,00001	
Cérium (total)	Ce	mg/l	0,00001					<0,00001				<0,00001	
Césium (total)	Cs	mg/l	0,0029					0,0022				0,0025	
Dysprosium (total)	Dy	mg/l	<0,00001					<0,00001				<0,00001	
Erbium (total)	Er	mg/l	<0,00001					<0,00001				<0,00001	
Europium (total)	Eu	mg/l	<0,00001					<0,00001				<0,00001	
Gallium (total)	Ga	mg/l	<0,0001					<0,0001				<0,0001	
Gadolinium (total)	Gd	mg/l	<0,00001					<0,00001				<0,00001	
Germanium (total)	Ge	mg/l	<0,0001					<0,0001				<0,0001	
Hafnium (total)	Hf	mg/l	<0,0001					<0,0001				<0,0001	
Holmium (total)	Ho	mg/l	<0,00001					<0,00001				<0,00001	
Indium (total)	In	mg/l	<0,00001					<0,00001				<0,00001	
Iridium (total)	Ir	mg/l	<0,00001					<0,00001				<0,00001	
Lanthanum (total)	La	mg/l	<0,00002					<0,00001				<0,00001	
Lutetium (total)	Lu	mg/l	<0,0001					<0,0001				<0,0001	
Niobium (total)	Nb	mg/l	<0,00001					<0,00001				<0,00001	
Néodymium (total)	Nd	mg/l	<0,00001					<0,00001				<0,00001	
Osmium (total)	Os	mg/l	<0,0001					<0,0001				<0,0001	
Palladium (total)	Pd	mg/l	<0,0001					<0,0001				<0,0001	
Praseodymium (total)	Pr	mg/l	<0,00001					<0,00001				<0,00001	
Platinum (total)	Pt	mg/l	<0,0001					<0,0001				<0,0001	
Rubidium (total)	Rb	mg/l	0,0016					0,0010				0,0011	
Rhenium (total)	Re	mg/l	<0,0001					<0,0001				<0,0001	
Rhodium (total)	Rh	mg/l	<0,00001					<0,00001				<0,00001	
Scandium (total)	Sc	mg/l	<0,0001					<0,0001				<0,0001	
Samarium (total)	Sm	mg/l	<0,00001					<0,00001				<0,00001	
Tantalum (total)	Ta	mg/l	<0,0001					<0,0001				<0,0001	
Terbium (total)	Tb	mg/l	<0,00001					<0,00001				<0,00001	
Tellurium (total)	Te	mg/l	<0,0001					<0,0001				<0,0001	
Thorium (total)	Th	mg/l	<0,0001					<0,0001				<0,0001	
Thulium (total)	Tm	mg/l	<0,00001					<0,00001				<0,00001	
Ytterbium (total)	Yb	mg/l	<0,00001					<0,00001				<0,00001	

Résultats HCT – CV5-WR-HCT-62

Analyse	Symbole	Unité	Sem. #66	Sem. #67	Sem. #68	Sem. #69	Sem. #70	Sem. #71	Sem. #72	Sem. #73	Sem. #74	Sem. #75	Sem. #76
			2024-08-01	2024-08-08	2024-08-15	2024-08-22	2024-08-29	2024-09-05	2024-09-12	2024-09-19	2024-09-26	2024-10-03	2024-10-10
Volume du lixiviat	V	mL	927	919	936	899	928	907	924	943	945	924	934
pH	pH	No unit	7,25	7,13	7,10	6,81	7,17	7,20	7,07	7,15	7,36	7,15	6,91
Alkalinité	Alkalinité	$mgCaCO_3/l$			6				5				6
Conductivité	Conductivité	µS/cm	20	22	14	16	19	20	16	19	17	18	16
Acidité	Acidité	$mgCaCO_3/l$			<2,0				<2,0				<2,0
Fluoride	F	mg/l			<0,06				<0,06				<0,06
Phosphore réactif total	PO_4^{3-}-P	mg/l			<0,06				<0,06				<0,09
Sulfate	SO_4^{2-}	mg/l			2				2				2
Chlore	Cl^-	mg/l			<1,0				<1,0				<1,0
Nitrite	NO_2^-	mgN/l			<0,03				<0,03				<0,03
Nitrate	NO_3^-	mgN/l			<0,06				<0,06				<0,06
Bromide	Br	mg/l			<0,3				<0,3				<0,3
Mercure	Hg	mg/l			<0,00001				<0,00001				<0,00001
Argent	Ag	mg/l			<0,00005				<0,00005				<0,00005
Aluminum	Al	mg/l			0,002				0,001				0,001
Arsenic	As	mg/l			0,3890				0,3530				0,3560
Baryum	Ba	mg/l			0,00025				0,00021				0,00074
Beryllium	Be	mg/l			<0,000007				<0,000007				<0,000007
Bore	B	mg/l			<0,002				<0,002				<0,002
Bismuth	Bi	mg/l			<0,00001				<0,00001				<0,00001
Calcium	Ca	mg/l			2,28				2,32				2,30
Cadmium	Cd	mg/l			<0,000006				<0,000003				<0,000003
Cobalt	Co	mg/l			0,000388				0,000404				0,000420
Chrome	Cr	mg/l			<0,00008				<0,00008				<0,00008
Cuivre	Cu	mg/l			<0,001				<0,001				<0,001
Fer	Fe	mg/l			<0,007				<0,007				<0,007
Potassium	K	mg/l			0,019				0,021				0,019
Lithium	Li	mg/l			0,0002				0,0002				0,0002
Magnésium	Mg	mg/l			0,635				0,685				0,662
Manganese	Mn	mg/l			0,00228				0,00205				0,00220
Molybdène	Mo	mg/l			<0,0004				<0,0004				<0,0004
Sodium	Na	mg/l			0,02				0,02				0,03
Nickel	Ni	mg/l			0,0053				0,0050				0,0047
Plomb	Pb	mg/l			<0,00018				<0,00009				<0,00009
Antimoine	Sb	mg/l			0,2770				0,2540				0,2140
Sélénium	Se	mg/l			0,00004				0,00006				0,00004
Etain	Sn	mg/l			<0,00006				<0,00006				<0,00006
Strontium	Sr	mg/l			0,00101				0,00095				0,00211
Titane	Ti	mg/l			<0,0001				<0,0001				0,0001
Thallium	Th	mg/l			<0,000005				<0,000005				<0,000005
Uranium	U	mg/l			0,000046				0,000081				0,000032
Vanadium	V	mg/l			0,00009				0,00007				0,00008
Tungstène	W	mg/l			<0,0002				<0,0002				<0,0002
Yttrium	Y	mg/l			<0,00002				<0,00002				<0,00002
Zinc	Zn	mg/l			<0,002				<0,002				<0,002
Gold (total)	Au	mg/l			<0,00001				<0,00001				<0,00001
Cérium (total)	Ce	mg/l			<0,00001				<0,00001				<0,00001
Césium (total)	Cs	mg/l			0,0023				0,0021				0,0020
Dysprosium (total)	Dy	mg/l			<0,00001				<0,00001				<0,00001
Erbium (total)	Er	mg/l			<0,00001				<0,00001				<0,00001
Europium (total)	Eu	mg/l			<0,00001				<0,00001				<0,00001
Gallium (total)	Ga	mg/l			<0,0001				<0,0001				<0,0001
Gadolinium (total)	Gd	mg/l			<0,00001				<0,00001				<0,00001
Germanium (total)	Ge	mg/l			<0,0001				<0,0001				<0,0001
Hafnium (total)	Hf	mg/l			<0,0001				<0,0001				<0,0001
Holmium (total)	Ho	mg/l			<0,00001				<0,00001				<0,00001
Indium (total)	In	mg/l			<0,00001				<0,00001				<0,00001
Iridium (total)	Ir	mg/l			<0,00001				<0,00001				<0,00001
Lanthanum (total)	La	mg/l			<0,00001				<0,00001				<0,00001
Lutetium (total)	Lu	mg/l			<0,0001				<0,0001				<0,0001
Niobium (total)	Nb	mg/l			<0,00001				<0,00001				<0,00001
Néodymium (total)	Nd	mg/l			<0,00001				<0,00001				<0,00001
Osmium (total)	Os	mg/l			<0,0001				<0,0001				<0,0001
Palladium (total)	Pd	mg/l			<0,0001				<0,0001				<0,0001
Praseodymium (total)	Pr	mg/l			<0,00001				<0,00001				<0,00001
Platinum (total)	Pt	mg/l			<0,0001				<0,0001				<0,0001
Rubidium (total)	Rb	mg/l			0,0011				0,0010				0,0011
Rhenium (total)	Re	mg/l			<0,0001				<0,0001				<0,0001
Rhodium (total)	Rh	mg/l			<0,00001				<0,00001				<0,00001
Scandium (total)	Sc	mg/l			<0,0001				<0,0001				<0,0001
Samarium (total)	Sm	mg/l			<0,00001				<0,00001				<0,00001
Tantalum (total)	Ta	mg/l			<0,0001				<0,0001				<0,0001
Terbium (total)	Tb	mg/l			<0,00001				<0,00001				<0,00001
Tellurium (total)	Te	mg/l			<0,0001				<0,0001				<0,0001
Thorium (total)	Th	mg/l			<0,0001				<0,0001				<0,0001
Thulium (total)	Tm	mg/l			<0,00001				<0,00001				<0,00001
Ytterbium (total)	Yb	mg/l			<0,00001				<0,00001				<0,00001

Résultats HCT – CV5-WR-HCT-62

Analyse	Symbole	Unité	Sem. #77	Sem. #78	Sem. #79	Sem. #80	Sem. #81	Sem. #82	Sem. #83	Sem. #84	Sem. #85	Sem. #86	Sem. #87
			2024-10-17	2024-10-24	2024-10-31	2024-11-07	2024-11-14	2024-11-21	2024-11-28	2024-12-05	2024-12-12	2024-12-19	2024-12-26
Volume du lixiviat	V	mL	1009	941	931	941	927	925	937	940	910	971	987
pH	pH	No unit	7,16	7,10	7,14	7,09	7,33	7,15	7,15	6,79	6,81	7,05	6,8
Alkalinité	Alkalinité	$mgCaCO_3/l$				<3,0				5			
Conductivité	Conductivité	µS/cm	19	16	16	16	28	19	18	16	18	21	19
Acidité	Acidité	$mgCaCO_3/l$				2				<2,0			
Fluoride	F	mg/l				<0,06				<0,06			
Phosphore réactif total	PO_4^{3-}-P	mg/l				<0,07				<0,04			
Sulfate	SO_4^{2-}	mg/l				2				2			
Chlore	Cl^-	mg/l				<1,0				<1,0			
Nitrite	NO_2^-	mgN/l				<0,03				<0,03			
Nitrate	NO_3^-	mgN/l				<0,06				<0,06			
Bromide	Br	mg/l				<0,3				<0,3			
Mercure	Hg	mg/l				<0,00001				<0,00001			
Argent	Ag	mg/l				<0,00005				<0,00005			
Aluminum	Al	mg/l				0,001				0,001			
Arsenic	As	mg/l				0,3330				0,327			
Baryum	Ba	mg/l				0,00021				0,00020			
Beryllium	Be	mg/l				<0,000007				<0,000007			
Bore	B	mg/l				<0,002				<0,002			
Bismuth	Bi	mg/l				<0,00001				<0,00001			
Calcium	Ca	mg/l				1,98				2,03			
Cadmium	Cd	mg/l				<0,000003				<0,000003			
Cobalt	Co	mg/l				0,000405				0,000369			
Chrome	Cr	mg/l				<0,00008				<0,00008			
Cuivre	Cu	mg/l				<0,001				<0,001			
Fer	Fe	mg/l				<0,007				<0,007			
Potassium	K	mg/l				0,009				0,013			
Lithium	Li	mg/l				0,0002				0,0002			
Magnésium	Mg	mg/l				0,612				0,563			
Manganese	Mn	mg/l				0,00224				0,00176			
Molybdène	Mo	mg/l				<0,0004				<0,0004			
Sodium	Na	mg/l				0,02				0,01			
Nickel	Ni	mg/l				0,0047				0,0046			
Plomb	Pb	mg/l				<0,00009				<0,00009			
Antimoine	Sb	mg/l				0,2200				0,233			
Sélénium	Se	mg/l				0,00004				0,00004			
Etain	Sn	mg/l				<0,00006				<0,00006			
Strontium	Sr	mg/l				0,00090				0,00086			
Titane	Ti	mg/l				<0,0001				<0,0001			
Thallium	Th	mg/l				<0,000005				0,000005			
Uranium	U	mg/l				0,000017				0,00002			
Vanadium	V	mg/l				0,00007				0,00008			
Tungstène	W	mg/l				<0,0002				<0,0002			
Yttrium	Y	mg/l				<0,00002				<0,00002			
Zinc	Zn	mg/l				<0,002				<0,002			
Gold (total)	Au	mg/l				<0,00001				<0,00001			
Cérium (total)	Ce	mg/l				<0,00001				<0,00001			
Césium (total)	Cs	mg/l				0,0012				0,0019			
Dysprosium (total)	Dy	mg/l				<0,00001				<0,00001			
Erbium (total)	Er	mg/l				<0,00001				<0,00001			
Europium (total)	Eu	mg/l				<0,00001				<0,00001			
Gallium (total)	Ga	mg/l				<0,0001				<0,0001			
Gadolinium (total)	Gd	mg/l				<0,00001				<0,00001			
Germanium (total)	Ge	mg/l				<0,0001				<0,0001			
Hafnium (total)	Hf	mg/l				<0,0001				<0,0001			
Holmium (total)	Ho	mg/l				<0,00001				<0,00001			
Indium (total)	In	mg/l				<0,00001				<0,00001			
Iridium (total)	Ir	mg/l				<0,00001				<0,00001			
Lanthanum (total)	La	mg/l				<0,00001				<0,00001			
Lutetium (total)	Lu	mg/l				<0,0001				<0,0001			
Niobium (total)	Nb	mg/l				<0,00001				<0,00001			
Néodymium (total)	Nd	mg/l				<0,00001				<0,00001			
Osmium (total)	Os	mg/l				<0,0001				<0,0001			
Palladium (total)	Pd	mg/l				<0,0001				<0,0001			
Praseodymium (total)	Pr	mg/l				<0,00001				<0,00001			
Platinum (total)	Pt	mg/l				<0,0001				<0,0001			
Rubidium (total)	Rb	mg/l				0,0005				0,0008			
Rhenium (total)	Re	mg/l				<0,0001				<0,0001			
Rhodium (total)	Rh	mg/l				<0,00001				<0,00001			
Scandium (total)	Sc	mg/l				<0,0001				<0,0001			
Samarium (total)	Sm	mg/l				<0,00001				<0,00001			
Tantalum (total)	Ta	mg/l				<0,0001				<0,0001			
Terbium (total)	Tb	mg/l				<0,00001				<0,00001			
Tellurium (total)	Te	mg/l				<0,0001				<0,0001			
Thorium (total)	Th	mg/l				<0,0001				<0,0001			
Thulium (total)	Tm	mg/l				<0,00001				<0,00001			
Ytterbium (total)	Yb	mg/l				<0,00001				<0,00001			

Résultats HCT – CV5-WR-HCT-62

Analyse	Symbole	Unité	Sem. #88	Sem. #89
			2025-01-02	2025-01-09
Volume du lixiviat	V	mL	994	979
pH	pH	No unit	6,61	7,06
Alkalinité	Alkalinité	mg$CaCO_3$/l	5	
Conductivité	Conductivité	µS/cm	13	19
Acidité	Acidité	mg$CaCO_3$/l	2	
Fluoride	F	mg/l	<0,06	
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,06	
Sulfate	SO_4^{2-}	mg/l	2	
Chlore	Cl^-	mg/l	<1,0	
Nitrite	NO_2^-	mgN/l	<0,03	
Nitrate	NO_3^-	mgN/l	<0,06	
Bromide	Br	mg/l	<0,3	
Mercure	Hg	mg/l	<0,00001	
Argent	Ag	mg/l	<0,00005	
Aluminum	Al	mg/l	0,001	
Arsenic	As	mg/l	0,403	
Baryum	Ba	mg/l	0,00019	
Beryllium	Be	mg/l	<0,000007	
Bore	B	mg/l	<0,002	
Bismuth	Bi	mg/l	<0,00001	
Calcium	Ca	mg/l	2,07	
Cadmium	Cd	mg/l	<0,000003	
Cobalt	Co	mg/l	0,000451	
Chrome	Cr	mg/l	<0,00008	
Cuivre	Cu	mg/l	<0,001	
Fer	Fe	mg/l	<0,007	
Potassium	K	mg/l	0,012	
Lithium	Li	mg/l	0,0002	
Magnésium	Mg	mg/l	0,559	
Manganese	Mn	mg/l	0,00208	
Molybdène	Mo	mg/l	<0,0004	
Sodium	Na	mg/l	0,01	
Nickel	Ni	mg/l	0,0049	
Plomb	Pb	mg/l	<0,00009	
Antimoine	Sb	mg/l	<0,252	
Sélénium	Se	mg/l	0,00004	
Etain	Sn	mg/l	<0,00006	
Strontium	Sr	mg/l	0,00081	
Titane	Ti	mg/l	<0,0001	
Thallium	Th	mg/l	0,000007	
Uranium	U	mg/l	0,000002	
Vanadium	V	mg/l	0,00008	
Tungstène	W	mg/l	<0,0002	
Yttrium	Y	mg/l	<0,00002	
Zinc	Zn	mg/l	<0,002	
Gold (total)	Au	mg/l	<0,00001	
Cérium (total)	Ce	mg/l	0,00001	
Césium (total)	Cs	mg/l	0,0017	
Dysprosium (total)	Dy	mg/l	<0,00001	
Erbium (total)	Er	mg/l	<0,00001	
Europium (total)	Eu	mg/l	<0,00001	
Gallium (total)	Ga	mg/l	<0,0001	
Gadolinium (total)	Gd	mg/l	<0,00001	
Germanium (total)	Ge	mg/l	<0,0001	
Hafnium (total)	Hf	mg/l	<0,0001	
Holmium (total)	Ho	mg/l	<0,00001	
Indium (total)	In	mg/l	<0,00001	
Iridium (total)	Ir	mg/l	<0,00001	
Lanthanum (total)	La	mg/l	0,00001	
Lutetium (total)	Lu	mg/l	<0,0001	
Niobium (total)	Nb	mg/l	<0,00004	
Néodymium (total)	Nd	mg/l	<0,00001	
Osmium (total)	Os	mg/l	<0,0001	
Palladium (total)	Pd	mg/l	<0,0001	
Praseodymium (total)	Pr	mg/l	<0,00001	
Platinum (total)	Pt	mg/l	<0,0001	
Rubidium (total)	Rb	mg/l	0,0007	
Rhenium (total)	Re	mg/l	<0,0001	
Rhodium (total)	Rh	mg/l	<0,00001	
Scandium (total)	Sc	mg/l	<0,0001	
Samarium (total)	Sm	mg/l	<0,00001	
Tantalum (total)	Ta	mg/l	<0,0001	
Terbium (total)	Tb	mg/l	<0,00001	
Tellurium (total)	Te	mg/l	<0,0001	
Thorium (total)	Th	mg/l	<0,0001	
Thulium (total)	Tm	mg/l	<0,00001	
Ytterbium (total)	Yb	mg/l	<0,00001	

Résultats HCT – CV5-WR-HCT-62

Analyse	Symbole	Unité	Sem. #90	Sem. #91	Sem. #92	Sem. #93	Sem. #94	Sem. #95	Sem. #96	Sem. #97	Sem. #98	Sem. #99	Sem. #100
			2025-01-16	2025-01-23	2025-01-30	2025-02-06	2025-02-13	2025-02-20	2025-02-27	2025-03-06	2025-03-13	2025-03-20	2025-03-27
Volume du lixiviat	V	mL	972	1032	968	973	968	948	997	999	925	927	917
pH	pH	No unit	6,92	6,98	7,14	6,9	6,55	6,66	7,04	6,63	6,8	6,98	7,15
Alkalinité	Alkalinité	$mgCaCO_3/l$			7				<5,0				<6,0
Conductivité	Conductivité	µS/cm	21	22	19	20	25	20	18	20	18	18	16
Acidité	Acidité	$mgCaCO_3/l$			<2,0				2				2
Fluoride	F	mg/l			<0,06				<0,06				<0,06
Phosphore réactif total	PO_4^{3-}-P	mg/l			<0,09				<0,06				<0,06
Sulfate	SO_4^{2-}	mg/l			2				2				2
Chlore	Cl^-	mg/l			<1,0				<1,0				<1,0
Nitrite	NO_2^-	mgN/l			<0,03				<0,03				<0,03
Nitrate	NO_3^-	mgN/l			<0,06				<0,06				<0,06
Bromide	Br	mg/l			<0,3				<0,3				<0,3
Mercure	Hg	mg/l			<0,00001				<0,00001				<0,00001
Argent	Ag	mg/l			<0,00005				<0,00005				<0,00005
Aluminum	Al	mg/l			0,001				0,001				0,001
Arsenic	As	mg/l			0,5660				0,416				0,3600
Baryum	Ba	mg/l			0,00016				0,00023				0,00018
Beryllium	Be	mg/l			<0,000007				<0,000007				<0,000007
Bore	B	mg/l			<0,002				<0,002				<0,002
Bismuth	Bi	mg/l			<0,00001				<0,00001				<0,00001
Calcium	Ca	mg/l			2,46				2,31				2,17
Cadmium	Cd	mg/l			<0,000003				0,000003				<0,000003
Cobalt	Co	mg/l			0,000503				0,000499				0,000370
Chrome	Cr	mg/l			<0,00008				<0,00008				<0,00008
Cuivre	Cu	mg/l			<0,001				<0,001				<0,001
Fer	Fe	mg/l			<0,007				<0,007				<0,007
Potassium	K	mg/l			0,012				0,019				0,022
Lithium	Li	mg/l			0,0002				0,0002				0,0002
Magnésium	Mg	mg/l			0,684				0,723				0,694
Manganese	Mn	mg/l			0,00214				0,002				0,00141
Molybdène	Mo	mg/l			<0,0004				<0,0004				<0,0004
Sodium	Na	mg/l			0,01				0,01				0,01
Nickel	Ni	mg/l			0,0057				0,0057				0,0042
Plomb	Pb	mg/l			<0,00009				<0,00009				<0,00009
Antimoine	Sb	mg/l			<0,225				<0,241				<0,219
Sélénium	Se	mg/l			0,00004				0,00004				0,00004
Etain	Sn	mg/l			0,00008				<0,00009				<0,00007
Strontium	Sr	mg/l			0,00098				0,00096				0,00083
Titane	Ti	mg/l			<0,0001				<0,0001				<0,0001
Thallium	Th	mg/l			0,000005				<0,000005				<0,000005
Uranium	U	mg/l			0,000024				0,000026				0,000018
Vanadium	V	mg/l			0,0001				0,00008				0,00008
Tungstène	W	mg/l			<0,0002				<0,0002				<0,0002
Yttrium	Y	mg/l			<0,00002				<0,00002				<0,00002
Zinc	Zn	mg/l			<0,002				<0,002				<0,002
Gold (total)	Au	mg/l			<0,00001				<0,00001				<0,00001
Cérium (total)	Ce	mg/l			0,00001				0,00001				<0,00001
Césium (total)	Cs	mg/l			0,002				0,0017				0,0022
Dysprosium (total)	Dy	mg/l			<0,00001				<0,00001				<0,00001
Erbium (total)	Er	mg/l			<0,00001				<0,00001				<0,00001
Europium (total)	Eu	mg/l			<0,00001				<0,00001				<0,00001
Gallium (total)	Ga	mg/l			<0,0001				<0,0001				<0,0001
Gadolinium (total)	Gd	mg/l			<0,00001				<0,00001				<0,00001
Germanium (total)	Ge	mg/l			<0,0001				<0,0001				<0,0001
Hafnium (total)	Hf	mg/l			<0,0001				<0,0001				<0,0001
Holmium (total)	Ho	mg/l			<0,00001				<0,00001				<0,00001
Indium (total)	In	mg/l			<0,00001				<0,00001				<0,00001
Iridium (total)	Ir	mg/l			<0,00001				<0,00001				<0,00001
Lanthanum (total)	La	mg/l			0,00002				0,00001				<0,00002
Lutetium (total)	Lu	mg/l			<0,0001				<0,0001				<0,0001
Niobium (total)	Nb	mg/l			<0,00001				<0,00001				<0,00001
Néodymium (total)	Nd	mg/l			<0,00001				<0,00001				<0,00001
Osmium (total)	Os	mg/l			<0,0001				<0,0001				<0,0001
Palladium (total)	Pd	mg/l			<0,0001				<0,0001				<0,0001
Praseodymium (total)	Pr	mg/l			<0,00001				<0,00001				<0,00001
Platinum (total)	Pt	mg/l			<0,0001				<0,0001				<0,0001
Rubidium (total)	Rb	mg/l			0,0008				0,0008				0,0009
Rhenium (total)	Re	mg/l			<0,0001				<0,0001				<0,0001
Rhodium (total)	Rh	mg/l			<0,00001				<0,00001				<0,00001
Scandium (total)	Sc	mg/l			<0,0001				<0,0001				<0,0001
Samarium (total)	Sm	mg/l			<0,00001				<0,00001				<0,00001
Tantalum (total)	Ta	mg/l			<0,0001				<0,0001				<0,0001
Terbium (total)	Tb	mg/l			<0,00001				<0,00001				<0,00001
Tellurium (total)	Te	mg/l			<0,0001				<0,0001				<0,0001
Thorium (total)	Th	mg/l			<0,0001				<0,0001				<0,0001
Thulium (total)	Tm	mg/l			<0,00001				<0,00001				<0,00001
Ytterbium (total)	Yb	mg/l			<0,00001				<0,00001				<0,00001

Résultats HCT – CV5-WR-HCT-64

Analyse	Symbole	Unité	Sem. #0	Sem. #1	Sem. #2	Sem. #3	Sem. #4	Sem. #5	Sem. #6	Sem. #7	Sem. #8	Sem. #9	Sem. #10
			2023-04-27	2023-05-04	2023-05-11	2023-05-18	2023-05-25	2023-06-01	2023-06-08	2023-06-15	2023-06-22	2023-06-29	2023-07-06
Volume du lixiviat	V	mL	820	947	1001	997	1001	1000	994	967	1000	998	1004
pH	pH	No unit	8,31	7,40	7,48	7,40	7,31	7,04	7,19	7,22	7,26	7,19	7,16
Alkalinité	Alkalinité	$mgCaCO_3/l$	13	12	12	13	10	7	7	8	8	8	7
Conductivité	Conductivité	µS/cm	53	47	28	34	19	16	18	16	17	17	18
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2,0	2	2	2	2	2	2	2	2	2
Fluoride	F	mg/l	<0,27	<0,24	<0,16	<0,07	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,21	<0,14	<0,13	<0,05	<0,04	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Sulfate	SO_4^{2-}	mg/l	2	2	2	2	2	2	2	2	2	2	2
Chlore	Cl^-	mg/l	10	6	2	1	1	1	<1,0	<1,0	1	1	1
Nitrite	NO_2^-	mgN/l	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Nitrate	NO_3^-	mgN/l	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06
Bromide	Br	mg/l	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3
Mercure	Hg	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,193	0,051	0,052	0,035	0,034	0,016	0,029	0,028	0,034	0,036	0,030
Arsenic	As	mg/l	0,3400	0,5260	0,3060	0,1350	0,1130	0,0399	0,0515	0,0454	0,0432	0,0354	0,0327
Baryum	Ba	mg/l	0,00024	0,00014	0,00018	0,00014	0,00033	0,00012	0,00011	0,00011	0,00015	0,00015	0,00017
Beryllium	Be	mg/l	<0,000026	<0,00002	0,000029	<0,000013	<0,000018	<0,000007	<0,000007	<0,000013	<0,000012	<0,000013	<0,000014
Bore	B	mg/l	0,045	0,076	0,037	0,017	0,013	0,007	0,005	0,004	0,004	0,003	0,002
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	2,08	2,08	1,96	2,12	2,53	2,10	2,30	2,27	2,61	2,60	2,69
Cadmium	Cd	mg/l	<0,000003	<0,000004	<0,000003	0,000017	0,000003	<0,000004	<0,000003	<0,000004	<0,000003	<0,000003	<0,000005
Cobalt	Co	mg/l	0,000104	0,000084	0,000057	0,000055	0,000049	0,000033	0,000028	0,000032	0,000023	0,000031	0,000019
Chrome	Cr	mg/l	0,00011	0,00021	<0,00008	0,00013	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	0,00008	<0,00008
Cuivre	Cu	mg/l	0,0028	0,0009	<0,0003	<0,0003	0,0003	0,0005	<0,0002	<0,0002	<0,0002	<0,0002	0,0002
Fer	Fe	mg/l	<0,007	0,007	0,007	0,007	<0,007	0,007	0,007	0,007	<0,007	0,007	0,009
Potassium	K	mg/l	4,47	3,22	2,60	1,830	1,950	1,330	1,210	1,040	1,080	0,866	0,848
Lithium	Li	mg/l	0,1530	0,2060	0,0942	0,0496	0,0368	0,0208	0,0173	0,0131	0,0136	0,0105	0,0095
Magnésium	Mg	mg/l	0,151	0,219	0,207	0,179	0,209	0,187	0,182	0,173	0,184	0,168	0,177
Manganese	Mn	mg/l	0,00219	0,00503	0,00432	0,00416	0,00493	0,00535	0,00500	0,00539	0,00622	0,00644	0,00723
Molybdène	Mo	mg/l	0,00109	0,00127	0,00065	0,00087	0,00045	0,00025	0,00017	0,00010	0,00010	0,00016	0,00010
Sodium	Na	mg/l	5,69	5,64	2,59	1,20	0,93	0,55	0,38	0,31	0,30	0,23	0,18
Nickel	Ni	mg/l	0,0005	0,0007	0,0002	0,0003	0,0003	0,0002	0,0001	0,0001	0,0001	0,0001	0,0001
Plomb	Pb	mg/l	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009
Antimoine	Sb	mg/l	0,0082	0,0546	0,0315	0,0198	0,0126	0,0099	0,0077	0,0072	0,0062	0,0056	0,0057
Sélénium	Se	mg/l	0,00004	0,00004	0,00017	0,00004	0,00004	0,00004	0,00004	0,00004	0,00004	0,00004	0,00004
Etain	Sn	mg/l	0,00208	0,00073	0,00035	0,00017	0,00008	0,00010	0,00008	0,00007	<0,00006	<0,00006	0,00009
Strontium	Sr	mg/l	0,0046	0,0064	0,00597	0,0053	0,00638	0,0051	0,0055	0,00517	0,0056	0,00537	0,0054
Titane	Ti	mg/l	0,00006	0,00005	0,00005	0,00039	0,00005	<0,00005	0,00005	0,00005	0,00007	0,00007	0,00007
Thallium	Th	mg/l	0,000328	<0,000263	0,000227	<0,000169	<0,000145	0,000123	<0,000113	<0,0001	<0,000099	<0,00009	<0,000093
Uranium	U	mg/l	0,001750	0,029200	0,021712	0,013500	0,010200	0,006560	0,006990	0,004969	0,00449	0,004200	0,004282
Vanadium	V	mg/l	0,00021	0,00028	0,00019	0,00010	0,00009	0,00008	0,00005	0,00005	0,00006	0,00012	0,00006
Tungstène	W	mg/l	0,00682	0,01020	0,00428	0,00132	0,00087	0,00018	0,00036	0,00034	0,00026	0,00036	0,00021
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,003	<0,002	<0,003	<0,003	<0,003	<0,002	<0,003	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l	0,00001	<0,00001	<0,00001	<0,00001	0,00001	<0,00001	<0,00001	<0,00001	0,00001	0,00001	<0,00001
Cérium (total)	Ce	mg/l	0,00001	0,00001	0,00001	0,00001	0,00001	<0,00001	0,00001	0,00001	0,00001	0,00001	0,00001
Césium (total)	Cs	mg/l	0,0438	0,0362	0,0374	0,0306	0,0312	0,0224	0,0279	0,0216	0,0248	0,0208	0,0194
Dysprosium (total)	Dy	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Erbium (total)	Er	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Europium (total)	Eu	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Gallium (total)	Ga	mg/l	0,0006	<0,0003	<0,0004	<0,0004	<0,0003	0,0003	<0,0003	0,0004	<0,0003	<0,0003	<0,0003
Gadolinium (total)	Gd	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Germanium (total)	Ge	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	0,0002	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Hafnium (total)	Hf	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Holmium (total)	Ho	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Indium (total)	In	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Iridium (total)	Ir	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Lanthanum (total)	La	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Lutetium (total)	Lu	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Niobium (total)	Nb	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Néodymium (total)	Nd	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Osmium (total)	Os	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Palladium (total)	Pd	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Praseodymium (total)	Pr	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Platinum (total)	Pt	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Rubidium (total)	Rb	mg/l	0,2590	0,1440	0,1170	0,0878	0,0895	0,0658	0,0582	0,0559	0,0558	0,0503	0,0474
Rhenium (total)	Re	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Rhodium (total)	Rh	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Scandium (total)	Sc	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Samarium (total)	Sm	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Tantalum (total)	Ta	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Terbium (total)	Tb	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Tellurium (total)	Te	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Thorium (total)	Th	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Thulium (total)	Tm	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Ytterbium (total)	Yb	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001

Résultats HCT – CV5-WR-HCT-64

Analyse	Symbole	Unité	Sem. #11	Sem. #12	Sem. #13	Sem. #14	Sem. #15	Sem. #16	Sem. #17	Sem. #18	Sem. #19	Sem. #20	Sem. #21
			2023-07-13	2023-07-20	2023-07-27	2023-08-03	2023-08-10	2023-08-17	2023-08-24	2023-08-31	2023-09-07	2023-09-14	2023-09-21
Volume du lixiviat	V	mL	1001	1006	1001	936	902	964	981	988	917	953	965
pH	pH	No unit	7,17	7,19	7,10	7,20	6,63	7,23	7,14	7,22	6,93	6,81	6,84
Alkalinité	Alkalinité	$mgCaCO_3/l$	7	7	6	3	4	6	6	6	4	4	5
Conductivité	Conductivité	µS/cm	15	16	14	6	6	15	13	14	13	10	11
Acidité	Acidité	$mgCaCO_3/l$	2	2	2	2	2	2	2	2	2	2	2
Fluoride	F	mg/l				<0,06	<0,06	<0,06		<0,06		0,06	
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<0,03	<0,03	<0,04	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Sulfate	SO_4^{2-}	mg/l	2	2	2	2	2	2	2	2	2	<2,0	2
Chlore	Cl^-	mg/l					1	<1,0		<1,0		1	
Nitrite	NO_2^-	mgN/l					<0,03	<0,03		<0,03		<0,03	
Nitrate	NO_3^-	mgN/l					<0,06	<0,06		<0,06		<0,06	
Bromide	Br	mg/l					<0,3	<0,3		<0,3		<0,3	
Mercure	Hg	mg/l					<0,00001	<0,00001		<0,00001		<0,00001	
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	0,00017	<0,00005
Aluminum	Al	mg/l	0,025	0,032	0,032	0,036	0,085	0,034	0,031	0,034	0,042	0,030	0,027
Arsenic	As	mg/l	0,0261	0,0260	0,0212	0,0141	0,0152	0,0176	0,0183	0,0191	0,0136	0,0134	0,0113
Baryum	Ba	mg/l	0,00009	0,00011	0,00011	0,00013	0,00008	0,00012	0,00012	0,00019	0,00018	0,00010	0,00014
Beryllium	Be	mg/l	0,000025	<0,000014	<0,000016	<0,000022	<0,000114	<0,000024	<0,000007	<0,00001	<0,000011	<0,000015	<0,000015
Bore	B	mg/l	0,002	0,002	0,002	0,002	0,002	0,002	0,002	0,002	0,002	0,002	0,002
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	2,22	2,43	2,09	1,13	1,00	1,70	2,22	2,55	1,45	1,67	1,79
Cadmium	Cd	mg/l	<0,000003	<0,000003	<0,000003	<0,000003	0,000003	0,000003	<0,000003	<0,000003	<0,000003	0,000005	<0,000003
Cobalt	Co	mg/l	0,000017	0,000022	0,000021	0,000039	0,000044	0,000015	0,000025	0,000013	0,000019	0,000020	0,000015
Chrome	Cr	mg/l	0,00008	0,00008	0,00008	<0,00008	<0,00016	0,00012	<0,00008	0,00010	<0,00008	<0,00008	<0,00008
Cuivre	Cu	mg/l	<0,0002	<0,0002	0,0002	0,0002	0,0002	0,0002	<0,0002	<0,0002	0,0003	<0,0002	<0,0002
Fer	Fe	mg/l	0,007	0,007	<0,007	<0,007	0,050	<0,007	<0,007	0,007	<0,007	<0,064	0,007
Potassium	K	mg/l	0,708	0,657	0,495	0,433	0,540	0,451	0,454	0,462	0,386	0,371	0,322
Lithium	Li	mg/l	0,0090	0,0068	0,0051	0,0036	0,0040	0,0045	0,0049	0,0044	0,0035	0,0039	0,004
Magnésium	Mg	mg/l	0,149	0,152	0,109	0,074	0,08	0,103	0,127	0,129	0,092	0,098	0,095
Manganese	Mn	mg/l	0,00477	0,00641	0,00571	0,00317	0,00266	0,00363	0,00480	0,00571	0,00323	0,00432	0,00426
Molybdène	Mo	mg/l	0,00006	0,00011	0,00012	0,00033	0,00004	0,00006	0,00009	0,00080	0,00014	0,00270	0,00018
Sodium	Na	mg/l	0,12	0,13	0,10	0,11	0,10	0,09	0,08	0,12	0,08	0,06	0,08
Nickel	Ni	mg/l	0,0001	0,0002	0,0001	0,0001	0,0001	0,0002	0,0001	0,0001	0,0001	0,0001	0,0001
Plomb	Pb	mg/l	<0,00009	<0,00009	<0,00009	<0,00009	0,00009	0,00009	<0,00009	<0,00009	<0,00009	0,00009	0,00009
Antimoine	Sb	mg/l	0,0045	0,0042	0,0037	0,0023	0,0019	0,0037	0,0034	0,0033	0,0034	0,0026	0,0022
Sélénium	Se	mg/l	0,00004	0,00004	0,00004	0,00004	0,00004	0,00004	0,00004	0,00004	0,00004	0,00004	0,00004
Etain	Sn	mg/l	<0,00006	<0,00006	0,00008	<0,00009	<0,00006	<0,00006	<0,00007	<0,00011	<0,00012	<0,00006	<0,00006
Strontium	Sr	mg/l	0,0043	0,0044	0,00373	0,0020	0,0021	0,0032	0,0039	0,0043	0,0029	0,0035	0,00299
Titane	Ti	mg/l	0,00007	0,00007	0,00007	0,00007	0,00007	0,00007	0,00007	0,00007	0,00007	0,00007	0,00007
Thallium	Th	mg/l	0,000103	<0,00008	<0,000066	<0,000061	<0,000089	<0,000053	<0,000057	<0,000054	<0,000056	0,000045	<0,000041
Uranium	U	mg/l	0,001260	0,00309	0,002470	0,001330	0,001330	0,002240	0,00286	0,002630	0,001840	0,00160	0,00164
Vanadium	V	mg/l	0,00005	0,00004	0,00003	0,00003	0,00007	0,00005	0,00004	0,00005	0,00003	0,00003	0,00002
Tungstène	W	mg/l	0,00022	0,00018	0,00012	0,00007	0,00009	0,00008	0,00012	0,00009	0,00008	0,00009	0,00007
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,003	<0,003	<0,005	0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l					0,00001	<0,00001		<0,00001		<0,00001	
Cérium (total)	Ce	mg/l					<0,00001	<0,00001		0,00001		<0,00001	
Césium (total)	Cs	mg/l					0,0142	0,0135		0,0141		0,0108	
Dysprosium (total)	Dy	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Erbium (total)	Er	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Europium (total)	Eu	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Gallium (total)	Ga	mg/l					<0,0002	<0,0002		<0,0002		<0,0002	
Gadolinium (total)	Gd	mg/l					<0,00001	<0,00001		<0,00001		<0,00001	
Germanium (total)	Ge	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Hafnium (total)	Hf	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Holmium (total)	Ho	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Indium (total)	In	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Iridium (total)	Ir	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Lanthanum (total)	La	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Lutetium (total)	Lu	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Niobium (total)	Nb	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Néodymium (total)	Nd	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Osmium (total)	Os	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Palladium (total)	Pd	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Praseodymium (total)	Pr	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Platinum (total)	Pt	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Rubidium (total)	Rb	mg/l					0,0381	0,0307		0,0287		0,0240	
Rhenium (total)	Re	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Rhodium (total)	Rh	mg/l					<0,00001	<0,00001		<0,00001		<0,00001	
Scandium (total)	Sc	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Samarium (total)	Sm	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Tantalum (total)	Ta	mg/l					<0,0003	<0,0001		<0,0001		<0,0001	
Terbium (total)	Tb	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Tellurium (total)	Te	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Thorium (total)	Th	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Thulium (total)	Tm	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Ytterbium (total)	Yb	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	

Résultats HCT – CV5-WR-HCT-64

Analyse	Symbole	Unité	Sem. #22	Sem. #23	Sem. #24	Sem. #25	Sem. #26	Sem. #27	Sem. #28	Sem. #29	Sem. #30	Sem. #31	Sem. #32
			2023-09-28	2023-10-05	2023-10-12	2023-10-19	2023-10-26	2023-11-02	2023-11-09	2023-11-16	2023-11-23	2023-11-30	2023-12-07
Volume du lixiviat	V	mL	951	979	1010	980	1001	994	973	964	993	996	1028
pH	pH	No unit	6,98	6,82	7,15	7,03	7,06	6,61	6,83	6,81	6,88	6,65	6,89
Alkalinité	Alkalinité	$mgCaCO_3/l$	4	4	6	5	7	3	3	2	5	4	6
Conductivité	Conductivité	µS/cm	8	9	13	10	14	8	5	5	9	9	14
Acidité	Acidité	$mgCaCO_3/l$	<2,0	2	<2,0	2	2	<2,0	2	<2,0	2	<2.0	<2,0
Fluoride	F	mg/l				<0,06					<0,06		
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Sulfate	SO_4^{2-}	mg/l	2	2	2	2	2	2	2	2	2	2	2
Chlore	Cl^-	mg/l				19					<1,0		
Nitrite	NO_2^-	mgN/l				0,03					<0,03		
Nitrate	NO_3^-	mgN/l				0,06					<0,06		
Bromide	Br	mg/l				0,3					<0,3		
Mercure	Hg	mg/l				<0,00001					<0,00001		
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,030	0,027	0,026	0,029	0,025	0,023	0,025	0,029	0,024	0,023	0,026
Arsenic	As	mg/l	0,0096	0,0091	0,0104	0,01	0,0097	0,0077	0,0064	0,0064	0,0075	0,0074	0,0081
Baryum	Ba	mg/l	0,00008	0,00009	0,00013	0,0004	0,00025	0,00008	0,00008	0,0001	0,00014	0,00008	0,00008
Beryllium	Be	mg/l	<0,000011	<0,000008	0,000007	<0,000009	<0,000015	<0,000008	<0,000007	<0,000011	0,000013	<0,000011	<0,000007
Bore	B	mg/l	0,002	0,002	0,002	0,002	0,002	0,002	0,002	0,002	0,002	0,002	0,002
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	1,32	1,4	2,05	1,93	1,97	1,37	1	0,88	1,91	1,28	1,99
Cadmium	Cd	mg/l	0,000003	<0,000003	0,000003	<0,000003	<0,000003	0,000003	<0,000003	0,000003	0,000003	0,000003	<0,000003
Cobalt	Co	mg/l	0,000026	0,000016	0,000006	0,000016	0,000018	0,000011	0,000004	0,000011	0,00003	0,000007	0,000008
Chrome	Cr	mg/l	<0,00008	<0,00008	<0,00008	<0,00024	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008
Cuivre	Cu	mg/l	<0,0004	<0,0006	0,0014	<0,0022	<0,0002	<0,0002	<0,0002	0,0004	<0,0002	<0,0002	<0,0002
Fer	Fe	mg/l	<0,007	<0,06	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007
Potassium	K	mg/l	0,312	0,284	0,305	0,302	0,288	0,226	0,193	0,185	0,259	0,187	0,203
Lithium	Li	mg/l	0,0041	0,003	0,0032	0,0028	0,0023	0,0020	0,002	0,0017	0,0029	0,0022	0,0021
Magnésium	Mg	mg/l	0,081	0,076	0,097	0,094	0,081	0,067	0,048	0,047	0,084	0,056	0,071
Manganese	Mn	mg/l	0,00326	0,00336	0,0052	0,00446	0,00509	0,00340	0,00269	0,00299	0,00469	0,00310	0,00595
Molybdène	Mo	mg/l	0,00026	0,00033	0,00018	0,00018	0,00004	0,00050	0,00008	0,00004	0,0001	0,00009	0,00006
Sodium	Na	mg/l	0,06	0,06	0,19	0,09	0,18	0,06	0,06	0,03	0,05	0,04	0,06
Nickel	Ni	mg/l	0,0002	0,0001	0,0001	0,0001	0,0001	0,0001	0,0001	0,0001	0,0001	0,0001	0,0001
Plomb	Pb	mg/l	0,00009	<0,00009	<0,00009	0,0001	0,00009	0,00009	<0,00009	<0,00009	<0,00009	0,00009	<0,00009
Antimoine	Sb	mg/l	0,0018	0,0021	0,002	0,0024	0,0017	0,0020	0,0012	0,0018	0,0019	0,0017	0,0016
Sélénium	Se	mg/l	0,00004	0,00004	0,00004	0,00004	0,00014	0,00004	0,00004	0,00004	0,00004	0,00004	0,00004
Etain	Sn	mg/l	<0,00006	<0,00006	<0,00006	0,00006	<0,00006	<0,00006	<0,00006	<0,00007	<0,00006	<0,00006	<0,00006
Strontium	Sr	mg/l	0,0025	0,00253	0,0034	0,00334	0,00329	0,0022	0,00151	0,00171	0,00284	0,0020	0,0031
Titane	Ti	mg/l	0,00007	<0,00007	0,00007	0,00007	0,00007	0,00007	<0,00007	0,00007	0,00007	0,00007	<0,00007
Thallium	Th	mg/l	0,000043	<0,000041	<0,000036	<0,000045	<0,000036	0,000032	<0,000026	<0,00004	<0,000045	<0,000028	<0,000035
Uranium	U	mg/l	0,005140	0,00127	0,00132	0,00275	0,00108	0,001250	0,000642	0,000729	0,00395	0,00096	0,001170
Vanadium	V	mg/l	0,00002	0,00003	0,00002	0,0001	0,00001	0,00002	0,00003	0,00001	0,00002	0,00002	0,00003
Tungstène	W	mg/l	0,00008	0,00005	0,00026	0,00005	0,00006	0,00004	0,00003	0,00004	0,00005	0,00005	0,00006
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,012	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l				0,00001					<0,00001		
Cérium (total)	Ce	mg/l				0,00001					<0,00001		
Césium (total)	Cs	mg/l				0,0104					0,0079		
Dysprosium (total)	Dy	mg/l				0,0001					<0,0001		
Erbium (total)	Er	mg/l				0,0001					<0,0001		
Europium (total)	Eu	mg/l				0,0001					<0,0001		
Gallium (total)	Ga	mg/l				0,0001					<0,0001		
Gadolinium (total)	Gd	mg/l				0,00001					<0,00001		
Germanium (total)	Ge	mg/l				0,0001					<0,0001		
Hafnium (total)	Hf	mg/l				0,0001					<0,0001		
Holmium (total)	Ho	mg/l				0,0001					<0,0001		
Indium (total)	In	mg/l				0,0001					<0,0001		
Iridium (total)	Ir	mg/l				0,0001					<0,0001		
Lanthanum (total)	La	mg/l				0,0001					<0,0001		
Lutetium (total)	Lu	mg/l				0,0001					<0,0001		
Niobium (total)	Nb	mg/l				0,0001					<0,0001		
Néodymium (total)	Nd	mg/l				0,0001					<0,0001		
Osmium (total)	Os	mg/l				0,0001					<0,0001		
Palladium (total)	Pd	mg/l				0,0001					<0,0001		
Praseodymium (total)	Pr	mg/l				0,0001					<0,0001		
Platinum (total)	Pt	mg/l				0,0001					<0,0001		
Rubidium (total)	Rb	mg/l				0,0202					0,0173		
Rhenium (total)	Re	mg/l				0,0001					<0,0001		
Rhodium (total)	Rh	mg/l				0,00001					<0,00001		
Scandium (total)	Sc	mg/l				0,0001					<0,0001		
Samarium (total)	Sm	mg/l				0,0001					<0,0001		
Tantalum (total)	Ta	mg/l				0,0001					<0,0001		
Terbium (total)	Tb	mg/l				0,0001					<0,0001		
Tellurium (total)	Te	mg/l				0,0001					<0,0001		
Thorium (total)	Th	mg/l				0,0001					<0,0001		
Thulium (total)	Tm	mg/l				0,0001					<0,0001		
Ytterbium (total)	Yb	mg/l				0,0001					<0,0001		

Résultats HCT – CV5-WR-HCT-64

Analyse	Symbole	Unité	Sem. #33	Sem. #34	Sem. #35	Sem. #36	Sem. #37	Sem. #38	Sem. #39	Sem. #40	Sem. #41	Sem. #42	Sem. #43
			2023-12-14	2023-12-21	2023-12-28	2024-01-04	2024-01-11	2024-01-18	2024-01-25	2024-02-01	2024-02-08	2024-02-15	2024-02-22
Volume du lixiviat	V	mL	971	992	1003	966	993	995	998	914	972	1000	929
pH	pH	No unit	6,90	6,99	7,11	7,12	7,11	6,91	7,00	6,98	7,10	7,09	7,00
Alkalinité	Alkalinité	$mgCaCO_3/l$	4	5	5	6	4	5	5	3	6	4	2
Conductivité	Conductivité	µS/cm	13	12	12	12	10	11	11	6	9	6	4
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0
Fluoride	F	mg/l	<0,06		<0,06					<0,06			
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,04	<0,03	<0,03	<0,03	<0,03
Sulfate	SO_4^{2-}	mg/l	2	2	2	2	2	2	2	2	2	2	2
Chlore	Cl^-	mg/l	***		<1,0					1			
Nitrite	NO_2^-	mgN/l	***		<0,03					<0,03			
Nitrate	NO_3^-	mgN/l	***		<0,06					<0,06			
Bromide	Br	mg/l	***		<0,3					<0,3			
Mercure	Hg	mg/l	***		<0,00001					<0,00001			
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,023	0,024	0,027	0,028	0,029	0,029	0,079	0,131	0,033	0,036	0,041
Arsenic	As	mg/l	0,0072	0,0072	0,0069	0,0061	0,0058	0,0079	0,0067	0,0042	0,0054	0,0050	0,0052
Baryum	Ba	mg/l	0,00008	0,00008	0,00009	0,00008	0,00018	0,00017	0,00010	0,00016	0,00008	0,00009	0,00008
Beryllium	Be	mg/l	<0,000007	<0,000007	<0,000007	<0,000007	<0,000011	<0,000009	<0,000026	<0,000365	<0,00001	<0,000012	<0,000012
Bore	B	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00029	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	1,91	1,92	1,98	1,95	1,85	1,85	1,93	2,44	1,60	1,20	0,80
Cadmium	Cd	mg/l	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000007	0,000003	<0,000005	<0,000003	<0,000003	<0,000003
Cobalt	Co	mg/l	0,000007	0,000019	0,000012	0,000005	0,000013	0,000012	0,000018	0,000013	0,000020	0,000013	0,000013
Chrome	Cr	mg/l	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008
Cuivre	Cu	mg/l	<0,0002	0,0002	<0,0002	<0,0002	0,0002	<0,0002	<0,002	<0,002	<0,002	<0,001	<0,001
Fer	Fe	mg/l	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	0,007	<0,007	<0,007	<0,007
Potassium	K	mg/l	0,177	0,179	0,194	0,232	0,219	0,193	0,277	0,093	0,172	0,158	0,142
Lithium	Li	mg/l	0,0020	0,0018	0,0019	0,0021	0,0020	0,0017	0,0022	0,0018	0,0017	0,0013	0,0012
Magnésium	Mg	mg/l	0,063	0,059	0,060	0,061	0,060	0,057	0,057	0,032	0,041	0,033	0,029
Manganese	Mn	mg/l	0,00491	0,00455	0,00533	0,00456	0,00631	0,00520	0,00677	0,00326	0,00493	0,00414	0,00288
Molybdène	Mo	mg/l	0,00019	0,00046	0,00022	0,00019	0,00012	0,00806	0,00040	<0,0004	<0,0004	<0,0004	<0,0004
Sodium	Na	mg/l	0,03	0,04	0,04	0,12	0,03	0,04	0,02	0,18	0,06	0,04	0,04
Nickel	Ni	mg/l	0,0001	0,0002	0,0001	0,0001	0,0003	0,0002	0,0002	0,0001	0,0001	0,0001	0,0001
Plomb	Pb	mg/l	0,00009	<0,00009	<0,00009	<0,00009	0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009
Antimoine	Sb	mg/l	0,0016	0,0015	0,0013	0,0013	0,0015	0,0019	0,0014	0,0019	0,0014	0,0013	0,0012
Sélénium	Se	mg/l	0,00004	0,00004	0,00004	0,00006	0,00004	0,00004	0,00004	0,00004	0,00004	0,00004	0,00004
Etain	Sn	mg/l	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00007	<0,00006	<0,00006	<0,00006
Strontium	Sr	mg/l	0,0028	0,0028	0,0029	0,0025	0,0024	0,0026	0,0026	0,00404	0,00199	0,00164	0,00129
Titane	Ti	mg/l	<0,00007	0,00007	<0,00007	0,00007	0,00007	0,00007	0,00010	0,0001	0,0001	<0,0001	<0,0001
Thallium	Th	mg/l	<0,000035	<0,000028	<0,000034	<0,000016	<0,00003	<0,00003	<0,000077	<0,000011	<0,000029	<0,00004	<0,000047
Uranium	U	mg/l	0,002580	0,001050	0,00086	0,001290	0,000678	0,00070	0,00066	0,003130	0,004360	0,000467	0,000959
Vanadium	V	mg/l	0,00002	0,00003	0,00004	0,00001	0,00001	0,00002	0,00003	0,00006	0,00001	0,00001	0,00001
Tungstène	W	mg/l	0,00005	0,00005	0,00006	0,00005	0,00004	0,00004	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l			<0,00001					<0,00001			
Cérium (total)	Ce	mg/l			<0,00001					0,00008			
Césium (total)	Cs	mg/l			0,0075					0,0023			
Dysprosium (total)	Dy	mg/l			<0,0001					<0,00001			
Erbium (total)	Er	mg/l			<0,0001					<0,00001			
Europium (total)	Eu	mg/l			<0,0001					<0,00001			
Gallium (total)	Ga	mg/l			<0,0001					<0,0002			
Gadolinium (total)	Gd	mg/l			<0,00001					<0,00001			
Germanium (total)	Ge	mg/l			<0,0001					<0,0001			
Hafnium (total)	Hf	mg/l			<0,0001					<0,0001			
Holmium (total)	Ho	mg/l			<0,0001					<0,00001			
Indium (total)	In	mg/l			<0,0001					<0,00001			
Iridium (total)	Ir	mg/l			<0,0001					<0,00001			
Lanthanum (total)	La	mg/l			<0,0001					<0,00001			
Lutetium (total)	Lu	mg/l			<0,0001					<0,0001			
Niobium (total)	Nb	mg/l			<0,0001					<0,00018			
Néodymium (total)	Nd	mg/l			<0,0001					<0,00002			
Osmium (total)	Os	mg/l			<0,0001					<0,0001			
Palladium (total)	Pd	mg/l			<0,0001					<0,0001			
Praseodymium (total)	Pr	mg/l			<0,0001					<0,00001			
Platinum (total)	Pt	mg/l			<0,0001					<0,0001			
Rubidium (total)	Rb	mg/l			0,0157					0,0047			
Rhenium (total)	Re	mg/l			<0,0001					<0,0001			
Rhodium (total)	Rh	mg/l			<0,00001					<0,00001			
Scandium (total)	Sc	mg/l			<0,0001					<0,0001			
Samarium (total)	Sm	mg/l			<0,0001					<0,00001			
Tantalum (total)	Ta	mg/l			<0,0001					<0,0001			
Terbium (total)	Tb	mg/l			<0,0001					<0,00001			
Tellurium (total)	Te	mg/l			<0,0001					<0,0001			
Thorium (total)	Th	mg/l			<0,0001					<0,0001			
Thulium (total)	Tm	mg/l			<0,0001					<0,00001			
Ytterbium (total)	Yb	mg/l			<0,0001					<0,00001			

Résultats HCT – CV5-WR-HCT-64

Analyse	Symbole	Unité	Sem. #44	Sem. #45	Sem. #46	Sem. #47	Sem. #48	Sem. #49	Sem. #50	Sem. #51	Sem. #52	Sem. #53	Sem. #54
			2024-02-29	2024-03-07	2024-03-14	2024-03-21	2024-03-28	2024-04-04	2024-04-11	2024-04-18	2024-04-25	2024-05-02	2024-05-09
Volume du lixiviat	V	mL	971	1006	1003	982	1003	1012	1004	993	1001	963	1008
pH	pH	No unit	6,91	7,14	7,12	7,06	7,16	7,14	7,15	7,31	7,14	7,13	7,12
Alkalinité	Alkalinité	$mgCaCO_3/l$	3	4	5	5	5	4	4	4	4	4	4
Conductivité	Conductivité	µS/cm	5	10	10	9	9	9	11	9	9	8	8
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0
Fluoride	F	mg/l		<0,06					<0,06				
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Sulfate	SO_4^{2-}	mg/l	2	2	2	2	2	2	2	2	2	2	2
Chlore	Cl^-	mg/l		<1,0					<1,0				
Nitrite	NO_2^-	mgN/l		<0,03					<0,03				
Nitrate	NO_3^-	mgN/l		<0,06					<0,06				
Bromide	Br	mg/l		<0,3					<0,3				
Mercure	Hg	mg/l		<0,00001					<0,00001				
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,030	0,035	0,019	0,022	0,020	0,024	0,028	0,026	0,023	0,024	0,026
Arsenic	As	mg/l	0,0043	0,0054	0,0051	0,0058	0,0048	0,0053	0,0051	0,0058	0,0048	0,0047	0,0047
Baryum	Ba	mg/l	0,00031	0,00008	0,00008	0,00008	0,00008	0,00008	0,00008	0,00021	0,00008	0,00020	0,00009
Beryllium	Be	mg/l	<0,000015	<0,000009	<0,000007	<0,000007	<0,000012	<0,000007	<0,000012	<0,000011	<0,00001	<0,000007	<0,000007
Bore	B	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	1,00	2,09	1,70	1,75	1,64	1,70	1,89	1,74	1,56	1,60	1,61
Cadmium	Cd	mg/l	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000008	<0,000003	<0,000003
Cobalt	Co	mg/l	0,000008	0,000009	0,000015	0,000008	0,000009	0,000004	0,000007	0,000009	0,000009	0,000012	0,000009
Chrome	Cr	mg/l	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008
Cuivre	Cu	mg/l	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001
Fer	Fe	mg/l	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007
Potassium	K	mg/l	0,142	0,179	0,132	0,149	0,135	0,138	0,148	0,167	0,120	0,142	0,138
Lithium	Li	mg/l	0,0013	0,0013	0,0013	0,0012	0,0012	0,0012	0,0015	0,0013	0,0010	0,0013	0,0011
Magnésium	Mg	mg/l	0,036	0,055	0,044	0,040	0,037	0,040	0,041	0,041	0,034	0,036	0,035
Manganese	Mn	mg/l	0,00321	0,00607	0,00481	0,00450	0,00466	0,00491	0,00502	0,00544	0,00464	0,00492	0,00479
Molybdène	Mo	mg/l	<0,0004	<0,0006	<0,0035	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0005	<0,0004	<0,0004
Sodium	Na	mg/l	0,03	0,07	0,03	0,03	0,04	0,04	0,02	0,05	0,03	0,05	0,03
Nickel	Ni	mg/l	0,0002	0,0001	0,0001	0,0001	0,0001	0,0001	0,0001	0,0001	0,0002	0,0003	0,0001
Plomb	Pb	mg/l	<0,00009	<0,00009	<0,00009	<0,00069	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00014
Antimoine	Sb	mg/l	0,0011	0,0014	0,0012	0,0012	0,0010	0,0011	0,0009	0,0014	0,0011	0,0011	0,0011
Sélénium	Se	mg/l	0,00004	0,00004	0,00004	0,00004	0,00004	0,00004	0,00004	0,00004	0,00004	0,00004	0,00004
Etain	Sn	mg/l	<0,00006	<0,00006	<0,00032	<0,00006	<0,00006	<0,0001	<0,00006	<0,00006	<0,0001	<0,00006	<0,00006
Strontium	Sr	mg/l	0,00170	0,00277	0,00221	0,00208	0,00202	0,00207	0,00230	0,00217	0,00175	0,00182	0,00186
Titane	Ti	mg/l	0,0001	<0,0001	<0,0001	0,0001	0,0001	<0,0001	0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Thallium	Th	mg/l	<0,000032	<0,000031	<0,000025	<0,000024	<0,000027	<0,000026	<0,000032	<0,000029	<0,000024	<0,000023	<0,000026
Uranium	U	mg/l	0,000562	0,000717	0,000562	0,000528	0,000481	0,000464	0,000436	0,000440	0,000402	0,000405	0,000366
Vanadium	V	mg/l	0,00001	0,00003	0,00001	0,00001	0,00001	0,00001	0,00003	0,00002	0,00002	0,00003	0,00005
Tungstène	W	mg/l	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,005	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l		<0,00001					<0,00001				
Cérium (total)	Ce	mg/l		<0,00001					<0,00001				
Césium (total)	Cs	mg/l		0,0073					0,0072				
Dysprosium (total)	Dy	mg/l		<0,00001					<0,00001				
Erbium (total)	Er	mg/l		<0,00001					<0,00001				
Europium (total)	Eu	mg/l		<0,00001					<0,00001				
Gallium (total)	Ga	mg/l		<0,0001					<0,0001				
Gadolinium (total)	Gd	mg/l		<0,00001					<0,00001				
Germanium (total)	Ge	mg/l		<0,0001					<0,0001				
Hafnium (total)	Hf	mg/l		<0,0001					<0,0001				
Holmium (total)	Ho	mg/l		<0,00001					<0,00001				
Indium (total)	In	mg/l		<0,00001					<0,00001				
Iridium (total)	Ir	mg/l		<0,00001					<0,00001				
Lanthanum (total)	La	mg/l		<0,00001					<0,00001				
Lutetium (total)	Lu	mg/l		<0,0001					<0,0001				
Niobium (total)	Nb	mg/l		<0,00001					<0,00001				
Néodymium (total)	Nd	mg/l		<0,00001					<0,00001				
Osmium (total)	Os	mg/l		<0,0001					<0,0001				
Palladium (total)	Pd	mg/l		<0,0001					<0,0001				
Praseodymium (total)	Pr	mg/l		<0,00001					<0,00001				
Platinum (total)	Pt	mg/l		<0,0001					<0,0001				
Rubidium (total)	Rb	mg/l		0,0146					0,0135				
Rhenium (total)	Re	mg/l		<0,0001					<0,0001				
Rhodium (total)	Rh	mg/l		<0,00001					<0,00001				
Scandium (total)	Sc	mg/l		<0,0001					<0,0001				
Samarium (total)	Sm	mg/l		<0,00001					<0,00001				
Tantalum (total)	Ta	mg/l		<0,0001					<0,0001				
Terbium (total)	Tb	mg/l		<0,00001					<0,00001				
Tellurium (total)	Te	mg/l		<0,0001					<0,0001				
Thorium (total)	Th	mg/l		<0,0001					<0,0001				
Thulium (total)	Tm	mg/l		<0,00001					<0,00001				
Ytterbium (total)	Yb	mg/l		<0,00001					<0,00001				

Résultats HCT – CV5-WR-HCT-64

Analyse	Symbole	Unité	Sem. #55	Sem. #56	Sem. #57	Sem. #58	Sem. #59	Sem. #60	Sem. #61	Sem. #62	Sem. #63	Sem. #64	Sem. #65
			2024-05-16	2024-05-23	2024-05-30	2024-06-06	2024-06-13	2024-06-20	2024-06-27	2024-07-04	2024-07-11	2024-07-18	2024-07-25
Volume du lixiviat	V	mL	1007	994	1010	1015	1003	1009	1014	990	942	1014	1002
pH	pH	No unit	7,24	7,11	6,95	6,99	7,05	6,90	6,76	6,65	6,62	6,94	6,87
Alkalinité	Alkalinité	$mgCaCO_3/l$	3	4	4	4	3	4	4	3		5	
Conductivité	Conductivité	µS/cm	8	8	7	7	7	8	8	9	5	7	8
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0		<2,0	
Fluoride	F	mg/l	<0,06					<0,06				<0,06	
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03		<0,03	
Sulfate	SO_4^{2-}	mg/l	2	2	2	2	2	2	2	2		2	
Chlore	Cl^-	mg/l	<1,0					<1,0				<1,0	
Nitrite	NO_2^-	mgN/l	<0,03					<0,03				<0,03	
Nitrate	NO_3^-	mgN/l	<0,06					<0,06				<0,06	
Bromide	Br	mg/l	<0,3					<0,3				<0,3	
Mercure	Hg	mg/l	<0,00001					<0,00001				<0,00001	
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005		<0,00005	
Aluminum	Al	mg/l	0,025	0,024	0,018	0,026	0,027	0,024	0,023	0,023		0,021	
Arsenic	As	mg/l	0,0042	0,0040	0,0041	0,0041	0,0043	0,0040	0,0042	0,0035		0,0041	
Baryum	Ba	mg/l	0,00008	0,00008	0,00008	0,00008	0,00008	0,00008	0,00008	0,00008		0,00008	
Beryllium	Be	mg/l	<0,000007	<0,000007	<0,000007	<0,000012	<0,000007	<0,000007	<0,000007	<0,000011		<0,000009	
Bore	B	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002		<0,002	
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001		<0,00001	
Calcium	Ca	mg/l	1,61	1,55	1,46	1,60	1,63	1,54	1,32	1,33		1,52	
Cadmium	Cd	mg/l	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003		<0,000011	
Cobalt	Co	mg/l	0,000012	0,000007	0,000010	0,000056	0,000010	0,000007	0,000006	0,000011		0,000011	
Chrome	Cr	mg/l	<0,00008	<0,00008	<0,00011	<0,00013	<0,00008	<0,00008	<0,00008	<0,00008		<0,00008	
Cuivre	Cu	mg/l	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001		<0,001	
Fer	Fe	mg/l	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007		0,007	
Potassium	K	mg/l	0,136	0,136	0,123	0,146	0,144	0,134	0,127	0,123		0,139	
Lithium	Li	mg/l	0,0012	0,0010	0,0010	0,0011	0,0011	0,0012	0,0011	0,0011		0,0010	
Magnésium	Mg	mg/l	0,033	0,034	0,032	0,033	0,033	0,037	0,029	0,027		0,034	
Manganese	Mn	mg/l	0,00497	0,00496	0,00463	0,00483	0,00514	0,00565	0,00521	0,00565		0,00670	
Molybdène	Mo	mg/l	<0,0004	<0,0004	<0,0004	<0,0008	<0,0004	<0,0004	<0,0004	<0,0004		<0,0253	
Sodium	Na	mg/l	0,04	0,03	0,05	0,03	0,03	0,04	0,02	0,03		0,07	
Nickel	Ni	mg/l	0,0001	0,0005	0,0002	0,0002	0,0003	0,0001	0,0001	0,0002		0,0001	
Plomb	Pb	mg/l	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009		<0,00009	
Antimoine	Sb	mg/l	0,0010	0,0009	0,0011	0,0010	0,0010	0,0009	0,0010	0,0009		0,0011	
Sélénium	Se	mg/l	0,00004	0,00004	0,00004	0,00004	0,00004	0,00004	0,00004	0,00004		0,00004	
Etain	Sn	mg/l	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006		<0,00006	
Strontium	Sr	mg/l	0,00184	0,00181	0,00145	0,00174	0,00175	0,00186	0,00154	0,00148		0,00171	
Titane	Ti	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	0,0001		<0,0001	
Thallium	Th	mg/l	<0,000028	<0,000026	<0,000021	<0,000022	<0,000028	<0,000029	<0,000026	<0,000028		<0,000028	
Uranium	U	mg/l	0,000388	0,000346	0,000290	0,000292	0,000292	0,000315	0,000288	0,000285		0,000319	
Vanadium	V	mg/l	0,00003	0,00005	0,00005	0,00003	0,00002	0,00001	0,00001	0,00001		0,00002	
Tungstène	W	mg/l	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002		<0,0002	
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002		<0,00002	
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002		<0,002	
Gold (total)	Au	mg/l	<0,00001					<0,00001				<0,00001	
Cérium (total)	Ce	mg/l	0,00001					<0,00001				<0,00001	
Césium (total)	Cs	mg/l	0,0059					0,0059				0,0065	
Dysprosium (total)	Dy	mg/l	<0,00001					<0,00001				<0,00001	
Erbium (total)	Er	mg/l	<0,00001					<0,00001				<0,00001	
Europium (total)	Eu	mg/l	<0,00001					<0,00001				<0,00001	
Gallium (total)	Ga	mg/l	<0,0001					<0,0001				<0,0001	
Gadolinium (total)	Gd	mg/l	<0,00001					<0,00001				<0,00001	
Germanium (total)	Ge	mg/l	<0,0001					<0,0001				<0,0001	
Hafnium (total)	Hf	mg/l	<0,0001					<0,0001				<0,0001	
Holmium (total)	Ho	mg/l	<0,00001					<0,00001				<0,00001	
Indium (total)	In	mg/l	<0,00001					<0,00001				<0,00001	
Iridium (total)	Ir	mg/l	<0,00001					<0,00001				<0,00001	
Lanthanum (total)	La	mg/l	<0,00001					<0,00001				<0,00001	
Lutetium (total)	Lu	mg/l	<0,0001					<0,0001				<0,0001	
Niobium (total)	Nb	mg/l	<0,00001					<0,00001				<0,00001	
Néodymium (total)	Nd	mg/l	<0,00001					<0,00001				<0,00003	
Osmium (total)	Os	mg/l	<0,0001					<0,0001				<0,0001	
Palladium (total)	Pd	mg/l	<0,0001					<0,0001				<0,0001	
Praseodymium (total)	Pr	mg/l	<0,00001					<0,00001				<0,00003	
Platinum (total)	Pt	mg/l	<0,0001					<0,0001				<0,0001	
Rubidium (total)	Rb	mg/l	0,0125					0,0123				0,0127	
Rhenium (total)	Re	mg/l	<0,0001					<0,0001				<0,0001	
Rhodium (total)	Rh	mg/l	<0,00001					<0,00001				<0,00001	
Scandium (total)	Sc	mg/l	<0,0001					<0,0001				<0,0001	
Samarium (total)	Sm	mg/l	<0,00001					<0,00001				<0,00001	
Tantalum (total)	Ta	mg/l	<0,0001					<0,0001				<0,0001	
Terbium (total)	Tb	mg/l	<0,00001					<0,00001				<0,00001	
Tellurium (total)	Te	mg/l	<0,0001					<0,0001				<0,0001	
Thorium (total)	Th	mg/l	<0,0001					<0,0001				<0,0001	
Thulium (total)	Tm	mg/l	<0,00001					<0,00001				<0,00001	
Ytterbium (total)	Yb	mg/l	<0,00001					<0,00001				<0,00001	

Résultats HCT – CV5-WR-HCT-64

Analyse	Symbole	Unité	Sem. #66	Sem. #67	Sem. #68	Sem. #69	Sem. #70	Sem. #71	Sem. #72	Sem. #73	Sem. #74	Sem. #75	Sem. #76
			2024-08-01	2024-08-08	2024-08-15	2024-08-22	2024-08-29	2024-09-05	2024-09-12	2024-09-19	2024-09-26	2024-10-03	2024-10-10
Volume du lixiviat	V	mL	1012	1002	1008	1009	1010	1007	1002	1005	1011	1001	1003
pH	pH	No unit	6,94	6,98	6,71	6,64	6,92	6,96	6,79	6,91	6,97	7,09	6,60
Alkalinité	Alkalinité	$mgCaCO_3/l$			3				2				2
Conductivité	Conductivité	µS/cm	9	7	6	6	8	8	7	11	5	7	5
Acidité	Acidité	$mgCaCO_3/l$			<2,0				<2,0				<2,0
Fluoride	F	mg/l			<0,06				<0,06				<0,06
Phosphore réactif total	PO_4^{3-}-P	mg/l			<0,03				<0,03				<0,03
Sulfate	SO_4^{2-}	mg/l			2				2				2
Chlore	Cl^-	mg/l			<1,0				<1,0				<1,0
Nitrite	NO_2^-	mgN/l			<0,03				<0,03				<0,03
Nitrate	NO_3^-	mgN/l			<0,06				<0,06				<0,06
Bromide	Br	mg/l			<0,3				<0,3				<0,3
Mercure	Hg	mg/l			<0,00001				<0,00001				<0,00001
Argent	Ag	mg/l			<0,00005				<0,00005				<0,00005
Aluminum	Al	mg/l			0,021				0,016				0,018
Arsenic	As	mg/l			0,0038				0,0033				0,0050
Baryum	Ba	mg/l			0,00008				0,00008				0,00008
Beryllium	Be	mg/l			<0,000007				<0,000007				<0,000009
Bore	B	mg/l			<0,002				<0,002				<0,002
Bismuth	Bi	mg/l			<0,00001				<0,00001				<0,00001
Calcium	Ca	mg/l			1,24				1,33				1,12
Cadmium	Cd	mg/l			<0,000003				<0,000003				<0,000003
Cobalt	Co	mg/l			0,000008				0,000004				0,000005
Chrome	Cr	mg/l			<0,00008				<0,00008				<0,00008
Cuivre	Cu	mg/l			<0,001				<0,001				<0,001
Fer	Fe	mg/l			<0,007				<0,007				<0,007
Potassium	K	mg/l			0,117				0,124				0,121
Lithium	Li	mg/l			0,0008				0,0008				0,0008
Magnésium	Mg	mg/l			0,026				0,025				0,024
Manganese	Mn	mg/l			0,00560				0,00588				0,00597
Molybdène	Mo	mg/l			<0,0004				<0,0004				<0,0004
Sodium	Na	mg/l			0,05				0,04				0,01
Nickel	Ni	mg/l			0,0001				0,0001				0,0001
Plomb	Pb	mg/l			<0,00009				<0,00009				<0,00016
Antimoine	Sb	mg/l			0,0012				0,0009				0,0009
Sélénium	Se	mg/l			0,00004				0,00004				0,00004
Etain	Sn	mg/l			<0,00006				<0,00009				<0,00009
Strontium	Sr	mg/l			0,00134				0,00135				0,00112
Titane	Ti	mg/l			<0,0001				<0,0001				0,0001
Thallium	Th	mg/l			<0,000029				<0,000028				<0,00003
Uranium	U	mg/l			0,000246				0,000162				0,000143
Vanadium	V	mg/l			0,00002				0,00002				0,00001
Tungstène	W	mg/l			<0,0002				<0,0002				<0,0002
Yttrium	Y	mg/l			<0,00002				<0,00002				<0,00002
Zinc	Zn	mg/l			<0,002				<0,002				<0,002
Gold (total)	Au	mg/l			<0,00001				<0,00001				<0,00001
Cérium (total)	Ce	mg/l			<0,00001				<0,00001				<0,00001
Césium (total)	Cs	mg/l			0,0057				0,0057				0,0059
Dysprosium (total)	Dy	mg/l			<0,00001				<0,00001				<0,00001
Erbium (total)	Er	mg/l			<0,00001				<0,00001				<0,00001
Europium (total)	Eu	mg/l			<0,00001				<0,00001				<0,00001
Gallium (total)	Ga	mg/l			<0,0001				<0,0001				<0,0001
Gadolinium (total)	Gd	mg/l			<0,00001				<0,00001				<0,00001
Germanium (total)	Ge	mg/l			<0,0001				<0,0001				<0,0001
Hafnium (total)	Hf	mg/l			<0,0001				<0,0001				<0,0001
Holmium (total)	Ho	mg/l			<0,00001				<0,00001				<0,00001
Indium (total)	In	mg/l			<0,00001				<0,00001				<0,00001
Iridium (total)	Ir	mg/l			<0,00001				<0,00001				<0,00001
Lanthanum (total)	La	mg/l			<0,00001				<0,00001				<0,00001
Lutetium (total)	Lu	mg/l			<0,0001				<0,0001				<0,0001
Niobium (total)	Nb	mg/l			<0,00001				<0,00001				<0,00001
Néodymium (total)	Nd	mg/l			<0,00001				<0,00001				<0,00001
Osmium (total)	Os	mg/l			<0,0001				<0,0001				<0,0001
Palladium (total)	Pd	mg/l			<0,0001				<0,0001				<0,0001
Praseodymium (total)	Pr	mg/l			<0,00001				<0,00001				<0,00001
Platinum (total)	Pt	mg/l			<0,0001				<0,0001				<0,0001
Rubidium (total)	Rb	mg/l			0,0118				0,0118				0,0148
Rhenium (total)	Re	mg/l			<0,0001				<0,0001				<0,0001
Rhodium (total)	Rh	mg/l			<0,00001				<0,00001				<0,00001
Scandium (total)	Sc	mg/l			<0,0001				<0,0001				<0,0001
Samarium (total)	Sm	mg/l			<0,00001				<0,00001				<0,00001
Tantalum (total)	Ta	mg/l			<0,0001				<0,0001				<0,0001
Terbium (total)	Tb	mg/l			<0,00001				<0,00001				<0,00001
Tellurium (total)	Te	mg/l			<0,0001				<0,0001				<0,0001
Thorium (total)	Th	mg/l			<0,0001				<0,0001				<0,0001
Thulium (total)	Tm	mg/l			<0,00001				<0,00001				<0,00001
Ytterbium (total)	Yb	mg/l			<0,00001				<0,00001				<0,00001

Résultats HCT – CV5-WR-HCT-64

Analyse	Symbole	Unité	Sem. #77	Sem. #78	Sem. #79	Sem. #80	Sem. #81	Sem. #82	Sem. #83	Sem. #84	Sem. #85	Sem. #86	Sem. #87
			2024-10-17	2024-10-24	2024-10-31	2024-11-07	2024-11-14	2024-11-21	2024-11-28	2024-12-05	2024-12-12	2024-12-19	2024-12-26
Volume du lixiviat	V	mL	1002	999	1014	1013	1005	1022	1002	1003	992	1013	1049
pH	pH	No unit	6,82	6,83	6,92	6,45	6,95	7	7,01	6,93	7,16	7,29	6,91
Alkalinité	Alkalinité	$mgCaCO_3/l$				<2,0				3			
Conductivité	Conductivité	µS/cm	6	6	6	4	6	10	6	4	6	6	5
Acidité	Acidité	$mgCaCO_3/l$				2				<2,0			
Fluoride	F	mg/l				<0,06				<0,06			
Phosphore réactif total	PO_4^{3-}-P	mg/l				<0,03				<0,03			
Sulfate	SO_4^{2-}	mg/l				2				2			
Chlore	Cl^-	mg/l				<1,0				<1,0			
Nitrite	NO_2^-	mgN/l				<0,03				<0,03			
Nitrate	NO_3^-	mgN/l				<0,06				<0,06			
Bromide	Br	mg/l				<0,3				<0,3			
Mercure	Hg	mg/l				<0,00001				<0,00001			
Argent	Ag	mg/l				<0,00005				<0,00005			
Aluminum	Al	mg/l				0,014				0,014			
Arsenic	As	mg/l				0,0030				0,003			
Baryum	Ba	mg/l				0,00008				0,00008			
Beryllium	Be	mg/l				<0,000007				<0,000011			
Bore	B	mg/l				<0,002				<0,002			
Bismuth	Bi	mg/l				<0,00001				<0,00001			
Calcium	Ca	mg/l				0,98				0,81			
Cadmium	Cd	mg/l				<0,000003				<0,000003			
Cobalt	Co	mg/l				0,000010				0,000004			
Chrome	Cr	mg/l				<0,00008				<0,00008			
Cuivre	Cu	mg/l				<0,001				<0,001			
Fer	Fe	mg/l				<0,007				<0,007			
Potassium	K	mg/l				0,113				0,101			
Lithium	Li	mg/l				0,0009				0,0008			
Magnésium	Mg	mg/l				0,022				0,019			
Manganese	Mn	mg/l				0,00641				0,00604			
Molybdène	Mo	mg/l				<0,0004				<0,0004			
Sodium	Na	mg/l				0,04				0,03			
Nickel	Ni	mg/l				0,0002				0,0001			
Plomb	Pb	mg/l				<0,00009				<0,00009			
Antimoine	Sb	mg/l				0,0009				0,0009			
Sélénium	Se	mg/l				0,00004				0,00004			
Etain	Sn	mg/l				<0,00006				<0,00006			
Strontium	Sr	mg/l				0,00111				0,00090			
Titane	Ti	mg/l				<0,0001				<0,0001			
Thallium	Th	mg/l				<0,000024				0,000032			
Uranium	U	mg/l				0,000107				0,000066			
Vanadium	V	mg/l				0,00002				0,00001			
Tungstène	W	mg/l				<0,0002				<0,0002			
Yttrium	Y	mg/l				<0,00002				<0,00002			
Zinc	Zn	mg/l				<0,002				<0,002			
Gold (total)	Au	mg/l				<0,00001				<0,00001			
Cérium (total)	Ce	mg/l				<0,00001				<0,00001			
Césium (total)	Cs	mg/l				0,0051				0,0055			
Dysprosium (total)	Dy	mg/l				<0,00001				<0,00001			
Erbium (total)	Er	mg/l				<0,00001				<0,00001			
Europium (total)	Eu	mg/l				<0,00001				<0,00001			
Gallium (total)	Ga	mg/l				<0,0001				<0,0001			
Gadolinium (total)	Gd	mg/l				<0,00001				<0,00001			
Germanium (total)	Ge	mg/l				<0,0001				<0,0001			
Hafnium (total)	Hf	mg/l				<0,0001				<0,0001			
Holmium (total)	Ho	mg/l				<0,00001				<0,00001			
Indium (total)	In	mg/l				<0,00001				<0,00001			
Iridium (total)	Ir	mg/l				<0,00001				<0,00001			
Lanthanum (total)	La	mg/l				<0,00001				<0,00001			
Lutetium (total)	Lu	mg/l				<0,0001				<0,0001			
Niobium (total)	Nb	mg/l				<0,00001				<0,00001			
Néodymium (total)	Nd	mg/l				<0,00001				<0,00001			
Osmium (total)	Os	mg/l				<0,0001				<0,0001			
Palladium (total)	Pd	mg/l				<0,0001				<0,0001			
Praseodymium (total)	Pr	mg/l				<0,00001				<0,00001			
Platinum (total)	Pt	mg/l				<0,0001				<0,0001			
Rubidium (total)	Rb	mg/l				0,0107				0,0113			
Rhenium (total)	Re	mg/l				<0,0001				<0,0001			
Rhodium (total)	Rh	mg/l				<0,00001				<0,00001			
Scandium (total)	Sc	mg/l				<0,0001				<0,0001			
Samarium (total)	Sm	mg/l				<0,00001				<0,00001			
Tantalum (total)	Ta	mg/l				<0,0001				<0,0001			
Terbium (total)	Tb	mg/l				<0,00001				<0,00001			
Tellurium (total)	Te	mg/l				<0,0001				<0,0001			
Thorium (total)	Th	mg/l				<0,0001				<0,0001			
Thulium (total)	Tm	mg/l				<0,00001				<0,00001			
Ytterbium (total)	Yb	mg/l				<0,00001				<0,00001			

Résultats HCT – CV5-WR-HCT-64

Analyse	Symbole	Unité	Sem. #88	Sem. #89
			2025-01-02	2025-01-09
Volume du lixiviat	V	mL	1022	1006
pH	pH	No unit	6,76	6,88
Alkalinité	Alkalinité	$mgCaCO_3/l$	2	
Conductivité	Conductivité	µS/cm	6	5
Acidité	Acidité	$mgCaCO_3/l$	3	
Fluoride	F	mg/l	<0,06	
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	
Sulfate	SO_4^{2-}	mg/l	2	
Chlore	Cl^-	mg/l	<1,0	
Nitrite	NO_2^-	mgN/l	<0,03	
Nitrate	NO_3^-	mgN/l	<0,06	
Bromide	Br	mg/l	<0,3	
Mercure	Hg	mg/l	<0,00001	
Argent	Ag	mg/l	<0,00005	
Aluminum	Al	mg/l	0,021	
Arsenic	As	mg/l	0,0033	
Baryum	Ba	mg/l	0,00008	
Beryllium	Be	mg/l	<0,000009	
Bore	B	mg/l	<0,002	
Bismuth	Bi	mg/l	<0,00001	
Calcium	Ca	mg/l	0,79	
Cadmium	Cd	mg/l	<0,000003	
Cobalt	Co	mg/l	0,000004	
Chrome	Cr	mg/l	<0,00008	
Cuivre	Cu	mg/l	<0,001	
Fer	Fe	mg/l	<0,007	
Potassium	K	mg/l	0,115	
Lithium	Li	mg/l	0,0008	
Magnésium	Mg	mg/l	0,019	
Manganese	Mn	mg/l	0,00623	
Molybdène	Mo	mg/l	<0,0004	
Sodium	Na	mg/l	0,02	
Nickel	Ni	mg/l	0,0001	
Plomb	Pb	mg/l	<0,00009	
Antimoine	Sb	mg/l	<0,0009	
Sélénium	Se	mg/l	0,00004	
Etain	Sn	mg/l	<0,00006	
Strontium	Sr	mg/l	0,00083	
Titane	Ti	mg/l	<0,0001	
Thallium	Th	mg/l	0,00003	
Uranium	U	mg/l	0,000048	
Vanadium	V	mg/l	0,00002	
Tungstène	W	mg/l	<0,0002	
Yttrium	Y	mg/l	<0,00002	
Zinc	Zn	mg/l	<0,002	
Gold (total)	Au	mg/l	<0,00001	
Cérium (total)	Ce	mg/l	0,00001	
Césium (total)	Cs	mg/l	0,0059	
Dysprosium (total)	Dy	mg/l	<0,00001	
Erbium (total)	Er	mg/l	<0,00001	
Europium (total)	Eu	mg/l	<0,00001	
Gallium (total)	Ga	mg/l	<0,0001	
Gadolinium (total)	Gd	mg/l	<0,00001	
Germanium (total)	Ge	mg/l	<0,0001	
Hafnium (total)	Hf	mg/l	<0,0001	
Holmium (total)	Ho	mg/l	<0,00001	
Indium (total)	In	mg/l	<0,00001	
Iridium (total)	Ir	mg/l	<0,00001	
Lanthanum (total)	La	mg/l	0,00001	
Lutetium (total)	Lu	mg/l	<0,0001	
Niobium (total)	Nb	mg/l	<0,00001	
Néodymium (total)	Nd	mg/l	<0,00001	
Osmium (total)	Os	mg/l	<0,0001	
Palladium (total)	Pd	mg/l	<0,0001	
Praseodymium (total)	Pr	mg/l	<0,00001	
Platinum (total)	Pt	mg/l	<0,0001	
Rubidium (total)	Rb	mg/l	0,0116	
Rhenium (total)	Re	mg/l	<0,0001	
Rhodium (total)	Rh	mg/l	<0,00001	
Scandium (total)	Sc	mg/l	<0,0001	
Samarium (total)	Sm	mg/l	<0,00001	
Tantalum (total)	Ta	mg/l	<0,0001	
Terbium (total)	Tb	mg/l	<0,00001	
Tellurium (total)	Te	mg/l	<0,0001	
Thorium (total)	Th	mg/l	<0,0001	
Thulium (total)	Tm	mg/l	<0,00001	
Ytterbium (total)	Yb	mg/l	<0,00001	

Résultats HCT – CV5-WR-HCT-64

Analyse	Symbole	Unité	Sem. #90	Sem. #91	Sem. #92	Sem. #93	Sem. #94	Sem. #95	Sem. #96	Sem. #97	Sem. #98	Sem. #99	Sem. #100
			2025-01-16	2025-01-23	2025-01-30	2025-02-06	2025-02-13	2025-02-20	2025-02-27	2025-03-06	2025-03-13	2025-03-20	2025-03-27
Volume du lixiviat	V	mL	1005	1026	1019	1001	963	1013	1002	1010	1009	1022	1013
pH	pH	No unit	6,55	6,94	6,62	6,98	6,53	6,93	6,77	6,8	6,58	7,01	6,69
Alkalinité	Alkalinité	$mgCaCO_3/l$			2				<3,0				<3,0
Conductivité	Conductivité	µS/cm	6	9	6	5	3	6	3	4	4	5	3
Acidité	Acidité	$mgCaCO_3/l$			<2,0				2				2
Fluoride	F	mg/l			<0,06				<0,06				<0,06
Phosphore réactif total	PO_4^{3-}-P	mg/l			<0,03				<0,03				<0,03
Sulfate	SO_4^{2-}	mg/l			2				2				2
Chlore	Cl^-	mg/l			<1,0				<1,0				<1,0
Nitrite	NO_2^-	mgN/l			<0,03				<0,03				<0,03
Nitrate	NO_3^-	mgN/l			<0,06				<0,06				<0,06
Bromide	Br	mg/l			<0,3				<0,3				<0,3
Mercure	Hg	mg/l			<0,00001				<0,00001				<0,00001
Argent	Ag	mg/l			<0,00005				<0,00005				<0,00005
Aluminum	Al	mg/l			0,017				0,012				0,010
Arsenic	As	mg/l			0,0034				0,0027				0,0025
Baryum	Ba	mg/l			0,00026				0,00008				0,00008
Beryllium	Be	mg/l			<0,000014				<0,000011				<0,00001
Bore	B	mg/l			<0,002				<0,002				<0,002
Bismuth	Bi	mg/l			<0,00001				<0,00001				<0,00001
Calcium	Ca	mg/l			0,74				0,62				0,67
Cadmium	Cd	mg/l			<0,000003				0,000003				<0,000003
Cobalt	Co	mg/l			0,000006				0,000019				0,000004
Chrome	Cr	mg/l			<0,00008				<0,00008				<0,00008
Cuivre	Cu	mg/l			<0,001				<0,001				<0,001
Fer	Fe	mg/l			<0,007				<0,007				<0,007
Potassium	K	mg/l			0,120				0,098				0,114
Lithium	Li	mg/l			0,0008				0,0007				0,0008
Magnésium	Mg	mg/l			0,023				0,017				0,020
Manganese	Mn	mg/l			0,00684				0,00598				0,00547
Molybdène	Mo	mg/l			<0,0004				<0,0004				<0,0004
Sodium	Na	mg/l			0,03				0,03				0,03
Nickel	Ni	mg/l			0,0001				0,0003				0,0001
Plomb	Pb	mg/l			<0,00009				<0,00009				<0,00009
Antimoine	Sb	mg/l			<0,0009				<0,0009				<0,0009
Sélénium	Se	mg/l			0,00004				0,00004				0,00004
Etain	Sn	mg/l			0,00006				<0,00006				<0,00006
Strontium	Sr	mg/l			0,00213				0,00072				0,00074
Titane	Ti	mg/l			<0,0001				<0,0001				<0,0001
Thallium	Th	mg/l			0,000039				<0,00003				<0,000034
Uranium	U	mg/l			0,000082				0,00008				0,000047
Vanadium	V	mg/l			0,00002				0,00001				0,00002
Tungstène	W	mg/l			<0,0002				<0,0002				<0,0002
Yttrium	Y	mg/l			<0,00002				<0,00002				<0,00002
Zinc	Zn	mg/l			<0,002				<0,002				<0,002
Gold (total)	Au	mg/l			<0,00001				<0,00001				<0,00001
Cérium (total)	Ce	mg/l			0,00001				0,00001				<0,00001
Césium (total)	Cs	mg/l			0,0055				0,0047				0,0055
Dysprosium (total)	Dy	mg/l			<0,00001				<0,00001				<0,00001
Erbium (total)	Er	mg/l			<0,00001				<0,00001				<0,00001
Europium (total)	Eu	mg/l			<0,00001				<0,00001				<0,00001
Gallium (total)	Ga	mg/l			<0,0001				<0,0001				<0,0001
Gadolinium (total)	Gd	mg/l			<0,00001				<0,00001				<0,00001
Germanium (total)	Ge	mg/l			<0,0001				<0,0001				<0,0001
Hafnium (total)	Hf	mg/l			<0,0001				<0,0001				<0,0001
Holmium (total)	Ho	mg/l			<0,00001				<0,00001				<0,00001
Indium (total)	In	mg/l			<0,00001				<0,00001				<0,00001
Iridium (total)	Ir	mg/l			<0,00001				<0,00001				<0,00001
Lanthanum (total)	La	mg/l			0,00001				0,00001				<0,00001
Lutetium (total)	Lu	mg/l			<0,0001				<0,0001				<0,0001
Niobium (total)	Nb	mg/l			<0,00001				<0,00001				<0,00001
Néodymium (total)	Nd	mg/l			<0,00001				<0,00001				<0,00001
Osmium (total)	Os	mg/l			<0,0001				<0,0001				<0,0001
Palladium (total)	Pd	mg/l			<0,0001				<0,0001				<0,0001
Praseodymium (total)	Pr	mg/l			<0,00001				<0,00001				<0,00001
Platinum (total)	Pt	mg/l			<0,0001				<0,0001				<0,0001
Rubidium (total)	Rb	mg/l			0,0127				0,0103				0,0110
Rhenium (total)	Re	mg/l			<0,0001				<0,0001				<0,0001
Rhodium (total)	Rh	mg/l			<0,00001				<0,00001				<0,00001
Scandium (total)	Sc	mg/l			<0,0001				<0,0001				<0,0001
Samarium (total)	Sm	mg/l			<0,00001				<0,00001				<0,00001
Tantalum (total)	Ta	mg/l			<0,0001				<0,0001				<0,0001
Terbium (total)	Tb	mg/l			<0,00001				<0,00001				<0,00001
Tellurium (total)	Te	mg/l			<0,0001				<0,0001				<0,0001
Thorium (total)	Th	mg/l			<0,0001				<0,0001				<0,0001
Thulium (total)	Tm	mg/l			<0,00001				<0,00001				<0,00001
Ytterbium (total)	Yb	mg/l			<0,00001				<0,00001				<0,00001

Résultats HCT – CV5-WR-HCT-69

Analyse	Symbole	Unité	Sem. #0	Sem. #1	Sem. #2	Sem. #3	Sem. #4	Sem. #5	Sem. #6	Sem. #7	Sem. #8	Sem. #9	Sem. #10
			2023-04-27	2023-05-04	2023-05-11	2023-05-18	2023-05-25	2023-06-01	2023-06-08	2023-06-15	2023-06-22	2023-06-29	2023-07-06
Volume du lixiviat	V	mL	847	988	998	996	996	1003	994	984	990	983	1014
pH	pH	No unit	9,09	8,17	8,22	7,83	7,66	7,55	7,41	7,83	7,54	7,57	7,77
Alkalinité	Alkalinité	$mgCaCO_3/l$	29	29	20	22	13	12	10	11	11	13	10
Conductivité	Conductivité	µS/cm	114	58	36	42	27	27	23	24	24	26	26
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2,0	2	2	2	2	2	2	2	2	2
Fluoride	F	mg/l	<0,33	<0,19	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,21	<0,1	<0,08	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Sulfate	SO_4^{2-}	mg/l	7	3	2	2	2	2	2	2	2	2	2
Chlore	Cl^-	mg/l	22	6	1	1	1	1	<1,0	<1,0	1	1	1
Nitrite	NO_2^-	mgN/l	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Nitrate	NO_3^-	mgN/l	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06
Bromide	Br	mg/l	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3
Mercure	Hg	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,257	0,176	0,156	0,132	0,125	0,131	0,128	0,135	0,146	0,184	0,160
Arsenic	As	mg/l	0,2100	0,2360	0,1360	0,0813	0,0588	0,0425	0,0340	0,0280	0,0257	0,0217	0,0212
Baryum	Ba	mg/l	0,00052	0,00034	0,00033	0,00025	0,00028	0,00022	0,00040	0,00023	0,00023	0,00022	0,00019
Beryllium	Be	mg/l	<0,000437	<0,000366	0,000332	<0,000217	<0,00025	<0,000194	<0,000133	<0,000204	<0,000179	<0,000189	<0,000129
Bore	B	mg/l	0,083	0,103	0,027	0,015	0,012	0,007	0,005	0,005	0,005	0,004	0,003
Bismuth	Bi	mg/l	<0,001	<0,00075	<0,00061	<0,00062	<0,00059	<0,0005	<0,00065	<0,00074	<0,0005	<0,00086	<0,00053
Calcium	Ca	mg/l	3,63	3,76	4,18	4,33	4,71	4,40	4,06	4,17	4,18	4,53	4,37
Cadmium	Cd	mg/l	<0,000003	<0,000003	<0,000003	0,000014	0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003
Cobalt	Co	mg/l	0,000181	0,000090	0,000060	0,000044	0,000034	0,000029	0,000022	0,000029	0,000026	0,000029	0,000021
Chrome	Cr	mg/l	0,00013	0,00015	<0,00008	0,00013	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	0,00008	<0,00008
Cuivre	Cu	mg/l	0,0089	0,0035	<0,0013	<0,0008	0,0009	0,0006	<0,0005	<0,0005	<0,0004	<0,0005	0,0004
Fer	Fe	mg/l	<0,011	0,007	0,007	0,007	<0,007	0,007	0,007	0,007	<0,007	0,007	0,016
Potassium	K	mg/l	1,86	1,18	0,80	0,563	0,498	0,413	0,331	0,307	0,301	0,294	0,257
Lithium	Li	mg/l	0,1340	0,0990	0,0406	0,0215	0,0171	0,0128	0,0102	0,0090	0,0095	0,0095	0,0073
Magnésium	Mg	mg/l	0,212	0,217	0,235	0,234	0,210	0,203	0,164	0,169	0,148	0,161	0,142
Manganese	Mn	mg/l	0,00182	0,00290	0,00326	0,00295	0,00357	0,00352	0,00337	0,00349	0,00351	0,00399	0,00377
Molybdène	Mo	mg/l	0,00224	0,00148	0,00040	0,00046	0,00020	0,00070	0,00018	0,00114	0,00185	0,00024	0,00009
Sodium	Na	mg/l	20,20	9,64	3,33	1,55	1,15	0,89	0,58	0,61	0,57	0,54	0,38
Nickel	Ni	mg/l	0,0005	0,0004	0,0002	0,0022	0,0002	0,0001	0,0001	0,0001	0,0001	0,0001	0,0001
Plomb	Pb	mg/l	<0,00011	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009
Antimoine	Sb	mg/l	0,0200	0,0572	0,0236	0,0178	0,0123	0,0157	0,0137	0,0082	0,0067	0,0062	0,0059
Sélénium	Se	mg/l	0,00067	0,00043	0,00036	0,00021	0,00023	0,00019	0,00014	0,00017	0,00015	0,00017	0,00009
Etain	Sn	mg/l	0,00485	0,00131	0,00056	0,00023	0,00023	0,00015	0,00019	0,00014	<0,0001	<0,00009	0,00009
Strontium	Sr	mg/l	0,0121	0,0119	0,01264	0,0120	0,01260	0,0109	0,0100	0,00988	0,0093	0,01066	0,0094
Titane	Ti	mg/l	0,00017	0,00013	0,00005	0,00033	0,00005	<0,00005	0,00005	0,00005	0,00007	0,00007	0,00007
Thallium	Th	mg/l	0,000076	<0,000042	0,000030	<0,00002	<0,000021	0,000018	<0,000016	<0,000015	<0,000019	<0,000014	<0,000013
Uranium	U	mg/l	0,030300	0,101000	0,040880	0,032000	0,027300	0,021300	0,017600	0,014327	0,01530	0,015700	0,012015
Vanadium	V	mg/l	0,00143	0,00089	0,00058	0,00042	0,00037	0,00031	0,00024	0,00028	0,00025	0,00026	0,00026
Tungstène	W	mg/l	0,00714	0,00867	0,00239	0,00123	0,00103	0,00047	0,00048	0,00039	0,00029	0,00026	0,00024
Yttrium	Y	mg/l	<0,00018	<0,00008	<0,00003	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l	0,00001	<0,00008	<0,00001	<0,00001	0,00001	<0,00001	<0,00001	<0,00001	0,00001	0,00001	<0,00001
Cérium (total)	Ce	mg/l	0,00011	0,00006	0,00003	0,00002	0,00002	<0,00001	0,00001	0,00001	0,00001	0,00001	0,00001
Césium (total)	Cs	mg/l	0,0143	0,0096	0,0087	0,0074	0,0067	0,0049	0,0048	0,0047	0,0050	0,0049	0,0041
Dysprosium (total)	Dy	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Erbium (total)	Er	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Europium (total)	Eu	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Gallium (total)	Ga	mg/l	0,0016	<0,0016	<0,0012	<0,001	<0,0008	0,0002	<0,0006	0,0006	<0,0006	<0,0005	<0,0005
Gadolinium (total)	Gd	mg/l	<0,00007	<0,00003	<0,00002	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Germanium (total)	Ge	mg/l	<0,0002	<0,0001	<0,0001	<0,0001	0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Hafnium (total)	Hf	mg/l	<0,0006	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Holmium (total)	Ho	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Indium (total)	In	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Iridium (total)	Ir	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Lanthanum (total)	La	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Lutetium (total)	Lu	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Niobium (total)	Nb	mg/l	<0,0028	<0,0009	<0,0003	<0,0002	<0,0002	<0,0001	<0,0002	<0,0001	<0,0001	<0,0001	<0,0001
Néodymium (total)	Nd	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Osmium (total)	Os	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Palladium (total)	Pd	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Praseodymium (total)	Pr	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Platinum (total)	Pt	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Rubidium (total)	Rb	mg/l	0,0709	0,0362	0,0272	0,0199	0,0178	0,0148	0,0118	0,0120	0,0114	0,0122	0,0103
Rhenium (total)	Re	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Rhodium (total)	Rh	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Scandium (total)	Sc	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Samarium (total)	Sm	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Tantalum (total)	Ta	mg/l	<0,0003	<0,0003	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Terbium (total)	Tb	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Tellurium (total)	Te	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Thorium (total)	Th	mg/l	<0,0003	<0,0004	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Thulium (total)	Tm	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Ytterbium (total)	Yb	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001

Résultats HCT – CV5-WR-HCT-69

Analyse	Symbole	Unité	Sem. #11	Sem. #12	Sem. #13	Sem. #14	Sem. #15	Sem. #16	Sem. #17	Sem. #18	Sem. #19	Sem. #20	Sem. #21
			2023-07-13	2023-07-20	2023-07-27	2023-08-03	2023-08-10	2023-08-17	2023-08-24	2023-08-31	2023-09-07	2023-09-14	2023-09-21
Volume du lixiviat	V	mL	1005	997	998	977	987	999	997	992	1009	1009	989
pH	pH	No unit	7,61	7,62	7,43	7,26	7,28	7,49	7,39	7,46	7,34	7,50	7,51
Alkalinité	Alkalinité	$mgCaCO_3/l$	10	10	8	7	10	9	7	16	8	7	11
Conductivité	Conductivité	µS/cm	22	20	15	15	18	20	17	16	17	15	18
Acidité	Acidité	$mgCaCO_3/l$	2	2	2	2	2	2	2	2	2	2	2
Fluoride	F	mg/l				<0,06	<0,06	<0,06		<0,06		0,06	
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Sulfate	SO_4^{2-}	mg/l	2	2	2	2	2	2	2	2	2	<2,0	2
Chlore	Cl^-	mg/l					1	<1,0		<1,0		1	
Nitrite	NO_2^-	mgN/l					<0,03	<0,03		<0,03		<0,03	
Nitrate	NO_3^-	mgN/l					<0,06	<0,06		<0,06		<0,06	
Bromide	Br	mg/l					<0,3	<0,3		<0,3		<0,3	
Mercure	Hg	mg/l					<0,00001	<0,00001		<0,00001		<0,00001	
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	0,00009	<0,00005
Aluminum	Al	mg/l	0,061	0,094	0,065	0,096	0,093	0,098	0,105	0,093	0,101	0,097	0,101
Arsenic	As	mg/l	0,0168	0,0118	0,0096	0,0092	0,0136	0,0107	0,0104	0,0110	0,0108	0,0091	0,0072
Baryum	Ba	mg/l	0,00017	0,00021	0,00015	0,00018	0,00024	0,00018	0,00022	0,00029	0,00030	0,00018	0,00027
Beryllium	Be	mg/l	0,000424	<0,000145	<0,000155	<0,000178	<0,00009	<0,000133	<0,000135	<0,000081	<0,00009	<0,000079	<0,000095
Bore	B	mg/l	0,003	0,002	0,002	0,002	0,003	0,002	0,002	0,004	0,002	0,002	0,002
Bismuth	Bi	mg/l	<0,00018	<0,00046	<0,0004	<0,00033	<0,00036	<0,00055	<0,00039	<0,00038	<0,00036	<0,00036	<0,00033
Calcium	Ca	mg/l	3,72	3,69	2,47	2,88	3,60	3,37	3,18	3,15	3,18	2,88	2,91
Cadmium	Cd	mg/l	<0,000003	<0,000003	<0,000003	<0,000003	0,000003	0,000003	<0,000003	<0,000005	<0,000003	0,000003	<0,000003
Cobalt	Co	mg/l	0,000010	0,000047	0,000092	0,000058	0,000053	0,000021	0,000016	0,000017	0,000017	0,000016	0,000007
Chrome	Cr	mg/l	0,00012	0,00008	0,00008	<0,00016	<0,00008	0,00011	<0,00008	0,00008	<0,00008	<0,00008	<0,00008
Cuivre	Cu	mg/l	<0,0002	<0,0004	0,0009	0,0006	0,0003	0,0003	<0,0003	<0,0004	0,0004	<0,0002	<0,0006
Fer	Fe	mg/l	0,007	0,032	<0,007	<0,007	0,007	<0,022	<0,007	0,007	<0,007	<0,007	0,007
Potassium	K	mg/l	0,210	0,178	0,107	0,159	0,176	0,158	0,141	0,142	0,130	0,116	0,102
Lithium	Li	mg/l	0,0078	0,0060	0,0040	0,0045	0,0048	0,0044	0,0042	0,0032	0,0037	0,0035	0,0037
Magnésium	Mg	mg/l	0,121	0,124	0,072	0,087	0,10	0,082	0,080	0,074	0,076	0,063	0,06
Manganese	Mn	mg/l	0,00269	0,00447	0,00905	0,00491	0,00382	0,00349	0,00355	0,00318	0,00327	0,00306	0,00315
Molybdène	Mo	mg/l	0,00007	0,00010	0,00084	0,00022	0,00016	0,00004	0,00006	0,00138	0,00013	0,00030	0,00179
Sodium	Na	mg/l	0,34	0,31	0,20	0,29	0,29	0,26	0,23	0,26	0,23	0,17	0,19
Nickel	Ni	mg/l	0,0001	0,0011	0,0015	0,0006	0,0001	0,0005	0,0001	0,0002	0,0001	0,0001	0,0001
Plomb	Pb	mg/l	<0,00009	<0,00009	<0,00012	<0,00009	0,00009	0,00009	<0,00009	<0,00009	<0,00009	0,00009	0,00009
Antimoine	Sb	mg/l	0,0053	0,0042	0,0038	0,0036	0,0051	0,0038	0,0035	0,0034	0,0030	0,0032	0,0033
Sélénium	Se	mg/l	0,00013	0,00007	0,00004	0,00004	0,00009	0,00005	0,00008	0,00004	0,00006	0,00004	0,00006
Etain	Sn	mg/l	<0,0001	<0,00011	0,00018	<0,00008	<0,00014	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,0001
Strontium	Sr	mg/l	0,0078	0,0082	0,00543	0,0062	0,0078	0,0071	0,0066	0,0062	0,0065	0,0061	0,00548
Titane	Ti	mg/l	0,00007	0,00007	0,00007	0,00007	0,00007	0,00007	0,00007	0,00013	0,00007	0,00007	0,00007
Thallium	Th	mg/l	0,000020	<0,000017	<0,00001	<0,000012	<0,00001	<0,000007	<0,00001	<0,00001	<0,000008	0,000012	<0,000005
Uranium	U	mg/l	0,004560	0,01297	0,009800	0,008280	0,009870	0,008910	0,00792	0,008250	0,007070	0,00839	0,00563
Vanadium	V	mg/l	0,00020	0,00013	0,00009	0,00011	0,00015	0,00015	0,00014	0,00017	0,00013	0,00011	0,00011
Tungstène	W	mg/l	0,00021	0,00015	0,00012	0,00012	0,00015	0,00009	0,00012	0,00137	0,00013	0,00009	0,00008
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,008	<0,004	<0,004	0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l					0,00001	<0,00001		<0,00001		<0,00001	
Cérium (total)	Ce	mg/l					<0,00001	<0,00001		0,00001		<0,00001	
Césium (total)	Cs	mg/l					0,0000	0,0000		0,0000		0,0000	
Dysprosium (total)	Dy	mg/l					<0,0034	<0,0035		<0,0028		<0,0024	
Erbium (total)	Er	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Europium (total)	Eu	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Gallium (total)	Ga	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Gadolinium (total)	Gd	mg/l					<0,0003	<0,0003		<0,0002		<0,0002	
Germanium (total)	Ge	mg/l					<0,00001	<0,00001		<0,00001		<0,00001	
Hafnium (total)	Hf	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Holmium (total)	Ho	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Indium (total)	In	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Iridium (total)	Ir	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Lanthanum (total)	La	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Lutetium (total)	Lu	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Niobium (total)	Nb	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Néodymium (total)	Nd	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Osmium (total)	Os	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Palladium (total)	Pd	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Praseodymium (total)	Pr	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Platinum (total)	Pt	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Rubidium (total)	Rb	mg/l					0,0001	0,0001		0,0001		0,0001	
Rhenium (total)	Re	mg/l					<0,0078	<0,0072		<0,0058		<0,0051	
Rhodium (total)	Rh	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Scandium (total)	Sc	mg/l					<0,00001	<0,00001		<0,00001		<0,00001	
Samarium (total)	Sm	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Tantalum (total)	Ta	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Terbium (total)	Tb	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Tellurium (total)	Te	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Thorium (total)	Th	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Thulium (total)	Tm	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Ytterbium (total)	Yb	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	

Résultats HCT – CV5-WR-HCT-69

Analyse	Symbole	Unité	Sem. #22	Sem. #23	Sem. #24	Sem. #25	Sem. #26	Sem. #27	Sem. #28	Sem. #29	Sem. #30	Sem. #31	Sem. #32
			2023-09-28	2023-10-05	2023-10-12	2023-10-19	2023-10-26	2023-11-02	2023-11-09	2023-11-16	2023-11-23	2023-11-30	2023-12-07
Volume du lixiviat	V	mL	996	989	1000	992	1007	1001	1007	982	998	1005	1014
pH	pH	No unit	7,27	7,32	7,36	7,4	7,34	7,16	7,13	7,03	7,01	6,90	7,18
Alkalinité	Alkalinité	mg$CaCO_3$/l	7	7	7	8	9	6	6	4	7	5	5
Conductivité	Conductivité	µS/cm	20	14	15	16	20	14	11	9	13	13	14
Acidité	Acidité	mg$CaCO_3$/l	<2,0	2	<2,0	2	2	<2,0	2	<2,0	2	<2,0	<2,0
Fluoride	F	mg/l				<0,06					<0,06		
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Sulfate	SO_4^{2-}	mg/l	2	2	2	2	2	2	2	2	2	2	2
Chlore	Cl^-	mg/l				1					<1,0		
Nitrite	NO_2^-	mgN/l				0,03					<0,03		
Nitrate	NO_3^-	mgN/l				0,06					<0,06		
Bromide	Br	mg/l				0,3					<0,3		
Mercure	Hg	mg/l				<0,00001					<0,00001		
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,083	0,065	0,078	0,092	0,109	0,077	0,054	0,052	0,061	0,063	0,075
Arsenic	As	mg/l	0,0071	0,0055	0,0063	0,0061	0,0063	0,0059	0,0035	0,0032	0,0053	0,0051	0,0051
Baryum	Ba	mg/l	0,00015	0,00013	0,00013	0,00013	0,00017	0,00014	0,00011	0,00014	0,0002	0,00015	0,00011
Beryllium	Be	mg/l	<0,000078	<0,000089	0,000066	<0,000079	<0,000083	<0,000057	<0,000072	<0,000108	0,000154	<0,00009	<0,000076
Bore	B	mg/l	0,002	0,002	0,003	0,002	0,002	0,002	0,002	0,002	0,002	0,002	0,002
Bismuth	Bi	mg/l	<0,00022	<0,00019	<0,00027	<0,00032	<0,00034	<0,0002	<0,00021	<0,00017	<0,00018	<0,00025	<0,00023
Calcium	Ca	mg/l	2,60	2,46	2,66	3,02	2,91	2,46	2,24	1,61	2,86	2,50	2,43
Cadmium	Cd	mg/l	0,000003	<0,000004	0,000013	<0,000003	<0,000003	0,000003	<0,000003	0,000004	0,000013	0,000003	<0,000003
Cobalt	Co	mg/l	0,000057	0,000009	0,000012	0,000009	0,000017	0,000012	0,000006	0,000019	0,000019	0,000014	0,000012
Chrome	Cr	mg/l	<0,00008	<0,00008	<0,00008	<0,0002	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008
Cuivre	Cu	mg/l	<0,0003	<0,0006	0,0002	<0,0004	<0,0002	<0,0008	<0,0002	0,0002	<0,0002	<0,0002	<0,0002
Fer	Fe	mg/l	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007
Potassium	K	mg/l	0,104	0,092	0,091	0,12	0,119	0,074	0,071	0,05	0,09	0,082	0,066
Lithium	Li	mg/l	0,0035	0,0028	0,0028	0,0028	0,0025	0,0019	0,0021	0,0014	0,0022	0,0021	0,0020
Magnésium	Mg	mg/l	0,054	0,055	0,04	0,066	0,051	0,043	0,039	0,03	0,048	0,040	0,036
Manganese	Mn	mg/l	0,00291	0,00292	0,00386	0,00334	0,00279	0,00252	0,00258	0,00246	0,00346	0,00273	0,00279
Molybdène	Mo	mg/l	0,00062	0,00019	0,00026	0,00023	0,00039	0,00011	0,00041	0,0001	0,00007	0,00024	0,00005
Sodium	Na	mg/l	0,16	0,15	0,17	0,2	0,2	0,14	0,14	0,1	0,14	0,14	0,15
Nickel	Ni	mg/l	0,0002	0,0001	0,0001	0,0001	0,0001	0,0001	0,0001	0,0001	0,0001	0,0001	0,0001
Plomb	Pb	mg/l	0,00009	<0,00009	<0,00009	0,00009	0,00009	0,00018	<0,00009	<0,00009	<0,00009	0,00009	<0,00009
Antimoine	Sb	mg/l	0,0023	0,0025	0,002	0,0025	0,002	0,0025	0,0013	0,0014	0,0026	0,0023	0,0018
Sélénium	Se	mg/l	0,00005	0,00004	0,00008	0,00004	0,0001	0,00004	0,00004	0,00004	0,00004	0,00004	0,00004
Etain	Sn	mg/l	<0,00006	<0,00006	<0,00006	0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006
Strontium	Sr	mg/l	0,0052	0,00509	0,00542	0,00593	0,0055	0,0045	0,00396	0,00353	0,00511	0,0046	0,0049
Titane	Ti	mg/l	0,00007	<0,00007	0,00007	0,00007	0,00007	0,00007	<0,00007	0,00007	0,00007	0,00007	<0,00007
Thallium	Th	mg/l	0,000009	<0,000005	<0,000007	<0,000006	<0,000009	0,000005	<0,000005	<0,000007	<0,000012	<0,000006	<0,000005
Uranium	U	mg/l	0,009420	0,00676	0,00553	0,00575	0,00476	0,003600	0,00437	0,0039	0,00503	0,00426	0,008670
Vanadium	V	mg/l	0,00010	0,00007	0,00009	0,00015	0,00009	0,00009	0,00006	0,00005	0,00008	0,00007	0,00008
Tungstène	W	mg/l	0,00009	0,00005	0,00006	0,00005	0,00007	0,00004	0,00004	0,00004	0,00005	0,00005	0,00005
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l				0,00001					<0,00001		
Cérium (total)	Ce	mg/l				0,00001					<0,00001		
Césium (total)	Cs	mg/l				0,00001					0,00001		
Dysprosium (total)	Dy	mg/l				0,0026					<0,0019		
Erbium (total)	Er	mg/l				0,0001					<0,0001		
Europium (total)	Eu	mg/l				0,0001					<0,0001		
Gallium (total)	Ga	mg/l				0,0001					<0,0001		
Gadolinium (total)	Gd	mg/l				0,0002					<0,0001		
Germanium (total)	Ge	mg/l				0,00001					<0,00001		
Hafnium (total)	Hf	mg/l				0,0001					<0,0001		
Holmium (total)	Ho	mg/l				0,0001					<0,0001		
Indium (total)	In	mg/l				0,0001					<0,0001		
Iridium (total)	Ir	mg/l				0,0001					<0,0001		
Lanthanum (total)	La	mg/l				0,0001					<0,0001		
Lutetium (total)	Lu	mg/l				0,0001					<0,0001		
Niobium (total)	Nb	mg/l				0,0001					<0,0001		
Néodymium (total)	Nd	mg/l				0,0001					<0,0001		
Osmium (total)	Os	mg/l				0,0001					<0,0001		
Palladium (total)	Pd	mg/l				0,0001					<0,0001		
Praseodymium (total)	Pr	mg/l				0,0001					<0,0001		
Platinum (total)	Pt	mg/l				0,0001					<0,0001		
Rubidium (total)	Rb	mg/l				0,0001					0,0001		
Rhenium (total)	Re	mg/l				0,0051					<0,004		
Rhodium (total)	Rh	mg/l				0,0001					<0,0001		
Scandium (total)	Sc	mg/l				0,00001					<0,00001		
Samarium (total)	Sm	mg/l				0,0001					<0,0001		
Tantalum (total)	Ta	mg/l				0,0001					<0,0001		
Terbium (total)	Tb	mg/l				0,0001					<0,0001		
Tellurium (total)	Te	mg/l				0,0001					<0,0001		
Thorium (total)	Th	mg/l				0,0001					<0,0001		
Thulium (total)	Tm	mg/l				0,0001					<0,0001		
Ytterbium (total)	Yb	mg/l				0,0001					<0,0001		

Résultats HCT – CV5-WR-HCT-69

Analyse	Symbole	Unité	Sem. #33	Sem. #34	Sem. #35	Sem. #36	Sem. #37	Sem. #38	Sem. #39	Sem. #40	Sem. #41	Sem. #42	Sem. #43
			2023-12-14	2023-12-21	2023-12-28	2024-01-04	2024-01-11	2024-01-18	2024-01-25	2024-02-01	2024-02-08	2024-02-15	2024-02-22
Volume du lixiviat	V	mL	964	995	1012	995	994	998	1010	999	1012	1020	955
pH	pH	No unit	7,26	7,16	7,12	7,20	7,43	6,97	7,24	6,99	7,05	7,20	6,89
Alkalinité	Alkalinité	$mgCaCO_3/l$	6	5	6	7	6	6	6	5	4	4	3
Conductivité	Conductivité	µS/cm	13	13	14	14	14	12	13	13	11	9	7
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0
Fluoride	F	mg/l	<0,06		<0,06					<0,06			
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,3	<0,03	<0,03	<0,03
Sulfate	SO_4^{2-}	mg/l	2	2	2	2	2	2	2	0	2	2	2
Chlore	Cl^-	mg/l	***		<1,0					2			
Nitrite	NO_2^-	mgN/l	***		<0,03					<0,03			
Nitrate	NO_3^-	mgN/l	***		<0,06					<0,03			
Bromide	Br	mg/l	***		<0,3					<0,06			
Mercure	Hg	mg/l	***		<0,00001					<0,00001			
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,073	0,073	0,064	0,067	0,080	0,071	0,125	0,049	0,061	0,042	0,041
Arsenic	As	mg/l	0,0047	0,0041	0,0042	0,0038	0,0038	0,0039	0,0041	0,0053	0,0034	0,0021	0,0022
Baryum	Ba	mg/l	0,00014	0,00012	0,00011	0,00013	0,00013	0,00008	0,00016	0,00008	0,00046	0,00012	0,00008
Beryllium	Be	mg/l	<0,000071	<0,000075	<0,000069	<0,000079	<0,000102	<0,000082	<0,000281	<0,000012	<0,000053	<0,000106	<0,000091
Bore	B	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Bismuth	Bi	mg/l	<0,00022	<0,00015	<0,00016	<0,00021	<0,0003	<0,00027	<0,00038	<0,00001	<0,00029	<0,00019	<0,0001
Calcium	Ca	mg/l	2,42	2,46	2,46	2,48	2,55	2,25	2,60	1,30	2,00	1,61	1,11
Cadmium	Cd	mg/l	<0,000003	<0,000004	<0,000003	<0,000003	<0,000004	<0,000006	0,000003	<0,000003	<0,000003	<0,000003	<0,000003
Cobalt	Co	mg/l	0,000007	0,000010	0,000006	0,000009	0,000016	0,000008	0,000018	0,000014	0,000012	0,000012	0,000008
Chrome	Cr	mg/l	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008
Cuivre	Cu	mg/l	<0,0006	0,0002	<0,0003	<0,0002	0,0003	<0,0003	<0,002	<0,002	<0,002	<0,001	<0,001
Fer	Fe	mg/l	<0,007	<0,009	<0,007	<0,007	<0,007	<0,007	<0,007	0,007	<0,007	<0,007	<0,007
Potassium	K	mg/l	0,065	0,061	0,065	0,093	0,083	0,073	0,097	0,233	0,058	0,038	0,034
Lithium	Li	mg/l	0,0019	0,0018	0,0017	0,0018	0,0038	0,0014	0,0019	0,0016	0,0013	0,0011	0,0009
Magnésium	Mg	mg/l	0,036	0,033	0,033	0,035	0,038	0,032	0,034	0,042	0,020	0,018	0,015
Manganese	Mn	mg/l	0,00272	0,00270	0,00287	0,00282	0,00289	0,00250	0,00335	0,00385	0,00258	0,00229	0,00172
Molybdène	Mo	mg/l	0,00008	0,00010	0,00021	0,00019	0,00004	0,00019	0,00040	<0,0014	<0,0004	<0,0005	<0,0004
Sodium	Na	mg/l	0,11	0,11	0,12	0,24	0,14	0,10	0,12	0,10	0,14	0,09	0,08
Nickel	Ni	mg/l	0,0001	0,0002	0,0002	0,0001	0,0003	0,0001	0,0001	0,0002	0,0002	0,0001	0,0001
Plomb	Pb	mg/l	0,00009	<0,00009	<0,00009	<0,00009	0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009
Antimoine	Sb	mg/l	0,0017	0,0017	0,0015	0,0015	0,0016	0,0015	0,0017	0,0011	0,0016	0,0010	0,0010
Sélénium	Se	mg/l	0,00004	0,00004	0,00004	0,00004	0,00004	0,00004	0,00004	0,00004	0,00004	0,00004	0,00004
Etain	Sn	mg/l	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00011	<0,00006
Strontium	Sr	mg/l	0,0044	0,0045	0,0043	0,0041	0,0044	0,0040	0,0045	0,00175	0,00340	0,00280	0,00208
Titane	Ti	mg/l	<0,00007	0,00007	<0,00007	0,00007	0,00007	0,00007	0,00020	0,0001	0,0001	<0,0001	<0,0001
Thallium	Th	mg/l	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000012	<0,00004	<0,000005	<0,000005	<0,000007
Uranium	U	mg/l	0,004360	0,003620	0,00346	0,003480	0,003460	0,00358	0,00316	0,000488	0,003150	0,002230	0,002870
Vanadium	V	mg/l	0,00007	0,00008	0,00007	0,00006	0,00007	0,00007	0,00008	0,00003	0,00006	0,00005	0,00004
Tungstène	W	mg/l	0,00004	0,00004	0,00004	0,00004	0,00004	0,00004	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l			<0,00001					<0,00001			
Cérium (total)	Ce	mg/l			<0,00001					0,00001			
Césium (total)	Cs	mg/l			0,0000					0,0000			
Dysprosium (total)	Dy	mg/l			<0,0016					<0,0079			
Erbium (total)	Er	mg/l			<0,0001					<0,00001			
Europium (total)	Eu	mg/l			<0,0001					<0,00001			
Gallium (total)	Ga	mg/l			<0,0001					<0,00001			
Gadolinium (total)	Gd	mg/l			<0,0002					<0,0001			
Germanium (total)	Ge	mg/l			<0,00001					<0,00001			
Hafnium (total)	Hf	mg/l			<0,0001					<0,0001			
Holmium (total)	Ho	mg/l			<0,0001					<0,0001			
Indium (total)	In	mg/l			<0,0001					<0,00001			
Iridium (total)	Ir	mg/l			<0,0001					<0,00001			
Lanthanum (total)	La	mg/l			<0,0001					<0,00001			
Lutetium (total)	Lu	mg/l			<0,0001					<0,00001			
Niobium (total)	Nb	mg/l			<0,0001					<0,0001			
Néodymium (total)	Nd	mg/l			<0,0001					<0,00001			
Osmium (total)	Os	mg/l			<0,0001					<0,00001			
Palladium (total)	Pd	mg/l			<0,0001					<0,0001			
Praseodymium (total)	Pr	mg/l			<0,0001					<0,0001			
Platinum (total)	Pt	mg/l			<0,0001					<0,00001			
Rubidium (total)	Rb	mg/l			0,0001					0,0001			
Rhenium (total)	Re	mg/l			<0,0034					<0,0164			
Rhodium (total)	Rh	mg/l			<0,0001					<0,0001			
Scandium (total)	Sc	mg/l			<0,00001					<0,00001			
Samarium (total)	Sm	mg/l			<0,0001					<0,0001			
Tantalum (total)	Ta	mg/l			<0,0001					<0,00001			
Terbium (total)	Tb	mg/l			<0,0001					<0,0001			
Tellurium (total)	Te	mg/l			<0,0001					<0,00001			
Thorium (total)	Th	mg/l			<0,0001					<0,0001			
Thulium (total)	Tm	mg/l			<0,0001					<0,0001			
Ytterbium (total)	Yb	mg/l			<0,0001					<0,00001			

Résultats HCT – CV5-WR-HCT-69

Analyse	Symbole	Unité	Sem. #44	Sem. #45	Sem. #46	Sem. #47	Sem. #48	Sem. #49	Sem. #50	Sem. #51	Sem. #52	Sem. #53	Sem. #54
			2024-02-29	2024-03-07	2024-03-14	2024-03-21	2024-03-28	2024-04-04	2024-04-11	2024-04-18	2024-04-25	2024-05-02	2024-05-09
Volume du lixiviat	V	mL	992	996	1008	1008	979	1008	987	998	1018	1000	994
pH	pH	No unit	6,93	7,18	7,22	7,09	7,28	7,35	7,33	7,08	7,30	7,24	7,21
Alkalinité	Alkalinité	$mgCaCO_3/l$	4	5	6	5	6	6	6	5	7	5	4
Conductivité	Conductivité	µS/cm	8	10	11	12	12	12	13	12	12	10	9
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0
Fluoride	F	mg/l		<0,06					<0,06				
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Sulfate	SO_4^{2-}	mg/l	2	2	2	2	2	2	2	2	2	2	2
Chlore	Cl^-	mg/l		<1,0					<1,0				
Nitrite	NO_2^-	mgN/l		<0,03					<0,03				
Nitrate	NO_3^-	mgN/l		<0,06					<0,06				
Bromide	Br	mg/l		<0,3					<0,3				
Mercure	Hg	mg/l		<0,00001					<0,00001				
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,047	0,042	0,033	0,049	0,042	0,047	0,052	0,043	0,055	0,049	0,052
Arsenic	As	mg/l	0,0020	0,0027	0,0028	0,0033	0,0030	0,0032	0,0027	0,0026	0,0024	0,0024	0,0023
Baryum	Ba	mg/l	0,00010	0,00013	0,00009	0,00012	0,00010	0,00008	0,00011	0,00009	0,00014	0,00010	0,00014
Beryllium	Be	mg/l	<0,000179	<0,000096	<0,000036	<0,000052	<0,000059	<0,000052	<0,000078	<0,000079	<0,000065	<0,000087	<0,000072
Bore	B	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Bismuth	Bi	mg/l	<0,0002	<0,00017	<0,00011	<0,00028	<0,00023	<0,00014	<0,00019	<0,00022	<0,00018	<0,00022	<0,0002
Calcium	Ca	mg/l	1,46	2,24	1,78	2,31	2,06	2,04	2,39	1,91	2,35	2,13	2,08
Cadmium	Cd	mg/l	<0,000005	<0,000003	<0,000003	<0,000005	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003
Cobalt	Co	mg/l	0,000080	0,000010	0,000006	0,000011	0,000010	0,000006	0,000005	0,000007	0,000029	0,000013	0,000007
Chrome	Cr	mg/l	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008
Cuivre	Cu	mg/l	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001
Fer	Fe	mg/l	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007
Potassium	K	mg/l	0,044	0,061	0,038	0,067	0,052	0,053	0,051	0,046	0,051	0,057	0,051
Lithium	Li	mg/l	0,0011	0,0012	0,0011	0,0013	0,0011	0,0011	0,0012	0,0010	0,0011	0,0012	0,0011
Magnésium	Mg	mg/l	0,022	0,029	0,023	0,028	0,024	0,024	0,026	0,021	0,024	0,032	0,021
Manganese	Mn	mg/l	0,00216	0,00261	0,00210	0,00253	0,00239	0,00246	0,00256	0,00219	0,00269	0,00249	0,00244
Molybdène	Mo	mg/l	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004
Sodium	Na	mg/l	0,08	0,10	0,08	0,10	0,10	0,10	0,09	0,09	0,10	0,10	0,09
Nickel	Ni	mg/l	0,0006	0,0001	0,0001	0,0001	0,0001	0,0001	0,0001	0,0001	0,0001	0,0002	0,0001
Plomb	Pb	mg/l	<0,00009	<0,00009	<0,00009	<0,00011	<0,00026	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009
Antimoine	Sb	mg/l	0,0012	0,0014	0,0015	0,0013	0,0012	0,0013	0,0010	0,0012	0,0013	0,0011	0,0011
Sélénium	Se	mg/l	0,00004	0,00004	0,00004	0,00004	0,00004	0,00005	0,00004	0,00004	0,00004	0,00004	0,00004
Etain	Sn	mg/l	<0,00006	<0,00006	<0,00009	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,0001	<0,00006	<0,00006
Strontium	Sr	mg/l	0,00290	0,00390	0,00309	0,00389	0,00333	0,00333	0,00405	0,00319	0,00370	0,00322	0,00322
Titane	Ti	mg/l	0,0001	<0,0001	<0,0001	0,0001	0,0001	<0,0001	0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Thallium	Th	mg/l	<0,000006	<0,000005	<0,000005	<0,000005	<0,000005	<0,000005	<0,000007	<0,000005	<0,000006	<0,000005	<0,000005
Uranium	U	mg/l	0,002860	0,004043	0,003140	0,003540	0,003290	0,003030	0,003520	0,002630	0,003160	0,002940	0,002800
Vanadium	V	mg/l	0,00003	0,00005	0,00003	0,00004	0,00009	0,00004	0,00005	0,00005	0,00004	0,00005	0,00005
Tungstène	W	mg/l	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l		<0,00001					<0,00001				
Cérium (total)	Ce	mg/l		<0,00001					<0,00001				
Césium (total)	Cs	mg/l		0,0016					0,0016				
Dysprosium (total)	Dy	mg/l		<0,00001					<0,00001				
Erbium (total)	Er	mg/l		<0,00001					<0,00001				
Europium (total)	Eu	mg/l		<0,00001					<0,00001				
Gallium (total)	Ga	mg/l		<0,0001					<0,0001				
Gadolinium (total)	Gd	mg/l		<0,00001					<0,00001				
Germanium (total)	Ge	mg/l		<0,0001					<0,0001				
Hafnium (total)	Hf	mg/l		<0,0001					<0,0001				
Holmium (total)	Ho	mg/l		<0,00001					<0,00001				
Indium (total)	In	mg/l		<0,00001					<0,00001				
Iridium (total)	Ir	mg/l		<0,00001					<0,00001				
Lanthanum (total)	La	mg/l		<0,00001					<0,00001				
Lutetium (total)	Lu	mg/l		<0,0001					<0,0001				
Niobium (total)	Nb	mg/l		<0,00001					<0,00002				
Néodymium (total)	Nd	mg/l		<0,00001					<0,00001				
Osmium (total)	Os	mg/l		<0,0001					<0,0001				
Palladium (total)	Pd	mg/l		<0,0001					<0,0001				
Praseodymium (total)	Pr	mg/l		<0,00001					<0,00001				
Platinum (total)	Pt	mg/l		<0,0001					<0,0001				
Rubidium (total)	Rb	mg/l		0,0032					0,0031				
Rhenium (total)	Re	mg/l		<0,0001					<0,0001				
Rhodium (total)	Rh	mg/l		<0,00001					<0,00001				
Scandium (total)	Sc	mg/l		<0,0001					<0,0001				
Samarium (total)	Sm	mg/l		<0,00001					<0,00001				
Tantalum (total)	Ta	mg/l		<0,0001					<0,0001				
Terbium (total)	Tb	mg/l		<0,00001					<0,00001				
Tellurium (total)	Te	mg/l		<0,0001					<0,0001				
Thorium (total)	Th	mg/l		<0,0001					<0,0001				
Thulium (total)	Tm	mg/l		<0,00001					<0,00001				
Ytterbium (total)	Yb	mg/l		<0,00001					<0,00001				

Résultats HCT – CV5-WR-HCT-69

Analyse	Symbole	Unité	Sem. #55	Sem. #56	Sem. #57	Sem. #58	Sem. #59	Sem. #60	Sem. #61	Sem. #62	Sem. #63	Sem. #64	Sem. #65
			2024-05-16	2024-05-23	2024-05-30	2024-06-06	2024-06-13	2024-06-20	2024-06-27	2024-07-04	2024-07-11	2024-07-18	2024-07-25
Volume du lixiviat	V	mL	992	1002	1017	1016	1012	1008	1020	987	959	1010	1002
pH	pH	No unit	7,36	6,58	7,08	7,17	7,31	7,14	7,10	7,46	7,40	7,20	6,98
Alkalinité	Alkalinité	$mgCaCO_3/l$	4	2	5	5	6	5	6	5		5	
Conductivité	Conductivité	µS/cm	9	7	10	10	11	11	11	11	9	10	15
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<5,0		<2,0	
Fluoride	F	mg/l	<0,06					<0,06				<0,06	
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03		<0,03	
Sulfate	SO_4^{2-}	mg/l	2	2	2	2	2	2	2	2		2	
Chlore	Cl^-	mg/l	<1,0					<1,0				<1,0	
Nitrite	NO_2^-	mgN/l	<0,03					<0,03				<0,03	
Nitrate	NO_3^-	mgN/l	<0,06					<0,06				<0,06	
Bromide	Br	mg/l	<0,3					<0,3				<0,3	
Mercure	Hg	mg/l	<0,00001					<0,00001				<0,00001	
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005		<0,00005	
Aluminum	Al	mg/l	0,042	0,047	0,045	0,052	0,058	0,055	0,054	0,043		0,048	
Arsenic	As	mg/l	0,0023	0,0027	0,0022	0,0030	0,0030	0,0032	0,0025	0,0019		0,0024	
Baryum	Ba	mg/l	0,00009	0,00014	0,00009	0,00011	0,00014	0,00017	0,00010	0,00010		0,00013	
Beryllium	Be	mg/l	<0,000087	<0,000052	<0,000087	<0,000109	<0,000064	<0,000074	<0,000061	<0,000121		<0,000048	
Bore	B	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002		<0,002	
Bismuth	Bi	mg/l	<0,00015	<0,00015	<0,00014	<0,00014	<0,0002	<0,00018	<0,00015	<0,00011		<0,00026	
Calcium	Ca	mg/l	2,02	2,20	2,14	2,19	2,52	2,24	2,05	1,80		2,21	
Cadmium	Cd	mg/l	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000004	<0,000003		<0,000003	
Cobalt	Co	mg/l	0,000010	0,000010	0,000008	0,000008	0,000149	0,000007	0,000080	0,000007		0,000015	
Chrome	Cr	mg/l	<0,00008	<0,00008	<0,00009	<0,00012	<0,00008	<0,00008	<0,00008	<0,00008		<0,00008	
Cuivre	Cu	mg/l	<0,001	<0,001	<0,001	<0,001	<0,001	<0,004	<0,001	<0,001		<0,001	
Fer	Fe	mg/l	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007		0,022	
Potassium	K	mg/l	0,048	0,054	0,056	0,062	0,060	0,053	0,054	0,040		0,064	
Lithium	Li	mg/l	0,0011	0,0010	0,0010	0,0010	0,0011	0,0011	0,0010	0,0009		0,0009	
Magnésium	Mg	mg/l	0,020	0,025	0,023	0,021	0,027	0,028	0,021	0,017		0,022	
Manganese	Mn	mg/l	0,00235	0,00252	0,00246	0,00250	0,00279	0,00261	0,00278	0,00227		0,00370	
Molybdène	Mo	mg/l	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004		<0,0004	
Sodium	Na	mg/l	0,10	0,08	0,10	0,09	0,10	0,12	0,08	0,08		0,12	
Nickel	Ni	mg/l	0,0001	0,0006	0,0002	0,0002	0,0003	0,0002	0,0005	0,0001		0,0001	
Plomb	Pb	mg/l	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009		<0,00009	
Antimoine	Sb	mg/l	0,0011	0,0012	0,0011	0,0013	0,0015	0,0012	0,0013	0,0010		0,0013	
Sélénium	Se	mg/l	0,00004	0,00004	0,00004	0,00004	0,00004	0,00004	0,00004	0,00004		0,00004	
Etain	Sn	mg/l	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006		<0,00006	
Strontium	Sr	mg/l	0,00326	0,00357	0,00299	0,00335	0,00369	0,00385	0,00316	0,00275		0,00334	
Titane	Ti	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	0,0001		<0,0001	
Thallium	Th	mg/l	<0,000005	<0,000005	<0,000005	<0,000005	<0,000006	<0,000005	<0,000006	<0,000005		<0,000005	
Uranium	U	mg/l	0,002890	0,002970	0,002750	0,002580	0,002930	0,002720	0,002620	0,002160		0,003000	
Vanadium	V	mg/l	0,00006	0,00007	0,00007	0,00005	0,00006	0,00004	0,00004	0,00002		0,00005	
Tungstène	W	mg/l	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002		<0,0002	
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002		<0,00002	
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,007	<0,002	<0,002		<0,002	
Gold (total)	Au	mg/l	<0,00001					<0,00001				<0,00001	
Cérium (total)	Ce	mg/l	0,00001					<0,00001				<0,00001	
Césium (total)	Cs	mg/l	0,0014					0,0015				0,0016	
Dysprosium (total)	Dy	mg/l	<0,00001					<0,00001				<0,00001	
Erbium (total)	Er	mg/l	<0,00001					<0,00001				<0,00001	
Europium (total)	Eu	mg/l	<0,00001					<0,00001				<0,00001	
Gallium (total)	Ga	mg/l	<0,0001					<0,0001				<0,0001	
Gadolinium (total)	Gd	mg/l	<0,00001					<0,00001				<0,00001	
Germanium (total)	Ge	mg/l	<0,0001					<0,0001				<0,0001	
Hafnium (total)	Hf	mg/l	<0,0001					<0,0001				<0,0001	
Holmium (total)	Ho	mg/l	<0,00001					<0,00001				<0,00001	
Indium (total)	In	mg/l	<0,00001					<0,00001				<0,00001	
Iridium (total)	Ir	mg/l	<0,00001					<0,00001				<0,00001	
Lanthanum (total)	La	mg/l	<0,00001					<0,00001				<0,00001	
Lutetium (total)	Lu	mg/l	<0,0001					<0,0001				<0,0001	
Niobium (total)	Nb	mg/l	<0,00003					<0,00001				<0,00002	
Néodymium (total)	Nd	mg/l	<0,00001					<0,00001				<0,00001	
Osmium (total)	Os	mg/l	<0,0001					<0,0001				<0,0001	
Palladium (total)	Pd	mg/l	<0,0001					<0,0001				<0,0001	
Praseodymium (total)	Pr	mg/l	<0,00001					<0,00001				<0,00001	
Platinum (total)	Pt	mg/l	<0,0001					<0,0001				<0,0001	
Rubidium (total)	Rb	mg/l	0,0029					0,0031				0,0032	
Rhenium (total)	Re	mg/l	<0,0001					<0,0001				<0,0001	
Rhodium (total)	Rh	mg/l	<0,00001					<0,00001				<0,00001	
Scandium (total)	Sc	mg/l	<0,0001					<0,0001				<0,0001	
Samarium (total)	Sm	mg/l	<0,00001					<0,00001				<0,00001	
Tantalum (total)	Ta	mg/l	<0,0001					<0,0001				<0,0001	
Terbium (total)	Tb	mg/l	<0,00001					<0,00001				<0,00001	
Tellurium (total)	Te	mg/l	<0,0001					<0,0001				<0,0001	
Thorium (total)	Th	mg/l	<0,0001					<0,0001				<0,0001	
Thulium (total)	Tm	mg/l	<0,00001					<0,00001				<0,00001	
Ytterbium (total)	Yb	mg/l	<0,00001					<0,00001				<0,00001	

Résultats HCT – CV5-WR-HCT-69

Analyse	Symbole	Unité	Sem. #66	Sem. #67	Sem. #68	Sem. #69	Sem. #70	Sem. #71	Sem. #72	Sem. #73	Sem. #74	Sem. #75	Sem. #76
			2024-08-01	2024-08-08	2024-08-15	2024-08-22	2024-08-29	2024-09-05	2024-09-12	2024-09-19	2024-09-26	2024-10-03	2024-10-10
Volume du lixiviat	V	mL	1010	1001	1015	997	1006	981	1003	1007	1012	1006	1007
pH	pH	No unit	7,15	6,85	6,97	6,83	7,15	7,14	7,14	7,00	7,27	7,15	7,12
Alkalinité	Alkalinité	$mgCaCO_3/l$			5				5				4
Conductivité	Conductivité	µS/cm	13	2	14	11	13	12	10	12	13	12	10
Acidité	Acidité	$mgCaCO_3/l$			<2,0				<2,0				<2,0
Fluoride	F	mg/l			<0,06				<0,06				<0,06
Phosphore réactif total	PO_4^{3-}-P	mg/l			<0,03				<0,03				<0,03
Sulfate	SO_4^{2-}	mg/l			2				2				2
Chlore	Cl^-	mg/l			<1,0				<1,0				<1,0
Nitrite	NO_2^-	mgN/l			<0,03				<0,03				<0,03
Nitrate	NO_3^-	mgN/l			<0,06				<0,06				<0,06
Bromide	Br	mg/l			<0,3				<0,3				<0,3
Mercure	Hg	mg/l			<0,00001				<0,00001				<0,00001
Argent	Ag	mg/l			<0,00005				<0,00005				<0,00005
Aluminum	Al	mg/l			0,051				0,056				0,052
Arsenic	As	mg/l			0,0025				0,0023				0,0021
Baryum	Ba	mg/l			0,00010				0,00013				0,00011
Beryllium	Be	mg/l			<0,000077				<0,000071				<0,000073
Bore	B	mg/l			<0,002				<0,002				<0,002
Bismuth	Bi	mg/l			<0,00025				<0,00019				<0,0002
Calcium	Ca	mg/l			2,01				2,29				2,00
Cadmium	Cd	mg/l			<0,000003				<0,000003				<0,000008
Cobalt	Co	mg/l			0,000019				0,000006				0,000031
Chrome	Cr	mg/l			<0,00008				<0,00008				<0,00008
Cuivre	Cu	mg/l			<0,001				<0,001				<0,001
Fer	Fe	mg/l			<0,007				<0,007				<0,007
Potassium	K	mg/l			0,049				0,053				0,044
Lithium	Li	mg/l			0,0008				0,0008				0,0007
Magnésium	Mg	mg/l			0,017				0,018				0,015
Manganese	Mn	mg/l			0,00207				0,00228				0,00230
Molybdène	Mo	mg/l			<0,0004				<0,0004				<0,0004
Sodium	Na	mg/l			0,10				0,10				0,06
Nickel	Ni	mg/l			0,0002				0,0001				0,0001
Plomb	Pb	mg/l			<0,00009				<0,00009				<0,00009
Antimoine	Sb	mg/l			0,0011				0,0009				0,0009
Sélénium	Se	mg/l			0,00004				0,00004				0,00004
Etain	Sn	mg/l			<0,00006				<0,00006				<0,00006
Strontium	Sr	mg/l			0,00293				0,00307				0,00243
Titane	Ti	mg/l			<0,0001				<0,0001				0,0001
Thallium	Th	mg/l			<0,000005				<0,000005				<0,000005
Uranium	U	mg/l			0,002350				0,002090				0,001820
Vanadium	V	mg/l			0,00005				0,00004				0,00003
Tungstène	W	mg/l			<0,0002				<0,0002				<0,0002
Yttrium	Y	mg/l			<0,00002				<0,00002				<0,00002
Zinc	Zn	mg/l			<0,002				<0,002				<0,002
Gold (total)	Au	mg/l			<0,00001				<0,00001				<0,00001
Cérium (total)	Ce	mg/l			<0,00001				<0,00001				<0,00002
Césium (total)	Cs	mg/l			0,0015				0,0015				0,0014
Dysprosium (total)	Dy	mg/l			<0,00001				<0,00001				<0,00001
Erbium (total)	Er	mg/l			<0,00001				<0,00001				<0,00001
Europium (total)	Eu	mg/l			<0,00001				<0,00001				<0,00001
Gallium (total)	Ga	mg/l			<0,0001				<0,0001				<0,0001
Gadolinium (total)	Gd	mg/l			<0,00001				<0,00001				<0,00001
Germanium (total)	Ge	mg/l			<0,0001				<0,0001				<0,0001
Hafnium (total)	Hf	mg/l			<0,0001				<0,0001				<0,0001
Holmium (total)	Ho	mg/l			<0,00001				<0,00001				<0,00001
Indium (total)	In	mg/l			<0,00001				<0,00001				<0,00001
Iridium (total)	Ir	mg/l			<0,00001				<0,00001				<0,00001
Lanthanum (total)	La	mg/l			<0,00001				<0,00001				<0,00002
Lutetium (total)	Lu	mg/l			<0,0001				<0,0001				<0,0001
Niobium (total)	Nb	mg/l			<0,00002				<0,00002				<0,00002
Néodymium (total)	Nd	mg/l			<0,00001				<0,00001				<0,00001
Osmium (total)	Os	mg/l			<0,0001				<0,0001				<0,0001
Palladium (total)	Pd	mg/l			<0,0001				<0,0001				<0,0001
Praseodymium (total)	Pr	mg/l			<0,00001				<0,00001				<0,00001
Platinum (total)	Pt	mg/l			<0,0001				<0,0001				<0,0001
Rubidium (total)	Rb	mg/l			0,0030				0,0029				0,0032
Rhenium (total)	Re	mg/l			<0,0001				<0,0001				<0,0001
Rhodium (total)	Rh	mg/l			<0,00001				<0,00001				<0,00001
Scandium (total)	Sc	mg/l			<0,0001				<0,0001				<0,0001
Samarium (total)	Sm	mg/l			<0,00001				<0,00001				<0,00001
Tantalum (total)	Ta	mg/l			<0,0001				<0,0001				<0,0001
Terbium (total)	Tb	mg/l			<0,00001				<0,00001				<0,00001
Tellurium (total)	Te	mg/l			<0,0001				<0,0001				<0,0001
Thorium (total)	Th	mg/l			<0,0001				<0,0001				<0,0001
Thulium (total)	Tm	mg/l			<0,00001				<0,00001				<0,00001
Ytterbium (total)	Yb	mg/l			<0,00001				<0,00001				<0,00001

Résultats HCT – CV5-WR-HCT-69

Analyse	Symbole	Unité	Sem. #77	Sem. #78	Sem. #79	Sem. #80	Sem. #81	Sem. #82	Sem. #83	Sem. #84	Sem. #85	Sem. #86	Sem. #87
			2024-10-17	2024-10-24	2024-10-31	2024-11-07	2024-11-14	2024-11-21	2024-11-28	2024-12-05	2024-12-12	2024-12-19	2024-12-26
Volume du lixiviat	V	mL	1012	1019	1004	1011	1013	1005	997	1001	977	1012	1027
pH	pH	No unit	7,08	7,09	6,92	6,59	7,1	7,08	6,95	7,02	7,05	7,1	7,39
Alkalinité	Alkalinité	$mgCaCO_3/l$				<3,0				5			
Conductivité	Conductivité	µS/cm	11	12	11	10	11	11	9	7	10	9	13
Acidité	Acidité	$mgCaCO_3/l$				2				<2,0			
Fluoride	F	mg/l				<0,06				<0,06			
Phosphore réactif total	PO_4^{3-}-P	mg/l				<0,03				<0,03			
Sulfate	SO_4^{2-}	mg/l				2				2			
Chlore	Cl^-	mg/l				<1,0				<1,0			
Nitrite	NO_2^-	mgN/l				<0,03				<0,03			
Nitrate	NO_3^-	mgN/l				<0,06				<0,06			
Bromide	Br	mg/l				<0,3				<0,3			
Mercure	Hg	mg/l				<0,00001				<0,00001			
Argent	Ag	mg/l				<0,00005				<0,00005			
Aluminum	Al	mg/l				0,055				0,029			
Arsenic	As	mg/l				0,0020				0,0013			
Baryum	Ba	mg/l				0,00009				0,00008			
Beryllium	Be	mg/l				<0,000047				<0,000124			
Bore	B	mg/l				<0,002				<0,002			
Bismuth	Bi	mg/l				<0,00023				<0,0001			
Calcium	Ca	mg/l				1,97				1,45			
Cadmium	Cd	mg/l				<0,000003				<0,000003			
Cobalt	Co	mg/l				0,000008				0,000005			
Chrome	Cr	mg/l				<0,00008				<0,00008			
Cuivre	Cu	mg/l				<0,001				<0,001			
Fer	Fe	mg/l				<0,007				<0,007			
Potassium	K	mg/l				0,045				0,034			
Lithium	Li	mg/l				0,0008				0,0006			
Magnésium	Mg	mg/l				0,019				0,011			
Manganese	Mn	mg/l				0,00242				0,00203			
Molybdène	Mo	mg/l				<0,0004				<0,0004			
Sodium	Na	mg/l				0,08				0,06			
Nickel	Ni	mg/l				0,0001				0,0001			
Plomb	Pb	mg/l				<0,00009				<0,00009			
Antimoine	Sb	mg/l				0,0009				0,0009			
Sélénium	Se	mg/l				0,00004				0,00004			
Etain	Sn	mg/l				<0,00006				<0,00006			
Strontium	Sr	mg/l				0,00273				0,00200			
Titane	Ti	mg/l				<0,0001				<0,0001			
Thallium	Th	mg/l				<0,000005				0,000006			
Uranium	U	mg/l				0,001640				0,000985			
Vanadium	V	mg/l				0,00005				0,00003			
Tungstène	W	mg/l				<0,0002				<0,0002			
Yttrium	Y	mg/l				<0,00002				<0,00002			
Zinc	Zn	mg/l				<0,002				<0,002			
Gold (total)	Au	mg/l				<0,00001				<0,00001			
Cérium (total)	Ce	mg/l				<0,00001				<0,00001			
Césium (total)	Cs	mg/l				0,0012				0,0011			
Dysprosium (total)	Dy	mg/l				<0,00001				<0,00001			
Erbium (total)	Er	mg/l				<0,00001				<0,00001			
Europium (total)	Eu	mg/l				<0,00001				<0,00001			
Gallium (total)	Ga	mg/l				<0,0001				<0,0001			
Gadolinium (total)	Gd	mg/l				<0,00001				<0,00001			
Germanium (total)	Ge	mg/l				<0,0001				<0,0001			
Hafnium (total)	Hf	mg/l				<0,0001				<0,0001			
Holmium (total)	Ho	mg/l				<0,00001				<0,00001			
Indium (total)	In	mg/l				<0,00001				<0,00001			
Iridium (total)	Ir	mg/l				<0,00001				<0,00001			
Lanthanum (total)	La	mg/l				<0,00001				<0,00001			
Lutetium (total)	Lu	mg/l				<0,0001				<0,0001			
Niobium (total)	Nb	mg/l				<0,00001				<0,00003			
Néodymium (total)	Nd	mg/l				<0,00001				<0,00001			
Osmium (total)	Os	mg/l				<0,0001				<0,0001			
Palladium (total)	Pd	mg/l				<0,0001				<0,0001			
Praseodymium (total)	Pr	mg/l				<0,00001				<0,00001			
Platinum (total)	Pt	mg/l				<0,0001				<0,0001			
Rubidium (total)	Rb	mg/l				0,0023				0,0022			
Rhenium (total)	Re	mg/l				<0,0001				<0,0001			
Rhodium (total)	Rh	mg/l				<0,00001				<0,00001			
Scandium (total)	Sc	mg/l				<0,0001				<0,0001			
Samarium (total)	Sm	mg/l				<0,00001				<0,00001			
Tantalum (total)	Ta	mg/l				<0,0001				<0,0001			
Terbium (total)	Tb	mg/l				<0,00001				<0,00001			
Tellurium (total)	Te	mg/l				<0,0001				<0,0001			
Thorium (total)	Th	mg/l				<0,0001				<0,0001			
Thulium (total)	Tm	mg/l				<0,00001				<0,00001			
Ytterbium (total)	Yb	mg/l				<0,00001				<0,00001			

Résultats HCT – CV5-WR-HCT-69

Analyse	Symbole	Unité	Sem. #88	Sem. #89
			2025-01-02	2025-01-09
Volume du lixiviat	V	mL	1047	1017
pH	pH	No unit	7,09	7,08
Alkalinité	Alkalinité	mg$CaCO_3$/l	6	
Conductivité	Conductivité	µS/cm	10	15
Acidité	Acidité	mg$CaCO_3$/l	2	
Fluoride	F	mg/l	<0,06	
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	
Sulfate	SO_4^{2-}	mg/l	2	
Chlore	Cl^-	mg/l	<1,0	
Nitrite	NO_2^-	mgN/l	<0,03	
Nitrate	NO_3^-	mgN/l	<0,06	
Bromide	Br	mg/l	<0,3	
Mercure	Hg	mg/l	<0,00001	
Argent	Ag	mg/l	<0,00005	
Aluminum	Al	mg/l	0,042	
Arsenic	As	mg/l	0,0015	
Baryum	Ba	mg/l	0,00009	
Beryllium	Be	mg/l	<0,000076	
Bore	B	mg/l	<0,002	
Bismuth	Bi	mg/l	<0,00021	
Calcium	Ca	mg/l	1,84	
Cadmium	Cd	mg/l	<0,000004	
Cobalt	Co	mg/l	0,000019	
Chrome	Cr	mg/l	<0,00008	
Cuivre	Cu	mg/l	<0,001	
Fer	Fe	mg/l	<0,007	
Potassium	K	mg/l	0,039	
Lithium	Li	mg/l	0,0008	
Magnésium	Mg	mg/l	0,013	
Manganese	Mn	mg/l	0,00256	
Molybdène	Mo	mg/l	<0,0004	
Sodium	Na	mg/l	0,08	
Nickel	Ni	mg/l	0,0001	
Plomb	Pb	mg/l	<0,00009	
Antimoine	Sb	mg/l	<0,0009	
Sélénium	Se	mg/l	0,00004	
Etain	Sn	mg/l	<0,00006	
Strontium	Sr	mg/l	0,00247	
Titane	Ti	mg/l	<0,0001	
Thallium	Th	mg/l	0,000006	
Uranium	U	mg/l	0,001303	
Vanadium	V	mg/l	0,00003	
Tungstène	W	mg/l	<0,0002	
Yttrium	Y	mg/l	<0,00002	
Zinc	Zn	mg/l	<0,002	
Gold (total)	Au	mg/l	<0,00001	
Cérium (total)	Ce	mg/l	0,00001	
Césium (total)	Cs	mg/l	0,0014	
Dysprosium (total)	Dy	mg/l	<0,00001	
Erbium (total)	Er	mg/l	<0,00001	
Europium (total)	Eu	mg/l	<0,00001	
Gallium (total)	Ga	mg/l	<0,0001	
Gadolinium (total)	Gd	mg/l	<0,00001	
Germanium (total)	Ge	mg/l	<0,0001	
Hafnium (total)	Hf	mg/l	<0,0001	
Holmium (total)	Ho	mg/l	<0,00001	
Indium (total)	In	mg/l	<0,00001	
Iridium (total)	Ir	mg/l	<0,00001	
Lanthanum (total)	La	mg/l	0,00001	
Lutetium (total)	Lu	mg/l	<0,0001	
Niobium (total)	Nb	mg/l	<0,00004	
Néodymium (total)	Nd	mg/l	<0,00001	
Osmium (total)	Os	mg/l	<0,0001	
Palladium (total)	Pd	mg/l	<0,0001	
Praseodymium (total)	Pr	mg/l	<0,00001	
Platinum (total)	Pt	mg/l	<0,0001	
Rubidium (total)	Rb	mg/l	0,0026	
Rhenium (total)	Re	mg/l	<0,0001	
Rhodium (total)	Rh	mg/l	<0,00001	
Scandium (total)	Sc	mg/l	<0,0001	
Samarium (total)	Sm	mg/l	<0,00001	
Tantalum (total)	Ta	mg/l	<0,0001	
Terbium (total)	Tb	mg/l	<0,00001	
Tellurium (total)	Te	mg/l	<0,0001	
Thorium (total)	Th	mg/l	<0,0001	
Thulium (total)	Tm	mg/l	<0,00001	
Ytterbium (total)	Yb	mg/l	<0,00001	

Résultats HCT – CV5-WR-HCT-69

Analyse	Symbole	Unité	Sem. #90	Sem. #91	Sem. #92	Sem. #93	Sem. #94	Sem. #95	Sem. #96	Sem. #97	Sem. #98	Sem. #99	Sem. #100
			2025-01-16	2025-01-23	2025-01-30	2025-02-06	2025-02-13	2025-02-20	2025-02-27	2025-03-06	2025-03-13	2025-03-20	2025-03-27
Volume du lixiviat	V	mL	1036	1025	1020	1017	962	1018	1003	998	1003	984	972
pH	pH	No unit	7,17	6,74	7,32	6,7	6,92	6,88	7,08	6,84	6,91	6,96	7,02
Alkalinité	Alkalinité	$mgCaCO_3/l$			5				<5,0				<3,0
Conductivité	Conductivité	µS/cm	12	11	11	10	7	11	10	10	11	11	8
Acidité	Acidité	$mgCaCO_3/l$			<2,0				2				2
Fluoride	F	mg/l			<0,06				<0,06				<0,06
Phosphore réactif total	PO_4^{3-}-P	mg/l			<0,03				<0,03				<0,03
Sulfate	SO_4^{2-}	mg/l			2				2				2
Chlore	Cl^-	mg/l			<1,0				<1,0				<1,0
Nitrite	NO_2^-	mgN/l			<0,03				<0,03				<0,03
Nitrate	NO_3^-	mgN/l			<0,06				<0,06				<0,06
Bromide	Br	mg/l			<0,3				<0,3				<0,3
Mercure	Hg	mg/l			<0,00001				<0,00001				<0,00001
Argent	Ag	mg/l			<0,00005				<0,00005				<0,00005
Aluminum	Al	mg/l			0,057				0,057				0,061
Arsenic	As	mg/l			0,0024				0,0018				0,0016
Baryum	Ba	mg/l			0,00008				0,00018				0,00010
Beryllium	Be	mg/l			<0,000059				<0,000076				<0,000101
Bore	B	mg/l			<0,002				<0,002				<0,002
Bismuth	Bi	mg/l			<0,00014				<0,00019				<0,0002
Calcium	Ca	mg/l			1,96				2				1,72
Cadmium	Cd	mg/l			<0,000003				0,000003				<0,000003
Cobalt	Co	mg/l			0,000006				0,000016				0,000009
Chrome	Cr	mg/l			<0,00008				<0,00008				<0,00008
Cuivre	Cu	mg/l			<0,001				<0,001				<0,001
Fer	Fe	mg/l			<0,007				<0,007				<0,007
Potassium	K	mg/l			0,047				0,051				0,049
Lithium	Li	mg/l			0,0006				0,0007				0,0006
Magnésium	Mg	mg/l			0,013				0,014				0,011
Manganese	Mn	mg/l			0,00226				0,00247				0,00183
Molybdène	Mo	mg/l			<0,0004				<0,0004				<0,0004
Sodium	Na	mg/l			0,08				0,09				0,08
Nickel	Ni	mg/l			0,0001				0,0002				0,0001
Plomb	Pb	mg/l			<0,00009				<0,00009				<0,00009
Antimoine	Sb	mg/l			<0,001				<0,0009				<0,0009
Sélénium	Se	mg/l			0,00004				0,00004				0,00004
Etain	Sn	mg/l			0,00007				<0,00007				<0,00006
Strontium	Sr	mg/l			0,00253				0,00267				0,00205
Titane	Ti	mg/l			<0,0001				<0,0001				<0,0001
Thallium	Th	mg/l			0,000006				<0,000005				<0,000006
Uranium	U	mg/l			0,00152				0,00176				0,001360
Vanadium	V	mg/l			0,00004				0,00003				0,00003
Tungstène	W	mg/l			<0,0002				<0,0002				<0,0002
Yttrium	Y	mg/l			<0,00002				<0,00002				<0,00002
Zinc	Zn	mg/l			<0,002				<0,002				<0,002
Gold (total)	Au	mg/l			<0,00001				<0,00001				<0,00001
Cérium (total)	Ce	mg/l			0,00001				0,00001				<0,00001
Césium (total)	Cs	mg/l			0,0016				0,0015				0,0015
Dysprosium (total)	Dy	mg/l			<0,00001				<0,00001				<0,00001
Erbium (total)	Er	mg/l			<0,00001				<0,00001				<0,00001
Europium (total)	Eu	mg/l			<0,00001				<0,00001				<0,00001
Gallium (total)	Ga	mg/l			<0,0001				<0,0001				<0,0001
Gadolinium (total)	Gd	mg/l			<0,00001				<0,00001				<0,00001
Germanium (total)	Ge	mg/l			<0,0001				<0,0001				<0,0001
Hafnium (total)	Hf	mg/l			<0,0001				<0,0001				<0,0001
Holmium (total)	Ho	mg/l			<0,00001				<0,00001				<0,00001
Indium (total)	In	mg/l			<0,00001				<0,00001				<0,00001
Iridium (total)	Ir	mg/l			<0,00001				<0,00001				<0,00001
Lanthanum (total)	La	mg/l			0,00001				0,00001				<0,00001
Lutetium (total)	Lu	mg/l			<0,0001				<0,0001				<0,0001
Niobium (total)	Nb	mg/l			<0,00002				<0,00002				<0,00003
Néodymium (total)	Nd	mg/l			<0,00001				<0,00001				<0,00001
Osmium (total)	Os	mg/l			<0,0001				<0,0001				<0,0001
Palladium (total)	Pd	mg/l			<0,0001				<0,0001				<0,0001
Praseodymium (total)	Pr	mg/l			<0,00001				<0,00001				<0,00001
Platinum (total)	Pt	mg/l			<0,0001				<0,0001				<0,0001
Rubidium (total)	Rb	mg/l			0,003				0,003				0,0026
Rhenium (total)	Re	mg/l			<0,0001				<0,0001				<0,0001
Rhodium (total)	Rh	mg/l			<0,00001				<0,00001				<0,00001
Scandium (total)	Sc	mg/l			<0,0001				<0,0001				<0,0001
Samarium (total)	Sm	mg/l			<0,00001				<0,00001				<0,00001
Tantalum (total)	Ta	mg/l			<0,0001				<0,0001				<0,0001
Terbium (total)	Tb	mg/l			<0,00001				<0,00001				<0,00001
Tellurium (total)	Te	mg/l			<0,0001				<0,0001				<0,0001
Thorium (total)	Th	mg/l			<0,0001				<0,0001				<0,0001
Thulium (total)	Tm	mg/l			<0,00001				<0,00001				<0,00001
Ytterbium (total)	Yb	mg/l			<0,00001				<0,00001				<0,00001

Résultats HCT – CV5-WR-HCT-74

Analyse	Symbole	Unité	Sem. #0	Sem. #1	Sem. #2	Sem. #3	Sem. #4	Sem. #5	Sem. #6	Sem. #7	Sem. #8	Sem. #9	Sem. #10
			2023-04-27	2023-05-04	2023-05-11	2023-05-18	2023-05-25	2023-06-01	2023-06-08	2023-06-15	2023-06-22	2023-06-29	2023-07-06
Volume du lixiviat	V	mL	827	1004	1010	1010	1006	994	992	982	973	1001	986
pH	pH	No unit	7,90	7,59	7,53	7,40	7,19	7,07	6,99	7,01	7,09	7,03	7,09
Alkalinité	Alkalinité	$mgCaCO_3/l$	11	17	12	10	7	6	5	5	5	5	5
Conductivité	Conductivité	µS/cm	154	94	29	27	14	15	11	12	13	11	15
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0
Fluoride	F	mg/l	0,44	0,41	0,21	0,11	<0,06	<0,06	<0,06	0,06	<0,06	<0,06	<0,06
Phosphore réactif total	PO_4^{3-}-P	mg/l	0,34	0,68	0,44	0,20	0,12	0,08	0,06	0,06	0,08	0,04	0,04
Sulfate	SO_4^{2-}	mg/l	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0
Chlore	Cl^-	mg/l	44	26	2	<1,0	<1,0	<1,0	<1,0	<1,0	<1,0	<1,0	<1,0
Nitrite	NO_2^-	mgN/l	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Nitrate	NO_3^-	mgN/l	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06
Bromide	Br	mg/l	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3
Mercure	Hg	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,135	0,096	0,069	0,050	0,044	0,038	0,034	0,037	0,039	0,037	0,034
Arsenic	As	mg/l	0,933	1,39	0,494	0,198	0,119	0,0895	0,0599	0,0545	0,0458	0,0447	0,0379
Baryum	Ba	mg/l	0,00011	0,00023	0,00009	<0,00008	0,00015	<0,00008	0,00010	0,00010	0,00016	0,00009	0,00010
Beryllium	Be	mg/l	0,000031	0,000036	0,000028	0,000013	0,000012	0,000011	<0,000007	<0,000007	0,000009	<0,000007	<0,000007
Bore	B	mg/l	0,038	0,075	0,025	0,012	0,009	0,005	0,004	0,003	0,006	0,003	<0,002
Bismuth	Bi	mg/l	0,00004	0,00001	0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	1,04	0,87	0,72	1,08	1,31	1,51	1,42	1,62	1,78	1,64	1,62
Cadmium	Cd	mg/l	0,000004	<0,000003	<0,000003	0,000021	<0,000003	<0,000003	<0,000003	0,000003	<0,000003	0,000003	0,000003
Cobalt	Co	mg/l	0,000080	0,000107	0,000048	0,000049	0,000042	0,000043	0,000021	0,000032	0,000058	0,000022	0,000016
Chrome	Cr	mg/l	0,00009	0,00014	<0,00008	0,00016	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008
Cuivre	Cu	mg/l	0,0022	0,0015	0,0006	0,0005	0,0003	0,0004	0,0002	<0,0002	<0,0002	<0,0002	<0,0002
Fer	Fe	mg/l	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	0,017
Potassium	K	mg/l	3,30	2,46	1,40	1,12	0,863	0,734	0,552	0,515	0,511	0,398	0,366
Lithium	Li	mg/l	0,867	0,918	0,272	0,142	0,0846	0,0593	0,0424	0,0391	0,0384	0,0309	0,0262
Magnésium	Mg	mg/l	0,048	0,057	0,036	0,047	0,048	0,062	0,057	0,055	0,058	0,048	0,047
Manganese	Mn	mg/l	0,00575	0,0116	0,01185	0,0181	0,0219	0,0294	0,0246	0,03340	0,0394	0,04016	0,0381
Molybdène	Mo	mg/l	0,00271	0,00058	0,00045	0,00018	0,00025	0,00039	0,00006	0,00029	0,00258	0,00006	0,00011
Sodium	Na	mg/l	21,6	16,2	4,74	2,25	1,20	0,92	0,58	0,54	0,50	0,36	0,30
Nickel	Ni	mg/l	0,0002	0,0004	0,0002	0,0004	0,0002	0,0004	0,0001	0,0001	0,0002	<0,0001	<0,0001
Plomb	Pb	mg/l	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009
Antimoine	Sb	mg/l	0,0427	0,224	0,112	0,0805	0,0494	0,0489	0,0381	0,0427	0,0428	0,0366	0,0326
Sélénium	Se	mg/l	<0,00004	<0,00004	0,00010	<0,00004	<0,00004	<0,00004	<0,00004	<0,00004	0,00013	<0,00004	<0,00004
Etain	Sn	mg/l	0,00470	0,00248	0,00108	0,00043	0,00026	0,00029	0,00016	0,00018	0,00008	0,00006	0,00007
Strontium	Sr	mg/l	0,00345	0,00310	0,00192	0,00235	0,00290	0,00293	0,00343	0,00290	0,00318	0,00291	0,00272
Titane	Ti	mg/l	0,00007	0,00010	<0,00005	0,00031	<0,00005	<0,00005	<0,00005	<0,00005	<0,00007	<0,00007	<0,00007
Thallium	Th	mg/l	0,000335	0,000256	0,000138	0,000128	0,000101	0,000107	0,000075	0,000070	0,000074	0,000060	0,000056
Uranium	U	mg/l	0,00718	0,0539	0,038139	0,0213	0,0152	0,00998	0,0101	0,009223	0,000525	0,00631	0,006351
Vanadium	V	mg/l	0,00017	0,00021	0,00016	0,00010	0,00005	0,00005	0,00003	0,00004	0,00003	0,00005	0,00002
Tungstène	W	mg/l	0,00335	0,00569	0,00155	0,00075	0,00040	0,00013	0,00027	0,00021	0,00015	0,00015	0,00014
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	0,003	0,002	0,003	0,003	0,003	0,002	0,002
Gold (total)	Au	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Cérium (total)	Ce	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	0,00001	<0,00001	<0,00001
Césium (total)	Cs	mg/l	0,156	0,0868	0,0530	0,0476	0,0420	0,0315	0,0320	0,0265	0,0291	0,0238	0,0203
Dysprosium (total)	Dy	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Erbium (total)	Er	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Europium (total)	Eu	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Gallium (total)	Ga	mg/l	0,0005	0,0006	0,0007	0,0007	0,0005	0,0005	0,0004	0,0005	0,0004	0,0004	0,0004
Gadolinium (total)	Gd	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Germanium (total)	Ge	mg/l	0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Hafnium (total)	Hf	mg/l	0,0001	0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Holmium (total)	Ho	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Indium (total)	In	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Iridium (total)	Ir	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Lanthanum (total)	La	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Lutetium (total)	Lu	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Niobium (total)	Nb	mg/l	0,0002	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Néodymium (total)	Nd	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Osmium (total)	Os	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Palladium (total)	Pd	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Praseodymium (total)	Pr	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Platinum (total)	Pt	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Rubidium (total)	Rb	mg/l	0,316	0,186	0,111	0,0931	0,0745	0,0639	0,0461	0,0487	0,0459	0,0400	0,0346
Rhenium (total)	Re	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Rhodium (total)	Rh	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Scandium (total)	Sc	mg/l	<0,0001	0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Samarium (total)	Sm	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Tantalum (total)	Ta	mg/l	<0,0001	0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Terbium (total)	Tb	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Tellurium (total)	Te	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Thorium (total)	Th	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Thulium (total)	Tm	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Ytterbium (total)	Yb	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001

Résultats HCT – CV5-WR-HCT-74

Analyse	Symbole	Unité	Sem. #11	Sem. #12	Sem. #13	Sem. #14	Sem. #15	Sem. #16	Sem. #17	Sem. #18	Sem. #19	Sem. #20	Sem. #21
			2023-07-13	2023-07-20	2023-07-27	2023-08-03	2023-08-10	2023-08-17	2023-08-24	2023-08-31	2023-09-07	2023-09-14	2023-09-21
Volume du lixiviat	V	mL	1009	986	995	985	991	1017	998	998	974	1006	998
pH	pH	No unit	6,96	7,11	6,97	6,88	6,87	7,00	6,89	6,98	6,81	6,85	6,83
Alkalinité	Alkalinité	$mgCaCO_3/l$	3	4	4	3	4	4	3	3	3	3	4
Conductivité	Conductivité	µS/cm	8	11	9	8	8	6	7	8	7	6	6
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0
Fluoride	F	mg/l				<0,06	<0,06	<0,06		<0,06		<0,06	
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	0,04	<0,03	0,03	<0,03	0,04	<0,03	<0,03	<0,03	<0,03	<0,03
Sulfate	SO_4^{2-}	mg/l	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0
Chlore	Cl^-	mg/l					<1,0	<1,0		<1,0		<1,0	
Nitrite	NO_2^-	mgN/l					<0,03	<0,03		<0,03		<0,03	
Nitrate	NO_3^-	mgN/l					<0,06	<0,06		<0,06		<0,06	
Bromide	Br	mg/l					<0,3	<0,3		<0,3		<0,3	
Mercure	Hg	mg/l					<0,00001	<0,00001		<0,00001		<0,00001	
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	0,00008	<0,00005
Aluminum	Al	mg/l	0,026	0,032	0,027	0,033	0,028	0,030	0,032	0,027	0,024	0,027	0,029
Arsenic	As	mg/l	0,0302	0,0292	0,0222	0,0255	0,0270	0,0210	0,0201	0,0203	0,0180	0,0207	0,0149
Baryum	Ba	mg/l	<0,00008	0,00009	<0,00008	0,00008	0,00008	0,00013	0,00011	0,00013	0,00011	0,0001	0,00016
Beryllium	Be	mg/l	0,000268	<0,000007	<0,000007	<0,000007	<0,000007	0,000008	<0,000007	<0,000007	<0,000007	0,000012	0,000007
Bore	B	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	0,00002	<0,00001	<0,00001	<0,00001	<0,00001	0,00001
Calcium	Ca	mg/l	1,09	1,40	1,21	1,31	1,36	1,13	1,21	1,22	0,96	1,15	1,08
Cadmium	Cd	mg/l	<0,000003	0,000005	0,000003	0,000005	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	0,000004	0,000003
Cobalt	Co	mg/l	0,000008	0,000029	0,000029	0,000014	0,000043	0,000016	0,000011	0,000007	0,000010	0,000012	0,000025
Chrome	Cr	mg/l	<0,00008	0,00015	0,00018	<0,00008	<0,00008	0,00011	<0,00008	0,00009	<0,00008	<0,00008	<0,00008
Cuivre	Cu	mg/l	<0,0002	<0,0002	0,0016	0,0004	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	0,0002	<0,0004
Fer	Fe	mg/l	<0,007	0,056	<0,007	0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	0,015
Potassium	K	mg/l	0,271	0,263	0,199	0,239	0,231	0,194	0,194	0,193	0,155	0,179	0,149
Lithium	Li	mg/l	0,0277	0,0196	0,0158	0,0162	0,0161	0,0138	0,0145	0,0128	0,0107	0,0122	0,0127
Magnésium	Mg	mg/l	0,034	0,039	0,031	0,033	0,032	0,025	0,028	0,030	0,027	0,026	0,024
Manganese	Mn	mg/l	0,0223	0,0370	0,0307	0,0316	0,0391	0,0350	0,0395	0,0446	0,0328	0,044	0,0442
Molybdène	Mo	mg/l	<0,00004	0,00009	0,00068	0,00022	<0,00004	<0,00004	0,00014	0,00018	0,00019	0,0024	0,0003
Sodium	Na	mg/l	0,24	0,22	0,18	0,22	0,19	0,18	0,15	0,18	0,15	0,13	0,14
Nickel	Ni	mg/l	<0,0001	0,0005	0,0017	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	0,0111
Plomb	Pb	mg/l	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	0,00014	<0,00009	<0,00009	<0,00009	<0,00009	0,00011
Antimoine	Sb	mg/l	0,0294	0,0284	0,0238	0,0253	0,0260	0,0242	0,0220	0,0216	0,0180	0,0187	0,0169
Sélénium	Se	mg/l	<0,00004	<0,00004	<0,00004	<0,00004	<0,00004	<0,00004	<0,00004	<0,00004	<0,00004	<0,00004	0,00004
Etain	Sn	mg/l	0,00014	0,00007	0,00008	<0,00006	<0,00006	0,00007	<0,00006	0,00018	<0,00006	0,00007	<0,00014
Strontium	Sr	mg/l	0,00180	0,00225	0,00185	0,00197	0,00219	0,00178	0,00184	0,00202	0,00162	0,00206	0,00165
Titane	Ti	mg/l	<0,00007	<0,00007	<0,00007	<0,00007	<0,00007	<0,00007	<0,00007	<0,00007	<0,00007	<0,00007	<0,00007
Thallium	Th	mg/l	0,000063	0,000051	0,000042	0,000041	0,000042	0,000034	0,000038	0,000034	0,000036	0,000033	0,000036
Uranium	U	mg/l	0,00222	0,00773	0,00470	0,00398	0,00362	0,00285	0,00298	0,00242	0,00265	0,00241	0,00219
Vanadium	V	mg/l	0,00002	0,00003	0,00002	0,00003	<0,00001	0,00007	0,00003	0,00007	0,00002	0,00002	0,00002
Tungstène	W	mg/l	0,00013	0,00011	0,00009	0,00009	0,00009	0,00006	0,00007	0,00031	0,00008	0,00007	0,00006
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	0,005	0,005	0,005	0,004	0,003	<0,002	0,004	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l					<0,00001	<0,00001		<0,00001		<0,00001	
Cérium (total)	Ce	mg/l					<0,00001	<0,00001		<0,00001		<0,00001	
Césium (total)	Cs	mg/l					0,0153	0,0146		0,0142		0,0127	
Dysprosium (total)	Dy	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Erbium (total)	Er	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Europium (total)	Eu	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Gallium (total)	Ga	mg/l					0,0003	0,0003		0,0003		0,0003	
Gadolinium (total)	Gd	mg/l					<0,00001	<0,00001		<0,00001		<0,00001	
Germanium (total)	Ge	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Hafnium (total)	Hf	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Holmium (total)	Ho	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Indium (total)	In	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Iridium (total)	Ir	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Lanthanum (total)	La	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Lutetium (total)	Lu	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Niobium (total)	Nb	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Néodymium (total)	Nd	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Osmium (total)	Os	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Palladium (total)	Pd	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Praseodymium (total)	Pr	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Platinum (total)	Pt	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Rubidium (total)	Rb	mg/l					0,0259	0,0218		0,0197		0,0185	
Rhenium (total)	Re	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Rhodium (total)	Rh	mg/l					<0,00001	<0,00001		<0,00001		<0,00001	
Scandium (total)	Sc	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Samarium (total)	Sm	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Tantalum (total)	Ta	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Terbium (total)	Tb	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Tellurium (total)	Te	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Thorium (total)	Th	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Thulium (total)	Tm	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Ytterbium (total)	Yb	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	

Résultats HCT – CV5-WR-HCT-74

Analyse	Symbole	Unité	Sem. #22	Sem. #23	Sem. #24	Sem. #25	Sem. #26	Sem. #27	Sem. #28	Sem. #29	Sem. #30	Sem. #31	Sem. #32
			2023-09-28	2023-10-05	2023-10-12	2023-10-19	2023-10-26	2023-11-02	2023-11-09	2023-11-16	2023-11-23	2023-11-30	2023-12-07
Volume du lixiviat	V	mL	983	972	1004	980	1014	1002	981	992	997	1009	1002
pH	pH	No unit	6,79	6,63	6,86	6,99	6,84	6,82	6,78	6,6	6,59	6,44	6,72
Alkalinité	Alkalinité	$mgCaCO_3/l$	2	2	3	4	3	2	3	2	3	2	2
Conductivité	Conductivité	µS/cm	7	4	7	8	8	5	4	4	5	5	8
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2,0	<2,0	<3,0	5	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0
Fluoride	F	mg/l				<0,06					<0,06		
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<0,03	0,04	<0,26	<0,03	<0,03	0,04	<0,03	0,03	<0,03	<0,03
Sulfate	SO_4^{2-}	mg/l	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0
Chlore	Cl^-	mg/l				<1,0					<1,0		
Nitrite	NO_2^-	mgN/l				0,03					<0,03		
Nitrate	NO_3^-	mgN/l				0,06					<0,06		
Bromide	Br	mg/l				0,3					<0,3		
Mercure	Hg	mg/l				<0,00001					<0,00001		
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,027	0,02	0,021	0,059	0,026	0,017	0,021	0,017	0,014	0,017	0,016
Arsenic	As	mg/l	0,0122	0,0123	0,0132	0,0158	0,0123	0,0103	0,011	0,01	0,0103	0,0101	0,0102
Baryum	Ba	mg/l	0,00015	<0,00008	0,00008	0,0002	0,00017	<0,00008	<0,00008	0,00013	<0,00008	<0,00008	0,00009
Beryllium	Be	mg/l	<0,000007	0,000031	0,000013	0,000016	0,000007	<0,000007	<0,000007	<0,000007	0,000017	<0,000007	0,000008
Bore	B	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	0,97	0,84	0,91	1,22	0,92	0,89	0,85	0,66	0,87	0,66	0,68
Cadmium	Cd	mg/l	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	0,000003	0,000003
Cobalt	Co	mg/l	0,000012	0,000022	0,00001	0,000025	0,000013	0,000009	0,000005	0,000011	0,000013	0,000011	0,000018
Chrome	Cr	mg/l	<0,00008	<0,00008	<0,00008	0,00027	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008
Cuivre	Cu	mg/l	0,0002	<0,0002	0,0002	0,0022	<0,0002	0,0019	<0,0002	0,0002	<0,0002	0,0004	<0,0002
Fer	Fe	mg/l	0,009	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007
Potassium	K	mg/l	0,151	0,129	0,12	0,227	0,159	0,121	0,122	0,086	0,121	0,099	0,094
Lithium	Li	mg/l	0,0106	0,009	0,0091	0,0122	0,0075	0,0067	0,0082	0,006	0,0079	0,0073	0,0068
Magnésium	Mg	mg/l	0,023	0,018	0,017	0,038	0,022	0,017	0,016	0,014	0,018	0,013	0,011
Manganese	Mn	mg/l	0,0392	0,0338	0,0453	0,0699	0,0423	0,0417	0,0423	0,0388	0,044	0,0364	0,0429
Molybdène	Mo	mg/l	0,00031	0,00052	0,00015	0,00012	0,00025	0,00006	0,00007	0,00032	<0,00004	0,00013	0,00005
Sodium	Na	mg/l	0,12	0,1	0,1	0,2	0,2	0,11	0,16	0,08	0,09	0,08	0,10
Nickel	Ni	mg/l	<0,0001	<0,0001	0,0001	0,0001	<0,0001	<0,0001	<0,0001	0,0002	<0,0001	<0,0001	<0,0001
Plomb	Pb	mg/l	<0,00009	0,00009	<0,00009	<0,00012	<0,00009	<0,00009	0,00013	<0,00009	<0,00009	<0,00009	<0,00009
Antimoine	Sb	mg/l	0,0136	0,0144	0,0137	0,0177	0,0119	0,0123	0,0109	0,0106	0,0105	0,0108	0,0102
Sélénium	Se	mg/l	<0,00004	<0,00004	<0,00004	<0,00004	0,00011	<0,00004	<0,00004	<0,00004	<0,00004	<0,00004	<0,00004
Etain	Sn	mg/l	0,0001	<0,00008	<0,00006	<0,00047	0,00007	<0,00006	<0,00006	<0,00006	<0,00006	0,00012	<0,00006
Strontium	Sr	mg/l	0,00164	0,00132	0,00147	0,00222	0,00152	0,00130	0,00116	0,00123	0,00126	0,00100	0,00099
Titane	Ti	mg/l	<0,00007	<0,00007	<0,00007	<0,00007	<0,00007	<0,00007	<0,00007	<0,00007	<0,00007	<0,00007	<0,00007
Thallium	Th	mg/l	0,000041	0,000032	0,000031	0,00007	0,000035	0,000029	0,00003	0,000031	0,000027	0,000024	0,000029
Uranium	U	mg/l	0,00257	0,00542	0,002	0,00165	0,00128	0,00149	0,00173	0,00152	0,00195	0,00128	0,00121
Vanadium	V	mg/l	0,00002	0,00001	0,00001	0,00011	<0,00001	0,00003	0,00004	0,00001	0,00003	<0,00001	0,00002
Tungstène	W	mg/l	0,00006	0,00004	0,00005	0,00004	0,00005	0,00004	0,00005	0,00005	0,00003	0,00003	0,00004
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	0,004	<0,002	<0,002	<0,002	<0,002	0,002	0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l				<0,00001					<0,00001		
Cérium (total)	Ce	mg/l				<0,00001					<0,00001		
Césium (total)	Cs	mg/l				0,0202					0,0096		
Dysprosium (total)	Dy	mg/l				<0,0001					<0,0001		
Erbium (total)	Er	mg/l				<0,0001					<0,0001		
Europium (total)	Eu	mg/l				<0,0001					<0,0001		
Gallium (total)	Ga	mg/l				0,0002					0,0001		
Gadolinium (total)	Gd	mg/l				<0,00001					<0,00001		
Germanium (total)	Ge	mg/l				<0,0001					<0,0001		
Hafnium (total)	Hf	mg/l				<0,0001					<0,0001		
Holmium (total)	Ho	mg/l				<0,0001					<0,0001		
Indium (total)	In	mg/l				<0,0001					<0,0001		
Iridium (total)	Ir	mg/l				<0,0001					<0,0001		
Lanthanum (total)	La	mg/l				<0,0001					<0,0001		
Lutetium (total)	Lu	mg/l				<0,0001					<0,0001		
Niobium (total)	Nb	mg/l				<0,0001					<0,0001		
Néodymium (total)	Nd	mg/l				<0,0001					<0,0001		
Osmium (total)	Os	mg/l				<0,0001					<0,0001		
Palladium (total)	Pd	mg/l				<0,0001					<0,0001		
Praseodymium (total)	Pr	mg/l				<0,0001					<0,0001		
Platinum (total)	Pt	mg/l				<0,0001					<0,0001		
Rubidium (total)	Rb	mg/l				0,0248					0,0131		
Rhenium (total)	Re	mg/l				<0,0001					<0,0001		
Rhodium (total)	Rh	mg/l				<0,00001					<0,00001		
Scandium (total)	Sc	mg/l				<0,0001					<0,0001		
Samarium (total)	Sm	mg/l				<0,0001					<0,0001		
Tantalum (total)	Ta	mg/l				<0,0001					<0,0001		
Terbium (total)	Tb	mg/l				<0,0001					<0,0001		
Tellurium (total)	Te	mg/l				<0,0001					<0,0001		
Thorium (total)	Th	mg/l				<0,0001					<0,0001		
Thulium (total)	Tm	mg/l				<0,0001					<0,0001		
Ytterbium (total)	Yb	mg/l				<0,0001					<0,0001		

Résultats HCT – CV5-WR-HCT-74

Analyse	Symbole	Unité	Sem. #33	Sem. #34	Sem. #35	Sem. #36	Sem. #37	Sem. #38	Sem. #39	Sem. #40	Sem. #41	Sem. #42	Sem. #43
			2023-12-14	2023-12-21	2023-12-28	2024-01-04	2024-01-11	2024-01-18	2024-01-25	2024-02-01	2024-02-08	2024-02-15	2024-02-22
Volume du lixiviat	V	mL	978	990	1015	952	996	1000	1023	978	1040	1021	1004
pH	pH	No unit	6,60	6,55	6,73	6,91	6,76	6,60	6,64	6,83	6,73	6,68	6,68
Alkalinité	Alkalinité	mg$CaCO_3$/l	2	2	3	3	2	2	<2,0	2	2	3	2
Conductivité	Conductivité	µS/cm	5	5	6	5	5	5	3	6	3	4	3
Acidité	Acidité	mg$CaCO_3$/l	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	2	2
Fluoride	F	mg/l	<0,06		<0,06					<0,06			
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	0,03	0,03	0,03
Sulfate	SO_4^{2-}	mg/l	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	2	2
Chlore	Cl^-	mg/l	***		<1,0					<1,0			
Nitrite	NO_2^-	mgN/l	***		<0,03					<0,03			
Nitrate	NO_3^-	mgN/l	***		<0,06					<0,06			
Bromide	Br	mg/l	***		<0,3					<0,3			
Mercure	Hg	mg/l	***		<0,00001					<0,00001			
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	0,00005	0,00005	0,00005
Aluminum	Al	mg/l	0,017	0,017	0,018	0,019	0,019	0,021	0,024	0,018	0,040	0,016	0,014
Arsenic	As	mg/l	0,0110	0,0109	0,0099	0,0090	0,0097	0,0093	0,0097	0,0082	0,0097	0,0080	0,0089
Baryum	Ba	mg/l	0,00009	<0,00008	0,00021	<0,00008	<0,00008	<0,00008	0,00043	0,00011	0,00059	0,00012	0,00008
Beryllium	Be	mg/l	0,000010	<0,000007	<0,000007	<0,000007	<0,000007	0,000007	<0,000007	<0,000007	0,000007	0,000007	0,000007
Bore	B	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	0,002	0,002	0,002
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	0,00001	0,00001	0,00001
Calcium	Ca	mg/l	0,90	0,81	0,93	0,69	0,73	0,71	0,75	0,69	0,71	0,70	0,63
Cadmium	Cd	mg/l	<0,000003	<0,000003	<0,000003	0,000004	0,000004	0,000007	<0,000003	0,000006	0,000008	0,000003	0,000003
Cobalt	Co	mg/l	0,000008	0,000008	0,000024	0,000007	0,000011	0,000016	0,000015	0,000006	0,000023	0,000009	0,000008
Chrome	Cr	mg/l	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	0,00009	0,00008	0,00008
Cuivre	Cu	mg/l	<0,0002	<0,0002	0,0010	<0,0002	<0,0002	<0,0002	<0,002	<0,002	0,002	0,001	0,001
Fer	Fe	mg/l	<0,007	<0,007	0,040	<0,007	<0,007	<0,007	<0,007	<0,007	0,017	0,007	0,007
Potassium	K	mg/l	0,100	0,095	0,106	0,119	0,103	0,102	0,110	0,113	0,104	0,089	0,086
Lithium	Li	mg/l	0,0074	0,0071	0,0078	0,0065	0,0077	0,0073	0,0067	0,0068	0,0063	0,0058	0,0061
Magnésium	Mg	mg/l	0,018	0,013	0,015	0,012	0,012	0,015	0,013	0,013	0,008	0,012	0,010
Manganese	Mn	mg/l	0,0569	0,0532	0,0651	0,0449	0,05151	0,0536	0,0544	0,0522	0,0594	0,0598	0,0630
Molybdène	Mo	mg/l	0,00070	0,00018	0,00022	0,00021	0,00042	0,00051	<0,0004	0,0024	0,0005	0,0004	0,0004
Sodium	Na	mg/l	0,11	0,08	0,10	0,13	0,09	0,08	0,06	0,14	0,12	0,11	0,08
Nickel	Ni	mg/l	<0,0001	<0,0001	0,0002	0,0002	0,0003	<0,0001	0,0001	0,0002	0,0005	0,0002	0,0001
Plomb	Pb	mg/l	<0,00009	<0,00009	<0,00009	0,00026	0,00012	<0,00009	<0,00009	<0,00009	0,00037	0,00013	0,00009
Antimoine	Sb	mg/l	0,0122	0,0113	0,0104	0,0088	0,0104	0,0108	0,0104	0,0086	0,0098	0,0084	0,0086
Sélénium	Se	mg/l	<0,00004	<0,00004	<0,00004	<0,00004	<0,00004	<0,00004	<0,00004	<0,00004	0,00004	0,00004	0,00004
Etain	Sn	mg/l	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	0,00008	0,00022	0,00006
Strontium	Sr	mg/l	0,00139	0,00128	0,00173	0,00110	0,00103	0,00112	0,00143	0,00112	0,00099	0,00103	0,00112
Titane	Ti	mg/l	<0,00007	<0,00007	<0,00007	<0,00007	<0,00007	<0,00007	<0,0001	<0,0001	0,0001	0,0001	0,0001
Thallium	Th	mg/l	0,000026	0,000027	0,000032	0,000016	0,000023	0,000030	0,000030	0,000024	0,000031	0,000027	0,000031
Uranium	U	mg/l	0,00133	0,00104	0,00106	0,00347	0,000807	0,000909	0,000753	0,000866	0,00082	0,00071	0,00079
Vanadium	V	mg/l	<0,00001	0,00002	0,00002	<0,00001	<0,00001	0,00002	0,00001	<0,00001	0,00003	0,00002	0,00004
Tungstène	W	mg/l	0,00004	0,00005	0,00004	0,00007	0,00003	0,00003	<0,0002	<0,0002	0,0002	0,0002	0,0002
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	0,00002	0,00002	0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	0,004	0,004	0,002
Gold (total)	Au	mg/l			<0,00001					<0,00001			
Cérium (total)	Ce	mg/l			<0,00001					<0,00001			
Césium (total)	Cs	mg/l			0,0106					0,0105			
Dysprosium (total)	Dy	mg/l			<0,0001					<0,00001			
Erbium (total)	Er	mg/l			<0,0001					<0,00001			
Europium (total)	Eu	mg/l			<0,0001					<0,00001			
Gallium (total)	Ga	mg/l			0,0001					0,0001			
Gadolinium (total)	Gd	mg/l			<0,00001					<0,00001			
Germanium (total)	Ge	mg/l			<0,0001					<0,0001			
Hafnium (total)	Hf	mg/l			<0,0001					<0,0001			
Holmium (total)	Ho	mg/l			<0,0001					<0,00001			
Indium (total)	In	mg/l			<0,0001					<0,00001			
Iridium (total)	Ir	mg/l			<0,0001					<0,00001			
Lanthanum (total)	La	mg/l			<0,0001					<0,00001			
Lutetium (total)	Lu	mg/l			<0,0001					<0,0001			
Niobium (total)	Nb	mg/l			<0,0001					<0,00001			
Néodymium (total)	Nd	mg/l			<0,0001					<0,00001			
Osmium (total)	Os	mg/l			<0,0001					<0,0001			
Palladium (total)	Pd	mg/l			<0,0001					<0,0001			
Praseodymium (total)	Pr	mg/l			<0,0001					<0,00001			
Platinum (total)	Pt	mg/l			<0,0001					<0,0001			
Rubidium (total)	Rb	mg/l			0,0139					0,0122			
Rhenium (total)	Re	mg/l			<0,0001					<0,0001			
Rhodium (total)	Rh	mg/l			<0,00001					<0,00001			
Scandium (total)	Sc	mg/l			<0,0001					<0,0001			
Samarium (total)	Sm	mg/l			<0,0001					<0,00001			
Tantalum (total)	Ta	mg/l			<0,0001					<0,0001			
Terbium (total)	Tb	mg/l			<0,0001					<0,00001			
Tellurium (total)	Te	mg/l			<0,0001					<0,0001			
Thorium (total)	Th	mg/l			<0,0001					<0,0001			
Thulium (total)	Tm	mg/l			<0,0001					<0,00001			
Ytterbium (total)	Yb	mg/l			<0,0001					<0,00001			

Résultats HCT – CV5-WR-HCT-74

Analyse	Symbole	Unité	Sem. #44	Sem. #45	Sem. #46	Sem. #47	Sem. #48	Sem. #49	Sem. #50	Sem. #51	Sem. #52	Sem. #53	Sem. #54
			2024-02-29	2024-03-07	2024-03-14	2024-03-21	2024-03-28	2024-04-04	2024-04-11	2024-04-18	2024-04-25	2024-05-02	2024-05-09
Volume du lixiviat	V	mL	1019	1004	1012	997	988	1002	1004	1012	999	1006	1012
pH	pH	No unit	6,52	6,63	6,65	6,48	6,78	6,69	6,48	6,50	6,64	6,40	6,58
Alkalinité	Alkalinité	$mgCaCO_3/l$	2	2	2	<2,0	2	2	2	2	2	2	2
Conductivité	Conductivité	µS/cm	3	2	2	2	3	3	3	3	3	4	3
Acidité	Acidité	$mgCaCO_3/l$	2	<2	2	2	2	<2,0	<2,0	<2	<2,0	<2,0	<2,0
Fluoride	F	mg/l		0.06					<0,06				
Phosphore réactif total	PO_4^{3-}-P	mg/l	0.03	0.03	0.03	0.03	0.03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Sulfate	SO_4^{2-}	mg/l	2	2	2	2	2	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0
Chlore	Cl^-	mg/l		1					<1,0				
Nitrite	NO_2^-	mgN/l		0.03					<0,03				
Nitrate	NO_3^-	mgN/l		0.06					<0,06				
Bromide	Br	mg/l		0.3					<0,3				
Mercure	Hg	mg/l		0.00001					<0,00001				
Argent	Ag	mg/l	0.00005	0.00005	0.00005	0.00005	0.00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,016	0,014	0,010	0,011	0,014	0,013	0,018	0,009	0,011	0,015	0,015
Arsenic	As	mg/l	0,0079	0,0081	0,0068	0,0075	0,0080	0,0076	0,0069	0,0066	0,0064	0,0073	0,0072
Baryum	Ba	mg/l	0.00008	0.00008	0.00008	0.00008	0.00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008
Beryllium	Be	mg/l	0,000011	0.000007	0,000007	0,000007	0,000007	<0,000007	<0,000007	0,000010	<0,000007	<0,000007	0,000007
Bore	B	mg/l	0.002	0.002	0.002	0.002	0.002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Bismuth	Bi	mg/l	0.00001	0.00001	0.00001	0.00001	0.00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Calcium	Ca	mg/l	0,55	0,61	0,52	0,50	0,48	0,55	0,59	0,50	0,55	0,48	0,48
Cadmium	Cd	mg/l	0,000003	0,000003	0,000003	0,000003	0,000003	0,000003	<0,000003	<0,000003	0,000003	<0,000003	0,000003
Cobalt	Co	mg/l	0,000008	0,000007	0,000005	0,000007	0,000006	0,000004	0,000005	0,000011	0,000010	0,000012	0,000006
Chrome	Cr	mg/l	0.00008	0.00008	0.00008	0.00008	0.00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008
Cuivre	Cu	mg/l	0.001	0.001	0.001	0.001	0.001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001
Fer	Fe	mg/l	0,009	0.007	0.007	0.007	0.007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007
Potassium	K	mg/l	0,082	0,096	0,067	0,080	0,071	0,082	0,089	0,072	0,071	0,087	0,079
Lithium	Li	mg/l	0,0057	0,0054	0,0050	0,0047	0,0048	0,0051	0,0055	0,0051	0,0059	0,0062	0,0055
Magnésium	Mg	mg/l	0,010	0,010	0,010	0,010	0,010	0,009	0,012	0,010	0,009	0,011	0,009
Manganese	Mn	mg/l	0,0536	0,0553	0,0499	0,0456	0,0480	0,0589	0,0607	0,0534	0,0618	0,0513	0,0531
Molybdène	Mo	mg/l	0.0004	0.0004	0.0004	0.0004	0.0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004
Sodium	Na	mg/l	0,07	0,07	0,06	0,06	0,08	0,07	0,08	0,07	0,07	0,09	0,06
Nickel	Ni	mg/l	0,0004	0.0001	0,0001	0,0002	0.0001	<0,0001	<0,0001	0,0001	<0,0001	0,0002	<0,0001
Plomb	Pb	mg/l	0.00009	0.00009	0,00015	0.00009	0.00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009
Antimoine	Sb	mg/l	0,0078	0,0079	0,0068	0,0070	0,0070	0,0066	0,0067	0,0062	0,0067	0,0067	0,0067
Sélénium	Se	mg/l	0.00004	0.00004	0.00004	0.00004	0.00004	<0,00004	<0,00004	<0,00004	<0,00004	<0,00004	<0,00004
Etain	Sn	mg/l	0,00006	0,00006	0,00018	0,00006	0,00006	0,00043	<0,00006	<0,00006	0,00009	<0,00006	<0,00006
Strontium	Sr	mg/l	0,00104	0,00097	0,00094	0,00082	0,00084	0,00089	0,00106	0,00082	0,00085	0,00080	0,00080
Titane	Ti	mg/l	0.0001	0.0001	0.0001	0.0001	0.0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Thallium	Th	mg/l	0,000028	0,000028	0,000024	0,000022	0,000026	0,000026	0,000033	0,000030	0,000025	0,000026	0,000029
Uranium	U	mg/l	0,00080	0,00063	0,00046	0,00048	0,00049	0,00047	0,00049	0,00040	0,00044	0,00038	0,00038
Vanadium	V	mg/l	0,00001	0,00002	0,00001	0,00001	0,00001	0,00001	0,00001	<0,00001	<0,00001	0,00002	0,00003
Tungstène	W	mg/l	0.0002	0.0002	0.0002	0.0002	0.0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002
Yttrium	Y	mg/l	0,00002	0,00002	0,00002	0,00002	0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	0.002	0.002	0.002	0.002	0.002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l		0.00001					<0,00001				
Cérium (total)	Ce	mg/l		0.00001					<0,00001				
Césium (total)	Cs	mg/l		0,0104					0,01				
Dysprosium (total)	Dy	mg/l		0.00001					<0,00001				
Erbium (total)	Er	mg/l		0.00001					<0,00001				
Europium (total)	Eu	mg/l		0.00001					<0,00001				
Gallium (total)	Ga	mg/l		0,0001					0,0001				
Gadolinium (total)	Gd	mg/l		0.00001					<0,00001				
Germanium (total)	Ge	mg/l		<0,0001					<0,0001				
Hafnium (total)	Hf	mg/l		<0,0001					<0,0001				
Holmium (total)	Ho	mg/l		<0,00001					<0,00001				
Indium (total)	In	mg/l		<0,00001					<0,00001				
Iridium (total)	Ir	mg/l		<0,00001					<0,00001				
Lanthanum (total)	La	mg/l		<0,00001					<0,00001				
Lutetium (total)	Lu	mg/l		<0,0001					<0,0001				
Niobium (total)	Nb	mg/l		<0,00001					0,00002				
Néodymium (total)	Nd	mg/l		<0,00001					<0,00001				
Osmium (total)	Os	mg/l		<0,0001					<0,0001				
Palladium (total)	Pd	mg/l		<0,0001					<0,0001				
Praseodymium (total)	Pr	mg/l		<0,00001					<0,00001				
Platinum (total)	Pt	mg/l		<0,0001					<0,0001				
Rubidium (total)	Rb	mg/l		0,0117					0,0117				
Rhenium (total)	Re	mg/l		<0,0001					<0,0001				
Rhodium (total)	Rh	mg/l		<0,00001					<0,00001				
Scandium (total)	Sc	mg/l		<0,0001					<0,0001				
Samarium (total)	Sm	mg/l		<0,00001					<0,00001				
Tantalum (total)	Ta	mg/l		<0,0001					<0,0001				
Terbium (total)	Tb	mg/l		<0,00001					<0,00001				
Tellurium (total)	Te	mg/l		<0,0001					<0,0001				
Thorium (total)	Th	mg/l		<0,0001					<0,0001				
Thulium (total)	Tm	mg/l		<0,00001					<0,00001				
Ytterbium (total)	Yb	mg/l		<0,00001					<0,00001				

Résultats HCT – CV5-WR-HCT-74

Analyse	Symbole	Unité	Sem. #55	Sem. #56	Sem. #57	Sem. #58	Sem. #59	Sem. #60	Sem. #61	Sem. #62	Sem. #63	Sem. #64	Sem. #65
			2024-05-16	2024-05-23	2024-05-30	2024-06-06	2024-06-13	2024-06-20	2024-06-27	2024-07-04	2024-07-11	2024-07-18	2024-07-25
Volume du lixiviat	V	mL	1010	999	1021	1015	1008	1001	1008	964	964	978	987
pH	pH	No unit	6,46	7,11	6,55	6,51	6,75	6,44	6,44	6,32	6,38	6,36	6,55
Alkalinité	Alkalinité	$mgCaCO_3/l$	4	5	2	<2,0	<2,0	<2,0	<2,0	<2,0		3	
Conductivité	Conductivité	µS/cm	2	11	2	2	2	3	2	3	3	2	3
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2,0	2	<2,0	2	<2,0	<2	3		<2,0	
Fluoride	F	mg/l	<0,06					<0,06				<0,06	
Phosphore réactif total	PO_4^{3-}-P	mg/l	0,04	<0,03	<0,03	<0,03	<0,03	<0,03	0,05	<0,03		<0,03	
Sulfate	SO_4^{2-}	mg/l	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0		<2,0	
Chlore	Cl^-	mg/l	<1,0					<1,0				<1,0	
Nitrite	NO_2^-	mgN/l	<0,03					<0,03				<0,03	
Nitrate	NO_3^-	mgN/l	<0,06					<0,06				<0,06	
Bromide	Br	mg/l	<0,3					<0,3				<0,3	
Mercure	Hg	mg/l	<0,00001					<0,00001				<0,00001	
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005		<0,00005	
Aluminum	Al	mg/l	0,013	0,012	0,011	0,015	0,015	0,018	0,016	0,034		0,019	
Arsenic	As	mg/l	0,0078	0,0064	0,0071	0,0066	0,0066	0,0067	0,0062	0,0056		0,0068	
Baryum	Ba	mg/l	<0,00008	<0,00008	<0,00008	0,00009	<0,00008	0,00008	<0,00008	<0,00008		<0,00008	
Beryllium	Be	mg/l	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	<0,000007	0,00001		0,000007	
Bore	B	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002		<0,002	
Bismuth	Bi	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001		<0,00001	
Calcium	Ca	mg/l	0,50	0,44	0,46	0,49	0,48	0,47	0,40	0,36		0,42	
Cadmium	Cd	mg/l	0,000004	<0,000003	<0,000003	0,000019	<0,000003	<0,000003	0,000003	<0,000003		0,000016	
Cobalt	Co	mg/l	0,000007	0,000009	0,000010	0,000010	0,000016	<0,000004	0,000008	0,000011		0,000012	
Chrome	Cr	mg/l	<0,00008	<0,00008	0,00013	0,00012	<0,00008	<0,00008	<0,00008	<0,00008		<0,00008	
Cuivre	Cu	mg/l	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001		<0,001	
Fer	Fe	mg/l	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007		<0,007	
Potassium	K	mg/l	0,077	0,071	0,078	0,091	0,087	0,079	0,076	0,072		0,087	
Lithium	Li	mg/l	0,0056	0,0049	0,0048	0,0057	0,0058	0,0055	0,0055	0,0049		0,005	
Magnésium	Mg	mg/l	0,010	0,010	0,010	0,014	0,009	0,012	0,007	0,007		0,011	
Manganese	Mn	mg/l	0,0578	0,0519	0,0494	0,0537	0,0539	0,0555	0,0498	0,0419		0,0426	
Molybdène	Mo	mg/l	<0,0004	<0,0004	<0,0004	0,0329	<0,0004	<0,0004	<0,0004	<0,0004		0,0294	
Sodium	Na	mg/l	0,08	0,06	0,08	0,10	0,07	0,07	0,05	0,07		0,12	
Nickel	Ni	mg/l	<0,0001	0,0004	0,0002	0,0001	0,0002	0,0003	0,0001	0,0003		0,0002	
Plomb	Pb	mg/l	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009		<0,00009	
Antimoine	Sb	mg/l	0,0069	0,0061	0,0063	0,0064	0,0065	0,0066	0,0058	0,0048		0,0066	
Sélénium	Se	mg/l	<0,00004	<0,00004	<0,00004	<0,00004	<0,00004	<0,00004	<0,00004	<0,00004		<0,00004	
Etain	Sn	mg/l	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006		<0,00006	
Strontium	Sr	mg/l	0,00084	0,00081	0,00071	0,00087	0,00079	0,00090	0,00070	0,00069		0,00073	
Titane	Ti	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001		<0,0001	
Thallium	Th	mg/l	0,000029	0,000026	0,000024	0,000028	0,000031	0,000031	0,000031	0,000041		0,000028	
Uranium	U	mg/l	0,00041	0,00038	0,00028	0,000348	0,000359	0,000365	0,000348	0,000371		0,000363	
Vanadium	V	mg/l	0,00002	0,00003	0,00005	0,00003	0,00001	<0,00001	<0,00001	<0,00001		0,00002	
Tungstène	W	mg/l	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002		<0,0002	
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002		<0,00002	
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002		<0,002	
Gold (total)	Au	mg/l	<0,00001					<0,00001				<0,00001	
Cérium (total)	Ce	mg/l	<0,00001					<0,00001				<0,00001	
Césium (total)	Cs	mg/l	0,0097					0,0102				0,0102	
Dysprosium (total)	Dy	mg/l	<0,00001					<0,00001				<0,00001	
Erbium (total)	Er	mg/l	<0,00001					<0,00001				<0,00001	
Europium (total)	Eu	mg/l	<0,00001					<0,00001				<0,00001	
Gallium (total)	Ga	mg/l	0,0001					0,0001				<0,0001	
Gadolinium (total)	Gd	mg/l	<0,00001					<0,00001				<0,00001	
Germanium (total)	Ge	mg/l	<0,0001					<0,0001				<0,0001	
Hafnium (total)	Hf	mg/l	<0,0001					<0,0001				<0,0001	
Holmium (total)	Ho	mg/l	<0,00001					<0,00001				<0,00001	
Indium (total)	In	mg/l	<0,00001					<0,00001				<0,00001	
Iridium (total)	Ir	mg/l	<0,00001					<0,00001				<0,00001	
Lanthanum (total)	La	mg/l	<0,00001					<0,00001				<0,00001	
Lutetium (total)	Lu	mg/l	<0,0001					<0,0001				<0,0001	
Niobium (total)	Nb	mg/l	0,00001					<0,00001				<0,00001	
Néodymium (total)	Nd	mg/l	<0,00001					<0,00001				<0,00001	
Osmium (total)	Os	mg/l	<0,0001					<0,0001				<0,0001	
Palladium (total)	Pd	mg/l	<0,0001					<0,0001				<0,0001	
Praseodymium (total)	Pr	mg/l	<0,00001					<0,00001				<0,00001	
Platinum (total)	Pt	mg/l	<0,0001					<0,0001				<0,0001	
Rubidium (total)	Rb	mg/l	0,0113					0,0115				0,011	
Rhenium (total)	Re	mg/l	<0,0001					<0,0001				<0,0001	
Rhodium (total)	Rh	mg/l	<0,00001					<0,00001				<0,00001	
Scandium (total)	Sc	mg/l	<0,0001					<0,0001				<0,0001	
Samarium (total)	Sm	mg/l	<0,00001					<0,00001				<0,00001	
Tantalum (total)	Ta	mg/l	<0,0001					<0,0001				<0,0001	
Terbium (total)	Tb	mg/l	<0,00001					<0,00001				<0,00001	
Tellurium (total)	Te	mg/l	<0,0001					<0,0001				<0,0001	
Thorium (total)	Th	mg/l	<0,0001					<0,0001				<0,0001	
Thulium (total)	Tm	mg/l	<0,00001					<0,00001				<0,00001	
Ytterbium (total)	Yb	mg/l	<0,00001					<0,00001				<0,00001	

Résultats HCT – CV5-WR-HCT-74

Analyse	Symbole	Unité	Sem. #66	Sem. #67	Sem. #68	Sem. #69	Sem. #70	Sem. #71	Sem. #72	Sem. #73	Sem. #74	Sem. #75	Sem. #76
			2024-08-01	2024-08-08	2024-08-15	2024-08-22	2024-08-29	2024-09-05	2024-09-12	2024-09-19	2024-09-26	2024-10-03	2024-10-10
Volume du lixiviat	V	mL	1000	966	999	997	999	1001	1000	1010	1007	1001	1011
pH	pH	No unit	6,59	6,99	6,36	6,64	6,50	6,76	6,28	7,32	6,80	6,66	6,31
Alkalinité	Alkalinité	$mgCaCO_3/l$			<2,0				<2,0				<2,0
Conductivité	Conductivité	µS/cm	3	10	5	3	3	4	2	5	3	3	2
Acidité	Acidité	$mgCaCO_3/l$			2				2				2
Fluoride	F	mg/l			<0,06				<0,06				<0,06
Phosphore réactif total	PO_4^{3-}-P	mg/l			<0,03				<0,03				<0,03
Sulfate	SO_4^{2-}	mg/l			<2,0				<2,0				<2,0
Chlore	Cl^-	mg/l			<1,0				<1,0				<1,0
Nitrite	NO_2^-	mgN/l			<0,03				<0,03				<0,03
Nitrate	NO_3^-	mgN/l			<0,06				<0,06				<0,06
Bromide	Br	mg/l			<0,3				<0,3				<0,3
Mercure	Hg	mg/l			0,00001				<0,00001				<0,00001
Argent	Ag	mg/l			<0,00005				<0,00005				<0,00005
Aluminum	Al	mg/l			0,018				0,01				0,015
Arsenic	As	mg/l			0,0061				0,005				0,0052
Baryum	Ba	mg/l			<0,00008				<0,00008				<0,00008
Beryllium	Be	mg/l			<0,000007				<0,000007				0,000007
Bore	B	mg/l			<0,002				<0,002				<0,002
Bismuth	Bi	mg/l			<0,00001				<0,00001				0,00002
Calcium	Ca	mg/l			0,44				0,43				0,36
Cadmium	Cd	mg/l			0,000004				0,000004				0,000004
Cobalt	Co	mg/l			0,000022				0,000007				0,000013
Chrome	Cr	mg/l			<0,00008				<0,00008				<0,00008
Cuivre	Cu	mg/l			<0,001				<0,001				<0,001
Fer	Fe	mg/l			<0,007				<0,007				<0,007
Potassium	K	mg/l			0,074				0,068				0,068
Lithium	Li	mg/l			0,0046				0,0047				0,0054
Magnésium	Mg	mg/l			0,008				0,008				0,008
Manganese	Mn	mg/l			0,0483				0,0463				0,047
Molybdène	Mo	mg/l			<0,0004				<0,0004				<0,0004
Sodium	Na	mg/l			0,08				0,07				0,05
Nickel	Ni	mg/l			0,0003				<0,0001				0,0001
Plomb	Pb	mg/l			<0,00009				<0,00009				0,00018
Antimoine	Sb	mg/l			0,0063				0,0049				0,004
Sélénium	Se	mg/l			<0,00004				<0,00004				<0,00004
Etain	Sn	mg/l			<0,00006				<0,00006				0,00007
Strontium	Sr	mg/l			0,00074				0,00074				0,0007
Titane	Ti	mg/l			<0,0001				<0,0001				<0,0001
Thallium	Th	mg/l			0,000032				0,000026				0,00003
Uranium	U	mg/l			0,000395				0,000292				0,000267
Vanadium	V	mg/l			0,00002				<0,00001				<0,00001
Tungstène	W	mg/l			<0,0002				<0,0002				<0,0002
Yttrium	Y	mg/l			<0,00002				<0,00002				<0,00002
Zinc	Zn	mg/l			<0,002				<0,002				<0,002
Gold (total)	Au	mg/l			<0,00001				<0,00001				<0,00001
Cérium (total)	Ce	mg/l			<0,00001				<0,00001				<0,00001
Césium (total)	Cs	mg/l			0,0095				0,0096				0,0101
Dysprosium (total)	Dy	mg/l			<0,00001				<0,00001				<0,00001
Erbium (total)	Er	mg/l			<0,00001				<0,00001				<0,00001
Europium (total)	Eu	mg/l			<0,00001				<0,00001				<0,00001
Gallium (total)	Ga	mg/l			<0,0001				<0,0001				<0,0001
Gadolinium (total)	Gd	mg/l			<0,00001				<0,00001				<0,00001
Germanium (total)	Ge	mg/l			<0,0001				<0,0001				<0,0001
Hafnium (total)	Hf	mg/l			<0,0001				<0,0001				<0,0001
Holmium (total)	Ho	mg/l			<0,00001				<0,00001				<0,00001
Indium (total)	In	mg/l			<0,00001				<0,00001				<0,00001
Iridium (total)	Ir	mg/l			<0,00001				<0,00001				<0,00001
Lanthanum (total)	La	mg/l			<0,00001				<0,00001				<0,00001
Lutetium (total)	Lu	mg/l			<0,0001				<0,0001				<0,0001
Niobium (total)	Nb	mg/l			0,00002				0,00002				<0,00001
Néodymium (total)	Nd	mg/l			<0,00001				<0,00001				<0,00001
Osmium (total)	Os	mg/l			<0,0001				<0,0001				<0,0001
Palladium (total)	Pd	mg/l			<0,0001				<0,0001				<0,0001
Praseodymium (total)	Pr	mg/l			<0,00001				<0,00001				<0,00001
Platinum (total)	Pt	mg/l			<0,0001				<0,0001				<0,0001
Rubidium (total)	Rb	mg/l			0,0108				0,0097				0,0123
Rhenium (total)	Re	mg/l			<0,0001				<0,0001				<0,0001
Rhodium (total)	Rh	mg/l			<0,00001				<0,00001				<0,00001
Scandium (total)	Sc	mg/l			<0,0001				<0,0001				<0,0001
Samarium (total)	Sm	mg/l			<0,00001				<0,00001				<0,00001
Tantalum (total)	Ta	mg/l			<0,0001				<0,0001				<0,0001
Terbium (total)	Tb	mg/l			<0,00001				<0,00001				<0,00001
Tellurium (total)	Te	mg/l			<0,0001				<0,0001				<0,0001
Thorium (total)	Th	mg/l			<0,0001				<0,0001				<0,0001
Thulium (total)	Tm	mg/l			<0,00001				<0,00001				<0,00001
Ytterbium (total)	Yb	mg/l			<0,00001				<0,00001				<0,00001

Résultats HCT – CV5-WR-HCT-74

Analyse	Symbole	Unité	Sem. #77	Sem. #78	Sem. #79	Sem. #80	Sem. #81	Sem. #82	Sem. #83	Sem. #84	Sem. #85	Sem. #86	Sem. #87
			2024-10-17	2024-10-24	2024-10-31	2024-11-07	2024-11-14	2024-11-21	2024-11-28	2024-12-05	2024-12-12	2024-12-19	2024-12-26
Volume du lixiviat	V	mL	967	1006	1009	985	1013	1008	999	1014	1012	1046	1043
pH	pH	No unit	6,50	6,49	6,47	5,84	6,50	6,54	6,67	6,43	6,67	6,32	6,60
Alkalinité	Alkalinité	$mgCaCO_3/l$				<2,0				<2,0			
Conductivité	Conductivité	µS/cm	3	3	3	2	3	3	3	2	3	4	4
Acidité	Acidité	$mgCaCO_3/l$				<2,0				2			
Fluoride	F	mg/l				<0,06				<0,06			
Phosphore réactif total	PO_4^{3-}-P	mg/l				<0,03				<0,03			
Sulfate	SO_4^{2-}	mg/l				<2,0				<2,0			
Chlore	Cl^-	mg/l				<1,0				<1,0			
Nitrite	NO_2^-	mgN/l				<0,03				<0,03			
Nitrate	NO_3^-	mgN/l				<0,06				<0,06			
Bromide	Br	mg/l				<0,3				<0,3			
Mercure	Hg	mg/l				<0,00001				<0,00001			
Argent	Ag	mg/l				<0,00005				<0,00005			
Aluminum	Al	mg/l				0,011				0,013			
Arsenic	As	mg/l				0,0049				0,0045			
Baryum	Ba	mg/l				<0,00008				<0,00008			
Beryllium	Be	mg/l				<0,000007				0,000008			
Bore	B	mg/l				<0,002				<0,002			
Bismuth	Bi	mg/l				<0,00001				<0,00001			
Calcium	Ca	mg/l				0,33				0,31			
Cadmium	Cd	mg/l				<0,000003				<0,000003			
Cobalt	Co	mg/l				<0,000004				0,000016			
Chrome	Cr	mg/l				<0,00008				<0,00008			
Cuivre	Cu	mg/l				<0,001				<0,001			
Fer	Fe	mg/l				<0,007				<0,007			
Potassium	K	mg/l				0,065				0,066			
Lithium	Li	mg/l				0,0060				0,0058			
Magnésium	Mg	mg/l				0,007				0,007			
Manganese	Mn	mg/l				0,0503				0,0511			
Molybdène	Mo	mg/l				<0,0004				<0,0004			
Sodium	Na	mg/l				0,08				0,06			
Nickel	Ni	mg/l				<0,0001				0,0006			
Plomb	Pb	mg/l				<0,00009				<0,00009			
Antimoine	Sb	mg/l				0,0045				0,0045			
Sélénium	Se	mg/l				<0,00004				<0,00004			
Etain	Sn	mg/l				0,00016				<0,00006			
Strontium	Sr	mg/l				0,00064				0,00057			
Titane	Ti	mg/l				0,00011				<0,0001			
Thallium	Th	mg/l				0,000020				0,000041			
Uranium	U	mg/l				0,000200				0,000128			
Vanadium	V	mg/l				0,00001				<0,00001			
Tungstène	W	mg/l				<0,0002				<0,0002			
Yttrium	Y	mg/l				<0,00002				<0,00002			
Zinc	Zn	mg/l				<0,002				<0,002			
Gold (total)	Au	mg/l				<0,00001				<0,00001			
Cérium (total)	Ce	mg/l				<0,00001				<0,00001			
Césium (total)	Cs	mg/l				0,0089				0,0116			
Dysprosium (total)	Dy	mg/l				<0,00001				<0,00001			
Erbium (total)	Er	mg/l				<0,00001				<0,00001			
Europium (total)	Eu	mg/l				<0,00001				<0,00001			
Gallium (total)	Ga	mg/l				<0,0001				<0,0001			
Gadolinium (total)	Gd	mg/l				<0,00001				<0,00001			
Germanium (total)	Ge	mg/l				<0,0001				<0,0001			
Hafnium (total)	Hf	mg/l				<0,0001				<0,0001			
Holmium (total)	Ho	mg/l				<0,00001				<0,00001			
Indium (total)	In	mg/l				<0,00001				<0,00001			
Iridium (total)	Ir	mg/l				<0,00001				<0,00001			
Lanthanum (total)	La	mg/l				<0,00001				<0,00001			
Lutetium (total)	Lu	mg/l				<0,0001				<0,0001			
Niobium (total)	Nb	mg/l				<0,00001				<0,00001			
Néodymium (total)	Nd	mg/l				<0,00001				<0,00001			
Osmium (total)	Os	mg/l				<0,0001				<0,0001			
Palladium (total)	Pd	mg/l				<0,0001				<0,0001			
Praseodymium (total)	Pr	mg/l				<0,00001				<0,00001			
Platinum (total)	Pt	mg/l				<0,0001				<0,0001			
Rubidium (total)	Rb	mg/l				0,0089				0,0103			
Rhenium (total)	Re	mg/l				<0,0001				<0,0001			
Rhodium (total)	Rh	mg/l				<0,00001				<0,00001			
Scandium (total)	Sc	mg/l				<0,0001				<0,0001			
Samarium (total)	Sm	mg/l				<0,00001				<0,00001			
Tantalum (total)	Ta	mg/l				<0,0001				<0,0001			
Terbium (total)	Tb	mg/l				<0,00001				<0,00001			
Tellurium (total)	Te	mg/l				<0,0001				<0,0001			
Thorium (total)	Th	mg/l				<0,0001				<0,0001			
Thulium (total)	Tm	mg/l				<0,00001				<0,00001			
Ytterbium (total)	Yb	mg/l				<0,00001				<0,00001			

Résultats HCT – CV5-WR-HCT-74

Analyse	Symbole	Unité	Sem. #88	Sem. #89
			2025-01-02	2025-01-09
Volume du lixiviat	V	mL	1037	1018
pH	pH	No unit	6,57	7,16
Alkalinité	Alkalinité	mg$CaCO_3$/l	<2,0	
Conductivité	Conductivité	µS/cm	2	3
Acidité	Acidité	mg$CaCO_3$/l	3	
Fluoride	F	mg/l	<0,06	
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	
Sulfate	SO_4^{2-}	mg/l	<2,0	
Chlore	Cl^-	mg/l	<1,0	
Nitrite	NO_2^-	mgN/l	<0,03	
Nitrate	NO_3^-	mgN/l	<0,06	
Bromide	Br	mg/l	<0,3	
Mercure	Hg	mg/l	<0,00001	
Argent	Ag	mg/l	<0,00005	
Aluminum	Al	mg/l	0,077	
Arsenic	As	mg/l	0,0034	
Baryum	Ba	mg/l	0,00038	
Beryllium	Be	mg/l	0,000011	
Bore	B	mg/l	<0,002	
Bismuth	Bi	mg/l	<0,00001	
Calcium	Ca	mg/l	0,35	
Cadmium	Cd	mg/l	0,000003	
Cobalt	Co	mg/l	0,000054	
Chrome	Cr	mg/l	<0,00008	
Cuivre	Cu	mg/l	<0,001	
Fer	Fe	mg/l	<0,007	
Potassium	K	mg/l	0,089	
Lithium	Li	mg/l	0,0049	
Magnésium	Mg	mg/l	0,013	
Manganese	Mn	mg/l	0,0481	
Molybdène	Mo	mg/l	<0,0004	
Sodium	Na	mg/l	0,08	
Nickel	Ni	mg/l	0,0001	
Plomb	Pb	mg/l	<0,00009	
Antimoine	Sb	mg/l	0,0049	
Sélénium	Se	mg/l	<0,00004	
Etain	Sn	mg/l	0,00012	
Strontium	Sr	mg/l	0,00185	
Titane	Ti	mg/l	<0,0001	
Thallium	Th	mg/l	0,000065	
Uranium	U	mg/l	0,000087	
Vanadium	V	mg/l	0,00001	
Tungstène	W	mg/l	<0,0002	
Yttrium	Y	mg/l	<0,00002	
Zinc	Zn	mg/l	<0,002	
Gold (total)	Au	mg/l	<0,00001	
Cérium (total)	Ce	mg/l	<0,00001	
Césium (total)	Cs	mg/l	0,0143	
Dysprosium (total)	Dy	mg/l	<0,00001	
Erbium (total)	Er	mg/l	<0,00001	
Europium (total)	Eu	mg/l	<0,00001	
Gallium (total)	Ga	mg/l	<0,0001	
Gadolinium (total)	Gd	mg/l	<0,00001	
Germanium (total)	Ge	mg/l	<0,0001	
Hafnium (total)	Hf	mg/l	<0,0001	
Holmium (total)	Ho	mg/l	<0,00001	
Indium (total)	In	mg/l	<0,00001	
Iridium (total)	Ir	mg/l	<0,00001	
Lanthanum (total)	La	mg/l	<0,00001	
Lutetium (total)	Lu	mg/l	<0,0001	
Niobium (total)	Nb	mg/l	<0,00001	
Néodymium (total)	Nd	mg/l	<0,00001	
Osmium (total)	Os	mg/l	<0,0001	
Palladium (total)	Pd	mg/l	<0,0001	
Praseodymium (total)	Pr	mg/l	<0,00001	
Platinum (total)	Pt	mg/l	<0,0001	
Rubidium (total)	Rb	mg/l	0,0137	
Rhenium (total)	Re	mg/l	<0,0001	
Rhodium (total)	Rh	mg/l	<0,00001	
Scandium (total)	Sc	mg/l	<0,0001	
Samarium (total)	Sm	mg/l	<0,00001	
Tantalum (total)	Ta	mg/l	<0,0001	
Terbium (total)	Tb	mg/l	<0,00001	
Tellurium (total)	Te	mg/l	<0,0001	
Thorium (total)	Th	mg/l	<0,0001	
Thulium (total)	Tm	mg/l	<0,00001	
Ytterbium (total)	Yb	mg/l	<0,00001	

Résultats HCT – CV5-WR-HCT-74

Analyse	Symbole	Unité	Sem. #90	Sem. #91	Sem. #92	Sem. #93	Sem. #94	Sem. #95	Sem. #96	Sem. #97	Sem. #98	Sem. #99	Sem. #100
			2025-01-16	2025-01-23	2025-01-30	2025-02-06	2025-02-13	2025-02-20	2025-02-27	2025-03-06	2025-03-13	2025-03-20	2025-03-27
Volume du lixiviat	V	mL	1041	1049	1029	1032	996	953	1000	999	1011	1000	953
pH	pH	No unit	6,74	6,54	6,31	6,14	6,48	6,72	6,32	6,98	6,71	7,08	6,23
Alkalinité	Alkalinité	$mgCaCO_3/l$			<2,0				<2,0				<2,0
Conductivité	Conductivité	µS/cm	3	3	3	6	2	4	<2,0	2	2	2	<2,0
Acidité	Acidité	$mgCaCO_3/l$			2				4				2
Fluoride	F	mg/l			<0,06				<0,06				<0,06
Phosphore réactif total	PO_4^{3-}-P	mg/l			0,03				<0,03				<0,03
Sulfate	SO_4^{2-}	mg/l			<2,0				<2,0				<2,0
Chlore	Cl^-	mg/l			<1,0				<1,0				<1,0
Nitrite	NO_2^-	mgN/l			<0,03				<0,03				<0,03
Nitrate	NO_3^-	mgN/l			<0,06				<0,06				<0,06
Bromide	Br	mg/l			<0,3				<0,3				<0,3
Mercure	Hg	mg/l			<0,00001				<0,00001				<0,00001
Argent	Ag	mg/l			<0,00005				<0,00005				<0,00005
Aluminum	Al	mg/l			0,019				0,026				0,026
Arsenic	As	mg/l			0,0037				0,0034				0,0034
Baryum	Ba	mg/l			<0,00008				<0,00008				0,00021
Beryllium	Be	mg/l			0,000014				0,000008				<0,000007
Bore	B	mg/l			<0,002				<0,002				<0,002
Bismuth	Bi	mg/l			<0,00001				<0,00001				<0,00001
Calcium	Ca	mg/l			0,24				0,25				0,20
Cadmium	Cd	mg/l			0,000004				0,000004				<0,000003
Cobalt	Co	mg/l			0,000012				0,000007				0,000005
Chrome	Cr	mg/l			<0,00008				<0,00008				<0,00008
Cuivre	Cu	mg/l			<0,001				<0,001				<0,001
Fer	Fe	mg/l			<0,007				<0,007				<0,007
Potassium	K	mg/l			0,058				0,056				0,053
Lithium	Li	mg/l			0,0039				0,0041				0,0039
Magnésium	Mg	mg/l			0,007				0,006				0,005
Manganese	Mn	mg/l			0,0440				0,0386				0,0298
Molybdène	Mo	mg/l			<0,0004				<0,0004				<0,0004
Sodium	Na	mg/l			0,05				0,06				0,06
Nickel	Ni	mg/l			<0,0001				<0,0001				<0,0001
Plomb	Pb	mg/l			<0,00009				<0,00009				<0,00009
Antimoine	Sb	mg/l			0,0037				0,0035				0,0030
Sélénium	Se	mg/l			<0,00004				<0,00004				<0,00004
Etain	Sn	mg/l			<0,00006				<0,00006				<0,00006
Strontium	Sr	mg/l			0,00051				0,00073				0,00152
Titane	Ti	mg/l			<0,0001				<0,0001				<0,0001
Thallium	Th	mg/l			0,000030				0,000032				0,000034
Uranium	U	mg/l			0,000110				0,000140				0,000220
Vanadium	V	mg/l			0,00002				<0,00001				0,00002
Tungstène	W	mg/l			<0,0002				<0,0002				0,00082
Yttrium	Y	mg/l			<0,00002				<0,00002				<0,00002
Zinc	Zn	mg/l			<0,002				<0,002				<0,002
Gold (total)	Au	mg/l			<0,00001				<0,00001				<0,00001
Cérium (total)	Ce	mg/l			<0,00001				<0,00001				<0,00001
Césium (total)	Cs	mg/l			0,0098				0,0089				0,0089
Dysprosium (total)	Dy	mg/l			<0,00001				<0,00001				<0,00001
Erbium (total)	Er	mg/l			<0,00001				<0,00001				<0,00001
Europium (total)	Eu	mg/l			<0,00001				<0,00001				<0,00001
Gallium (total)	Ga	mg/l			<0,0001				<0,0001				<0,0001
Gadolinium (total)	Gd	mg/l			<0,00001				<0,00001				<0,00001
Germanium (total)	Ge	mg/l			<0,0001				<0,0001				<0,0001
Hafnium (total)	Hf	mg/l			<0,0001				<0,0001				<0,0001
Holmium (total)	Ho	mg/l			<0,00001				<0,00001				<0,00001
Indium (total)	In	mg/l			<0,00001				<0,00001				<0,00001
Iridium (total)	Ir	mg/l			<0,00001				<0,00001				<0,00001
Lanthanum (total)	La	mg/l			<0,00001				<0,00001				<0,00001
Lutetium (total)	Lu	mg/l			<0,0001				<0,0001				<0,0001
Niobium (total)	Nb	mg/l			0,00002				<0,00001				0,00003
Néodymium (total)	Nd	mg/l			<0,00001				<0,00001				<0,00001
Osmium (total)	Os	mg/l			<0,0001				<0,0001				<0,0001
Palladium (total)	Pd	mg/l			<0,0001				<0,0001				<0,0001
Praseodymium (total)	Pr	mg/l			<0,00001				<0,00001				<0,00001
Platinum (total)	Pt	mg/l			<0,0001				<0,0001				<0,0001
Rubidium (total)	Rb	mg/l			0,0091				0,0084				0,0072
Rhenium (total)	Re	mg/l			<0,0001				<0,0001				<0,0001
Rhodium (total)	Rh	mg/l			<0,00001				<0,00001				<0,00001
Scandium (total)	Sc	mg/l			<0,0001				<0,0001				<0,0001
Samarium (total)	Sm	mg/l			<0,00001				<0,00001				<0,00001
Tantalum (total)	Ta	mg/l			<0,0001				<0,0001				<0,0001
Terbium (total)	Tb	mg/l			<0,00001				<0,00001				<0,00001
Tellurium (total)	Te	mg/l			<0,0001				<0,0001				<0,0001
Thorium (total)	Th	mg/l			<0,0001				<0,0001				<0,0001
Thulium (total)	Tm	mg/l			<0,00001				<0,00001				<0,00001
Ytterbium (total)	Yb	mg/l			<0,00001				<0,00001				<0,00001

Résultats HCT – CV5-WR-HCT-76

Analyse	Symbole	Unité	Sem. #0	Sem. #1	Sem. #2	Sem. #3	Sem. #4	Sem. #5	Sem. #6	Sem. #7	Sem. #8	Sem. #9	Sem. #10
			2023-04-27	2023-05-04	2023-05-11	2023-05-18	2023-05-25	2023-06-01	2023-06-08	2023-06-15	2023-06-22	2023-06-29	2023-07-06
Volume du lixiviat	V	mL	801	993	1009	985	968	995	994	998	974	986	960
pH	pH	No unit	8,67	8,03	8,00	7,88	7,52	7,43	7,05	7,31	7,36	7,33	7,46
Alkalinité	Alkalinité	$mgCaCO_3/l$	22	24	22	18	16	14	11	12	11	10	9
Conductivité	Conductivité	µS/cm	117	74	41	43	32	29	28	24	24	24	23
Acidité	Acidité	$mgCaCO_3/l$	<2,	<2,	<2,	<2,	<2,	<2,	<2,	<2,	<2,	<2,	<2,
Fluoride	F	mg/l	0,42	0,34	0,24	0,12	0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06
Phosphore réactif total	PO_4^{3-}-P	mg/l	0,13	0,04	0,09	0,04	0,06	<0,03	0,03	0,03	0,05	<0,03	<0,03
Sulfate	SO_4^{2-}	mg/l	6	5	<2,	<2,	<2,	<2,	<2,	<2,	<2,	<2,	<2,
Chlore	Cl^-	mg/l	27	11	1	<1,	<1,	<1,	<1,	<1,	<1,	<1,	<1,
Nitrite	NO_2^-	mgN/l	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Nitrate	NO_3^-	mgN/l	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06
Bromide	Br	mg/l	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3
Mercure	Hg	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	0,00002	<0,00001	<0,00001	0,00001	<0,00001
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,189	0,079	0,104	0,071	0,067	0,036	0,048	0,055	0,052	0,057	0,047
Arsenic	As	mg/l	0,0315	0,0813	0,0794	0,0499	0,0471	0,0248	0,0230	0,0220	0,0149	0,0147	0,0112
Baryum	Ba	mg/l	0,00026	0,00022	0,00027	0,00020	0,00026	0,00014	0,00015	0,00012	0,00032	0,00012	0,00011
Beryllium	Be	mg/l	0,000091	0,000148	0,000112	0,000061	0,000091	0,000054	0,000059	0,000058	0,000068	0,000058	0,000056
Bore	B	mg/l	0,035	0,059	0,032	0,020	0,016	0,010	0,008	0,007	0,006	0,005	0,004
Bismuth	Bi	mg/l	0,00034	0,00028	0,00023	0,00021	0,00016	0,00009	0,00012	0,00014	0,00017	0,00015	0,00015
Calcium	Ca	mg/l	4,45	4,11	3,29	3,60	4,27	4,08	3,67	3,86	3,79	3,63	3,30
Cadmium	Cd	mg/l	<0,000003	<0,000003	0,000004	0,000028	<0,000003	<0,000003	<0,000003	0,000003	<0,000003	<0,000003	<0,000003
Cobalt	Co	mg/l	0,000058	0,000063	0,000043	0,000034	0,000030	0,000035	0,000020	0,000026	0,000018	0,000018	0,000018
Chrome	Cr	mg/l	<0,00008	0,00022	<0,00008	0,00018	<0,00008	<0,00008	0,00010	<0,00008	<0,00008	<0,00008	<0,00008
Cuivre	Cu	mg/l	0,0021	0,0011	0,0007	0,0005	0,0005	0,0004	0,0011	0,0003	0,0002	0,0002	0,0006
Fer	Fe	mg/l	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	0,018
Potassium	K	mg/l	3,81	2,85	2,24	1,87	1,91	1,53	1,29	1,24	1,09	0,977	0,854
Lithium	Li	mg/l	0,484	0,312	0,124	0,0755	0,0586	0,0382	0,0293	0,0245	0,0251	0,0245	0,0187
Magnésium	Mg	mg/l	0,313	0,290	0,245	0,233	0,270	0,269	0,234	0,234	0,222	0,211	0,196
Manganese	Mn	mg/l	0,00204	0,00523	0,00379	0,00343	0,00397	0,00474	0,00323	0,00350	0,00394	0,00344	0,00344
Molybdène	Mo	mg/l	0,00146	0,00142	0,00072	0,00087	0,00017	0,00083	0,00013	0,00008	0,00013	0,00017	0,00021
Sodium	Na	mg/l	13,9	10,3	4,34	2,18	1,43	0,95	0,62	0,57	0,45	0,38	0,28
Nickel	Ni	mg/l	0,0001	0,0002	0,0001	0,0002	0,0006	0,0002	<0,0001	0,0005	<0,0001	<0,0001	<0,0001
Plomb	Pb	mg/l	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	0,00013	<0,00009	<0,00009
Antimoine	Sb	mg/l	0,0039	0,0188	0,0131	0,0096	0,0069	0,0204	0,0053	0,0054	0,0038	0,0042	0,0031
Sélénium	Se	mg/l	0,00008	0,00008	0,00024	<0,00004	0,00005	0,00006	0,00005	0,00007	0,00005	<0,00004	<0,00004
Etain	Sn	mg/l	0,00055	0,00046	0,00030	0,00016	0,00012	0,00007	0,00007	0,00008	<0,00006	<0,00006	0,00007
Strontium	Sr	mg/l	0,0159	0,0135	0,01087	0,0111	0,0136	0,0118	0,0112	0,01085	0,0103	0,01029	0,00886
Titane	Ti	mg/l	<0,00005	0,00006	<0,00005	0,00043	<0,00005	0,00007	<0,00005	<0,00005	<0,00007	<0,00007	<0,00007
Thallium	Th	mg/l	0,000171	0,000108	0,000096	0,000082	0,000074	0,000061	0,000060	0,000056	0,000049	0,000050	0,000042
Uranium	U	mg/l	0,000677	0,0113	0,018474	0,0123	0,00609	0,00446	0,00384	0,003308	0,00343	0,00446	0,004507
Vanadium	V	mg/l	0,00029	0,00042	0,00036	0,00028	0,00025	0,00016	0,00015	0,00017	0,00011	0,00014	0,00012
Tungstène	W	mg/l	0,00249	0,00636	0,00283	0,00127	0,00088	0,00034	0,00046	0,00039	0,00029	0,00070	0,00030
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Cérium (total)	Ce	mg/l	<0,00001	0,00001	0,00001	<0,00001	0,00002	0,00001	0,00001	<0,00001	0,00002	<0,00001	<0,00001
Césium (total)	Cs	mg/l	0,0347	0,0266	0,0242	0,0233	0,0232	0,0160	0,0171	0,0152	0,0159	0,0137	0,0118
Dysprosium (total)	Dy	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Erbium (total)	Er	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Europium (total)	Eu	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Gallium (total)	Ga	mg/l	0,0008	0,0006	0,0006	0,0006	0,0005	0,0009	0,0004	0,0005	0,0003	0,0004	0,0003
Gadolinium (total)	Gd	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Germanium (total)	Ge	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Hafnium (total)	Hf	mg/l	<0,0001	0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Holmium (total)	Ho	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Indium (total)	In	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Iridium (total)	Ir	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Lanthanum (total)	La	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Lutetium (total)	Lu	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Niobium (total)	Nb	mg/l	<0,0001	0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Néodymium (total)	Nd	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Osmium (total)	Os	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Palladium (total)	Pd	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Praseodymium (total)	Pr	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Platinum (total)	Pt	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Rubidium (total)	Rb	mg/l	0,115	0,0615	0,0491	0,0409	0,0418	0,0320	0,0273	0,0288	0,0258	0,0249	0,0212
Rhenium (total)	Re	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Rhodium (total)	Rh	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Scandium (total)	Sc	mg/l	0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Samarium (total)	Sm	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Tantalum (total)	Ta	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Terbium (total)	Tb	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Tellurium (total)	Te	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Thorium (total)	Th	mg/l	<0,0001	0,0004	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Thulium (total)	Tm	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Ytterbium (total)	Yb	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001

Résultats HCT – CV5-WR-HCT-76

Analyse	Symbole	Unité	Sem. #11	Sem. #12	Sem. #13	Sem. #14	Sem. #15	Sem. #16	Sem. #17	Sem. #18	Sem. #19	Sem. #20	Sem. #21
			2023-07-13	2023-07-20	2023-07-27	2023-08-03	2023-08-10	2023-08-17	2023-08-24	2023-08-31	2023-09-07	2023-09-14	2023-09-21
Volume du lixiviat	V	mL	966	961	1011	939	923	951	935	971	890	954	968
pH	pH	No unit	7,22	7,40	7,24	7,24	7,55	7,40	7,28	7,46	7,04	7,06	7,02
Alkalinité	Alkalinité	$mgCaCO_3/l$	7	9	8	7	8	6	6	12	5	7	7
Conductivité	Conductivité	µS/cm	17	20	18	17	15	14	15	17	14	15	17
Acidité	Acidité	$mgCaCO_3/l$	<2,	<2,	<2,	<2,	<2,	<2,	<2,	<2,	<2,	<2,	<2,0
Fluoride	F	mg/l				<0,06	<0,06	<0,06		<0,06		<0,06	
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<0,03	<0,03	0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Sulfate	SO_4^{2-}	mg/l	<2,	<2,	<2,	<2,	<2,	<2,	<2,	<2,	<2,	<2,0	<2,0
Chlore	Cl^-	mg/l					<1,	<1,		<1,		<1,	
Nitrite	NO_2^-	mgN/l					<0,03	<0,03		<0,03		<0,03	
Nitrate	NO_3^-	mgN/l					<0,06	<0,06		<0,06		<0,06	
Bromide	Br	mg/l					<0,3	<0,3		<0,3		<0,3	
Mercure	Hg	mg/l					<0,00001	<0,00001		<0,00001		<0,00001	
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	0,00010	<0,00005
Aluminum	Al	mg/l	0,207	0,043	0,039	0,048	0,049	0,050	0,058	0,038	0,115	0,048	0,037
Arsenic	As	mg/l	0,0115	0,0092	0,0098	0,0077	0,0068	0,0061	0,0062	0,0080	0,0069	0,0057	0,0051
Baryum	Ba	mg/l	0,00045	0,00010	0,00009	0,00014	0,00024	0,00011	0,00011	0,00015	0,00033	0,00014	0,00015
Beryllium	Be	mg/l	0,000527	0,000054	0,000032	0,000064	0,000044	0,000057	0,000100	0,000057	0,000233	0,000049	<0,000102
Bore	B	mg/l	0,004	0,003	0,003	0,003	0,002	0,002	0,002	0,003	0,002	0,002	<0,002
Bismuth	Bi	mg/l	0,00007	0,00011	0,00010	0,00011	0,00012	0,00016	0,00015	0,00010	0,00021	0,00013	<0,0001
Calcium	Ca	mg/l	2,53	2,92	2,73	2,70	2,50	2,22	2,44	2,96	1,96	2,52	2,87
Cadmium	Cd	mg/l	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	<0,000003	0,000003	<0,000003	<0,000003	<0,000003	<0,000003
Cobalt	Co	mg/l	0,000040	0,000020	0,000039	0,000030	0,000035	0,000016	0,000017	0,000007	0,000025	0,000016	0,000009
Chrome	Cr	mg/l	<0,00008	<0,00008	0,00059	0,00050	<0,00008	<0,00008	<0,00008	0,00009	<0,00008	<0,00008	<0,00008
Cuivre	Cu	mg/l	0,0002	<0,0002	0,0015	0,0008	0,0004	0,0003	0,0002	0,0002	0,0004	<0,0002	<0,0002
Fer	Fe	mg/l	0,019	<0,007	<0,007	0,048	<0,007	<0,007	<0,007	<0,007	0,008	<0,007	0,008
Potassium	K	mg/l	0,763	0,691	0,549	0,630	0,606	0,508	0,528	0,544	0,514	0,527	0,443
Lithium	Li	mg/l	0,0197	0,0155	0,0126	0,0128	0,0121	0,0114	0,0129	0,0126	0,0114	0,0122	0,0128
Magnésium	Mg	mg/l	0,180	0,178	0,140	0,153	0,138	0,118	0,136	0,162	0,123	0,149	0,157
Manganese	Mn	mg/l	0,00348	0,00259	0,00465	0,00345	0,00224	0,00200	0,00219	0,00214	0,00229	0,00190	0,00208
Molybdène	Mo	mg/l	0,00005	0,00012	0,00035	0,00015	0,00009	0,00042	0,00267	0,00012	0,00010	0,00021	0,00046
Sodium	Na	mg/l	0,23	0,22	0,18	0,22	0,19	0,16	0,16	0,18	0,18	0,14	0,15
Nickel	Ni	mg/l	0,0005	0,0001	0,0015	0,0011	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	0,0001
Plomb	Pb	mg/l	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	0,00018	<0,00009	<0,00009
Antimoine	Sb	mg/l	0,0031	0,0028	0,0030	0,0024	0,0018	0,0019	0,0020	0,0025	0,0019	0,0020	0,0017
Sélénium	Se	mg/l	0,00005	<0,00004	<0,00004	<0,00004	<0,00004	<0,00004	<0,00004	<0,00004	<0,00004	<0,00004	0,00004
Etain	Sn	mg/l	0,00039	<0,00006	0,00009	0,00007	<0,00006	<0,00006	0,00008	<0,00006	0,00039	<0,00006	<0,00006
Strontium	Sr	mg/l	0,00669	0,00776	0,00739	0,00697	0,00666	0,00563	0,00616	0,00757	0,00493	0,00667	0,0073
Titane	Ti	mg/l	<0,00007	<0,00007	<0,00007	<0,00007	<0,00007	<0,00007	<0,00007	<0,00007	<0,00007	<0,00007	<0,00007
Thallium	Th	mg/l	0,000096	0,000042	0,000033	0,000032	0,000033	0,000028	0,000036	0,000031	0,000050	0,000028	0,000032
Uranium	U	mg/l	0,000840	0,00402	0,00432	0,00217	0,00163	0,00170	0,00260	0,00180	0,00117	0,00212	0,00355
Vanadium	V	mg/l	0,00009	0,00009	0,00008	0,00008	0,00008	0,00010	0,00008	0,00010	0,00008	0,00007	0,00008
Tungstène	W	mg/l	0,00028	0,00021	0,00021	0,00016	0,00013	0,00043	0,00016	0,00027	0,00009	0,00012	0,00013
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	0,002	<0,002
Gold (total)	Au	mg/l					<0,00001	<0,00001		<0,00001		<0,00001	
Cérium (total)	Ce	mg/l					<0,00001	<0,00001		<0,00001		<0,00001	
Césium (total)	Cs	mg/l					0,0095	0,0093		0,0092		0,0089	
Dysprosium (total)	Dy	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Erbium (total)	Er	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Europium (total)	Eu	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Gallium (total)	Ga	mg/l					0,0002	0,0002		0,0002		0,0003	
Gadolinium (total)	Gd	mg/l					<0,00001	<0,00001		<0,00001		<0,00001	
Germanium (total)	Ge	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Hafnium (total)	Hf	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Holmium (total)	Ho	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Indium (total)	In	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Iridium (total)	Ir	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Lanthanum (total)	La	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Lutetium (total)	Lu	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Niobium (total)	Nb	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Néodymium (total)	Nd	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Osmium (total)	Os	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Palladium (total)	Pd	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Praseodymium (total)	Pr	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Platinum (total)	Pt	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Rubidium (total)	Rb	mg/l					0,0170	0,0151		0,0148		0,0145	
Rhenium (total)	Re	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Rhodium (total)	Rh	mg/l					<0,00001	<0,00001		<0,00001		<0,00001	
Scandium (total)	Sc	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Samarium (total)	Sm	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Tantalum (total)	Ta	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Terbium (total)	Tb	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Tellurium (total)	Te	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Thorium (total)	Th	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Thulium (total)	Tm	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	
Ytterbium (total)	Yb	mg/l					<0,0001	<0,0001		<0,0001		<0,0001	

Résultats HCT – CV5-WR-HCT-76

Analyse	Symbole	Unité	Sem. #22	Sem. #23	Sem. #24	Sem. #25	Sem. #26	Sem. #27	Sem. #28	Sem. #29	Sem. #30	Sem. #31	Sem. #32
			2023-09-28	2023-10-05	2023-10-12	2023-10-19	2023-10-26	2023-11-02	2023-11-09	2023-11-16	2023-11-23	2023-11-30	2023-12-07
Volume du lixiviat	V	mL	933	948	1010	960	997	983	934	955	982	1003	1001
pH	pH	No unit	7,26	7,05	7,34	7,26	7,11	7,13	7,07	7,13	7,02	6,89	7,04
Alkalinité	Alkalinité	$mgCaCO_3/l$	7	6	8	16	8	6	6	5	6	6	6
Conductivité	Conductivité	µS/cm	13	13	18	29	16	13	10	13	12	13	11
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0
Fluoride	F	mg/l				0,06					<0,06		
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<0,03	0,04	0,28	<0,03	<0,03	0,04	0,04	<0,03	<0,03	<0,03
Sulfate	SO_4^{2-}	mg/l	<2,0	<2,0	<2,0	2	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0
Chlore	Cl^-	mg/l				1					<1,0		
Nitrite	NO_2^-	mgN/l				0,03					<0,03		
Nitrate	NO_3^-	mgN/l				0,06					<0,06		
Bromide	Br	mg/l				0,3					<0,3		
Mercure	Hg	mg/l				0,00001					<0,00001		
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,082	0,059	0,042	0,097	0,031	0,032	0,073	0,077	0,041	0,035	0,039
Arsenic	As	mg/l	0,0055	0,0043	0,005	0,0049	0,0029	0,0040	0,0029	0,0037	0,0031	0,0028	0,0026
Baryum	Ba	mg/l	0,00014	0,00008	0,00009	0,00014	0,00026	<0,00008	0,00011	0,00018	0,00018	0,00009	<0,00008
Beryllium	Be	mg/l	0,000138	0,000083	0,000089	<0,000123	0,000057	0,000027	0,000208	0,000106	0,000085	0,000059	0,000051
Bore	B	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Bismuth	Bi	mg/l	0,00016	0,00015	0,0001	<0,00016	0,0001	0,00008	0,00015	0,00015	0,0001	0,00009	0,00008
Calcium	Ca	mg/l	2,16	1,99	2,91	5,48	2,04	2,26	1,86	1,78	2,3	2,32	1,84
Cadmium	Cd	mg/l	<0,000003	<0,000003	<0,000003	<0,000005	0,000003	<0,000003	<0,000003	<0,000003	0,000005	<0,000003	<0,000003
Cobalt	Co	mg/l	0,000020	0,000009	0,000014	0,000026	0,000053	0,000012	0,000013	0,000025	0,000032	0,000010	0,000011
Chrome	Cr	mg/l	<0,00008	<0,00008	<0,00008	0,00025	<0,00008	<0,00008	<0,00008	<0,00008	0,00009	<0,00008	<0,00008
Cuivre	Cu	mg/l	0,0003	0,001	0,0004	0,0022	<0,0002	<0,0002	0,0005	0,0003	<0,0002	<0,0002	0,0002
Fer	Fe	mg/l	<0,007	<0,007	<0,007	<0,007	0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007
Potassium	K	mg/l	0,441	0,398	0,437	0,559	0,34	0,326	0,322	0,286	0,335	0,303	0,247
Lithium	Li	mg/l	0,0104	0,0097	0,0111	0,0116	0,0066	0,0068	0,0081	0,0068	0,0082	0,0081	0,0070
Magnésium	Mg	mg/l	0,126	0,115	0,156	0,209	0,108	0,116	0,1	0,104	0,127	0,120	0,093
Manganese	Mn	mg/l	0,00182	0,00143	0,00214	0,0069	0,00198	0,00194	0,00185	0,00206	0,00188	0,00168	0,00153
Molybdène	Mo	mg/l	0,00031	0,00023	0,0003	0,00043	0,00016	0,00008	0,0001	0,00006	0,00008	0,00019	0,00029
Sodium	Na	mg/l	0,13	0,12	0,12	0,17	0,23	0,10	0,17	0,09	0,09	0,08	0,10
Nickel	Ni	mg/l	<0,0001	<0,0001	0,0001	0,0001	0,0001	<0,0001	<0,0001	0,0003	<0,0001	<0,0001	<0,0001
Plomb	Pb	mg/l	<0,00009	<0,00009	<0,00009	<0,00024	0,00012	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009
Antimoine	Sb	mg/l	0,0018	<0,0015	0,0017	0,0017	0,0011	0,0016	<0,0009	0,001	0,0013	0,0012	<0,0009
Sélénium	Se	mg/l	<0,00004	<0,00004	<0,00004	0,00004	0,00011	<0,00004	<0,00004	<0,00004	<0,00004	0,00005	<0,00004
Etain	Sn	mg/l	<0,00012	<0,00014	0,00006	0,00018	<0,00006	<0,00006	<0,00006	0,00013	<0,00006	<0,00006	<0,00006
Strontium	Sr	mg/l	0,00554	0,00506	0,00795	0,0112	0,0052	0,00525	0,00409	0,00493	0,00534	0,00561	0,00482
Titane	Ti	mg/l	<0,00007	<0,00007	<0,00007	<0,00007	<0,00007	<0,00007	<0,00007	<0,00007	<0,00007	<0,00007	<0,00007
Thallium	Th	mg/l	0,000040	0,000031	0,00003	0,000043	0,000043	0,000021	0,000026	0,000037	0,000033	0,000023	0,000019
Uranium	U	mg/l	0,00169	0,00117	0,0023	0,00823	0,00347	0,00141	0,000839	0,00234	0,000969	0,00456	0,00107
Vanadium	V	mg/l	0,00007	0,00006	0,00007	0,00017	0,00001	0,00006	0,00008	0,00005	0,00008	0,00005	0,00005
Tungstène	W	mg/l	0,00008	0,00008	0,00011	0,00008	0,00007	0,00006	0,00006	0,00006	0,00006	0,00006	0,00005
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	0,00003	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l				<0,00001					<0,00001		
Cérium (total)	Ce	mg/l				<0,00001					<0,00001		
Césium (total)	Cs	mg/l				0,0130					0,0061		
Dysprosium (total)	Dy	mg/l				<0,0001					<0,0001		
Erbium (total)	Er	mg/l				<0,0001					<0,0001		
Europium (total)	Eu	mg/l				<0,0001					<0,0001		
Gallium (total)	Ga	mg/l				0,0003					0,0002		
Gadolinium (total)	Gd	mg/l				<0,00001					<0,00001		
Germanium (total)	Ge	mg/l				<0,0001					<0,0001		
Hafnium (total)	Hf	mg/l				<0,0001					<0,0001		
Holmium (total)	Ho	mg/l				<0,0001					<0,0001		
Indium (total)	In	mg/l				<0,0001					<0,0001		
Iridium (total)	Ir	mg/l				<0,0001					<0,0001		
Lanthanum (total)	La	mg/l				<0,0001					<0,0001		
Lutetium (total)	Lu	mg/l				<0,0001					<0,0001		
Niobium (total)	Nb	mg/l				<0,0001					<0,0001		
Néodymium (total)	Nd	mg/l				<0,0001					<0,0001		
Osmium (total)	Os	mg/l				<0,0001					<0,0001		
Palladium (total)	Pd	mg/l				<0,0001					<0,0001		
Praseodymium (total)	Pr	mg/l				<0,0001					<0,0001		
Platinum (total)	Pt	mg/l				<0,0001					<0,0001		
Rubidium (total)	Rb	mg/l				0,0182					0,0103		
Rhenium (total)	Re	mg/l				<0,0001					<0,0001		
Rhodium (total)	Rh	mg/l				<0,00001					<0,00001		
Scandium (total)	Sc	mg/l				<0,0001					<0,0001		
Samarium (total)	Sm	mg/l				<0,0001					<0,0001		
Tantalum (total)	Ta	mg/l				<0,0001					<0,0001		
Terbium (total)	Tb	mg/l				<0,0001					<0,0001		
Tellurium (total)	Te	mg/l				<0,0001					<0,0001		
Thorium (total)	Th	mg/l				<0,0001					<0,0001		
Thulium (total)	Tm	mg/l				<0,0001					<0,0001		
Ytterbium (total)	Yb	mg/l				<0,0001					<0,0001		

Résultats HCT – CV5-WR-HCT-76

Analyse	Symbole	Unité	Sem. #33	Sem. #34	Sem. #35	Sem. #36	Sem. #37	Sem. #38	Sem. #39	Sem. #40	Sem. #41	Sem. #42	Sem. #43
			2023-12-14	2023-12-21	2023-12-28	2024-01-04	2024-01-11	2024-01-18	2024-01-25	2024-02-01	2024-02-08	2024-02-15	2024-02-22
Volume du lixiviat	V	mL	972	1000	1002	908	982	1007	987	996	1007	996	1009
pH	pH	No unit	7,12	7,15	7,18	7,21	7,22	7,04	7,12	7,22	7,23	7,27	7,19
Alkalinité	Alkalinité	$mgCaCO_3/l$	5	8	6	6	5	8	5	7	6	7	6
Conductivité	Conductivité	µS/cm	12	17	18	16	12	16	13	16	14	16	18
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0
Fluoride	F	mg/l	<0,06		<0,06					<0,06			
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Sulfate	SO_4^{2-}	mg/l	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0
Chlore	Cl^-	mg/l	***		<1,0					<1,0			
Nitrite	NO_2^-	mgN/l	***		<0,03					<0,03			
Nitrate	NO_3^-	mgN/l	***		<0,06					<0,06			
Bromide	Br	mg/l	***		<0,3					<0,3			
Mercure	Hg	mg/l	***		<0,00001					<0,00001			
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,029	0,028	0,029	0,040	0,042	0,031	0,039	0,032	0,028	0,026	0,027
Arsenic	As	mg/l	0,0025	0,0029	0,0035	0,0027	0,0035	0,0025	0,0028	0,0026	0,0026	0,0025	0,0032
Baryum	Ba	mg/l	0,00011	0,00009	<0,00008	<0,00008	0,00022	<0,00008	0,00011	0,00010	<0,00008	<0,00008	<0,00008
Beryllium	Be	mg/l	0,000042	0,000032	0,000103	0,000067	0,000051	0,000044	0,000040	0,000042	0,000026	0,000022	0,000029
Bore	B	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Bismuth	Bi	mg/l	0,00007	0,00007	0,00007	0,00010	0,00008	0,00008	0,00010	0,00007	0,00009	0,00008	0,00009
Calcium	Ca	mg/l	2,27	2,89	2,99	2,04	2,22	2,68	2,51	2,93	2,54	2,35	2,58
Cadmium	Cd	mg/l	0,000003	<0,000003	0,000003	<0,000003	0,000006	<0,000003	<0,000003	0,000003	<0,000003	<0,000003	<0,000003
Cobalt	Co	mg/l	0,000035	0,000012	0,000012	<0,000004	0,000087	0,000016	0,000013	0,000004	0,000013	0,000007	0,000006
Chrome	Cr	mg/l	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	0,00008	<0,00008	<0,00008	0,00009
Cuivre	Cu	mg/l	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,002	<0,002	<0,002	<0,001	<0,001
Fer	Fe	mg/l	<0,007	<0,007	<0,007	<0,007	0,011	<0,007	0,012	<0,007	<0,007	<0,007	<0,007
Potassium	K	mg/l	0,253	0,273	0,259	0,249	0,255	0,248	0,261	0,259	0,205	0,184	0,186
Lithium	Li	mg/l	0,0073	0,0074	0,0073	0,0078	0,0098	0,0069	0,0068	0,0066	0,0060	0,0053	0,0059
Magnésium	Mg	mg/l	0,109	0,121	0,124	0,093	0,105	0,109	0,098	0,112	0,082	0,081	0,084
Manganese	Mn	mg/l	0,00150	0,00162	0,00166	0,00113	0,00130	0,00133	0,00108	0,00120	0,00108	0,00081	0,00088
Molybdène	Mo	mg/l	0,00206	0,00009	0,00408	0,00007	0,00012	0,00044	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004
Sodium	Na	mg/l	0,09	0,15	0,09	0,10	0,09	0,07	0,06	0,13	0,07	0,08	0,08
Nickel	Ni	mg/l	<0,0001	0,0001	0,0001	<0,0001	0,0007	<0,0001	0,0001	0,0002	0,0001	<0,0001	0,0001
Plomb	Pb	mg/l	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	0,00014	<0,00009	<0,00009	<0,00009
Antimoine	Sb	mg/l	0,0010	0,0012	0,0014	<0,0009	0,0012	0,0011	0,0010	0,0011	0,0011	0,001	0,001
Sélénium	Se	mg/l	<0,00004	<0,00004	<0,00004	0,00005	<0,00004	<0,00004	<0,00004	<0,00004	<0,00004	<0,00004	<0,00004
Etain	Sn	mg/l	0,00009	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006
Strontium	Sr	mg/l	0,00582	0,00628	0,00703	0,00440	0,00495	0,00606	0,00548	0,00603	0,00552	0,00522	0,00558
Titane	Ti	mg/l	<0,00007	<0,00007	<0,00007	<0,00007	0,00014	<0,00007	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Thallium	Th	mg/l	0,000021	0,000017	0,000016	0,000012	0,000016	0,000018	0,000023	0,000014	0,000016	0,000016	0,000017
Uranium	U	mg/l	0,00186	0,00160	0,00142	0,000979	0,000885	0,00200	0,00189	0,00125	0,00357	0,00124	0,00893
Vanadium	V	mg/l	0,00004	0,00005	0,00006	0,00004	0,00002	0,00006	0,00005	0,00005	0,00004	0,00004	0,00005
Tungstène	W	mg/l	0,00005	0,00006	0,00007	0,00003	0,00003	0,00005	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l			<0,00001					<0,00001			
Cérium (total)	Ce	mg/l			<0,00001					<0,00001			
Césium (total)	Cs	mg/l			0,0060					0,0062			
Dysprosium (total)	Dy	mg/l			<0,0001					<0,00001			
Erbium (total)	Er	mg/l			<0,0001					<0,00001			
Europium (total)	Eu	mg/l			<0,0001					<0,00001			
Gallium (total)	Ga	mg/l			0,0002					0,0002			
Gadolinium (total)	Gd	mg/l			<0,00001					<0,00001			
Germanium (total)	Ge	mg/l			<0,0001					<0,0001			
Hafnium (total)	Hf	mg/l			<0,0001					<0,0001			
Holmium (total)	Ho	mg/l			<0,0001					<0,00001			
Indium (total)	In	mg/l			<0,0001					<0,00001			
Iridium (total)	Ir	mg/l			<0,0001					<0,00001			
Lanthanum (total)	La	mg/l			<0,0001					<0,00001			
Lutetium (total)	Lu	mg/l			<0,0001					<0,0001			
Niobium (total)	Nb	mg/l			<0,0001					<0,00001			
Néodymium (total)	Nd	mg/l			<0,0001					<0,00001			
Osmium (total)	Os	mg/l			<0,0001					<0,0001			
Palladium (total)	Pd	mg/l			<0,0001					<0,0001			
Praseodymium (total)	Pr	mg/l			<0,0001					<0,00001			
Platinum (total)	Pt	mg/l			<0,0001					<0,0001			
Rubidium (total)	Rb	mg/l			0,0089					0,0088			
Rhenium (total)	Re	mg/l			<0,0001					<0,0001			
Rhodium (total)	Rh	mg/l			<0,00001					<0,00001			
Scandium (total)	Sc	mg/l			<0,0001					<0,0001			
Samarium (total)	Sm	mg/l			<0,0001					<0,00001			
Tantalum (total)	Ta	mg/l			<0,0001					<0,0001			
Terbium (total)	Tb	mg/l			<0,0001					<0,00001			
Tellurium (total)	Te	mg/l			<0,0001					<0,0001			
Thorium (total)	Th	mg/l			<0,0001					<0,0001			
Thulium (total)	Tm	mg/l			<0,0001					<0,00001			
Ytterbium (total)	Yb	mg/l			<0,0001					<0,00001			

Résultats HCT – CV5-WR-HCT-76

Analyse	Symbole	Unité	Sem. #44	Sem. #45	Sem. #46	Sem. #47	Sem. #48	Sem. #49	Sem. #50	Sem. #51	Sem. #52	Sem. #53	Sem. #54
			2024-02-29	2024-03-07	2024-03-14	2024-03-21	2024-03-28	2024-04-04	2024-04-11	2024-04-18	2024-04-25	2024-05-02	2024-05-09
Volume du lixiviat	V	mL	1015	1010	978	975	910	1001	937	997	1006	1000	981
pH	pH	No unit	7,16	7,30	7,21	7,10	7,35	7,30	7,13	7,06	7,34	7,30	7,05
Alkalinité	Alkalinité	$mgCaCO_3/l$	7	8	7	6	6	8	5	7	8	4	5
Conductivité	Conductivité	µS/cm	15	14	13	13	10	13	11	16	15	10	11
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0
Fluoride	F	mg/l		<0,06					<0,06				
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Sulfate	SO_4^{2-}	mg/l	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0
Chlore	Cl^-	mg/l		<1,0					<1,0				
Nitrite	NO_2^-	mgN/l		<0,03					<0,03				
Nitrate	NO_3^-	mgN/l		<0,06					<0,06				
Bromide	Br	mg/l		<0,3					<0,3				
Mercure	Hg	mg/l		<0,00001					<0,00001				
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,028	0,026	0,031	0,026	0,044	0,027	0,045	0,026	0,026	0,034	0,036
Arsenic	As	mg/l	0,0024	0,0023	0,0018	0,0022	0,0017	0,0026	0,0018	0,0021	0,0019	0,0015	0,0018
Baryum	Ba	mg/l	0,00012	0,00015	<0,00008	<0,00008	0,00008	0,00008	0,00009	<0,00008	<0,00008	0,00012	<0,00008
Beryllium	Be	mg/l	0,000056	0,000033	0,000071	0,000017	0,000060	0,000030	0,000061	0,000028	0,000022	0,000033	0,000143
Bore	B	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Bismuth	Bi	mg/l	0,00009	0,00007	0,00006	0,00008	0,00009	0,00008	0,00009	0,00008	0,00007	0,00008	0,00008
Calcium	Ca	mg/l	2,58	2,55	2,08	2,37	1,60	2,26	2,00	2,60	2,63	1,96	2,15
Cadmium	Cd	mg/l	<0,000003	0,000003	0,000074	<0,000003	<0,000003	<0,000003	0,000004	<0,000003	<0,000003	<0,000003	<0,000003
Cobalt	Co	mg/l	0,000010	0,00001	0,000019	0,000008	0,000011	0,000011	0,000015	0,000005	0,000035	0,000013	0,000008
Chrome	Cr	mg/l	0,00011	0,00015	<0,00008	<0,00008	<0,00008	0,00009	<0,00008	0,00010	<0,00008	0,00010	0,00010
Cuivre	Cu	mg/l	<0,001	<0,001	0,006	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001
Fer	Fe	mg/l	<0,007	<0,007	0,009	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007
Potassium	K	mg/l	0,189	0,199	0,156	0,180	0,159	0,159	0,176	0,190	0,151	0,161	0,168
Lithium	Li	mg/l	0,0058	0,0051	0,0051	0,0047	0,0044	0,0049	0,0051	0,0052	0,0051	0,0052	0,0051
Magnésium	Mg	mg/l	0,089	0,082	0,077	0,077	0,060	0,076	0,069	0,085	0,073	0,064	0,072
Manganese	Mn	mg/l	0,00089	0,00095	0,00088	0,0010	0,00067	0,00068	0,00075	0,00059	0,00061	0,00096	0,00063
Molybdène	Mo	mg/l	<0,0004	0,0006	0,0351	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004	<0,0004
Sodium	Na	mg/l	0,06	0,06	0,07	0,06	0,07	0,07	0,06	0,07	0,06	0,07	0,06
Nickel	Ni	mg/l	0,0001	0,0002	0,0002	0,0002	0,0002	0,0001	<0,0001	<0,0001	0,0002	0,0002	<0,0001
Plomb	Pb	mg/l	0,00009	<0,00009	0,0004	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009
Antimoine	Sb	mg/l	0,001	0,0009	<0,0009	<0,0009	<0,0009	0,0011	<0,0009	<0,0009	<0,0009	<0,0009	0,0010
Sélénium	Se	mg/l	<0,00004	<0,00004	<0,00004	0,00004	<0,00004	<0,00004	<0,00004	<0,00004	<0,00004	<0,00004	<0,00004
Etain	Sn	mg/l	<0,00006	<0,00006	0,00068	<0,00006	<0,00006	0,00021	<0,00006	<0,00006	0,00010	<0,00006	<0,00006
Strontium	Sr	mg/l	0,00586	0,00529	0,00446	0,00449	0,00321	0,00453	0,00400	0,00505	0,00472	0,00362	0,00408
Titane	Ti	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Thallium	Th	mg/l	0,000016	0,000015	0,000014	0,000014	0,000016	0,000013	0,000015	0,000014	0,000014	0,000012	0,000016
Uranium	U	mg/l	0,00122	0,000907	0,000823	0,000842	0,000667	0,000930	0,000704	0,000907	0,000912	0,000633	0,000689
Vanadium	V	mg/l	0,00009	0,00005	0,00003	0,00003	0,00003	0,00004	0,00004	0,00003	0,00003	0,00004	0,00005
Tungstène	W	mg/l	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	0,003	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l		<0,00001					<0,00001				
Cérium (total)	Ce	mg/l		<0,00001					<0,00001				
Césium (total)	Cs	mg/l		0,0052					0,0045				
Dysprosium (total)	Dy	mg/l		<0,00001					<0,00001				
Erbium (total)	Er	mg/l		<0,00001					<0,00001				
Europium (total)	Eu	mg/l		<0,00001					<0,00001				
Gallium (total)	Ga	mg/l		0,0001					0,0001				
Gadolinium (total)	Gd	mg/l		<0,00001					<0,00001				
Germanium (total)	Ge	mg/l		<0,0001					<0,0001				
Hafnium (total)	Hf	mg/l		<0,0001					<0,0001				
Holmium (total)	Ho	mg/l		<0,00001					<0,00001				
Indium (total)	In	mg/l		<0,00001					<0,00001				
Iridium (total)	Ir	mg/l		<0,00001					<0,00001				
Lanthanum (total)	La	mg/l		<0,00001					<0,00001				
Lutetium (total)	Lu	mg/l		<0,0001					<0,0001				
Niobium (total)	Nb	mg/l		<0,00001					<0,00001				
Néodymium (total)	Nd	mg/l		<0,00001					<0,00001				
Osmium (total)	Os	mg/l		<0,0001					<0,0001				
Palladium (total)	Pd	mg/l		<0,0001					<0,0001				
Praseodymium (total)	Pr	mg/l		<0,00001					<0,00001				
Platinum (total)	Pt	mg/l		<0,0001					<0,0001				
Rubidium (total)	Rb	mg/l		0,007					0,007				
Rhenium (total)	Re	mg/l		<0,0001					<0,0001				
Rhodium (total)	Rh	mg/l		<0,00001					<0,00001				
Scandium (total)	Sc	mg/l		<0,0001					<0,0001				
Samarium (total)	Sm	mg/l		<0,00001					<0,00001				
Tantalum (total)	Ta	mg/l		<0,0001					<0,0001				
Terbium (total)	Tb	mg/l		<0,00001					<0,00001				
Tellurium (total)	Te	mg/l		<0,0001					<0,0001				
Thorium (total)	Th	mg/l		<0,0001					<0,0001				
Thulium (total)	Tm	mg/l		<0,00001					<0,00001				
Ytterbium (total)	Yb	mg/l		<0,00001					<0,00001				

Résultats HCT – CV5-WR-HCT-76

Analyse	Symbole	Unité	Sem. #55	Sem. #56	Sem. #57	Sem. #58	Sem. #59	Sem. #60	Sem. #61	Sem. #62	Sem. #63	Sem. #64	Sem. #65
			2024-05-16	2024-05-23	2024-05-30	2024-06-06	2024-06-13	2024-06-20	2024-06-27	2024-07-04	2024-07-11	2024-07-18	2024-07-25
Volume du lixiviat	V	mL	991	1000	1023	1000	995	980	975	923	944	944	965
pH	pH	No unit	7,06	7,21	7,02	7,19	7,18	7,07	7,46	7,17	7,41	7,04	7,08
Alkalinité	Alkalinité	$mgCaCO_3/l$	4	6	6	6	5	5	4	4		5	
Conductivité	Conductivité	µS/cm	11	12	11	12	11	12	9	9	10	9	12
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0		<2,0	
Fluoride	F	mg/l	<0,06					<0,06				<0,06	
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	0,03	<0,03		<0,03	
Sulfate	SO_4^{2-}	mg/l	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0		<2,0	
Chlore	Cl^-	mg/l	<1,0					<1,0				<1,0	
Nitrite	NO_2^-	mgN/l	<0,03					<0,03				<0,03	
Nitrate	NO_3^-	mgN/l	<0,06					<0,06				<0,06	
Bromide	Br	mg/l	<0,3					<0,3				<0,3	
Mercure	Hg	mg/l	<0,00001					<0,00001				<0,00001	
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005		<0,00005	
Aluminum	Al	mg/l	0,028	0,026	0,019	0,033	0,034	0,029	0,041	0,196		0,052	
Arsenic	As	mg/l	0,0015	0,0016	0,0014	0,0016	0,0015	0,0014	0,0014	0,0016		0,0015	
Baryum	Ba	mg/l	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	0,00011	<0,00008	0,00047		0,0001	
Beryllium	Be	mg/l	0,000024	0,000013	0,000026	0,000039	0,000025	0,000038	0,000124	0,000411		0,000135	
Bore	B	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002		<0,002	
Bismuth	Bi	mg/l	0,00006	0,00006	0,00005	0,00006	0,00006	0,00010	0,00006	0,00021		0,00009	
Calcium	Ca	mg/l	2,24	2,30	2,08	2,46	2,02	1,96	1,62	1,54		1,68	
Cadmium	Cd	mg/l	<0,000003	<0,000003	<0,000003	<0,000003	0,000007	0,000003	<0,000003	0,000006		<0,000003	
Cobalt	Co	mg/l	0,000017	0,000019	0,000009	0,000011	0,000010	0,000013	0,000010	0,000051		0,000024	
Chrome	Cr	mg/l	<0,00008	<0,00008	0,00013	0,00013	0,00008	<0,00008	<0,00008	<0,00008		<0,00008	
Cuivre	Cu	mg/l	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001		<0,001	
Fer	Fe	mg/l	<0,007	<0,007	<0,007	<0,007	0,019	<0,007	<0,007	0,014		<0,007	
Potassium	K	mg/l	0,157	0,154	0,140	0,180	0,159	0,149	0,143	0,218		0,198	
Lithium	Li	mg/l	0,0051	0,0046	0,0045	0,0054	0,0047	0,0047	0,0046	0,0061		0,005	
Magnésium	Mg	mg/l	0,066	0,109	0,066	0,072	0,066	0,070	0,053	0,065		0,061	
Manganese	Mn	mg/l	0,00065	0,00061	0,00057	0,00064	0,00071	0,00069	0,00076	0,00177		0,00122	
Molybdène	Mo	mg/l	<0,0004	<0,0004	<0,0004	0,0011	0,0233	<0,0004	<0,0004	<0,0004		0,0010	
Sodium	Na	mg/l	0,08	0,05	0,07	0,07	0,08	0,07	0,05	0,10		0,10	
Nickel	Ni	mg/l	<0,0001	0,0004	0,0002	0,0002	0,0001	0,0003	0,0001	0,0002		0,0001	
Plomb	Pb	mg/l	<0,00009	<0,00009	<0,00009	0,00016	<0,00009	<0,00009	<0,00009	0,00009		<0,00009	
Antimoine	Sb	mg/l	<0,0009	<0,0009	<0,0009	<0,0009	<0,0009	<0,0009	<0,0009	<0,0009		<0,0009	
Sélénium	Se	mg/l	<0,00004	<0,00004	<0,00004	<0,00004	<0,00004	<0,00004	<0,00004	<0,00004		<0,00004	
Etain	Sn	mg/l	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	<0,00006	0,00012	0,00037		0,00006	
Strontium	Sr	mg/l	0,00431	0,00446	0,00356	0,00430	0,00378	0,00387	0,00319	0,00290		0,00315	
Titane	Ti	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001		<0,0001	
Thallium	Th	mg/l	0,000016	0,000013	0,000011	0,000011	0,000018	0,000014	0,000017	0,000066		0,000023	
Uranium	U	mg/l	0,000744	0,000781	0,000651	0,000711	0,000577	0,000632	0,000486	0,000459		0,000477	
Vanadium	V	mg/l	0,00004	0,00006	0,00006	0,00006	0,00004	0,00003	0,00003	0,00001		0,00003	
Tungstène	W	mg/l	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002	<0,0002		<0,0002	
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002		<0,00002	
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002		<0,002	
Gold (total)	Au	mg/l	<0,00001					<0,00001				<0,00001	
Cérium (total)	Ce	mg/l	<0,00001					<0,00001				<0,00001	
Césium (total)	Cs	mg/l	0,0042					0,0040				0,0043	
Dysprosium (total)	Dy	mg/l	<0,00001					<0,00001				<0,00001	
Erbium (total)	Er	mg/l	<0,00001					<0,00001				<0,00001	
Europium (total)	Eu	mg/l	<0,00001					<0,00001				<0,00001	
Gallium (total)	Ga	mg/l	0,0001					0,0001				0,0002	
Gadolinium (total)	Gd	mg/l	<0,00001					<0,00001				<0,00001	
Germanium (total)	Ge	mg/l	<0,0001					<0,0001				<0,0001	
Hafnium (total)	Hf	mg/l	<0,0001					<0,0001				<0,0001	
Holmium (total)	Ho	mg/l	<0,00001					<0,00001				<0,00001	
Indium (total)	In	mg/l	<0,00001					<0,00001				<0,00001	
Iridium (total)	Ir	mg/l	<0,00001					<0,00001				<0,00001	
Lanthanum (total)	La	mg/l	<0,00001					<0,00001				<0,00001	
Lutetium (total)	Lu	mg/l	<0,0001					<0,0001				<0,0001	
Niobium (total)	Nb	mg/l	0,00003					0,00001				0,00001	
Néodymium (total)	Nd	mg/l	<0,00001					<0,00001				<0,00001	
Osmium (total)	Os	mg/l	<0,0001					<0,0001				<0,0001	
Palladium (total)	Pd	mg/l	<0,0001					<0,0001				<0,0001	
Praseodymium (total)	Pr	mg/l	<0,00001					<0,00001				<0,00001	
Platinum (total)	Pt	mg/l	<0,0001					<0,0001				<0,0001	
Rubidium (total)	Rb	mg/l	0,0064					0,0059				0,0077	
Rhenium (total)	Re	mg/l	<0,0001					<0,0001				<0,0001	
Rhodium (total)	Rh	mg/l	<0,00001					<0,00001				<0,00001	
Scandium (total)	Sc	mg/l	<0,0001					<0,0001				<0,0001	
Samarium (total)	Sm	mg/l	<0,00001					<0,00001				<0,00001	
Tantalum (total)	Ta	mg/l	<0,0001					<0,0001				<0,0001	
Terbium (total)	Tb	mg/l	<0,00001					<0,00001				<0,00001	
Tellurium (total)	Te	mg/l	<0,0001					<0,0001				<0,0001	
Thorium (total)	Th	mg/l	<0,0001					<0,0001				<0,0001	
Thulium (total)	Tm	mg/l	<0,00001					<0,00001				<0,00001	
Ytterbium (total)	Yb	mg/l	<0,00001					<0,00001				<0,00001	

Résultats HCT – CV5-WR-HCT-76

Analyse	Symbole	Unité	Sem. #66	Sem. #67	Sem. #68	Sem. #69	Sem. #70	Sem. #71	Sem. #72	Sem. #73	Sem. #74	Sem. #75	Sem. #76
			2024-08-01	2024-08-08	2024-08-15	2024-08-22	2024-08-29	2024-09-05	2024-09-12	2024-09-19	2024-09-26	2024-10-03	2024-10-10
Volume du lixiviat	V	mL	953	928	973	960	980	950	987	981	985	950	976
pH	pH	No unit	7,05	7,20	7,02	7,37	7,05	7,20	6,99	6,96	7,34	7,06	6,86
Alkalinité	Alkalinité	$mgCaCO_3/l$			5				4				4
Conductivité	Conductivité	µS/cm	10	13	7	9	11	15	10	12	11	11	9
Acidité	Acidité	$mgCaCO_3/l$			<2,0				<2,0				<2,0
Fluoride	F	mg/l			<0,06				<0,06				<0,06
Phosphore réactif total	PO_4^{3-}-P	mg/l			<0,03				<0,03				<0,03
Sulfate	SO_4^{2-}	mg/l			<2,0				<2,0				<2,0
Chlore	Cl^-	mg/l			<1,0				<1,0				<1,0
Nitrite	NO_2^-	mgN/l			<0,03				<0,03				<0,03
Nitrate	NO_3^-	mgN/l			<0,06				<0,06				<0,06
Bromide	Br	mg/l			<0,3				<0,3				<0,3
Mercure	Hg	mg/l			0,00001				<0,00001				<0,00001
Argent	Ag	mg/l			<0,00005				<0,00005				<0,00005
Aluminum	Al	mg/l			0,033				0,021				0,027
Arsenic	As	mg/l			0,0023				0,0012				0,0012
Baryum	Ba	mg/l			0,00027				0,0001				<0,00008
Beryllium	Be	mg/l			0,000109				0,000027				0,000062
Bore	B	mg/l			<0,002				<0,002				<0,002
Bismuth	Bi	mg/l			0,00008				0,00006				0,00007
Calcium	Ca	mg/l			1,89				2,12				1,79
Cadmium	Cd	mg/l			<0,000003				<0,000003				<0,000003
Cobalt	Co	mg/l			0,000024				0,000009				0,000008
Chrome	Cr	mg/l			<0,00008				<0,00008				<0,00008
Cuivre	Cu	mg/l			<0,001				<0,001				<0,001
Fer	Fe	mg/l			<0,007				<0,007				<0,007
Potassium	K	mg/l			0,171				0,157				0,149
Lithium	Li	mg/l			0,0048				0,0044				0,0042
Magnésium	Mg	mg/l			0,064				0,060				0,059
Manganese	Mn	mg/l			0,00064				0,00054				0,00062
Molybdène	Mo	mg/l			<0,0004				<0,0004				<0,0004
Sodium	Na	mg/l			0,08				0,06				0,07
Nickel	Ni	mg/l			0,0002				<0,0001				<0,0001
Plomb	Pb	mg/l			<0,00009				<0,00009				<0,00009
Antimoine	Sb	mg/l			0,0012				<0,0009				<0,0009
Sélénium	Se	mg/l			<0,00004				<0,00004				<0,00004
Etain	Sn	mg/l			<0,00006				<0,00006				0,00007
Strontium	Sr	mg/l			0,00369				0,00354				0,00315
Titane	Ti	mg/l			<0,0001				<0,0001				<0,0001
Thallium	Th	mg/l			0,000017				0,000013				0,000011
Uranium	U	mg/l			0,00059				0,000558				0,00046
Vanadium	V	mg/l			0,00004				0,00003				0,00003
Tungstène	W	mg/l			<0,0002				<0,0002				<0,0002
Yttrium	Y	mg/l			<0,00002				<0,00002				<0,00002
Zinc	Zn	mg/l			<0,002				<0,002				<0,002
Gold (total)	Au	mg/l			<0,00001				<0,00001				<0,00001
Cérium (total)	Ce	mg/l			<0,00001				<0,00001				<0,00001
Césium (total)	Cs	mg/l			0,004				0,0037				0,0035
Dysprosium (total)	Dy	mg/l			<0,00001				<0,00001				<0,00001
Erbium (total)	Er	mg/l			<0,00001				<0,00001				<0,00001
Europium (total)	Eu	mg/l			<0,00001				<0,00001				<0,00001
Gallium (total)	Ga	mg/l			0,0001				<0,0001				0,0001
Gadolinium (total)	Gd	mg/l			<0,00001				<0,00001				<0,00001
Germanium (total)	Ge	mg/l			<0,0001				<0,0001				<0,0001
Hafnium (total)	Hf	mg/l			<0,0001				<0,0001				<0,0001
Holmium (total)	Ho	mg/l			<0,00001				<0,00001				<0,00001
Indium (total)	In	mg/l			<0,00001				<0,00001				<0,00001
Iridium (total)	Ir	mg/l			<0,00001				<0,00001				<0,00001
Lanthanum (total)	La	mg/l			<0,00001				<0,00001				<0,00001
Lutetium (total)	Lu	mg/l			<0,0001				<0,0001				<0,0001
Niobium (total)	Nb	mg/l			<0,00001				0,00004				0,00003
Néodymium (total)	Nd	mg/l			<0,00001				<0,00001				<0,00001
Osmium (total)	Os	mg/l			<0,0001				<0,0001				<0,0001
Palladium (total)	Pd	mg/l			<0,0001				<0,0001				<0,0001
Praseodymium (total)	Pr	mg/l			<0,00001				<0,00001				<0,00001
Platinum (total)	Pt	mg/l			<0,0001				<0,0001				<0,0001
Rubidium (total)	Rb	mg/l			0,0069				0,0059				0,0071
Rhenium (total)	Re	mg/l			<0,0001				<0,0001				<0,0001
Rhodium (total)	Rh	mg/l			<0,00001				<0,00001				<0,00001
Scandium (total)	Sc	mg/l			<0,0001				<0,0001				<0,0001
Samarium (total)	Sm	mg/l			<0,00001				<0,00001				<0,00001
Tantalum (total)	Ta	mg/l			<0,0001				<0,0001				<0,0001
Terbium (total)	Tb	mg/l			<0,00001				<0,00001				<0,00001
Tellurium (total)	Te	mg/l			<0,0001				<0,0001				<0,0001
Thorium (total)	Th	mg/l			<0,0001				<0,0001				<0,0001
Thulium (total)	Tm	mg/l			<0,00001				<0,00001				<0,00001
Ytterbium (total)	Yb	mg/l			<0,00001				<0,00001				<0,00001

Résultats HCT – CV5-WR-HCT-76

Analyse	Symbole	Unité	Sem. #77	Sem. #78	Sem. #79	Sem. #80	Sem. #81	Sem. #82	Sem. #83	Sem. #84	Sem. #85	Sem. #86	Sem. #87
			2024-10-17	2024-10-24	2024-10-31	2024-11-07	2024-11-14	2024-11-21	2024-11-28	2024-12-05	2024-12-12	2024-12-19	2024-12-26
Volume du lixiviat	V	mL	916	992	972	990	1009	923	1005	970	999	1053	1041
pH	pH	No unit	7,04	7,07	6,73	6,84	7,12	6,93	6,92	6,82	7,07	7,05	7,08
Alkalinité	Alkalinité	$mgCaCO_3/l$				3				5			
Conductivité	Conductivité	µS/cm	11	11	10	10	13	9	13	9	10	16	19
Acidité	Acidité	$mgCaCO_3/l$				<2,0				<2,0			
Fluoride	F	mg/l				<0,06				<0,06			
Phosphore réactif total	PO_4^{3-}-P	mg/l				<0,03				<0,03			
Sulfate	SO_4^{2-}	mg/l				<2,0				<2,0			
Chlore	Cl^-	mg/l				<1,0				<1,0			
Nitrite	NO_2^-	mgN/l				<0,03				<0,03			
Nitrate	NO_3^-	mgN/l				<0,06				<0,06			
Bromide	Br	mg/l				<0,3				<0,3			
Mercure	Hg	mg/l				<0,00001				<0,00001			
Argent	Ag	mg/l				<0,00005				<0,00005			
Aluminum	Al	mg/l				0,021				0,022			
Arsenic	As	mg/l				0,0011				0,0010			
Baryum	Ba	mg/l				0,00013				<0,00008			
Beryllium	Be	mg/l				0,000024				0,000033			
Bore	B	mg/l				<0,002				<0,002			
Bismuth	Bi	mg/l				0,00006				0,00007			
Calcium	Ca	mg/l				1,88				1,67			
Cadmium	Cd	mg/l				<0,000003				<0,000003			
Cobalt	Co	mg/l				0,000007				0,000007			
Chrome	Cr	mg/l				<0,00008				<0,00008			
Cuivre	Cu	mg/l				<0,001				<0,001			
Fer	Fe	mg/l				<0,007				<0,007			
Potassium	K	mg/l				0,126				0,125			
Lithium	Li	mg/l				0,0048				0,0046			
Magnésium	Mg	mg/l				0,054				0,045			
Manganese	Mn	mg/l				0,00215				0,00058			
Molybdène	Mo	mg/l				<0,0004				<0,0004			
Sodium	Na	mg/l				0,07				0,05			
Nickel	Ni	mg/l				<0,0001				<0,0001			
Plomb	Pb	mg/l				<0,00009				<0,00009			
Antimoine	Sb	mg/l				<0,0009				<0,0009			
Sélénium	Se	mg/l				<0,00004				<0,00004			
Etain	Sn	mg/l				<0,00006				0,00007			
Strontium	Sr	mg/l				0,00379				0,00310			
Titane	Ti	mg/l				<0,0001				<0,0001			
Thallium	Th	mg/l				0,000006				0,000016			
Uranium	U	mg/l				0,000474				0,000260			
Vanadium	V	mg/l				0,00003				0,00003			
Tungstène	W	mg/l				<0,0002				<0,0002			
Yttrium	Y	mg/l				<0,00002				<0,00002			
Zinc	Zn	mg/l				<0,002				<0,002			
Gold (total)	Au	mg/l				<0,00001				<0,00001			
Cérium (total)	Ce	mg/l				<0,00001				<0,00001			
Césium (total)	Cs	mg/l				0,0029				0,0034			
Dysprosium (total)	Dy	mg/l				<0,00001				<0,00001			
Erbium (total)	Er	mg/l				<0,00001				<0,00001			
Europium (total)	Eu	mg/l				<0,00001				<0,00001			
Gallium (total)	Ga	mg/l				<0,0001				<0,0001			
Gadolinium (total)	Gd	mg/l				<0,00001				<0,00001			
Germanium (total)	Ge	mg/l				<0,0001				<0,0001			
Hafnium (total)	Hf	mg/l				<0,0001				<0,0001			
Holmium (total)	Ho	mg/l				<0,00001				<0,00001			
Indium (total)	In	mg/l				<0,00001				<0,00001			
Iridium (total)	Ir	mg/l				<0,00001				<0,00001			
Lanthanum (total)	La	mg/l				<0,00001				<0,00001			
Lutetium (total)	Lu	mg/l				<0,0001				<0,0001			
Niobium (total)	Nb	mg/l				<0,00001				<0,00001			
Néodymium (total)	Nd	mg/l				<0,00001				<0,00001			
Osmium (total)	Os	mg/l				<0,0001				<0,0001			
Palladium (total)	Pd	mg/l				<0,0001				<0,0001			
Praseodymium (total)	Pr	mg/l				<0,00001				<0,00001			
Platinum (total)	Pt	mg/l				<0,0001				<0,0001			
Rubidium (total)	Rb	mg/l				0,0047				0,0056			
Rhenium (total)	Re	mg/l				<0,0001				<0,0001			
Rhodium (total)	Rh	mg/l				<0,00001				<0,00001			
Scandium (total)	Sc	mg/l				<0,0001				<0,0001			
Samarium (total)	Sm	mg/l				<0,00001				<0,00001			
Tantalum (total)	Ta	mg/l				<0,0001				<0,0001			
Terbium (total)	Tb	mg/l				<0,00001				<0,00001			
Tellurium (total)	Te	mg/l				<0,0001				<0,0001			
Thorium (total)	Th	mg/l				<0,0001				<0,0001			
Thulium (total)	Tm	mg/l				<0,00001				<0,00001			
Ytterbium (total)	Yb	mg/l				<0,00001				<0,00001			

Résultats HCT – CV5-WR-HCT-76

Analyse	Symbole	Unité	Sem. #88	Sem. #89
			2025-01-02	2025-01-09
Volume du lixiviat	V	mL	1016	1022
pH	pH	No unit	6,75	7,45
Alkalinité	Alkalinité	$mgCaCO_3/l$	7	
Conductivité	Conductivité	µS/cm	17	18
Acidité	Acidité	$mgCaCO_3/l$	<2,0	
Fluoride	F	mg/l	<0,06	
Phosphore réactif total	PO_4^{3-}-P	mg/l	<0,03	
Sulfate	SO_4^{2-}	mg/l	<2,0	
Chlore	Cl^-	mg/l	<1,0	
Nitrite	NO_2^-	mgN/l	<0,03	
Nitrate	NO_3^-	mgN/l	<0,06	
Bromide	Br	mg/l	<0,3	
Mercure	Hg	mg/l	<0,00001	
Argent	Ag	mg/l	<0,00005	
Aluminum	Al	mg/l	0,035	
Arsenic	As	mg/l	0,0056	
Baryum	Ba	mg/l	<0,00008	
Beryllium	Be	mg/l	0,000075	
Bore	B	mg/l	<0,002	
Bismuth	Bi	mg/l	0,00007	
Calcium	Ca	mg/l	2,92	
Cadmium	Cd	mg/l	<0,000003	
Cobalt	Co	mg/l	0,000012	
Chrome	Cr	mg/l	<0,00008	
Cuivre	Cu	mg/l	<0,001	
Fer	Fe	mg/l	<0,007	
Potassium	K	mg/l	0,152	
Lithium	Li	mg/l	0,0048	
Magnésium	Mg	mg/l	0,065	
Manganese	Mn	mg/l	0,00148	
Molybdène	Mo	mg/l	<0,0004	
Sodium	Na	mg/l	0,06	
Nickel	Ni	mg/l	<0,0001	
Plomb	Pb	mg/l	<0,00009	
Antimoine	Sb	mg/l	0,0012	
Sélénium	Se	mg/l	<0,00004	
Etain	Sn	mg/l	0,00006	
Strontium	Sr	mg/l	0,00438	
Titane	Ti	mg/l	<0,0001	
Thallium	Th	mg/l	0,000015	
Uranium	U	mg/l	0,000558	
Vanadium	V	mg/l	0,00004	
Tungstène	W	mg/l	<0,0002	
Yttrium	Y	mg/l	<0,00002	
Zinc	Zn	mg/l	<0,002	
Gold (total)	Au	mg/l	<0,00001	
Cérium (total)	Ce	mg/l	<0,00001	
Césium (total)	Cs	mg/l	0,0044	
Dysprosium (total)	Dy	mg/l	<0,00001	
Erbium (total)	Er	mg/l	<0,00001	
Europium (total)	Eu	mg/l	<0,00001	
Gallium (total)	Ga	mg/l	0,0001	
Gadolinium (total)	Gd	mg/l	<0,00001	
Germanium (total)	Ge	mg/l	<0,0001	
Hafnium (total)	Hf	mg/l	<0,0001	
Holmium (total)	Ho	mg/l	<0,00001	
Indium (total)	In	mg/l	<0,00001	
Iridium (total)	Ir	mg/l	<0,00001	
Lanthanum (total)	La	mg/l	<0,00001	
Lutetium (total)	Lu	mg/l	<0,0001	
Niobium (total)	Nb	mg/l	0,00006	
Néodymium (total)	Nd	mg/l	<0,00001	
Osmium (total)	Os	mg/l	<0,0001	
Palladium (total)	Pd	mg/l	<0,0001	
Praseodymium (total)	Pr	mg/l	<0,00001	
Platinum (total)	Pt	mg/l	<0,0001	
Rubidium (total)	Rb	mg/l	0,0062	
Rhenium (total)	Re	mg/l	<0,0001	
Rhodium (total)	Rh	mg/l	<0,00001	
Scandium (total)	Sc	mg/l	<0,0001	
Samarium (total)	Sm	mg/l	<0,00001	
Tantalum (total)	Ta	mg/l	<0,0001	
Terbium (total)	Tb	mg/l	<0,00001	
Tellurium (total)	Te	mg/l	<0,0001	
Thorium (total)	Th	mg/l	<0,0001	
Thulium (total)	Tm	mg/l	<0,00001	
Ytterbium (total)	Yb	mg/l	<0,00001	

Résultats HCT – CV5-WR-HCT-76

Analyse	Symbole	Unité	Sem. #90	Sem. #91	Sem. #92	Sem. #93	Sem. #94	Sem. #95	Sem. #96	Sem. #97	Sem. #98	Sem. #99	Sem. #100
			2025-01-16	2025-01-23	2025-01-30	2025-02-06	2025-02-13	2025-02-20	2025-02-27	2025-03-06	2025-03-13	2025-03-20	2025-03-27
Volume du lixiviat	V	mL	1057	1032	1020	1038	988	969	994	1000	1002	1023	990
pH	pH	No unit	6,58	6,81	6,90	7,08	6,56	6,84	7,09	6,49	6,74	6,73	7,14
Alkalinité	Alkalinité	$mgCaCO_3/l$			6				7				6
Conductivité	Conductivité	µS/cm	15	20	14	19	15	12	14	15	14	19	13
Acidité	Acidité	$mgCaCO_3/l$			<2,0				<2,0				<2,0
Fluoride	F	mg/l			<0,06				<0,06				<0,06
Phosphore réactif total	PO_4^{3-}-P	mg/l			0,03				<0,03				<0,03
Sulfate	SO_4^{2-}	mg/l			<2,0				<2,0				<2,0
Chlore	Cl^-	mg/l			<1,0				<1,0				<1,0
Nitrite	NO_2^-	mgN/l			<0,03				<0,03				<0,03
Nitrate	NO_3^-	mgN/l			<0,06				<0,06				<0,06
Bromide	Br	mg/l			<0,3				<0,3				<0,3
Mercure	Hg	mg/l			<0,00001				<0,00001				<0,00001
Argent	Ag	mg/l			<0,00005				<0,00005				<0,00005
Aluminum	Al	mg/l			0,047				0,039				0,043
Arsenic	As	mg/l			0,0014				0,0011				0,0011
Baryum	Ba	mg/l			<0,00008				<0,00008				<0,00008
Beryllium	Be	mg/l			0,000057				0,000044				0,000033
Bore	B	mg/l			<0,002				<0,002				<0,002
Bismuth	Bi	mg/l			0,00007				0,00009				0,00010
Calcium	Ca	mg/l			2,60				2,67				2,58
Cadmium	Cd	mg/l			<0,000003				0,000004				<0,000003
Cobalt	Co	mg/l			0,000011				0,000017				0,000009
Chrome	Cr	mg/l			<0,00008				<0,00008				<0,00008
Cuivre	Cu	mg/l			<0,001				<0,001				<0,001
Fer	Fe	mg/l			<0,007				<0,007				<0,007
Potassium	K	mg/l			0,146				0,130				0,124
Lithium	Li	mg/l			0,0045				0,0049				0,0041
Magnésium	Mg	mg/l			0,051				0,052				0,048
Manganese	Mn	mg/l			0,00109				0,00110				0,00082
Molybdène	Mo	mg/l			<0,0004				<0,0004				<0,0004
Sodium	Na	mg/l			0,06				0,06				0,06
Nickel	Ni	mg/l			<0,0001				0,0006				<0,0001
Plomb	Pb	mg/l			<0,00009				<0,00009				<0,00009
Antimoine	Sb	mg/l			<0,0009				<0,0009				<0,0009
Sélénium	Se	mg/l			<0,00004				<0,00004				<0,00004
Etain	Sn	mg/l			0,00011				<0,00006				<0,00006
Strontium	Sr	mg/l			0,00393				0,00403				0,00352
Titane	Ti	mg/l			<0,0001				<0,0001				<0,0001
Thallium	Th	mg/l			0,000017				0,000014				0,000014
Uranium	U	mg/l			0,000568				0,000664				0,000575
Vanadium	V	mg/l			0,00003				0,00002				0,00004
Tungstène	W	mg/l			<0,0002				<0,0002				<0,0002
Yttrium	Y	mg/l			<0,00002				<0,00002				<0,00002
Zinc	Zn	mg/l			<0,002				<0,002				<0,002
Gold (total)	Au	mg/l			<0,00001				<0,00001				<0,00001
Cérium (total)	Ce	mg/l			<0,00001				<0,00001				<0,00001
Césium (total)	Cs	mg/l			0,0041				0,0038				0,0043
Dysprosium (total)	Dy	mg/l			<0,00001				<0,00001				<0,00001
Erbium (total)	Er	mg/l			<0,00001				<0,00001				<0,00001
Europium (total)	Eu	mg/l			<0,00001				<0,00001				<0,00001
Gallium (total)	Ga	mg/l			0,0001				0,0001				0,0001
Gadolinium (total)	Gd	mg/l			<0,00001				<0,00001				<0,00001
Germanium (total)	Ge	mg/l			<0,0001				<0,0001				<0,0001
Hafnium (total)	Hf	mg/l			<0,0001				<0,0001				<0,0001
Holmium (total)	Ho	mg/l			<0,00001				<0,00001				<0,00001
Indium (total)	In	mg/l			<0,00001				<0,00001				<0,00001
Iridium (total)	Ir	mg/l			<0,00001				<0,00001				<0,00001
Lanthanum (total)	La	mg/l			<0,00001				<0,00001				<0,00001
Lutetium (total)	Lu	mg/l			<0,0001				<0,0001				<0,0001
Niobium (total)	Nb	mg/l			0,00001				<0,00001				<0,00001
Néodymium (total)	Nd	mg/l			<0,00001				<0,00001				<0,00001
Osmium (total)	Os	mg/l			<0,0001				<0,0001				<0,0001
Palladium (total)	Pd	mg/l			<0,0001				<0,0001				<0,0001
Praseodymium (total)	Pr	mg/l			<0,00001				<0,00001				<0,00001
Platinum (total)	Pt	mg/l			<0,0001				<0,0001				<0,0001
Rubidium (total)	Rb	mg/l			0,0068				0,0058				0,0055
Rhenium (total)	Re	mg/l			<0,0001				<0,0001				<0,0001
Rhodium (total)	Rh	mg/l			<0,00001				<0,00001				<0,00001
Scandium (total)	Sc	mg/l			<0,0001				<0,0001				<0,0001
Samarium (total)	Sm	mg/l			<0,00001				<0,00001				<0,00001
Tantalum (total)	Ta	mg/l			<0,0001				<0,0001				<0,0001
Terbium (total)	Tb	mg/l			<0,00001				<0,00001				<0,00001
Tellurium (total)	Te	mg/l			<0,0001				<0,0001				<0,0001
Thorium (total)	Th	mg/l			<0,0001				<0,0001				<0,0001
Thulium (total)	Tm	mg/l			<0,00001				<0,00001				<0,00001
Ytterbium (total)	Yb	mg/l			<0,00001				<0,00001				<0,00001

Résultat des essais en colonne - CV5-CL-1

Analyse	Symbole	Unité	Sem. #0	Sem. #2	Sem. #4	Sem. #6	Sem. #8	Sem. #10	Sem. #12	Sem. #14	Sem. #16	Sem. #18	Sem. #20
			2025-02-26	2025-03-12	2025-03-26	2025-04-09	2025-04-23	2025-05-07	2025-05-21	2025-06-04	2025-06-18	2025-07-02	2025-07-16
Volume de lixiviat	V	ml	1498	2016	1902	2005	2022	1994	1959	2061	1981	1951	2065
pH	pH	pH unit	9,34	8,56	8,64	8,49	7,99	7,76	7,84	7,97	7,77	7,48	7,55
Alkalinité	Alkalinité	$mgCaCO_3/l$	75	50	37	30	25	22	20	20	16	14	14
Conductivité	Conductivité	µS/cm	508	176	66	58	45	39	42	36	28	28	30
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0
Fluoride	F^-	mg/l	0,86	0,34	0,16	0,08	<0,06	<0,06	<0,06	<0,06	0,09	<0,06	<0,06
Sulphate	SO_4^{2-}	mg/l	13	3,8	1,0	0,5	0,4	0,4	0,4	0,3	0,2	0,3	0,2
Chloride	Cl^-	mgN/l	0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Nitrite	NO_2^-	as N mg/L	0,23	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06
Nitrate	NO_3^-	as N mg/L	0,26	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06
Brome	Br	mg/l	130	44	3,2	0,8	0,5	0,4	0,3	0,2	<0,2	<0,2	<0,2
Mercure	Hg	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,237	0,218	0,220	0,210	0,192	0,208	0,213	0,213	0,212	0,193	0,198
Arsenic	As	mg/l	0,496	0,877	0,529	0,351	0,219	0,181	0,145	0,126	0,107	0,0948	0,0864
Baryum	Ba	mg/l	0,00078	0,00048	0,00027	0,00026	0,00024	0,00026	0,00020	0,00017	0,00014	0,00017	0,00017
Beryllium	Be	mg/l	0,032	0,042	0,018	0,011	0,007	0,005	0,005	0,003	0,003	0,002	0,002
Bore	B	mg/l	0,000033	0,000045	0,000037	0,000045	0,000033	0,000051	0,000021	0,000031	0,000036	0,000023	0,000029
Bismuth	Bi	mg/l	0,00029	0,00051	0,00049	0,00050	0,00050	0,00037	0,00027	0,00049	0,00040	0,00023	0,00043
Calcium	Ca	mg/l	8,88	5,29	4,02	4,91	5,01	5,13	5,27	4,86	4,79	4,56	4,80
Cadmium	Cd	mg/l	0,000007	0,000014	0,000006	0,000009	0,000007	0,000004	0,000004	0,000004	0,000004	0,000007	0,000005
Cobalt	Co	mg/l	0,000205	0,000083	0,000032	0,000025	0,000018	0,000014	0,000018	0,000014	0,000014	0,000016	0,000027
Chrome	Cr	mg/l	0,00015	0,00011	0,00010	0,00009	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008
Cuivre	Cu	mg/l	0,004	0,002	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001
Fer	Fe	mg/l	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007
Potassium	K	mg/l	13,5	6,17	2,97	2,36	1,87	1,46	1,33	1,12	0,950	0,846	0,842
Lithium	Li	mg/l	0,820	0,516	0,170	0,0988	0,0612	0,0449	0,0339	0,0280	0,0220	0,0182	0,0174
Magnésium	Mg	mg/l	1,10	0,660	0,419	0,467	0,454	0,428	0,383	0,343	0,327	0,274	0,279
Manganèse	Mn	mg/l	0,00312	0,00559	0,00444	0,00649	0,00741	0,00830	0,00979	0,0113	0,0123	0,0124	0,0143
Molybdenum	Mo	mg/l	0,0043	0,0072	0,0016	0,0009	0,0006	0,0005	0,0006	<0,0004	<0,0004	<0,0004	<0,0004
Sodium	Na	mg/l	76,9	27,6	8,53	4,75	3,04	2,15	1,59	1,28	1,06	0,90	0,83
Nickel	Ni	mg/l	0,0021	0,0011	0,0003	0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Plomb	Pb	mg/l	0,00010	0,00012	0,00010	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	0,00010	<0,00009
Antimoine	Sb	mg/l	0,0507	0,302	0,196	0,150	0,128	0,100	0,0809	0,0839	0,0660	0,0679	0,0607
Sélénium	Se	mg/l	0,00043	0,00037	0,00025	0,00020	0,00014	0,00013	0,00013	0,00010	0,00010	0,00008	0,00008
Etain	Sn	mg/l	0,0393	0,0165	0,0113	0,00536	0,00452	0,00463	0,00269	0,00192	0,00336	0,00146	0,00098
Strontium	Sr	mg/l	0,0363	0,0204	0,0131	0,0157	0,0140	0,0140	0,0136	0,0130	0,0122	0,0112	0,0111
Titanium	Ti	mg/l	0,0001	0,00013	0,00015	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Thallium	Th	mg/l	0,000846	0,000320	0,000152	0,000127	0,000102	0,000083	0,000072	0,000070	0,000061	0,000054	0,000053
Uranium	U	mg/l	0,0560	1,27	0,842	0,423	0,374	0,272	0,229	0,189	0,183	0,143	0,131
Vanadium	V	mg/l	0,00160	0,00096	0,00056	0,00044	0,00028	0,00023	0,00019	0,00018	0,00015	0,00015	0,00013
Tungsten	W	mg/l	0,00695	0,0148	0,00437	0,00223	0,00233	0,00089	0,00072	0,00078	0,00067	0,00040	0,00036
Yttrium	Y	mg/l	<0,00002	0,00002	0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Cérium (total)	Ce	mg/l	<0,00001	0,00002	0,00002	0,00002	0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	0,00003
Césium (total)	Cs	mg/l	0,0563	0,0336	0,0202	0,0187	0,0166	0,0144	0,0135	0,0128	0,0119	0,0103	0,0111
Dysprosium (total)	Dy	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Erbium (total)	Er	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Europium (total)	Eu	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Gallium (total)	Ga	mg/l	0,0027	0,0021	0,0015	0,0013	0,0012	0,0010	0,0010	0,0009	0,0007	0,0006	0,0007
Gadolinium (total)	Gd	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Germanium (total)	Ge	mg/l	0,0002	<0,0001	<0,0001	0,0001	<0,0001	0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Hafnium (total)	Hf	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Holmium (total)	Ho	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Indium (total)	In	mg/l	0,00014	0,00005	0,00004	0,00002	0,00003	0,00002	0,00001	<0,00001	0,00001	<0,00001	<0,00001
Iridium (total)	Ir	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Lanthanum (total)	La	mg/l	<0,00001	0,00003	0,00002	0,00002	0,00001	<0,00001	0,00001	<0,00001	<0,00001	<0,00001	0,00002
Lutétium (total)	Lu	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Niobium (total)	Nb	mg/l	0,0003	0,0002	0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Neodymium (total)	Nd	mg/l	<0,00001	0,00001	0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	0,00001
Osmium (total)	Os	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Palladium (total)	Pd	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Praseodymium (total)	Pr	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Platinum (total)	Pt	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Rubidium (total)	Rb	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Rhénium (total)	Re	mg/l	0,619	0,268	0,133	0,118	0,0879	0,0739	0,0661	0,0585	0,0513	0,0453	0,0440
Rhodium (total)	Rh	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Scandium (total)	Sc	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Samarium (total)	Sm	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Tantalum (total)	Ta	mg/l	<0,0001	0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Terbium (total)	Tb	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Tellurium (total)	Te	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Thorium (total)	Th	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Thulium (total)	Tm	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Ytterbium (total)	Yb	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001

Résultat des essais en colonne - CV5-CL-2

Analyse	Symbole	Unité	Sem. #0	Sem. #2	Sem. #4	Sem. #6	Sem. #8	Sem. #10	Sem. #12	Sem. #14	Sem. #16	Sem. #18	Sem. #20
			2025-02-26	2025-03-12	2025-03-26	2025-04-09	2025-04-23	2025-05-07	2025-05-21	2025-06-04	2025-06-18	2025-07-02	2025-07-16
Volume de lixiviat	V	ml	1742	2006	1992	1999	2023	2042	1997	2004	1986	1997	1999
pH	pH	pH unit	9,20	8,00	8,87	8,14	7,97	7,55	7,89	8,12	8,11	7,77	8,01
Alkalinité	Alkalinité	$mgCaCO_3/l$	59	39	34	28	24	27	21	20	20	15	20
Conductivité	Conductivité	µS/cm	173	117	70	60	52	42	47	40	36	33	34
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0
Fluoride	F^-	mg/l	1,13	0,53	0,31	0,20	0,16	0,12	0,09	0,11	0,08	0,08	0,08
Sulphate	SO_4^{2-}	mg/l	7,2	11	5,1	3,4	2,7	2,5	2,5	2,1	1,8	1,9	1,5
Chloride	Cl^-	mgN/l	0,06	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Nitrite	NO_2^-	as N mg/L	0,27	0,07	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06
Nitrate	NO_3^-	as N mg/L	0,33	0,07	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06
Brome	Br	mg/l	30	9,7	1,2	0,2	<0,2	<0,2	<0,2	<0,2	<0,2	<0,2	<0,2
Mercure	Hg	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,300	0,211	0,196	0,197	0,176	0,186	0,195	0,192	0,195	0,178	0,168
Arsenic	As	mg/l	0,404	1,51	1,39	1,12	0,802	0,744	0,671	0,600	0,542	0,509	0,458
Baryum	Ba	mg/l	0,00040	0,00058	0,00043	0,00043	0,00035	0,00031	0,00031	0,00028	0,00022	0,00022	0,00028
Beryllium	Be	mg/l	0,038	0,051	0,030	0,021	0,014	0,012	0,010	0,009	0,007	0,006	0,006
Bore	B	mg/l	0,000036	0,000026	0,000053	0,000031	0,000031	0,000029	0,000049	0,000038	0,000026	0,000034	0,000034
Bismuth	Bi	mg/l	0,00014	0,00023	0,00024	0,00022	0,00022	0,00014	0,00019	0,00019	0,00019	0,00015	0,00016
Calcium	Ca	mg/l	4,66	5,48	4,66	5,13	5,50	5,52	5,64	5,21	5,70	5,19	4,74
Cadmium	Cd	mg/l	0,000004	0,000006	0,000004	<0,000003	<0,000003	0,000004	<0,000003	<0,000003	<0,000003	0,000006	<0,000003
Cobalt	Co	mg/l	0,000251	0,000119	0,000079	0,000073	0,000066	0,000056	0,000051	0,000063	0,000049	0,000064	0,000055
Chrome	Cr	mg/l	0,00028	0,00025	0,00013	0,00012	0,00009	0,00008	<0,00008	0,00008	0,00008	0,00008	0,00009
Cuivre	Cu	mg/l	0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001
Fer	Fe	mg/l	<0,007	0,008	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007
Potassium	K	mg/l	8,10	4,64	2,78	2,33	1,93	1,53	1,40	1,20	1,00	0,923	0,814
Lithium	Li	mg/l	0,897	0,634	0,255	0,165	0,112	0,0791	0,0651	0,0534	0,0460	0,0398	0,0380
Magnésium	Mg	mg/l	0,990	1,14	0,856	0,881	0,837	0,835	0,759	0,700	0,667	0,586	0,545
Manganèse	Mn	mg/l	0,00133	0,00530	0,00508	0,00651	0,00680	0,00710	0,00776	0,00844	0,0110	0,00936	0,0083
Molybdenum	Mo	mg/l	0,0046	0,0084	0,0034	0,0019	0,0010	0,0010	0,0009	0,0007	0,0004	0,0005	0,0004
Sodium	Na	mg/l	24,3	14,2	5,90	3,65	2,40	1,69	1,28	1,04	0,86	0,73	0,62
Nickel	Ni	mg/l	0,0035	0,0034	0,0015	0,0011	0,0008	0,0007	0,0006	0,0007	0,0005	0,0006	0,0006
Plomb	Pb	mg/l	<0,00009	<0,00009	0,00014	0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009
Antimoine	Sb	mg/l	0,0745	0,350	0,280	0,249	0,223	0,176	0,146	0,161	0,132	0,136	0,120
Sélénium	Se	mg/l	0,00026	0,00044	0,00022	0,00017	0,00013	0,00012	0,00014	0,00010	0,00008	0,00008	0,00006
Etain	Sn	mg/l	0,0434	0,0204	0,0145	0,00530	0,00441	0,00538	0,00341	0,00209	0,00323	0,00324	0,00193
Strontium	Sr	mg/l	0,0138	0,0205	0,0163	0,0185	0,0174	0,0174	0,0169	0,0161	0,0156	0,0148	0,0133
Titanium	Ti	mg/l	0,0003	0,00029	0,00029	0,00026	0,00014	0,0001	0,0001	0,0002	0,00013	0,0001	0,0002
Thallium	Th	mg/l	0,000331	0,000205	0,000124	0,000118	0,000083	0,000085	0,000078	0,000073	0,000062	0,000056	0,000057
Uranium	U	mg/l	0,00115	0,321	0,383	0,269	0,285	0,231	0,212	0,180	0,181	0,143	0,136
Vanadium	V	mg/l	0,00351	0,00320	0,00234	0,00187	0,00140	0,00117	0,00112	0,00096	0,00081	0,00073	0,00065
Tungsten	W	mg/l	0,00608	0,0125	0,00456	0,00224	0,00113	0,00104	0,00098	0,00078	0,00057	0,00049	0,00051
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	0,002	<0,002
Gold (total)	Au	mg/l	0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Cérium (total)	Ce	mg/l	0,00001	0,00002	0,00003	0,00003	0,00001	<0,00001	<0,00001	0,00001	<0,00001	<0,00001	0,00003
Césium (total)	Cs	mg/l	0,107	0,104	0,0754	0,0785	0,0673	0,0640	0,0599	0,0586	0,0525	0,0483	0,0493
Dysprosium (total)	Dy	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Erbium (total)	Er	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Europium (total)	Eu	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Gallium (total)	Ga	mg/l	0,0028	0,0016	0,0013	0,0011	0,0011	0,0009	0,0010	0,0008	0,0007	0,0007	0,0006
Gadolinium (total)	Gd	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Germanium (total)	Ge	mg/l	0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Hafnium (total)	Hf	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Holmium (total)	Ho	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Indium (total)	In	mg/l	0,00015	0,00007	0,00005	0,00002	0,00003	0,00002	0,00001	<0,00001	0,00001	<0,00001	<0,00001
Iridium (total)	Ir	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Lanthanum (total)	La	mg/l	<0,00001	0,00003	0,00003	0,00002	0,00002	0,00001	0,00001	0,00001	0,00001	0,00001	0,00002
Lutétium (total)	Lu	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Niobium (total)	Nb	mg/l	0,0003	0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Neodymium (total)	Nd	mg/l	<0,00001	0,00001	0,00001	0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	0,00001
Osmium (total)	Os	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Palladium (total)	Pd	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Praseodymium (total)	Pr	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Platinum (total)	Pt	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Rubidium (total)	Rb	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Rhénium (total)	Re	mg/l	0,387	0,190	0,116	0,101	0,0818	0,0714	0,0655	0,0565	0,0500	0,0457	0,0408
Rhodium (total)	Rh	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Scandium (total)	Sc	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Samarium (total)	Sm	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Tantalum (total)	Ta	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Terbium (total)	Tb	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Tellurium (total)	Te	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Thorium (total)	Th	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Thulium (total)	Tm	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Ytterbium (total)	Yb	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001

Résultat des essais en colonne - CV5-CL-3

Analyse	Symbole	Unité	Sem. #0	Sem. #2	Sem. #4	Sem. #6	Sem. #8	Sem. #10	Sem. #12	Sem. #14	Sem. #16	Sem. #18	Sem. #20
			2025-02-26	2025-03-12	2025-03-26	2025-04-09	2025-04-23	2025-05-07	2025-05-21	2025-06-04	2025-06-18	2025-07-02	2025-07-16
Volume de lixiviat	V	ml	1808	1935	1988	2003	2007	1968	2029	1974	1913	2017	2007
pH	pH	pH unit	7,27	7,50	7,95	7,36	7,66	7,25	7,60	7,67	7,65	7,39	6,93
Alkalinité	Alkalinité	$mgCaCO_3/l$	21	25	26	14	15	15	13	12	12	11	13
Conductivité	Conductivité	µS/cm	223	168	74	63	48	42	44	41	39	39	39
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0
Fluoride	F^-	mg/l	0,20	0,21	0,19	0,12	0,14	<0,06	<0,06	<0,06	<0,06	0,06	<0,06
Sulphate	SO_4^{2-}	mg/l	9,4	15	11	5,9	5,9	6,7	6,7	6,1	6,2	5,9	4,6
Chloride	Cl^-	mgN/l	0,04	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Nitrite	NO_2^-	as N mg/L	0,37	0,20	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06
Nitrate	NO_3^-	as N mg/L	0,41	0,20	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06
Brome	Br	mg/l	71	47	4,9	1,4	0,5	0,3	<0,2	<0,2	<0,2	<0,2	<0,2
Mercure	Hg	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,075	0,049	0,049	0,049	0,040	0,040	0,039	0,042	0,041	0,040	0,040
Arsenic	As	mg/l	0,561	4,39	5,08	4,67	3,54	3,66	3,41	3,00	3,03	2,86	2,60
Baryum	Ba	mg/l	0,00298	0,00172	0,00098	0,00098	0,00084	0,00091	0,00087	0,00076	0,00079	0,00066	0,00065
Beryllium	Be	mg/l	0,021	0,047	0,030	0,021	0,017	0,014	0,012	0,010	0,010	0,008	0,007
Bore	B	mg/l	0,000012	0,000008	0,000009	0,000013	0,000013	0,000013	0,000009	0,000010	0,000011	0,000010	0,000022
Bismuth	Bi	mg/l	0,00002	0,00002	0,00002	0,00002	0,00002	0,00001	0,00002	0,00001	0,00003	0,00001	0,00002
Calcium	Ca	mg/l	14,5	9,92	5,63	6,00	5,82	5,92	6,22	5,50	6,36	6,12	5,68
Cadmium	Cd	mg/l	0,000007	0,000005	0,000004	<0,000003	0,000007	<0,000003	0,000004	<0,000003	0,000006	0,000003	0,000004
Cobalt	Co	mg/l	0,000136	0,000365	0,000353	0,000489	0,000529	0,000570	0,000685	0,000689	0,00102	0,000843	0,000838
Chrome	Cr	mg/l	0,00020	0,00027	0,00024	0,00019	0,00014	0,00011	0,00009	0,00015	0,00015	0,00010	0,00009
Cuivre	Cu	mg/l	0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001
Fer	Fe	mg/l	0,008	0,011	0,010	0,008	<0,007	<0,007	<0,007	0,007	0,009	0,007	<0,007
Potassium	K	mg/l	3,14	2,61	1,33	1,18	0,957	0,754	0,666	0,559	0,545	0,465	0,407
Lithium	Li	mg/l	0,521	0,436	0,185	0,103	0,0802	0,0617	0,0502	0,0411	0,0419	0,0349	0,0335
Magnésium	Mg	mg/l	1,76	1,52	0,757	0,755	0,739	0,780	0,768	0,679	0,770	0,659	0,642
Manganèse	Mn	mg/l	0,00826	0,0113	0,00775	0,00868	0,00871	0,00923	0,0102	0,00953	0,0116	0,0105	0,0106
Molybdenum	Mo	mg/l	0,0018	0,0034	0,0014	0,0008	0,0006	0,0009	0,0004	<0,0004	<0,0004	<0,0004	<0,0004
Sodium	Na	mg/l	26,1	21,4	7,73	4,38	2,57	1,70	1,15	0,85	0,74	0,56	0,46
Nickel	Ni	mg/l	0,0059	0,0241	0,0144	0,0147	0,0135	0,0140	0,0160	0,0151	0,0192	0,0166	0,0146
Plomb	Pb	mg/l	<0,00009	0,00010	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009
Antimoine	Sb	mg/l	0,0845	0,663	0,742	0,778	0,766	0,702	0,644	0,702	0,723	0,659	0,607
Sélénium	Se	mg/l	0,00031	0,00075	0,00053	0,00051	0,00037	0,00034	0,00035	0,00024	0,00024	0,00023	0,00020
Etain	Sn	mg/l	0,0229	0,0126	0,00812	0,00350	0,00312	0,00405	0,00227	0,00218	0,00447	0,00204	0,00208
Strontium	Sr	mg/l	0,0896	0,0584	0,0304	0,0319	0,0284	0,0293	0,0304	0,0260	0,0289	0,0261	0,0238
Titanium	Ti	mg/l	0,0002	0,00026	0,00041	0,00028	0,00016	0,0001	0,0002	0,0002	0,00024	0,0001	0,0001
Thallium	Th	mg/l	0,000252	0,000179	0,000108	0,000112	0,000095	0,000093	0,000083	0,000080	0,000090	0,000071	0,000073
Uranium	U	mg/l	0,0165	0,109	0,0861	0,0559	0,0593	0,0368	0,0362	0,0322	0,0433	0,0303	0,0286
Vanadium	V	mg/l	0,00315	0,00822	0,00745	0,00655	0,00497	0,00403	0,00398	0,00337	0,00338	0,00299	0,00278
Tungsten	W	mg/l	0,00394	0,00813	0,00524	0,00288	0,00239	0,00134	0,00110	0,00096	0,00078	0,00063	0,00056
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l	0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Cérium (total)	Ce	mg/l	<0,00001	0,00001	0,00002	0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	0,00002
Césium (total)	Cs	mg/l	0,310	0,308	0,202	0,215	0,193	0,197	0,193	0,177	0,203	0,178	0,189
Dysprosium (total)	Dy	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Erbium (total)	Er	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Europium (total)	Eu	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Gallium (total)	Ga	mg/l	0,0002	0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Gadolinium (total)	Gd	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Germanium (total)	Ge	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Hafnium (total)	Hf	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Holmium (total)	Ho	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Indium (total)	In	mg/l	0,00008	0,00004	0,00003	0,00001	0,00001	0,00002	<0,00001	<0,00001	0,00002	<0,00001	<0,00001
Iridium (total)	Ir	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Lanthanum (total)	La	mg/l	<0,00001	0,00005	0,00006	0,00004	0,00004	0,00005	0,00005	0,00004	0,00004	0,00004	0,00003
Lutétium (total)	Lu	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Niobium (total)	Nb	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Neodymium (total)	Nd	mg/l	<0,00001	<0,00001	0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	0,00001
Osmium (total)	Os	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Palladium (total)	Pd	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Praseodymium (total)	Pr	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Platinum (total)	Pt	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Rubidium (total)	Rb	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Rhénium (total)	Re	mg/l	0,111	0,0833	0,0478	0,0467	0,0397	0,0368	0,0357	0,0322	0,0323	0,0292	0,0275
Rhodium (total)	Rh	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Scandium (total)	Sc	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Samarium (total)	Sm	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Tantalum (total)	Ta	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Terbium (total)	Tb	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Tellurium (total)	Te	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Thorium (total)	Th	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Thulium (total)	Tm	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Ytterbium (total)	Yb	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001

Résultat des essais en colonne - CV5-CL-4

Analyse	Symbole	Unité	Sem. #0	Sem. #2	Sem. #4	Sem. #6	Sem. #8	Sem. #10	Sem. #12	Sem. #14	Sem. #16	Sem. #18	Sem. #20
			2025-02-26	2025-03-12	2025-03-26	2025-04-09	2025-04-23	2025-05-07	2025-05-21	2025-06-04	2025-06-18	2025-07-02	2025-07-16
Volume de lixiviat	V	ml	250	1986	1992	2010	2003	1992	2012	1966	2015	1997	2006
pH	pH	pH unit	8,49	8,51	8,35	8,00	8,14	7,96	7,88	7,60	8,04	7,90	7,51
Alkalinité	Alkalinité	$mgCaCO_3/l$	448	169	81	58	48	40	40	39	35	35	37
Conductivité	Conductivité	µS/cm	3490	479	194	123	111	104	80	84	73	73	82
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0
Fluoride	F^-	mg/l	13,9	4,92	1,68	0,86	0,62	0,53	0,32	0,36	0,35	0,32	0,32
Sulphate	SO_4^{2-}	mg/l	180	49	16	6,8	7,1	6,1	6,2	6,1	5,9	6,3	6,9
Chloride	Cl^-	mgN/l	0,89	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Nitrite	NO_2^-	as N mg/L	9,22	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06
Nitrate	NO_3^-	as N mg/L	10,1	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06
Brome	Br	mg/l	920	7,7	1,0	0,6	<0,2	<0,2	<0,2	<0,2	<0,2	<0,2	<0,2
Mercure	Hg	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	0,00002	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,024	0,157	0,167	0,131	0,100	0,124	0,125	0,112	0,107	0,142	0,142
Arsenic	As	mg/l	4,47	17,6	8,59	4,81	2,95	2,21	1,92	1,62	1,45	1,38	1,67
Baryum	Ba	mg/l	0,0448	0,00482	0,00246	0,00186	0,00161	0,00155	0,00133	0,00119	0,00116	0,00120	0,00132
Beryllium	Be	mg/l	0,785	0,567	0,246	0,141	0,091	0,066	0,047	0,039	0,033	0,029	0,023
Bore	B	mg/l	0,000071	0,000101	0,000095	0,000079	0,000050	0,000054	0,000050	0,000051	0,000045	0,000062	0,000050
Bismuth	Bi	mg/l	0,00013	0,00030	0,00035	0,00029	0,00021	0,00018	0,00018	0,00021	0,00033	0,00034	0,00028
Calcium	Ca	mg/l	119	6,17	4,99	6,08	6,56	6,80	6,45	7,35	7,77	7,85	8,80
Cadmium	Cd	mg/l	0,000283	0,000016	0,000004	0,000003	0,000004	<0,000003	<0,000003	0,000005	0,000005	0,000004	0,000003
Cobalt	Co	mg/l	0,00547	0,00111	0,000311	0,000198	0,000162	0,000142	0,000141	0,000114	0,000137	0,000147	0,000227
Chrome	Cr	mg/l	0,00181	0,00032	0,00032	0,00021	0,00010	0,00010	0,00014	0,00008	0,00010	0,00017	0,00017
Cuivre	Cu	mg/l	0,028	0,003	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001
Fer	Fe	mg/l	0,010	0,017	0,020	0,011	0,007	0,008	0,009	0,007	<0,007	0,009	0,011
Potassium	K	mg/l	73,7	18,8	11,8	10,5	9,89	7,78	6,20	6,26	5,59	5,11	4,86
Lithium	Li	mg/l	35,1	4,48	1,42	0,849	0,593	0,450	0,352	0,317	0,316	0,262	0,246
Magnésium	Mg	mg/l	35,3	2,10	1,26	1,46	1,46	1,48	1,47	1,61	1,63	1,65	1,82
Manganèse	Mn	mg/l	0,110	0,0136	0,00909	0,00869	0,00939	0,0103	0,0117	0,0128	0,0123	0,0128	0,0157
Molybdenum	Mo	mg/l	0,184	0,0292	0,0040	0,0019	0,0014	0,0011	0,0009	0,0012	0,0006	0,0009	0,0008
Sodium	Na	mg/l	467	77,2	26,0	11,8	7,55	5,24	3,86	3,68	3,08	2,56	2,56
Nickel	Ni	mg/l	0,156	0,0894	0,0127	0,0062	0,0040	0,0027	0,0023	0,0017	0,0019	0,0021	0,0034
Plomb	Pb	mg/l	0,00016	0,00016	0,00015	0,00010	<0,00009	<0,00009	<0,00009	0,00017	<0,00009	0,00010	<0,00009
Antimoine	Sb	mg/l	1,68	5,47	1,90	0,829	0,548	0,356	0,252	0,246	0,229	0,204	0,247
Sélénium	Se	mg/l	0,00474	0,00056	0,00028	0,00018	0,00015	0,00012	0,00012	0,00011	0,00011	0,00012	0,00011
Etain	Sn	mg/l	0,130	0,0111	0,0109	0,00802	0,00727	0,00507	0,00402	0,00365	0,00335	0,00292	0,00260
Strontium	Sr	mg/l	0,965	0,0396	0,0264	0,02944	0,0294	0,0311	0,0296	0,0305	0,0318	0,0297	0,0338
Titanium	Ti	mg/l	0,0008	0,00067	0,00071	0,00045	0,00044	0,0004	0,0004	0,0003	0,00030	0,0003	0,0003
Thallium	Th	mg/l	0,00391	0,000696	0,000454	0,000363	0,000316	0,000275	0,000234	0,000197	0,000200	0,000200	0,000215
Uranium	U	mg/l	0,0996	0,946	0,577	0,550	0,675	0,652	0,585	0,476	0,455	0,391	0,417
Vanadium	V	mg/l	0,00867	0,0136	0,0102	0,00617	0,00477	0,00298	0,00205	0,00164	0,00161	0,00136	0,00282
Tungsten	W	mg/l	0,944	0,700	0,111	0,0456	0,0235	0,0190	0,0152	0,0139	0,0101	0,0117	0,0136
Yttrium	Y	mg/l	0,00004	0,00005	0,00004	0,00003	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	0,00002
Zinc	Zn	mg/l	0,018	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l	0,00004	0,00002	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Cérium (total)	Ce	mg/l	0,00001	0,00004	0,00004	0,00002	0,00002	0,00001	0,00002	0,00002	0,00001	0,00002	0,00003
Césium (total)	Cs	mg/l	1,44	0,439	0,342	0,277	0,269	0,259	0,229	0,234	0,217	0,193	0,208
Dysprosium (total)	Dy	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Erbium (total)	Er	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Europium (total)	Eu	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Gallium (total)	Ga	mg/l	0,0007	0,0009	0,0015	0,0017	0,0020	0,0023	0,0025	0,0029	0,0030	0,0032	0,0032
Gadolinium (total)	Gd	mg/l	<0,00001	0,00001	0,00002	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Germanium (total)	Ge	mg/l	0,0013	0,0003	0,0002	0,0002	0,0001	0,0001	0,0001	0,0001	0,0002	0,0001	0,0002
Hafnium (total)	Hf	mg/l	0,0009	0,0003	0,0002	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Holmium (total)	Ho	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Indium (total)	In	mg/l	0,00042	0,00004	0,00003	0,00003	0,00003	0,00002	0,00002	<0,00001	0,00001	<0,00001	<0,00001
Iridium (total)	Ir	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Lanthanum (total)	La	mg/l	0,00008	0,00032	0,00011	0,00005	0,00003	0,00002	0,00002	0,00002	0,00002	0,00002	0,00002
Lutétium (total)	Lu	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Niobium (total)	Nb	mg/l	0,0042	0,0008	0,0007	0,0003	0,0002	0,0001	0,0002	0,0001	0,0001	0,0002	0,0002
Neodymium (total)	Nd	mg/l	0,00001	0,00002	0,00002	0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	0,00001
Osmium (total)	Os	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Palladium (total)	Pd	mg/l	0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Praseodymium (total)	Pr	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Platinum (total)	Pt	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Rubidium (total)	Rb	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Rhénium (total)	Re	mg/l	3,05	0,754	0,440	0,445	0,372	0,337	0,317	0,300	0,258	0,249	0,248
Rhodium (total)	Rh	mg/l	0,0005	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Scandium (total)	Sc	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Samarium (total)	Sm	mg/l	<0,00001	0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Tantalum (total)	Ta	mg/l	0,0003	0,0005	0,0003	0,0002	0,0003	0,0002	0,0001	0,0003	0,0002	0,0002	0,0001
Terbium (total)	Tb	mg/l	0,0002	0,0004	0,0003	<0,0001	0,0001	0,0001	0,0001	<0,0001	<0,0001	0,0002	0,0002
Tellurium (total)	Te	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	0,00002	<0,00001
Thorium (total)	Th	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Thulium (total)	Tm	mg/l	<0,0001	0,0003	0,0002	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	0,0001
Ytterbium (total)	Yb	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001

Résultat des essais en colonne - CV5-CL-5

Analyse	Symbole	Unité	Sem. #0	Sem. #2	Sem. #4	Sem. #6	Sem. #8	Sem. #10	Sem. #12	Sem. #14	Sem. #16	Sem. #18	Sem. #20
			2025-02-26	2025-03-12	2025-03-26	2025-04-09	2025-04-23	2025-05-07	2025-05-21	2025-06-04	2025-06-18	2025-07-02	2025-07-16
Volume de lixiviat	V	ml	1340	2031	2000	1980	2011	2004	1944	2026	1992	1988	2008
pH	pH	pH unit	8,48	7,93	8,08	8,34	7,91	7,48	7,78	8,06	7,84	7,73	7,00
Alkalinité	Alkalinité	$mgCaCO_3/l$	53	49	41	32	32	27	24	26	23	21	23
Conductivité	Conductivité	µS/cm	401	200	119	93	76	59	59	55	47	47	46
Acidité	Acidité	$mgCaCO_3/l$	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0	<2,0
Fluoride	F^-	mg/l	1,48	0,76	0,52	0,32	0,30	0,19	0,13	0,14	0,12	0,08	0,07
Sulphate	SO_4^{2-}	mg/l	12	17	14	7,9	5,2	4,8	4,2	3,7	3,2	3,0	2,5
Chloride	Cl^-	mgN/l	110,00	<42,0	<10,0	<3,6	<1,3	<0,5	<0,3	<0,2	<0,2	<0,2	<0,2
Nitrite	NO_2^-	as N mg/L	0,12	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Nitrate	NO_3^-	as N mg/L	0,46	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06
Brome	Br	mg/l	1	0	0	0,1	0,1	0,1	0,1	0,1	<0,06	<0,06	<0,06
Mercure	Hg	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Argent	Ag	mg/l	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005	<0,00005
Aluminum	Al	mg/l	0,206	0,105	0,100	0,108	0,100	0,102	0,095	0,113	0,107	0,110	0,114
Arsenic	As	mg/l	0,548	4,47	4,21	3,59	2,79	2,44	2,03	1,86	1,50	1,37	1,24
Baryum	Ba	mg/l	0,00106	0,00130	0,00090	0,00073	0,00068	0,00067	0,00055	0,00059	0,00058	0,00049	0,00068
Beryllium	Be	mg/l	0,067	0,099	0,067	0,044	0,034	0,025	0,019	0,017	0,014	0,011	0,011
Bore	B	mg/l	0,000033	0,000034	0,000022	0,000038	0,000040	0,000024	0,000030	0,000039	0,000039	0,000037	0,000032
Bismuth	Bi	mg/l	0,00015	0,00023	0,00025	0,00024	0,00023	0,00016	0,00019	0,00023	0,00049	0,00014	0,00025
Calcium	Ca	mg/l	7,91	7,36	6,06	5,81	6,32	6,11	6,03	6,05	6,45	6,26	6,32
Cadmium	Cd	mg/l	0,000010	0,000011	0,000007	0,000008	0,000003	0,000008	<0,000003	<0,000003	<0,000003	0,000005	0,000004
Cobalt	Co	mg/l	0,000246	0,000286	0,000238	0,000196	0,000182	0,000158	0,000158	0,000165	0,000179	0,000149	0,000169
Chrome	Cr	mg/l	0,00022	0,00015	0,00013	0,00014	0,00012	0,00011	<0,00008	0,00010	<0,00008	0,00010	<0,00008
Cuivre	Cu	mg/l	0,003	0,001	<0,001	0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001
Fer	Fe	mg/l	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007	<0,007
Potassium	K	mg/l	13,5	7,19	4,51	3,33	3,10	2,37	2,15	2,02	1,73	1,63	1,53
Lithium	Li	mg/l	1,84	1,08	0,611	0,347	0,271	0,191	0,139	0,119	0,105	0,0867	0,0887
Magnésium	Mg	mg/l	1,36	1,49	1,06	0,936	0,949	0,949	0,866	0,869	0,850	0,749	0,774
Manganèse	Mn	mg/l	0,00345	0,0106	0,00986	0,0117	0,0123	0,0126	0,0135	0,0139	0,0147	0,0139	0,0145
Molybdenum	Mo	mg/l	0,0075	0,0106	0,0048	0,0023	0,0016	0,0010	0,0008	0,0007	0,0005	0,0005	0,0005
Sodium	Na	mg/l	56,8	29,6	14,8	8,41	6,21	4,26	3,09	2,59	2,15	1,74	1,60
Nickel	Ni	mg/l	0,0060	0,0099	0,0059	0,0036	0,0029	0,0024	0,0022	0,0022	0,0020	0,0019	0,0017
Plomb	Pb	mg/l	<0,00009	0,00014	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009	<0,00009
Antimoine	Sb	mg/l	0,120	0,999	0,779	0,598	0,549	0,403	0,300	0,322	0,275	0,251	0,226
Sélénium	Se	mg/l	0,00035	0,00033	0,00018	0,00016	0,00013	0,00010	0,00013	0,00010	0,00010	0,00009	0,00009
Etain	Sn	mg/l	0,0432	0,0132	0,00809	0,00494	0,00501	0,00377	0,00281	0,00263	0,00260	0,00213	0,00212
Strontium	Sr	mg/l	0,0367	0,0356	0,0272	0,0261	0,0240	0,0229	0,0222	0,0235	0,0224	0,0211	0,0209
Titanium	Ti	mg/l	0,0002	0,00018	0,00016	0,00017	0,00013	0,0001	<0,0001	0,0001	0,00012	0,0002	0,0002
Thallium	Th	mg/l	0,000683	0,000359	0,000228	0,000190	0,000174	0,000139	0,000115	0,000123	0,000107	0,000094	0,000097
Uranium	U	mg/l	0,00644	0,461	0,465	0,341	0,415	0,351	0,302	0,298	0,298	0,248	0,259
Vanadium	V	mg/l	0,00297	0,00341	0,00284	0,00244	0,00213	0,00170	0,00149	0,00139	0,00123	0,00116	0,00112
Tungsten	W	mg/l	0,0270	0,0961	0,0476	0,0203	0,0129	0,00652	0,00407	0,00301	0,00192	0,00171	0,00160
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l	0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Cérium (total)	Ce	mg/l	<0,00001	0,00002	0,00002	0,00001	0,00002	0,00001	<0,00001	0,00001	<0,00001	<0,00001	0,00002
Césium (total)	Cs	mg/l	0,236	0,198	0,141	0,133	0,123	0,120	0,104	0,106	0,104	0,0930	0,101
Dysprosium (total)	Dy	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Erbium (total)	Er	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Europium (total)	Eu	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Gallium (total)	Ga	mg/l	0,0020	0,0008	0,0007	0,0007	0,0008	0,0007	0,0007	0,0007	0,0006	0,0006	0,0006
Gadolinium (total)	Gd	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Germanium (total)	Ge	mg/l	0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Hafnium (total)	Hf	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Holmium (total)	Ho	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Indium (total)	In	mg/l	0,00015	0,00005	0,00003	0,00002	0,00002	0,00001	0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Iridium (total)	Ir	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Lanthanum (total)	La	mg/l	<0,00001	0,00007	0,00005	0,00003	0,00003	0,00002	0,00003	0,00002	0,00002	0,00002	0,00002
Lutétium (total)	Lu	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Niobium (total)	Nb	mg/l	0,0005	0,0003	0,0002	0,0002	0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Neodymium (total)	Nd	mg/l	<0,00001	0,00001	0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Osmium (total)	Os	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Palladium (total)	Pd	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Praseodymium (total)	Pr	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Platinum (total)	Pt	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Rubidium (total)	Rb	mg/l	<0,606	<0,3	<0,194	<0,154	<0,133	<0,115	<0,101	<0,096	<0,0886	<0,0794	<0,0789
Rhénium (total)	Re	mg/l	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,0001	0,0001	0,0001	0,0001
Rhodium (total)	Rh	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Scandium (total)	Sc	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Samarium (total)	Sm	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Tantalum (total)	Ta	mg/l	<0,00001	0,0000	0,0000	<0,00001	<0,00001	<0,00001	<0,00001	0,0000	<0,00001	<0,00001	<0,00001
Terbium (total)	Tb	mg/l	0,0004	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Tellurium (total)	Te	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Thorium (total)	Th	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Thulium (total)	Tm	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Ytterbium (total)	Yb	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001

Résultat des essais en colonne - CV5-CL-6

Analyse	Symbole	Unité	Sem. #0	Sem. #2	Sem. #4	Sem. #6	Sem. #8	Sem. #10	Sem. #12	Sem. #14	Sem. #16	Sem. #18	Sem. #20
			2025-02-26	2025-03-12	2025-03-26	2025-04-09	2025-04-23	2025-05-07	2025-05-21	2025-06-04	2025-06-18	2025-07-02	2025-07-16
Volume de lixiviat	V	ml	1314	2015	1997	1988	2012	1994	2016	2009	1948	2020	1986
pH	pH	pH unit	8,63	8,02	8,22	8,34	8,05	7,47	7,60	8,08	7,85	7,82	7,02
Alkalinité	Alkalinité	$mgCaCO_3/l$	<58,0	<50,0	<41,0	<37,0	<32,0	<28,0	<27,0	<27,0	<25,0	<23,0	<23,0
Conductivité	Conductivité	µS/cm	417	204	127	106	77	64	57	57	46	50	47
Acidité	Acidité	$mgCaCO_3/l$	2	2	2	2,0	2,0	2,0	2,0	2,0	2,0	2,0	2,0
Fluoride	F^-	mg/l	1,57	0,73	0,51	0,37	0,31	0,25	0,16	0,17	0,14	0,12	0,10
Sulphate	SO_4^{2-}	mg/l	14,00	17,00	15,00	7,80	6,30	5,30	4,80	4,00	3,30	3,40	2,50
Chloride	Cl^-	mgN/l	110,00	<42,0	<12,0	<4,4	<2,0	<0,8	<0,4	<0,2	<0,2	<0,2	<0,2
Nitrite	NO_2^-	as N mg/L	0,13	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03	<0,03
Nitrate	NO_3^-	as N mg/L	1	0	0	0,1	0,1	0,1	0,1	0,1	<0,06	<0,06	<0,06
Brome	Br	mg/l	<0,63	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06	<0,06
Mercure	Hg	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Argent	Ag	mg/l	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
Aluminum	Al	mg/l	0,169	0,099	0,104	0,116	0,099	0,101	0,10	0,11	0,11	0,11	0,10
Arsenic	As	mg/l	0,69300	4,09000	4,17000	3,66000	2,83000	2,52000	2,19000	1,88000	1,52000	1,48000	1,21000
Baryum	Ba	mg/l	0,001	0,002	0,001	0,001	0,001	0,001	0,001	0,001	0,001	0,001	0,000
Beryllium	Be	mg/l	0,079000	0,095000	0,073000	0,052000	0,039000	0,028000	0,023000	0,019000	0,015000	0,013000	0,012000
Bore	B	mg/l	0,00006	0,00004	0,00006	0,00006	0,00004	0,00003	0,00005	0,00005	0,00003	0,00003	0,00004
Bismuth	Bi	mg/l	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Calcium	Ca	mg/l	8,300000	7,430000	6,110000	<6,15	6,180000	5,870000	<6,17	5,710000	6,150000	<6,44	5,660000
Cadmium	Cd	mg/l	0,000008	0,000008	0,000004	0,000003	0,000007	0,000004	0,000003	0,000003	0,000004	0,000003	0,000006
Cobalt	Co	mg/l	0,00024	0,00027	0,00025	0,00020	0,00020	<0,000169	<0,000154	<0,000154	0,00018	<0,000127	<0,000164
Chrome	Cr	mg/l	0,000	<0,00015	<0,00015	<0,00013	<0,0001	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008	<0,00008
Cuivre	Cu	mg/l	<0,002	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001
Fer	Fe	mg/l	0,0	0,01	0,01	0,01	0,01	0,01	0,01	0,01	0,01	0,01	0,01
Potassium	K	mg/l	13,60	7,18	4,420	3,720	3,210	2,500	2,350	2,130	1,880	1,750	1,5200
Lithium	Li	mg/l	1,94	1,10	0,68	0,411	0,316	0,226	0,171	0,139	0,122	0,106	0,097
Magnésium	Mg	mg/l	1,48000	1,4600	1,08000	0,9540	0,9390	0,8840	0,8710	0,8540	0,8320	0,7840	0,7040
Manganèse	Mn	mg/l	0,0047	0,0106	0,0095	0,0107	0,0110	0,0113	0,0116	0,0122	0,0127	0,0121	0,0116
Molybdenum	Mo	mg/l	0,0	0,0	0,0	0,0	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Sodium	Na	mg/l	60,0000	29,9000	15,5000	10,1000	7,5200	5,0800	3,8000	3,1300	2,5900	2,1600	1,7200
Nickel	Ni	mg/l	<0,0072	0,01130	<0,0065	0,00430	<0,0033	<0,0026	<0,0023	<0,0021	0,00180	<0,0017	<0,0014
Plomb	Pb	mg/l	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
Antimoine	Sb	mg/l	0,17900	0,97300	0,77800	0,65100	0,60000	0,44400	0,35400	0,35900	0,30700	0,28700	0,24700
Sélénium	Se	mg/l	0,0004	0,0003	0,00020	0,00017	0,00014	0,00013	0,00016	0,00010	0,00009	0,00009	0,00007
Etain	Sn	mg/l	0,0357	0,0104	0,0072	0,0041	0,0042	0,0033	0,0025	0,0026	0,0027	0,0021	0,0019
Strontium	Sr	mg/l	0,0380	0,03560	0,02780	0,02630	<0,0233	0,0217	0,0221	0,0239	<0,0214	0,0213	<0,0186
Titanium	Ti	mg/l	0,000200	0,000180	0,000230	0,000180	0,000100	0,000100	0,000100	0,000100	0,000100	0,000100	0,000100
Thallium	Th	mg/l	0,00070	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
Uranium	U	mg/l	0,00661	0,40200	0,44700	0,35100	0,41100	0,34800	0,30500	0,30200	0,30200	0,27600	0,25600
Vanadium	V	mg/l	0,0034	0,0033	0,0027	0,0026	0,0021	0,0017	0,0016	0,0015	0,00128	0,00124	0,00108
Tungsten	W	mg/l	<0,0367	<0,0967	<0,0769	<0,0549	<0,0318	<0,02	<0,013	<0,0103	<0,00477	<0,00485	<0,00312
Yttrium	Y	mg/l	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002	<0,00002
Zinc	Zn	mg/l	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002
Gold (total)	Au	mg/l	<0,00001	0,00001	0,00001	0,00001	0,00001	0,00001	0,00001	0,00001	<0,00001	0,00001	0,00001
Cérium (total)	Ce	mg/l	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,0000	0,0000
Césium (total)	Cs	mg/l	<0,232	<0,186	<0,141	<0,139	<0,123	<0,116	<0,107	<0,102	<0,107	<0,0955	<0,0977
Dysprosium (total)	Dy	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Erbium (total)	Er	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Europium (total)	Eu	mg/l	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
Gallium (total)	Ga	mg/l	<0,0018	<0,0007	<0,0006	<0,0007	<0,0007	<0,0006	<0,0006	<0,0006	<0,0005	<0,0006	<0,0005
Gadolinium (total)	Gd	mg/l	0,0000	0,0000	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Germanium (total)	Ge	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Hafnium (total)	Hf	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Holmium (total)	Ho	mg/l	0,00001	0,00001	0,00001	0,00001	0,00001	0,00001	0,00001	<0,00001	0,00001	<0,00001	<0,00001
Indium (total)	In	mg/l	<0,00013	<0,00004	<0,00002	<0,00002	<0,00002	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Iridium (total)	Ir	mg/l	0,00001	0,00001	0,00001	0,00001	0,00001	0,00001	0,00001	0,00001	0,00001	0,00001	0,00001
Lanthanum (total)	La	mg/l	<0,00001	<0,00006	<0,00006	<0,00004	<0,00003	<0,00002	<0,00004	<0,00003	<0,00002	<0,00002	<0,00002
Lutétium (total)	Lu	mg/l	0,0001	0,0001	0,0001	0,0001	0,0001	<0,0001	<0,0001	0,0001	<0,0001	<0,0001	<0,0001
Niobium (total)	Nb	mg/l	<0,0006	<0,0002	0,00020	0,00020	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	0,00010
Neodymium (total)	Nd	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Osmium (total)	Os	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Palladium (total)	Pd	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Praseodymium (total)	Pr	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Platinum (total)	Pt	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Rubidium (total)	Rb	mg/l	0,592	0,298	0,198	0,166	0,135	0,118	0,110	0,0973	0,0905	0,0861	0,0769
Rhénium (total)	Re	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Rhodium (total)	Rh	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Scandium (total)	Sc	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Samarium (total)	Sm	mg/l	<0,0001	0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Tantalum (total)	Ta	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	0,0000	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Terbium (total)	Tb	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Tellurium (total)	Te	mg/l	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001	<0,00001
Thorium (total)	Th	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Thulium (total)	Tm	mg/l	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001	<0,0001
Ytterbium (total)	Yb	mg/l	0,00001	0,00001	0,00001	0,00001	0,00001	0,00001	0,00001	0,00001	0,00001	0,00001	0,00001

Annexe E : Résultats de la simulation de modélisation

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel non ségrégué - Lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
Maximum	9,41E-05	1,40E-04	6,50E-05	7,81E-04	2,68E-04
Moyenne	7,01E-05	9,21E-05	3,67E-05	6,48E-04	2,55E-04
Minimum	5,35E-05	5,66E-05	2,22E-05	5,19E-04	2,41E-04
1	9,15E-05	1,21E-04	5,40E-05	6,36E-04	2,49E-04
2	6,58E-05	8,19E-05	4,06E-05	7,18E-04	2,62E-04
3	6,56E-05	9,77E-05	2,70E-05	6,45E-04	2,57E-04
4	7,28E-05	1,07E-04	3,29E-05	6,71E-04	2,60E-04
5	7,19E-05	8,05E-05	3,18E-05	6,61E-04	2,58E-04
6	6,67E-05	8,66E-05	2,54E-05	6,58E-04	2,60E-04
7	7,69E-05	6,37E-05	3,45E-05	6,46E-04	2,58E-04
8	7,18E-05	7,32E-05	3,54E-05	6,27E-04	2,55E-04
9	6,82E-05	9,53E-05	4,37E-05	6,49E-04	2,56E-04
10	7,65E-05	9,81E-05	2,76E-05	6,44E-04	2,54E-04
11	7,04E-05	9,08E-05	3,99E-05	6,70E-04	2,57E-04
12	7,28E-05	8,82E-05	3,19E-05	6,60E-04	2,55E-04
13	6,89E-05	8,63E-05	3,23E-05	6,31E-04	2,66E-04
14	6,16E-05	1,03E-04	3,32E-05	7,28E-04	2,55E-04
15	6,42E-05	9,92E-05	5,68E-05	7,39E-04	2,53E-04
16	5,97E-05	8,55E-05	3,53E-05	6,38E-04	2,48E-04
17	6,04E-05	8,58E-05	3,27E-05	6,41E-04	2,58E-04
18	7,04E-05	7,26E-05	4,35E-05	7,07E-04	2,65E-04
19	7,18E-05	1,07E-04	3,63E-05	5,82E-04	2,45E-04
20	6,96E-05	1,09E-04	3,14E-05	6,37E-04	2,58E-04
21	7,55E-05	9,93E-05	3,71E-05	6,28E-04	2,57E-04
22	6,26E-05	9,27E-05	2,63E-05	7,23E-04	2,53E-04
23	6,45E-05	8,50E-05	2,22E-05	6,61E-04	2,59E-04
24	6,59E-05	7,75E-05	4,03E-05	6,41E-04	2,66E-04
25	7,10E-05	9,75E-05	3,98E-05	5,19E-04	2,47E-04
26	5,80E-05	8,46E-05	3,57E-05	6,95E-04	2,49E-04
27	6,73E-05	8,55E-05	2,64E-05	6,80E-04	2,60E-04
28	7,20E-05	7,44E-05	4,09E-05	6,63E-04	2,60E-04
29	7,64E-05	7,13E-05	3,12E-05	6,97E-04	2,61E-04
30	7,31E-05	1,01E-04	3,31E-05	6,25E-04	2,50E-04
31	5,82E-05	9,01E-05	4,37E-05	6,69E-04	2,61E-04
32	6,23E-05	9,42E-05	3,65E-05	6,32E-04	2,59E-04
33	6,76E-05	9,68E-05	5,40E-05	7,41E-04	2,54E-04
34	6,28E-05	8,74E-05	4,17E-05	6,50E-04	2,64E-04
35	6,96E-05	1,08E-04	3,53E-05	5,86E-04	2,56E-04
36	6,69E-05	1,10E-04	3,89E-05	6,49E-04	2,60E-04
37	7,56E-05	9,17E-05	4,04E-05	6,70E-04	2,54E-04
38	7,05E-05	9,20E-05	3,44E-05	6,57E-04	2,56E-04
39	7,15E-05	7,26E-05	3,14E-05	6,54E-04	2,55E-04
40	7,61E-05	8,58E-05	4,06E-05	7,04E-04	2,55E-04
41	6,52E-05	9,44E-05	3,70E-05	6,72E-04	2,59E-04
42	6,76E-05	8,55E-05	3,77E-05	6,12E-04	2,58E-04
43	7,23E-05	6,62E-05	3,52E-05	6,36E-04	2,54E-04

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel ségrégué - Non lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
Maximum	2,80E-05	3,40E-05	2,87E-05	4,44E-04	2,68E-05
Moyenne	1,94E-05	1,86E-05	1,77E-05	8,50E-05	1,92E-05
Minimum	1,51E-05	1,14E-05	1,46E-05	1,23E-05	1,49E-05
1	1,97E-05	2,55E-05	1,64E-05	3,08E-05	2,21E-05
2	2,25E-05	2,15E-05	1,70E-05	5,46E-05	2,18E-05
3	1,97E-05	2,25E-05	1,53E-05	1,08E-04	2,10E-05
4	1,73E-05	2,11E-05	2,08E-05	4,17E-05	1,94E-05
5	2,03E-05	1,20E-05	2,02E-05	3,99E-05	1,67E-05
6	1,58E-05	1,96E-05	1,76E-05	1,06E-04	1,80E-05
7	1,93E-05	1,14E-05	1,60E-05	2,80E-04	1,68E-05
8	2,35E-05	2,37E-05	1,68E-05	3,58E-05	2,32E-05
9	2,02E-05	2,01E-05	1,89E-05	1,44E-04	2,06E-05
10	1,67E-05	2,01E-05	1,75E-05	5,22E-05	1,84E-05
11	2,05E-05	1,43E-05	1,98E-05	7,23E-05	1,80E-05
12	1,76E-05	1,94E-05	1,65E-05	6,02E-05	1,85E-05
13	2,21E-05	2,27E-05	1,87E-05	5,63E-05	2,23E-05
14	1,91E-05	1,77E-05	1,70E-05	2,28E-04	1,94E-05
15	2,24E-05	1,33E-05	1,69E-05	8,07E-05	1,83E-05
16	1,95E-05	1,62E-05	2,15E-05	9,84E-05	1,86E-05
17	1,94E-05	1,76E-05	1,81E-05	4,55E-05	1,86E-05
18	2,17E-05	1,33E-05	1,69E-05	1,12E-04	1,81E-05
19	1,85E-05	1,55E-05	2,08E-05	1,75E-04	1,81E-05
20	1,83E-05	1,48E-05	1,61E-05	6,69E-05	1,68E-05
21	1,85E-05	1,83E-05	1,80E-05	1,81E-04	1,91E-05
22	2,11E-05	1,73E-05	1,66E-05	7,93E-05	1,93E-05
23	1,84E-05	2,02E-05	1,55E-05	5,53E-05	1,91E-05
24	1,84E-05	1,80E-05	1,80E-05	3,35E-04	1,98E-05
25	2,03E-05	2,11E-05	1,70E-05	7,66E-05	2,06E-05
26	1,70E-05	1,38E-05	1,99E-05	7,77E-05	1,61E-05
27	1,90E-05	1,37E-05	1,83E-05	7,48E-05	1,69E-05
28	2,16E-05	1,78E-05	1,98E-05	8,37E-05	2,01E-05
29	1,87E-05	1,33E-05	1,68E-05	2,62E-05	1,62E-05
30	1,72E-05	2,37E-05	1,58E-05	2,83E-05	2,00E-05
31	1,88E-05	1,77E-05	1,62E-05	7,42E-05	1,84E-05
32	2,08E-05	1,31E-05	1,72E-05	2,15E-04	1,81E-05
33	1,86E-05	2,18E-05	1,66E-05	1,03E-04	2,03E-05
34	1,89E-05	3,03E-05	1,90E-05	5,81E-05	2,41E-05
35	1,97E-05	1,97E-05	1,66E-05	1,12E-04	1,99E-05
36	1,68E-05	2,37E-05	1,57E-05	1,33E-04	2,03E-05
37	1,84E-05	1,57E-05	1,62E-05	5,91E-05	1,73E-05
38	2,20E-05	1,86E-05	1,63E-05	8,09E-05	2,04E-05
39	1,79E-05	2,55E-05	2,00E-05	3,49E-05	2,15E-05
40	1,99E-05	1,63E-05	1,59E-05	4,99E-05	1,81E-05
41	1,91E-05	1,83E-05	1,64E-05	2,35E-05	1,86E-05
42	1,81E-05	2,64E-05	1,65E-05	5,63E-05	2,19E-05
43	2,20E-05	1,54E-05	1,65E-05	2,08E-05	1,87E-05

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel ségrégué - Lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
Maximum	3,26E-04	5,19E-04	2,91E-04	2,40E-03	9,23E-04
Moyenne	2,82E-04	4,21E-04	1,37E-04	2,27E-03	8,73E-04
Minimum	2,41E-04	3,46E-04	7,76E-05	2,13E-03	8,22E-04
1	2,79E-04	3,71E-04	1,52E-04	2,22E-03	8,44E-04
2	2,87E-04	4,59E-04	1,15E-04	2,28E-03	8,90E-04
3	2,99E-04	4,09E-04	1,51E-04	2,25E-03	8,72E-04
4	2,99E-04	4,13E-04	1,36E-04	2,31E-03	8,89E-04
5	2,86E-04	4,23E-04	1,76E-04	2,30E-03	8,87E-04
6	2,84E-04	4,55E-04	1,78E-04	2,28E-03	8,91E-04
7	2,70E-04	4,33E-04	1,81E-04	2,32E-03	8,90E-04
8	2,84E-04	3,90E-04	1,51E-04	2,25E-03	8,60E-04
9	2,89E-04	4,22E-04	1,24E-04	2,25E-03	8,70E-04
10	2,90E-04	3,62E-04	1,22E-04	2,31E-03	8,68E-04
11	2,86E-04	4,17E-04	1,69E-04	2,29E-03	8,81E-04
12	2,81E-04	4,29E-04	1,36E-04	2,26E-03	8,74E-04
13	2,81E-04	4,75E-04	1,30E-04	2,32E-03	9,04E-04
14	2,90E-04	3,84E-04	1,59E-04	2,29E-03	8,71E-04
15	2,96E-04	4,51E-04	1,16E-04	2,20E-03	8,68E-04
16	2,61E-04	4,08E-04	1,28E-04	2,22E-03	8,48E-04
17	2,92E-04	4,37E-04	1,51E-04	2,27E-03	8,83E-04
18	3,08E-04	4,30E-04	1,71E-04	2,34E-03	9,09E-04
19	2,76E-04	3,63E-04	1,53E-04	2,21E-03	8,38E-04
20	2,75E-04	4,47E-04	1,55E-04	2,30E-03	8,88E-04
21	2,71E-04	4,21E-04	1,02E-04	2,31E-03	8,80E-04
22	2,72E-04	3,98E-04	1,22E-04	2,27E-03	8,62E-04
23	2,69E-04	4,35E-04	1,23E-04	2,31E-03	8,85E-04
24	2,83E-04	4,88E-04	1,18E-04	2,32E-03	9,09E-04
25	2,54E-04	3,99E-04	1,51E-04	2,20E-03	8,39E-04
26	2,87E-04	4,36E-04	1,87E-04	2,18E-03	8,58E-04
27	2,73E-04	4,52E-04	1,32E-04	2,32E-03	8,94E-04
28	2,97E-04	4,28E-04	1,70E-04	2,28E-03	8,87E-04
29	3,18E-04	4,33E-04	1,68E-04	2,30E-03	8,99E-04
30	2,96E-04	3,96E-04	1,46E-04	2,20E-03	8,51E-04
31	2,84E-04	4,75E-04	1,83E-04	2,27E-03	8,95E-04
32	2,94E-04	4,33E-04	1,31E-04	2,30E-03	8,89E-04
33	2,78E-04	4,02E-04	1,33E-04	2,26E-03	8,64E-04
34	2,91E-04	4,39E-04	1,25E-04	2,30E-03	8,89E-04
35	2,92E-04	3,84E-04	1,13E-04	2,31E-03	8,74E-04
36	2,89E-04	4,24E-04	1,20E-04	2,31E-03	8,87E-04
37	2,90E-04	4,61E-04	2,14E-04	2,19E-03	8,71E-04
38	2,69E-04	4,53E-04	1,01E-04	2,26E-03	8,73E-04
39	2,84E-04	4,23E-04	1,53E-04	2,23E-03	8,65E-04
40	2,65E-04	4,15E-04	9,94E-05	2,31E-03	8,74E-04
41	2,97E-04	4,38E-04	1,62E-04	2,28E-03	8,88E-04
42	3,11E-04	4,22E-04	9,35E-05	2,25E-03	8,75E-04
43	2,92E-04	4,17E-04	1,75E-04	2,24E-03	8,71E-04

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel non ségrégué - Lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
44	8,34E-05	9,39E-05	4,15E-05	5,74E-04	2,60E-04
45	7,84E-05	7,59E-05	5,07E-05	6,83E-04	2,54E-04
46	7,05E-05	9,60E-05	4,28E-05	6,13E-04	2,55E-04
47	6,52E-05	8,55E-05	2,98E-05	6,52E-04	2,54E-04
48	7,60E-05	8,89E-05	3,24E-05	5,95E-04	2,58E-04
49	6,07E-05	1,11E-04	3,07E-05	6,68E-04	2,57E-04
50	7,60E-05	8,92E-05	4,78E-05	6,45E-04	2,54E-04
51	8,08E-05	9,36E-05	4,37E-05	6,50E-04	2,52E-04
52	6,54E-05	1,11E-04	2,85E-05	6,28E-04	2,57E-04
53	7,46E-05	1,02E-04	3,58E-05	6,48E-04	2,55E-04
54	6,69E-05	8,87E-05	3,48E-05	6,04E-04	2,53E-04
55	7,07E-05	8,25E-05	3,01E-05	6,30E-04	2,52E-04
56	7,00E-05	1,00E-04	3,51E-05	6,47E-04	2,62E-04
57	6,93E-05	9,15E-05	4,53E-05	6,90E-04	2,55E-04
58	7,01E-05	8,16E-05	4,38E-05	5,98E-04	2,51E-04
59	7,64E-05	8,46E-05	4,73E-05	7,00E-04	2,56E-04
60	7,30E-05	9,21E-05	2,82E-05	6,91E-04	2,47E-04
61	6,78E-05	7,40E-05	3,48E-05	6,34E-04	2,58E-04
62	8,19E-05	1,01E-04	4,55E-05	7,05E-04	2,59E-04
63	6,51E-05	1,02E-04	2,42E-05	6,54E-04	2,62E-04
64	7,25E-05	9,08E-05	3,65E-05	5,95E-04	2,56E-04
65	7,40E-05	1,10E-04	3,68E-05	7,07E-04	2,47E-04
66	6,40E-05	8,43E-05	4,16E-05	6,04E-04	2,60E-04
67	7,21E-05	6,28E-05	3,39E-05	6,02E-04	2,58E-04
68	6,84E-05	6,90E-05	3,42E-05	6,74E-04	2,63E-04
69	7,23E-05	7,54E-05	3,64E-05	6,23E-04	2,60E-04
70	6,75E-05	9,18E-05	3,25E-05	5,67E-04	2,55E-04
71	7,13E-05	9,80E-05	3,09E-05	6,03E-04	2,53E-04
72	6,87E-05	1,05E-04	3,35E-05	6,64E-04	2,59E-04
73	6,64E-05	1,08E-04	3,71E-05	6,99E-04	2,61E-04
74	6,50E-05	9,10E-05	3,65E-05	5,67E-04	2,55E-04
75	7,16E-05	8,01E-05	3,95E-05	6,48E-04	2,55E-04
76	7,23E-05	8,52E-05	3,13E-05	6,74E-04	2,66E-04
77	6,65E-05	8,13E-05	2,38E-05	7,30E-04	2,62E-04
78	7,24E-05	1,01E-04	3,41E-05	5,77E-04	2,53E-04
79	7,32E-05	9,20E-05	4,20E-05	6,73E-04	2,68E-04
80	7,12E-05	8,13E-05	3,52E-05	7,02E-04	2,57E-04
81	7,77E-05	9,48E-05	4,90E-05	6,04E-04	2,57E-04
82	6,96E-05	1,19E-04	4,77E-05	6,73E-04	2,54E-04
83	5,75E-05	7,96E-05	4,39E-05	6,25E-04	2,58E-04
84	6,79E-05	9,14E-05	3,99E-05	6,48E-04	2,54E-04
85	7,32E-05	1,07E-04	3,20E-05	5,92E-04	2,51E-04
86	8,00E-05	1,03E-04	4,82E-05	6,41E-04	2,59E-04
87	7,18E-05	9,87E-05	4,51E-05	7,36E-04	2,56E-04
88	6,64E-05	7,00E-05	2,71E-05	6,45E-04	2,65E-04
89	5,71E-05	9,26E-05	2,79E-05	6,74E-04	2,57E-04

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel ségrégué - Non lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
44	1,86E-05	1,83E-05	1,75E-05	7,14E-05	1,86E-05
45	1,93E-05	1,30E-05	1,54E-05	2,90E-05	1,63E-05
46	1,80E-05	2,20E-05	1,79E-05	4,64E-05	1,99E-05
47	1,81E-05	2,18E-05	2,20E-05	5,54E-05	2,02E-05
48	1,82E-05	2,34E-05	1,55E-05	3,19E-04	2,17E-05
49	1,98E-05	1,71E-05	2,48E-05	3,07E-05	1,91E-05
50	2,07E-05	1,51E-05	1,58E-05	5,78E-05	1,81E-05
51	2,09E-05	2,09E-05	1,51E-05	6,28E-05	2,07E-05
52	1,92E-05	2,83E-05	1,72E-05	6,16E-05	2,33E-05
53	2,19E-05	1,76E-05	1,76E-05	1,20E-04	2,01E-05
54	1,73E-05	2,97E-05	1,57E-05	3,56E-05	2,28E-05
55	1,79E-05	1,57E-05	1,99E-05	1,39E-04	1,76E-05
56	1,97E-05	2,26E-05	1,66E-05	3,60E-05	2,08E-05
57	1,89E-05	1,75E-05	1,53E-05	4,16E-05	1,81E-05
58	2,01E-05	1,55E-05	1,68E-05	1,98E-04	1,87E-05
59	2,06E-05	1,51E-05	1,77E-05	1,47E-04	1,86E-05
60	1,73E-05	2,02E-05	1,59E-05	4,50E-05	1,86E-05
61	1,95E-05	2,12E-05	1,89E-05	1,02E-04	2,06E-05
62	1,90E-05	2,98E-05	2,10E-05	5,39E-05	2,41E-05
63	1,82E-05	1,64E-05	1,92E-05	6,68E-05	1,77E-05
64	1,82E-05	1,87E-05	2,48E-05	4,76E-05	1,91E-05
65	2,15E-05	1,37E-05	1,71E-05	3,90E-05	1,78E-05
66	1,92E-05	1,63E-05	1,88E-05	4,57E-05	1,80E-05
67	1,87E-05	1,51E-05	1,52E-05	1,12E-04	1,73E-05
68	1,83E-05	1,41E-05	1,64E-05	7,80E-05	1,66E-05
69	2,28E-05	2,01E-05	1,70E-05	6,60E-05	2,14E-05
70	1,65E-05	2,08E-05	1,61E-05	1,41E-05	1,84E-05
71	1,90E-05	1,41E-05	1,63E-05	9,02E-05	1,70E-05
72	1,95E-05	1,52E-05	1,71E-05	2,64E-05	1,75E-05
73	1,77E-05	2,13E-05	1,64E-05	1,11E-04	1,96E-05
74	1,88E-05	1,78E-05	1,74E-05	1,20E-04	1,87E-05
75	1,99E-05	1,87E-05	1,58E-05	2,63E-04	2,02E-05
76	1,68E-05	2,28E-05	1,67E-05	5,11E-05	1,96E-05
77	1,73E-05	1,71E-05	1,64E-05	1,13E-04	1,76E-05
78	1,83E-05	1,49E-05	2,09E-05	1,99E-04	1,79E-05
79	1,86E-05	3,10E-05	1,58E-05	3,30E-05	2,40E-05
80	2,42E-05	2,88E-05	1,71E-05	7,17E-05	2,59E-05
81	1,88E-05	2,33E-05	1,78E-05	6,10E-05	2,09E-05
82	1,60E-05	2,13E-05	1,82E-05	4,83E-05	1,87E-05
83	1,91E-05	1,74E-05	1,65E-05	7,18E-05	1,84E-05
84	1,91E-05	1,61E-05	1,62E-05	2,36E-04	1,86E-05
85	1,94E-05	1,75E-05	1,66E-05	1,05E-04	1,87E-05
86	1,93E-05	1,86E-05	2,37E-05	2,58E-04	2,05E-05
87	1,74E-05	2,27E-05	1,79E-05	6,91E-05	2,00E-05
88	2,21E-05	2,53E-05	1,63E-05	8,42E-05	2,34E-05
89	2,34E-05	2,78E-05	1,95E-05	1,38E-04	2,56E-05

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel ségrégué - Lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
44	2,95E-04	4,51E-04	1,40E-04	2,28E-03	8,91E-04
45	2,80E-04	4,16E-04	1,29E-04	2,29E-03	8,77E-04
46	2,89E-04	4,16E-04	1,47E-04	2,25E-03	8,70E-04
47	3,01E-04	3,67E-04	1,10E-04	2,28E-03	8,65E-04
48	2,92E-04	4,36E-04	1,21E-04	2,25E-03	8,74E-04
49	2,63E-04	4,57E-04	1,05E-04	2,27E-03	8,78E-04
50	2,75E-04	4,15E-04	1,56E-04	2,27E-03	8,72E-04
51	2,58E-04	4,18E-04	1,39E-04	2,25E-03	8,58E-04
52	2,79E-04	4,28E-04	1,14E-04	2,25E-03	8,67E-04
53	2,94E-04	4,08E-04	1,09E-04	2,26E-03	8,69E-04
54	2,87E-04	4,05E-04	1,06E-04	2,22E-03	8,53E-04
55	2,66E-04	4,60E-04	1,38E-04	2,21E-03	8,65E-04
56	2,93E-04	3,92E-04	1,53E-04	2,36E-03	8,94E-04
57	2,72E-04	4,06E-04	2,17E-04	2,28E-03	8,74E-04
58	2,71E-04	3,94E-04	1,75E-04	2,25E-03	8,58E-04
59	2,97E-04	3,97E-04	1,25E-04	2,29E-03	8,77E-04
60	2,79E-04	3,95E-04	1,36E-04	2,19E-03	8,42E-04
61	2,81E-04	4,34E-04	1,57E-04	2,27E-03	8,78E-04
62	2,93E-04	4,01E-04	8,72E-05	2,29E-03	8,74E-04
63	3,22E-04	4,40E-04	2,03E-04	2,28E-03	9,01E-04
64	2,65E-04	4,66E-04	1,54E-04	2,24E-03	8,74E-04
65	2,98E-04	4,01E-04	1,91E-04	2,16E-03	8,44E-04
66	2,84E-04	4,76E-04	1,94E-04	2,26E-03	8,92E-04
67	2,80E-04	4,83E-04	9,69E-05	2,25E-03	8,86E-04
68	2,82E-04	4,38E-04	1,86E-04	2,35E-03	9,06E-04
69	2,81E-04	4,02E-04	2,01E-04	2,31E-03	8,82E-04
70	2,87E-04	4,31E-04	1,49E-04	2,25E-03	8,74E-04
71	2,84E-04	3,77E-04	1,95E-04	2,29E-03	8,71E-04
72	2,78E-04	4,28E-04	1,23E-04	2,32E-03	8,89E-04
73	3,13E-04	4,27E-04	1,51E-04	2,29E-03	8,92E-04
74	2,95E-04	4,17E-04	1,44E-04	2,25E-03	8,72E-04
75	2,87E-04	4,38E-04	1,93E-04	2,21E-03	8,68E-04
76	2,84E-04	4,36E-04	1,46E-04	2,38E-03	9,09E-04
77	2,81E-04	4,51E-04	1,02E-04	2,35E-03	9,02E-04
78	3,01E-04	4,11E-04	1,63E-04	2,23E-03	8,68E-04
79	2,95E-04	4,76E-04	1,43E-04	2,31E-03	9,07E-04
80	2,76E-04	4,28E-04	1,33E-04	2,23E-03	8,62E-04
81	3,10E-04	3,89E-04	1,36E-04	2,28E-03	8,74E-04
82	2,76E-04	4,04E-04	1,80E-04	2,27E-03	8,68E-04
83	3,03E-04	4,43E-04	1,10E-04	2,26E-03	8,84E-04
84	2,79E-04	4,42E-04	1,19E-04	2,24E-03	8,70E-04
85	2,95E-04	4,15E-04	1,30E-04	2,20E-03	8,57E-04
86	2,62E-04	4,43E-04	1,33E-04	2,30E-03	8,82E-04
87	2,81E-04	4,07E-04	9,29E-05	2,30E-03	8,74E-04
88	2,95E-04	4,45E-04	1,57E-04	2,30E-03	8,96E-04
89	2,72E-04	4,17E-04	9,56E-05	2,25E-03	8,61E-04

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel non ségrégué - Lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
90	7,40E-05	1,12E-04	2,57E-05	6,01E-04	2,56E-04
91	6,17E-05	9,10E-05	3,12E-05	6,44E-04	2,61E-04
92	7,73E-05	1,03E-04	3,12E-05	6,26E-04	2,51E-04
93	8,38E-05	9,76E-05	3,62E-05	6,30E-04	2,51E-04
94	7,38E-05	8,10E-05	4,50E-05	6,61E-04	2,52E-04
95	7,76E-05	8,57E-05	3,58E-05	6,76E-04	2,57E-04
96	7,30E-05	8,78E-05	3,14E-05	7,60E-04	2,47E-04
97	6,78E-05	8,80E-05	4,02E-05	6,09E-04	2,58E-04
98	6,39E-05	1,09E-04	3,45E-05	6,77E-04	2,63E-04
99	7,80E-05	9,98E-05	3,95E-05	5,83E-04	2,64E-04
100	6,26E-05	8,15E-05	3,15E-05	6,76E-04	2,61E-04
101	7,37E-05	8,14E-05	2,78E-05	5,95E-04	2,55E-04
102	6,65E-05	8,73E-05	3,39E-05	6,29E-04	2,58E-04
103	7,67E-05	7,78E-05	3,51E-05	6,19E-04	2,61E-04
104	6,82E-05	8,88E-05	3,59E-05	5,97E-04	2,60E-04
105	7,41E-05	9,68E-05	4,33E-05	6,10E-04	2,59E-04
106	6,27E-05	8,31E-05	3,50E-05	6,47E-04	2,52E-04
107	7,61E-05	7,16E-05	3,92E-05	6,63E-04	2,62E-04
108	6,49E-05	9,38E-05	3,53E-05	6,76E-04	2,46E-04
109	7,45E-05	7,87E-05	3,81E-05	6,38E-04	2,53E-04
110	6,73E-05	1,03E-04	4,04E-05	6,68E-04	2,61E-04
111	7,02E-05	1,01E-04	2,95E-05	6,57E-04	2,56E-04
112	7,11E-05	9,85E-05	3,43E-05	6,27E-04	2,63E-04
113	6,83E-05	1,06E-04	4,30E-05	6,54E-04	2,63E-04
114	6,64E-05	9,07E-05	4,14E-05	6,54E-04	2,55E-04
115	6,80E-05	1,23E-04	3,81E-05	6,98E-04	2,54E-04
116	7,67E-05	9,73E-05	3,27E-05	6,48E-04	2,55E-04
117	7,99E-05	1,14E-04	3,56E-05	6,48E-04	2,64E-04
118	6,67E-05	9,62E-05	3,10E-05	6,99E-04	2,56E-04
119	7,11E-05	7,22E-05	4,42E-05	6,19E-04	2,49E-04
120	7,73E-05	8,55E-05	4,12E-05	7,01E-04	2,57E-04
121	6,98E-05	7,75E-05	4,45E-05	6,19E-04	2,54E-04
122	6,62E-05	1,07E-04	3,50E-05	6,78E-04	2,49E-04
123	6,98E-05	8,66E-05	4,37E-05	6,03E-04	2,54E-04
124	6,33E-05	8,41E-05	3,94E-05	6,38E-04	2,59E-04
125	7,39E-05	9,91E-05	3,00E-05	6,29E-04	2,62E-04
126	7,55E-05	1,10E-04	3,05E-05	5,80E-04	2,56E-04
127	7,44E-05	8,94E-05	3,27E-05	6,91E-04	2,51E-04
128	6,77E-05	7,81E-05	3,75E-05	6,51E-04	2,61E-04
129	6,81E-05	9,20E-05	4,00E-05	6,80E-04	2,60E-04
130	7,84E-05	7,76E-05	3,62E-05	6,47E-04	2,54E-04
131	6,76E-05	8,84E-05	3,40E-05	7,29E-04	2,55E-04
132	6,62E-05	9,61E-05	3,91E-05	6,14E-04	2,47E-04
133	7,79E-05	7,44E-05	3,08E-05	6,47E-04	2,44E-04
134	7,51E-05	9,92E-05	4,62E-05	6,43E-04	2,56E-04
135	7,05E-05	9,89E-05	4,83E-05	6,29E-04	2,56E-04

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel ségrégué - Non lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
90	2,39E-05	2,11E-05	1,73E-05	5,47E-05	2,23E-05
91	2,00E-05	2,10E-05	1,82E-05	5,15E-05	2,05E-05
92	1,94E-05	1,80E-05	2,04E-05	1,86E-05	1,89E-05
93	2,04E-05	1,66E-05	1,67E-05	1,67E-04	1,92E-05
94	2,15E-05	1,43E-05	1,91E-05	3,81E-05	1,82E-05
95	1,82E-05	1,81E-05	1,65E-05	1,44E-05	1,80E-05
96	1,89E-05	1,34E-05	1,69E-05	3,22E-05	1,64E-05
97	2,38E-05	2,38E-05	1,90E-05	8,58E-05	2,37E-05
98	1,89E-05	1,81E-05	1,69E-05	8,46E-05	1,87E-05
99	2,22E-05	1,85E-05	1,58E-05	8,77E-05	2,04E-05
100	1,64E-05	2,48E-05	1,74E-05	2,75E-04	2,15E-05
101	1,88E-05	1,56E-05	1,70E-05	8,24E-05	1,76E-05
102	2,18E-05	1,39E-05	1,70E-05	8,57E-05	1,83E-05
103	2,35E-05	1,62E-05	1,91E-05	3,05E-05	2,00E-05
104	1,87E-05	1,75E-05	1,61E-05	9,88E-05	1,83E-05
105	1,94E-05	2,48E-05	1,86E-05	4,64E-05	2,18E-05
106	1,75E-05	1,41E-05	1,60E-05	1,59E-04	1,66E-05
107	2,10E-05	1,92E-05	1,69E-05	1,17E-04	2,04E-05
108	2,14E-05	1,90E-05	1,72E-05	5,45E-05	2,02E-05
109	1,95E-05	1,89E-05	1,56E-05	2,87E-05	1,90E-05
110	1,98E-05	1,60E-05	1,74E-05	3,02E-05	1,80E-05
111	1,84E-05	1,46E-05	1,58E-05	1,84E-04	1,73E-05
112	2,03E-05	2,73E-05	1,69E-05	3,63E-05	2,32E-05
113	1,85E-05	2,11E-05	1,79E-05	3,03E-05	1,96E-05
114	1,86E-05	1,47E-05	1,77E-05	4,51E-05	1,69E-05
115	2,07E-05	1,51E-05	1,66E-05	5,45E-05	1,81E-05
116	1,83E-05	1,50E-05	1,52E-05	1,79E-04	1,74E-05
117	2,13E-05	2,22E-05	1,69E-05	3,48E-05	2,15E-05
118	1,78E-05	1,66E-05	1,89E-05	7,19E-05	1,76E-05
119	1,87E-05	2,19E-05	2,08E-05	1,44E-04	2,09E-05
120	2,00E-05	1,82E-05	1,61E-05	9,53E-05	1,93E-05
121	2,32E-05	1,69E-05	1,56E-05	2,42E-05	1,99E-05
122	1,99E-05	2,02E-05	1,46E-05	7,52E-05	1,99E-05
123	2,02E-05	1,85E-05	1,76E-05	7,65E-05	1,95E-05
124	1,90E-05	1,94E-05	1,78E-05	2,97E-04	2,05E-05
125	1,80E-05	2,37E-05	1,68E-05	2,78E-05	2,05E-05
126	2,03E-05	1,93E-05	1,66E-05	4,25E-05	1,97E-05
127	2,12E-05	1,90E-05	1,63E-05	1,63E-05	1,98E-05
128	2,40E-05	2,30E-05	1,59E-05	1,20E-04	2,34E-05
129	1,72E-05	1,23E-05	1,86E-05	3,44E-05	1,52E-05
130	1,82E-05	1,71E-05	1,92E-05	5,16E-05	1,79E-05
131	2,06E-05	2,48E-05	1,53E-05	4,14E-05	2,22E-05
132	1,79E-05	1,88E-05	1,63E-05	2,31E-05	1,82E-05
133	1,69E-05	1,78E-05	1,70E-05	9,34E-05	1,77E-05
134	1,78E-05	1,43E-05	1,83E-05	1,51E-04	1,69E-05
135	1,95E-05	2,45E-05	1,90E-05	1,31E-04	2,22E-05

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel ségrégué - Lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
90	2,92E-04	3,93E-04	1,19E-04	2,27E-03	8,67E-04
91	2,95E-04	4,52E-04	1,56E-04	2,28E-03	8,90E-04
92	3,05E-04	4,26E-04	1,39E-04	2,18E-03	8,59E-04
93	2,81E-04	3,82E-04	1,43E-04	2,25E-03	8,57E-04
94	2,64E-04	3,97E-04	1,56E-04	2,27E-03	8,62E-04
95	2,97E-04	4,45E-04	9,51E-05	2,27E-03	8,83E-04
96	2,66E-04	4,14E-04	1,07E-04	2,22E-03	8,51E-04
97	2,70E-04	4,51E-04	1,15E-04	2,25E-03	8,71E-04
98	2,84E-04	4,47E-04	1,47E-04	2,33E-03	9,01E-04
99	2,82E-04	4,42E-04	1,71E-04	2,34E-03	9,02E-04
100	2,95E-04	4,18E-04	9,37E-05	2,32E-03	8,88E-04
101	2,81E-04	4,23E-04	1,20E-04	2,28E-03	8,74E-04
102	2,89E-04	4,26E-04	1,09E-04	2,30E-03	8,84E-04
103	2,95E-04	4,14E-04	8,08E-05	2,33E-03	8,90E-04
104	2,84E-04	3,97E-04	1,45E-04	2,36E-03	8,91E-04
105	2,94E-04	4,54E-04	1,29E-04	2,24E-03	8,80E-04
106	2,79E-04	4,18E-04	1,26E-04	2,26E-03	8,69E-04
107	2,87E-04	4,08E-04	1,47E-04	2,34E-03	8,93E-04
108	2,80E-04	4,14E-04	1,23E-04	2,15E-03	8,37E-04
109	2,63E-04	4,07E-04	1,24E-04	2,28E-03	8,64E-04
110	2,77E-04	4,35E-04	1,49E-04	2,33E-03	8,94E-04
111	2,89E-04	4,13E-04	1,14E-04	2,30E-03	8,79E-04
112	2,87E-04	4,26E-04	9,90E-05	2,33E-03	8,90E-04
113	2,87E-04	4,31E-04	1,91E-04	2,33E-03	8,99E-04
114	2,72E-04	4,62E-04	1,20E-04	2,25E-03	8,76E-04
115	2,88E-04	3,86E-04	1,41E-04	2,29E-03	8,70E-04
116	2,99E-04	4,38E-04	1,36E-04	2,23E-03	8,74E-04
117	3,07E-04	4,01E-04	1,21E-04	2,35E-03	8,98E-04
118	2,83E-04	4,50E-04	1,91E-04	2,24E-03	8,79E-04
119	3,09E-04	3,76E-04	1,51E-04	2,18E-03	8,46E-04
120	2,88E-04	4,49E-04	1,05E-04	2,25E-03	8,77E-04
121	2,63E-04	3,75E-04	1,57E-04	2,31E-03	8,64E-04
122	2,65E-04	3,85E-04	1,58E-04	2,24E-03	8,48E-04
123	2,69E-04	4,34E-04	2,05E-04	2,23E-03	8,65E-04
124	2,87E-04	4,31E-04	1,14E-04	2,28E-03	8,81E-04
125	2,96E-04	4,52E-04	1,55E-04	2,28E-03	8,94E-04
126	3,11E-04	4,19E-04	1,19E-04	2,24E-03	8,73E-04
127	2,89E-04	4,66E-04	1,43E-04	2,14E-03	8,54E-04
128	2,93E-04	4,32E-04	1,20E-04	2,28E-03	8,82E-04
129	3,01E-04	4,03E-04	1,19E-04	2,37E-03	9,00E-04
130	2,76E-04	4,80E-04	1,22E-04	2,21E-03	8,72E-04
131	2,82E-04	4,41E-04	1,43E-04	2,21E-03	8,64E-04
132	2,69E-04	4,26E-04	1,20E-04	2,18E-03	8,46E-04
133	2,80E-04	3,95E-04	1,02E-04	2,18E-03	8,36E-04
134	2,82E-04	4,36E-04	1,18E-04	2,28E-03	8,80E-04
135	2,95E-04	4,05E-04	1,52E-04	2,24E-03	8,67E-04

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel non ségrégué - Lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
136	6,76E-05	1,03E-04	3,30E-05	6,29E-04	2,50E-04
137	7,15E-05	1,01E-04	3,39E-05	5,87E-04	2,58E-04
138	7,03E-05	1,12E-04	3,19E-05	6,52E-04	2,60E-04
139	6,08E-05	9,50E-05	3,37E-05	5,72E-04	2,61E-04
140	6,63E-05	8,65E-05	2,95E-05	6,91E-04	2,61E-04
141	7,85E-05	9,40E-05	3,76E-05	6,46E-04	2,56E-04
142	7,34E-05	8,84E-05	4,52E-05	6,25E-04	2,47E-04
143	6,84E-05	8,71E-05	4,47E-05	6,62E-04	2,57E-04
144	5,42E-05	5,74E-05	3,11E-05	6,94E-04	2,61E-04
145	7,41E-05	9,58E-05	2,81E-05	6,23E-04	2,53E-04
146	6,18E-05	9,29E-05	4,27E-05	5,97E-04	2,60E-04
147	6,65E-05	8,30E-05	4,26E-05	5,55E-04	2,56E-04
148	8,46E-05	7,22E-05	3,27E-05	6,99E-04	2,55E-04
149	6,88E-05	9,47E-05	3,55E-05	6,28E-04	2,55E-04
150	7,07E-05	8,66E-05	4,08E-05	6,22E-04	2,62E-04
151	7,33E-05	7,84E-05	3,25E-05	6,09E-04	2,53E-04
152	7,16E-05	8,24E-05	3,10E-05	6,27E-04	2,54E-04
153	6,91E-05	9,31E-05	3,35E-05	6,11E-04	2,61E-04
154	6,71E-05	7,38E-05	4,48E-05	6,60E-04	2,45E-04
155	6,18E-05	8,30E-05	4,76E-05	6,65E-04	2,53E-04
156	7,06E-05	9,59E-05	2,59E-05	7,09E-04	2,53E-04
157	7,50E-05	6,75E-05	3,75E-05	5,90E-04	2,64E-04
158	6,38E-05	1,02E-04	3,76E-05	6,18E-04	2,56E-04
159	7,80E-05	7,88E-05	4,98E-05	6,25E-04	2,60E-04
160	6,58E-05	1,05E-04	3,51E-05	6,29E-04	2,52E-04
161	6,94E-05	1,07E-04	3,98E-05	6,75E-04	2,52E-04
162	9,41E-05	9,70E-05	4,17E-05	7,18E-04	2,51E-04
163	6,93E-05	1,04E-04	4,54E-05	6,41E-04	2,55E-04
164	6,57E-05	1,06E-04	2,96E-05	6,31E-04	2,46E-04
165	7,29E-05	8,65E-05	2,39E-05	6,59E-04	2,56E-04
166	6,54E-05	8,29E-05	4,48E-05	6,54E-04	2,54E-04
167	5,74E-05	1,06E-04	3,26E-05	6,12E-04	2,61E-04
168	7,38E-05	9,19E-05	3,72E-05	6,88E-04	2,54E-04
169	6,57E-05	7,99E-05	4,88E-05	6,04E-04	2,50E-04
170	6,50E-05	9,75E-05	2,57E-05	6,43E-04	2,49E-04
171	6,65E-05	8,65E-05	3,93E-05	5,99E-04	2,55E-04
172	6,22E-05	8,28E-05	3,65E-05	6,40E-04	2,52E-04
173	6,30E-05	1,07E-04	2,88E-05	6,05E-04	2,52E-04
174	6,41E-05	1,16E-04	3,31E-05	6,15E-04	2,57E-04
175	6,48E-05	8,33E-05	3,99E-05	7,12E-04	2,55E-04
176	7,35E-05	9,76E-05	4,45E-05	5,95E-04	2,50E-04
177	5,98E-05	8,82E-05	3,82E-05	6,84E-04	2,61E-04
178	6,71E-05	1,00E-04	3,15E-05	6,49E-04	2,59E-04
179	7,31E-05	1,11E-04	3,91E-05	6,04E-04	2,58E-04
180	6,91E-05	1,21E-04	3,88E-05	6,25E-04	2,55E-04
181	6,10E-05	9,75E-05	4,53E-05	6,96E-04	2,63E-04

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel ségrégué - Non lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
136	1,67E-05	1,97E-05	1,58E-05	1,38E-04	1,85E-05
137	2,18E-05	1,41E-05	1,75E-05	6,67E-05	1,83E-05
138	1,67E-05	2,48E-05	1,91E-05	1,66E-05	2,04E-05
139	2,15E-05	1,82E-05	1,65E-05	7,44E-05	1,99E-05
140	2,01E-05	2,51E-05	1,75E-05	4,89E-05	2,23E-05
141	1,77E-05	1,99E-05	1,77E-05	6,75E-05	1,89E-05
142	1,71E-05	1,42E-05	2,01E-05	5,78E-05	1,62E-05
143	1,99E-05	1,78E-05	2,04E-05	1,01E-04	1,94E-05
144	1,86E-05	3,35E-05	1,79E-05	8,29E-05	2,54E-05
145	1,76E-05	1,41E-05	1,68E-05	2,26E-05	1,60E-05
146	2,00E-05	1,78E-05	1,92E-05	1,19E-04	1,95E-05
147	2,08E-05	2,02E-05	1,82E-05	1,89E-04	2,12E-05
148	1,72E-05	1,41E-05	1,59E-05	2,59E-04	1,69E-05
149	1,98E-05	1,83E-05	2,03E-05	5,92E-05	1,94E-05
150	1,98E-05	1,78E-05	1,73E-05	1,76E-05	1,87E-05
151	2,14E-05	1,47E-05	1,88E-05	7,74E-05	1,85E-05
152	2,12E-05	1,71E-05	1,63E-05	1,40E-04	1,96E-05
153	1,92E-05	2,26E-05	1,70E-05	5,47E-05	2,07E-05
154	1,76E-05	1,58E-05	1,72E-05	4,07E-05	1,69E-05
155	1,84E-05	1,53E-05	1,72E-05	7,36E-05	1,72E-05
156	1,82E-05	2,50E-05	1,61E-05	1,04E-04	2,15E-05
157	1,82E-05	1,92E-05	1,85E-05	1,74E-04	1,94E-05
158	1,71E-05	1,83E-05	1,90E-05	9,56E-05	1,81E-05
159	2,25E-05	1,51E-05	1,65E-05	1,15E-04	1,92E-05
160	1,83E-05	2,05E-05	2,44E-05	4,42E-05	1,99E-05
161	1,71E-05	1,44E-05	1,96E-05	4,17E-05	1,62E-05
162	1,98E-05	1,30E-05	2,04E-05	1,07E-04	1,73E-05
163	2,00E-05	1,43E-05	1,96E-05	3,37E-04	1,90E-05
164	1,60E-05	1,91E-05	1,79E-05	6,53E-05	1,78E-05
165	2,04E-05	1,46E-05	1,68E-05	4,54E-05	1,77E-05
166	1,91E-05	2,36E-05	1,66E-05	5,16E-05	2,10E-05
167	1,74E-05	1,77E-05	1,72E-05	1,26E-04	1,80E-05
168	1,74E-05	2,70E-05	1,80E-05	7,52E-05	2,19E-05
169	2,17E-05	2,18E-05	1,88E-05	7,67E-05	2,18E-05
170	2,27E-05	1,75E-05	1,58E-05	6,19E-05	2,01E-05
171	1,99E-05	1,39E-05	1,98E-05	4,69E-05	1,74E-05
172	1,99E-05	1,89E-05	1,94E-05	3,32E-05	1,95E-05
173	1,85E-05	1,89E-05	1,96E-05	1,36E-04	1,93E-05
174	2,03E-05	2,23E-05	2,19E-05	8,10E-05	2,16E-05
175	1,99E-05	1,71E-05	2,06E-05	5,60E-05	1,89E-05
176	1,89E-05	1,37E-05	1,71E-05	2,80E-05	1,65E-05
177	1,94E-05	1,99E-05	1,82E-05	6,95E-05	1,98E-05
178	2,06E-05	2,61E-05	2,01E-05	1,45E-04	2,36E-05
179	2,07E-05	2,34E-05	1,67E-05	8,13E-05	2,19E-05
180	1,87E-05	1,82E-05	2,06E-05	1,46E-04	1,92E-05
181	1,98E-05	1,82E-05	2,03E-05	2,34E-05	1,92E-05

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel ségrégué - Lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
136	2,64E-04	4,30E-04	1,29E-04	2,21E-03	8,53E-04
137	2,99E-04	4,14E-04	1,41E-04	2,30E-03	8,85E-04
138	2,94E-04	4,33E-04	1,23E-04	2,28E-03	8,85E-04
139	3,05E-04	4,31E-04	1,16E-04	2,30E-03	8,92E-04
140	2,74E-04	4,31E-04	1,58E-04	2,30E-03	8,83E-04
141	2,89E-04	4,29E-04	1,58E-04	2,26E-03	8,76E-04
142	2,46E-04	4,27E-04	8,79E-05	2,24E-03	8,51E-04
143	2,74E-04	4,30E-04	1,54E-04	2,28E-03	8,79E-04
144	2,74E-04	4,51E-04	9,98E-05	2,27E-03	8,78E-04
145	2,88E-04	4,03E-04	1,54E-04	2,28E-03	8,73E-04
146	2,91E-04	4,23E-04	1,55E-04	2,30E-03	8,88E-04
147	3,09E-04	3,97E-04	1,45E-04	2,25E-03	8,70E-04
148	2,79E-04	3,98E-04	1,06E-04	2,32E-03	8,78E-04
149	2,70E-04	4,15E-04	1,73E-04	2,28E-03	8,72E-04
150	2,96E-04	4,29E-04	1,13E-04	2,33E-03	8,96E-04
151	2,84E-04	3,78E-04	1,15E-04	2,29E-03	8,66E-04
152	2,75E-04	4,28E-04	1,60E-04	2,24E-03	8,67E-04
153	2,91E-04	4,07E-04	1,17E-04	2,34E-03	8,90E-04
154	2,64E-04	4,03E-04	1,51E-04	2,20E-03	8,43E-04
155	2,81E-04	4,13E-04	1,54E-04	2,27E-03	8,71E-04
156	2,74E-04	3,73E-04	1,46E-04	2,28E-03	8,58E-04
157	3,01E-04	4,63E-04	1,19E-04	2,31E-03	9,03E-04
158	2,94E-04	4,69E-04	1,31E-04	2,21E-03	8,76E-04
159	2,91E-04	4,32E-04	1,27E-04	2,30E-03	8,87E-04
160	2,83E-04	4,39E-04	2,01E-04	2,18E-03	8,60E-04
161	2,87E-04	4,32E-04	1,11E-04	2,24E-03	8,70E-04
162	2,88E-04	4,29E-04	1,12E-04	2,21E-03	8,61E-04
163	2,72E-04	4,04E-04	1,53E-04	2,29E-03	8,71E-04
164	2,70E-04	3,80E-04	1,45E-04	2,22E-03	8,44E-04
165	2,77E-04	4,41E-04	1,18E-04	2,28E-03	8,79E-04
166	2,72E-04	4,06E-04	1,25E-04	2,26E-03	8,62E-04
167	2,68E-04	4,29E-04	1,66E-04	2,35E-03	8,95E-04
168	2,78E-04	4,09E-04	1,16E-04	2,25E-03	8,60E-04
169	2,72E-04	4,18E-04	1,62E-04	2,19E-03	8,47E-04
170	2,81E-04	3,69E-04	1,44E-04	2,23E-03	8,47E-04
171	2,75E-04	4,35E-04	1,28E-04	2,27E-03	8,75E-04
172	2,95E-04	4,00E-04	1,81E-04	2,22E-03	8,61E-04
173	2,81E-04	4,40E-04	1,16E-04	2,20E-03	8,59E-04
174	2,89E-04	3,87E-04	1,35E-04	2,29E-03	8,71E-04
175	2,71E-04	4,16E-04	1,22E-04	2,29E-03	8,72E-04
176	2,80E-04	3,98E-04	1,70E-04	2,25E-03	8,61E-04
177	2,65E-04	4,28E-04	1,67E-04	2,34E-03	8,91E-04
178	3,07E-04	4,04E-04	1,63E-04	2,25E-03	8,74E-04
179	2,97E-04	4,17E-04	1,07E-04	2,27E-03	8,75E-04
180	2,81E-04	4,55E-04	1,27E-04	2,23E-03	8,72E-04
181	2,77E-04	4,80E-04	2,91E-04	2,27E-03	9,01E-04

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel non ségrégué - Lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
182	8,33E-05	7,58E-05	6,09E-05	6,24E-04	2,55E-04
183	7,07E-05	1,07E-04	4,99E-05	7,07E-04	2,57E-04
184	7,13E-05	9,37E-05	3,82E-05	7,14E-04	2,55E-04
185	6,97E-05	8,99E-05	4,18E-05	6,69E-04	2,56E-04
186	8,31E-05	1,03E-04	4,30E-05	5,87E-04	2,54E-04
187	6,63E-05	8,24E-05	4,02E-05	6,29E-04	2,52E-04
188	6,17E-05	1,40E-04	2,82E-05	6,50E-04	2,50E-04
189	7,51E-05	1,00E-04	3,89E-05	6,62E-04	2,44E-04
190	5,77E-05	8,47E-05	3,71E-05	6,35E-04	2,59E-04
191	7,56E-05	8,08E-05	5,61E-05	7,02E-04	2,46E-04
192	6,91E-05	6,96E-05	4,62E-05	6,84E-04	2,59E-04
193	6,34E-05	9,79E-05	4,09E-05	6,89E-04	2,53E-04
194	7,60E-05	9,03E-05	2,96E-05	6,27E-04	2,59E-04
195	6,23E-05	9,81E-05	3,90E-05	6,53E-04	2,54E-04
196	7,52E-05	8,19E-05	3,49E-05	6,35E-04	2,64E-04
197	6,40E-05	1,02E-04	3,70E-05	6,33E-04	2,60E-04
198	7,24E-05	9,52E-05	4,60E-05	6,46E-04	2,56E-04
199	7,71E-05	8,28E-05	3,29E-05	6,64E-04	2,58E-04
200	6,66E-05	9,46E-05	2,53E-05	6,86E-04	2,54E-04
201	7,27E-05	8,87E-05	4,04E-05	6,05E-04	2,55E-04
202	7,02E-05	1,30E-04	4,27E-05	6,57E-04	2,55E-04
203	6,53E-05	7,29E-05	2,95E-05	6,53E-04	2,57E-04
204	7,54E-05	7,12E-05	3,96E-05	6,09E-04	2,64E-04
205	7,09E-05	1,04E-04	3,89E-05	6,40E-04	2,57E-04
206	6,61E-05	8,39E-05	3,18E-05	6,61E-04	2,54E-04
207	6,20E-05	8,91E-05	4,40E-05	6,14E-04	2,56E-04
208	5,43E-05	9,34E-05	4,43E-05	6,35E-04	2,54E-04
209	6,74E-05	1,02E-04	4,57E-05	6,21E-04	2,51E-04
210	7,89E-05	9,24E-05	3,56E-05	6,90E-04	2,52E-04
211	6,30E-05	8,98E-05	3,47E-05	6,38E-04	2,57E-04
212	7,18E-05	1,10E-04	4,83E-05	6,02E-04	2,61E-04
213	6,93E-05	1,01E-04	5,16E-05	6,99E-04	2,62E-04
214	6,76E-05	1,11E-04	3,63E-05	6,99E-04	2,53E-04
215	8,28E-05	9,21E-05	3,14E-05	5,95E-04	2,52E-04
216	7,74E-05	8,78E-05	3,83E-05	5,97E-04	2,51E-04
217	7,58E-05	9,86E-05	3,96E-05	7,00E-04	2,53E-04
218	6,15E-05	1,06E-04	3,16E-05	6,77E-04	2,54E-04
219	6,66E-05	9,10E-05	3,37E-05	6,54E-04	2,55E-04
220	6,40E-05	1,02E-04	3,34E-05	6,27E-04	2,54E-04
221	7,02E-05	8,44E-05	3,45E-05	6,52E-04	2,49E-04
222	7,24E-05	9,75E-05	3,79E-05	6,79E-04	2,55E-04
223	7,77E-05	1,01E-04	3,13E-05	6,16E-04	2,56E-04
224	7,28E-05	8,16E-05	3,38E-05	7,00E-04	2,51E-04
225	7,35E-05	9,57E-05	4,31E-05	7,14E-04	2,52E-04
226	6,89E-05	1,09E-04	3,64E-05	6,66E-04	2,55E-04
227	6,59E-05	1,04E-04	3,61E-05	6,77E-04	2,58E-04

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel ségrégué - Non lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
182	2,19E-05	2,19E-05	1,74E-05	5,64E-05	2,18E-05
183	2,16E-05	1,77E-05	1,78E-05	2,38E-04	2,07E-05
184	2,04E-05	1,37E-05	2,07E-05	1,28E-04	1,80E-05
185	1,74E-05	1,43E-05	1,71E-05	8,32E-05	1,63E-05
186	1,94E-05	1,53E-05	1,73E-05	1,03E-04	1,78E-05
187	1,82E-05	1,42E-05	1,58E-05	5,87E-05	1,64E-05
188	2,12E-05	1,93E-05	1,66E-05	5,20E-05	2,02E-05
189	1,77E-05	1,62E-05	1,68E-05	1,13E-04	1,74E-05
190	1,88E-05	3,09E-05	1,73E-05	5,21E-05	2,41E-05
191	1,80E-05	1,46E-05	2,07E-05	2,45E-05	1,67E-05
192	2,07E-05	1,33E-05	1,78E-05	1,20E-04	1,77E-05
193	1,88E-05	1,36E-05	1,61E-05	2,15E-04	1,73E-05
194	1,69E-05	1,70E-05	1,62E-05	8,45E-05	1,72E-05
195	2,16E-05	1,36E-05	1,77E-05	2,54E-05	1,78E-05
196	1,79E-05	1,87E-05	1,86E-05	9,44E-05	1,87E-05
197	2,04E-05	1,45E-05	1,67E-05	2,21E-04	1,85E-05
198	1,86E-05	2,31E-05	1,74E-05	3,08E-05	2,06E-05
199	1,91E-05	1,57E-05	1,69E-05	2,90E-05	1,75E-05
200	1,99E-05	2,10E-05	2,14E-05	3,85E-05	2,06E-05
201	1,79E-05	2,20E-05	1,96E-05	4,44E-05	1,99E-05
202	2,27E-05	1,73E-05	1,76E-05	2,81E-04	2,12E-05
203	1,98E-05	2,36E-05	1,71E-05	1,95E-05	2,13E-05
204	1,95E-05	2,14E-05	1,60E-05	1,90E-04	2,09E-05
205	1,68E-05	1,98E-05	1,91E-05	8,82E-05	1,86E-05
206	1,81E-05	2,78E-05	1,75E-05	3,50E-05	2,24E-05
207	1,85E-05	1,33E-05	1,90E-05	1,39E-04	1,68E-05
208	1,92E-05	1,34E-05	1,71E-05	6,83E-05	1,67E-05
209	1,75E-05	1,98E-05	1,65E-05	9,27E-05	1,88E-05
210	1,68E-05	2,12E-05	1,57E-05	5,78E-05	1,89E-05
211	2,05E-05	2,26E-05	1,68E-05	8,86E-05	2,15E-05
212	1,84E-05	1,36E-05	1,59E-05	1,13E-04	1,65E-05
213	1,86E-05	1,78E-05	1,65E-05	4,65E-05	1,82E-05
214	1,76E-05	1,83E-05	1,76E-05	5,10E-05	1,81E-05
215	1,88E-05	2,19E-05	1,65E-05	8,31E-05	2,03E-05
216	1,96E-05	1,37E-05	1,85E-05	6,40E-05	1,71E-05
217	1,73E-05	1,26E-05	1,57E-05	5,04E-05	1,53E-05
218	2,21E-05	2,01E-05	1,66E-05	8,06E-05	2,10E-05
219	1,81E-05	1,60E-05	1,79E-05	1,38E-04	1,78E-05
220	2,01E-05	1,51E-05	1,60E-05	7,23E-05	1,78E-05
221	1,91E-05	1,83E-05	1,95E-05	8,83E-05	1,91E-05
222	2,06E-05	1,45E-05	1,97E-05	4,71E-05	1,80E-05
223	1,86E-05	1,29E-05	1,68E-05	3,53E-05	1,60E-05
224	1,78E-05	1,46E-05	1,78E-05	5,30E-05	1,66E-05
225	1,86E-05	1,41E-05	1,66E-05	8,53E-05	1,68E-05
226	2,10E-05	2,59E-05	1,67E-05	5,97E-05	2,30E-05
227	1,76E-05	1,23E-05	1,71E-05	5,56E-05	1,54E-05

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel ségrégué - Lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
182	2,84E-04	4,51E-04	9,97E-05	2,20E-03	8,63E-04
183	2,86E-04	4,02E-04	1,29E-04	2,29E-03	8,74E-04
184	2,86E-04	4,42E-04	9,01E-05	2,26E-03	8,75E-04
185	3,11E-04	3,75E-04	1,44E-04	2,31E-03	8,82E-04
186	2,86E-04	3,71E-04	1,26E-04	2,32E-03	8,72E-04
187	2,66E-04	4,32E-04	1,35E-04	2,25E-03	8,67E-04
188	2,81E-04	4,02E-04	1,38E-04	2,22E-03	8,52E-04
189	2,65E-04	3,97E-04	8,71E-05	2,20E-03	8,36E-04
190	2,83E-04	4,44E-04	1,53E-04	2,24E-03	8,73E-04
191	2,67E-04	3,76E-04	1,38E-04	2,24E-03	8,45E-04
192	2,85E-04	4,79E-04	1,27E-04	2,26E-03	8,90E-04
193	2,76E-04	4,48E-04	1,95E-04	2,21E-03	8,68E-04
194	2,78E-04	4,22E-04	1,80E-04	2,33E-03	8,92E-04
195	2,87E-04	3,97E-04	1,74E-04	2,27E-03	8,71E-04
196	2,88E-04	4,66E-04	1,36E-04	2,32E-03	9,05E-04
197	2,80E-04	4,44E-04	1,51E-04	2,30E-03	8,90E-04
198	2,90E-04	4,37E-04	8,51E-05	2,25E-03	8,72E-04
199	2,94E-04	4,11E-04	1,08E-04	2,32E-03	8,87E-04
200	2,81E-04	4,12E-04	1,91E-04	2,24E-03	8,66E-04
201	2,71E-04	4,29E-04	8,20E-05	2,28E-03	8,71E-04
202	2,74E-04	4,13E-04	1,04E-04	2,27E-03	8,67E-04
203	2,91E-04	4,26E-04	1,65E-04	2,25E-03	8,75E-04
204	3,01E-04	4,52E-04	1,35E-04	2,31E-03	9,01E-04
205	2,91E-04	4,06E-04	1,04E-04	2,31E-03	8,81E-04
206	2,78E-04	4,16E-04	1,30E-04	2,23E-03	8,59E-04
207	2,97E-04	3,97E-04	1,09E-04	2,32E-03	8,83E-04
208	2,95E-04	4,43E-04	1,23E-04	2,23E-03	8,74E-04
209	2,94E-04	4,05E-04	1,03E-04	2,23E-03	8,59E-04
210	2,85E-04	4,56E-04	1,23E-04	2,18E-03	8,60E-04
211	3,03E-04	4,15E-04	1,00E-04	2,25E-03	8,71E-04
212	2,93E-04	4,52E-04	1,51E-04	2,31E-03	9,00E-04
213	2,88E-04	4,30E-04	1,22E-04	2,35E-03	9,00E-04
214	2,69E-04	4,12E-04	1,23E-04	2,27E-03	8,66E-04
215	2,77E-04	3,68E-04	1,29E-04	2,27E-03	8,56E-04
216	3,02E-04	4,02E-04	1,65E-04	2,22E-03	8,61E-04
217	2,80E-04	4,35E-04	1,42E-04	2,26E-03	8,74E-04
218	3,02E-04	3,58E-04	1,20E-04	2,28E-03	8,62E-04
219	2,94E-04	4,59E-04	1,52E-04	2,21E-03	8,74E-04
220	2,82E-04	4,37E-04	1,32E-04	2,24E-03	8,70E-04
221	2,82E-04	3,82E-04	1,09E-04	2,24E-03	8,51E-04
222	2,77E-04	3,69E-04	1,30E-04	2,34E-03	8,75E-04
223	2,83E-04	4,52E-04	1,02E-04	2,27E-03	8,82E-04
224	3,01E-04	4,02E-04	1,28E-04	2,23E-03	8,64E-04
225	2,80E-04	4,52E-04	1,23E-04	2,22E-03	8,68E-04
226	2,62E-04	4,14E-04	1,35E-04	2,25E-03	8,60E-04
227	2,80E-04	4,15E-04	1,12E-04	2,35E-03	8,93E-04

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel non ségrégué - Lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
228	6,48E-05	9,81E-05	3,38E-05	7,10E-04	2,54E-04
229	6,57E-05	9,98E-05	3,99E-05	6,48E-04	2,58E-04
230	6,11E-05	5,86E-05	3,14E-05	6,84E-04	2,57E-04
231	7,91E-05	8,93E-05	3,98E-05	6,03E-04	2,55E-04
232	6,98E-05	8,61E-05	3,71E-05	6,37E-04	2,55E-04
233	7,40E-05	8,92E-05	4,78E-05	5,95E-04	2,55E-04
234	6,60E-05	7,97E-05	4,68E-05	6,39E-04	2,47E-04
235	8,01E-05	1,07E-04	3,81E-05	6,13E-04	2,48E-04
236	7,25E-05	1,07E-04	3,52E-05	5,99E-04	2,54E-04
237	7,40E-05	9,64E-05	3,44E-05	6,82E-04	2,45E-04
238	7,45E-05	1,01E-04	3,63E-05	5,87E-04	2,60E-04
239	7,76E-05	9,59E-05	2,89E-05	6,26E-04	2,45E-04
240	7,30E-05	1,02E-04	4,08E-05	6,61E-04	2,55E-04
241	7,44E-05	1,09E-04	2,86E-05	6,74E-04	2,59E-04
242	7,07E-05	8,23E-05	4,19E-05	6,49E-04	2,61E-04
243	6,37E-05	1,18E-04	4,06E-05	5,88E-04	2,58E-04
244	6,64E-05	1,16E-04	3,47E-05	7,07E-04	2,61E-04
245	6,77E-05	8,00E-05	3,80E-05	6,52E-04	2,55E-04
246	6,74E-05	8,68E-05	2,82E-05	6,50E-04	2,56E-04
247	7,66E-05	1,17E-04	3,01E-05	6,01E-04	2,59E-04
248	7,06E-05	9,91E-05	4,29E-05	7,19E-04	2,53E-04
249	6,37E-05	8,57E-05	4,67E-05	6,82E-04	2,56E-04
250	6,41E-05	1,04E-04	3,58E-05	6,69E-04	2,57E-04
251	7,36E-05	7,41E-05	4,23E-05	6,45E-04	2,58E-04
252	6,82E-05	8,87E-05	3,45E-05	6,27E-04	2,50E-04
253	6,05E-05	8,81E-05	4,53E-05	6,45E-04	2,60E-04
254	6,15E-05	9,68E-05	4,03E-05	7,36E-04	2,53E-04
255	7,22E-05	1,11E-04	3,47E-05	6,33E-04	2,52E-04
256	7,54E-05	1,15E-04	4,07E-05	6,53E-04	2,60E-04
257	6,96E-05	9,75E-05	3,89E-05	6,71E-04	2,61E-04
258	7,45E-05	1,16E-04	2,82E-05	6,53E-04	2,54E-04
259	6,29E-05	1,08E-04	4,03E-05	6,60E-04	2,56E-04
260	7,43E-05	7,26E-05	4,01E-05	7,08E-04	2,61E-04
261	6,59E-05	1,19E-04	4,15E-05	6,27E-04	2,56E-04
262	8,24E-05	8,94E-05	4,07E-05	6,68E-04	2,54E-04
263	7,01E-05	9,76E-05	3,24E-05	6,39E-04	2,61E-04
264	7,71E-05	8,97E-05	3,15E-05	7,22E-04	2,57E-04
265	6,96E-05	7,61E-05	3,02E-05	6,47E-04	2,60E-04
266	6,91E-05	9,00E-05	3,04E-05	6,83E-04	2,57E-04
267	7,09E-05	9,60E-05	2,69E-05	6,54E-04	2,62E-04
268	6,51E-05	5,87E-05	4,02E-05	6,74E-04	2,48E-04
269	7,66E-05	7,28E-05	4,01E-05	6,42E-04	2,47E-04
270	7,09E-05	1,05E-04	2,85E-05	7,03E-04	2,56E-04
271	6,81E-05	9,91E-05	3,16E-05	6,17E-04	2,57E-04
272	6,97E-05	8,79E-05	3,73E-05	6,99E-04	2,56E-04
273	7,23E-05	1,02E-04	3,78E-05	6,18E-04	2,56E-04

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel ségrégué - Non lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
228	2,30E-05	1,30E-05	1,63E-05	5,67E-05	1,83E-05
229	2,12E-05	1,77E-05	1,67E-05	1,07E-04	1,97E-05
230	1,75E-05	2,03E-05	1,73E-05	4,01E-05	1,88E-05
231	2,05E-05	1,44E-05	1,98E-05	5,52E-05	1,79E-05
232	1,94E-05	1,50E-05	1,98E-05	1,49E-05	1,75E-05
233	1,89E-05	1,90E-05	1,63E-05	7,27E-05	1,90E-05
234	2,17E-05	1,28E-05	2,00E-05	4,15E-05	1,78E-05
235	1,87E-05	1,73E-05	1,61E-05	3,07E-04	1,93E-05
236	1,82E-05	1,59E-05	1,55E-05	1,98E-05	1,70E-05
237	1,86E-05	1,60E-05	1,78E-05	2,08E-05	1,74E-05
238	1,88E-05	2,28E-05	1,77E-05	1,56E-04	2,11E-05
239	2,03E-05	1,80E-05	1,74E-05	4,67E-05	1,92E-05
240	1,78E-05	1,47E-05	2,18E-05	2,85E-04	1,80E-05
241	1,86E-05	2,63E-05	1,66E-05	1,67E-04	2,26E-05
242	1,96E-05	1,41E-05	1,85E-05	8,90E-05	1,74E-05
243	1,78E-05	2,38E-05	1,70E-05	5,40E-05	2,06E-05
244	1,72E-05	1,71E-05	1,62E-05	6,12E-05	1,73E-05
245	2,00E-05	1,74E-05	1,73E-05	6,67E-05	1,89E-05
246	1,72E-05	1,70E-05	1,85E-05	5,34E-05	1,74E-05
247	1,78E-05	2,27E-05	1,63E-05	7,48E-05	2,01E-05
248	2,22E-05	1,77E-05	1,93E-05	7,04E-05	2,03E-05
249	1,75E-05	1,72E-05	1,75E-05	6,90E-05	1,76E-05
250	1,88E-05	1,26E-05	2,07E-05	7,78E-05	1,65E-05
251	1,99E-05	2,01E-05	1,82E-05	2,42E-04	2,09E-05
252	1,81E-05	1,21E-05	1,65E-05	5,65E-05	1,55E-05
253	2,07E-05	1,65E-05	1,77E-05	1,44E-04	1,92E-05
254	1,90E-05	2,13E-05	1,62E-05	6,61E-05	2,00E-05
255	2,14E-05	2,05E-05	2,09E-05	1,45E-04	2,16E-05
256	1,89E-05	1,62E-05	2,17E-05	1,25E-04	1,85E-05
257	2,18E-05	2,22E-05	1,57E-05	1,04E-04	2,19E-05
258	1,96E-05	1,43E-05	1,54E-05	1,48E-04	1,76E-05
259	1,98E-05	1,43E-05	1,66E-05	9,30E-05	1,75E-05
260	2,00E-05	1,93E-05	1,74E-05	2,61E-05	1,95E-05
261	1,98E-05	2,20E-05	1,65E-05	2,45E-04	2,16E-05
262	1,79E-05	2,03E-05	1,75E-05	1,33E-04	1,95E-05
263	2,01E-05	1,62E-05	2,19E-05	7,83E-05	1,88E-05
264	1,97E-05	2,71E-05	1,80E-05	1,58E-04	2,35E-05
265	1,94E-05	2,47E-05	2,32E-05	4,83E-05	2,22E-05
266	2,07E-05	2,27E-05	1,76E-05	1,42E-04	2,19E-05
267	1,98E-05	2,92E-05	1,64E-05	7,11E-05	2,39E-05
268	2,25E-05	1,85E-05	1,80E-05	3,23E-05	2,04E-05
269	1,96E-05	1,55E-05	1,73E-05	1,36E-04	1,82E-05
270	1,92E-05	1,50E-05	1,76E-05	1,01E-04	1,77E-05
271	1,75E-05	1,54E-05	1,85E-05	6,36E-05	1,68E-05
272	1,98E-05	1,43E-05	1,73E-05	1,10E-04	1,76E-05
273	1,82E-05	2,15E-05	1,69E-05	5,29E-05	1,97E-05

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel ségrégué - Lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
228	2,87E-04	4,29E-04	1,07E-04	2,25E-03	8,70E-04
229	2,79E-04	4,19E-04	1,86E-04	2,29E-03	8,79E-04
230	2,78E-04	3,98E-04	1,77E-04	2,31E-03	8,79E-04
231	2,74E-04	4,07E-04	1,26E-04	2,30E-03	8,73E-04
232	2,92E-04	4,29E-04	1,81E-04	2,25E-03	8,78E-04
233	2,65E-04	5,14E-04	1,43E-04	2,18E-03	8,74E-04
234	2,86E-04	3,72E-04	1,98E-04	2,20E-03	8,45E-04
235	2,88E-04	4,09E-04	1,07E-04	2,18E-03	8,44E-04
236	2,97E-04	4,28E-04	1,45E-04	2,23E-03	8,72E-04
237	2,72E-04	4,31E-04	9,22E-05	2,16E-03	8,40E-04
238	2,67E-04	4,73E-04	8,96E-05	2,28E-03	8,84E-04
239	2,74E-04	4,12E-04	1,12E-04	2,15E-03	8,34E-04
240	2,42E-04	4,21E-04	1,60E-04	2,32E-03	8,76E-04
241	2,85E-04	4,24E-04	1,28E-04	2,28E-03	8,78E-04
242	2,87E-04	4,40E-04	1,28E-04	2,33E-03	8,97E-04
243	3,02E-04	4,20E-04	1,36E-04	2,27E-03	8,80E-04
244	2,72E-04	4,81E-04	1,84E-04	2,29E-03	8,97E-04
245	2,72E-04	4,57E-04	1,44E-04	2,24E-03	8,74E-04
246	2,82E-04	3,95E-04	1,22E-04	2,32E-03	8,79E-04
247	3,05E-04	3,96E-04	1,33E-04	2,31E-03	8,83E-04
248	2,73E-04	4,24E-04	9,09E-05	2,24E-03	8,60E-04
249	3,18E-04	4,44E-04	1,30E-04	2,22E-03	8,77E-04
250	2,99E-04	4,75E-04	1,17E-04	2,23E-03	8,85E-04
251	2,78E-04	4,64E-04	1,80E-04	2,23E-03	8,78E-04
252	2,71E-04	3,70E-04	1,56E-04	2,30E-03	8,62E-04
253	2,87E-04	4,19E-04	1,73E-04	2,31E-03	8,89E-04
254	2,86E-04	4,00E-04	1,23E-04	2,24E-03	8,60E-04
255	2,67E-04	3,72E-04	1,77E-04	2,27E-03	8,55E-04
256	2,75E-04	4,25E-04	1,80E-04	2,32E-03	8,90E-04
257	2,81E-04	4,63E-04	1,35E-04	2,26E-03	8,85E-04
258	2,82E-04	4,11E-04	1,41E-04	2,27E-03	8,71E-04
259	2,97E-04	4,17E-04	1,33E-04	2,27E-03	8,78E-04
260	2,87E-04	4,20E-04	1,19E-04	2,33E-03	8,92E-04
261	2,84E-04	4,35E-04	1,13E-04	2,24E-03	8,68E-04
262	2,80E-04	4,23E-04	8,97E-05	2,25E-03	8,66E-04
263	2,74E-04	4,57E-04	1,45E-04	2,30E-03	8,92E-04
264	2,79E-04	3,91E-04	1,11E-04	2,28E-03	8,66E-04
265	2,66E-04	3,87E-04	1,37E-04	2,36E-03	8,82E-04
266	2,71E-04	4,72E-04	1,21E-04	2,22E-03	8,71E-04
267	2,86E-04	4,97E-04	1,28E-04	2,22E-03	8,86E-04
268	2,51E-04	3,65E-04	1,06E-04	2,27E-03	8,44E-04
269	2,94E-04	4,05E-04	1,37E-04	2,17E-03	8,45E-04
270	2,67E-04	4,55E-04	1,14E-04	2,28E-03	8,80E-04
271	2,72E-04	3,78E-04	1,45E-04	2,36E-03	8,83E-04
272	3,03E-04	4,14E-04	1,50E-04	2,27E-03	8,81E-04
273	2,55E-04	4,63E-04	2,43E-04	2,23E-03	8,73E-04

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel non ségrégué - Lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
274	7,04E-05	1,06E-04	3,29E-05	6,99E-04	2,61E-04
275	6,69E-05	7,78E-05	3,24E-05	7,17E-04	2,57E-04
276	6,78E-05	9,02E-05	3,05E-05	6,42E-04	2,57E-04
277	7,94E-05	9,55E-05	4,02E-05	6,06E-04	2,58E-04
278	7,96E-05	9,16E-05	3,75E-05	6,24E-04	2,46E-04
279	7,15E-05	1,07E-04	4,62E-05	6,67E-04	2,52E-04
280	7,48E-05	8,95E-05	2,85E-05	6,84E-04	2,51E-04
281	7,19E-05	8,49E-05	3,84E-05	6,84E-04	2,52E-04
282	7,09E-05	9,65E-05	2,94E-05	6,57E-04	2,65E-04
283	7,72E-05	8,32E-05	3,65E-05	7,19E-04	2,53E-04
284	7,80E-05	7,38E-05	3,27E-05	6,20E-04	2,52E-04
285	6,70E-05	8,96E-05	4,34E-05	6,50E-04	2,52E-04
286	7,09E-05	9,56E-05	3,29E-05	6,97E-04	2,59E-04
287	7,31E-05	1,10E-04	4,13E-05	6,23E-04	2,58E-04
288	5,86E-05	9,04E-05	3,20E-05	7,22E-04	2,58E-04
289	8,13E-05	1,07E-04	2,75E-05	5,79E-04	2,54E-04
290	6,90E-05	8,82E-05	4,71E-05	6,37E-04	2,49E-04
291	7,88E-05	1,04E-04	3,98E-05	6,70E-04	2,52E-04
292	7,44E-05	8,66E-05	3,27E-05	6,64E-04	2,56E-04
293	6,88E-05	1,01E-04	3,10E-05	6,25E-04	2,53E-04
294	6,18E-05	1,04E-04	3,50E-05	6,12E-04	2,50E-04
295	6,84E-05	9,75E-05	4,77E-05	5,99E-04	2,58E-04
296	7,28E-05	1,01E-04	3,85E-05	6,19E-04	2,55E-04
297	6,94E-05	1,00E-04	3,59E-05	6,66E-04	2,61E-04
298	6,98E-05	9,16E-05	3,25E-05	6,03E-04	2,62E-04
299	6,19E-05	9,65E-05	3,78E-05	5,63E-04	2,64E-04
300	5,70E-05	9,48E-05	2,86E-05	6,41E-04	2,58E-04
301	7,51E-05	1,00E-04	4,74E-05	6,74E-04	2,58E-04
302	7,23E-05	8,46E-05	3,97E-05	6,51E-04	2,51E-04
303	6,57E-05	9,55E-05	3,14E-05	6,40E-04	2,53E-04
304	6,43E-05	8,71E-05	4,98E-05	7,38E-04	2,51E-04
305	6,32E-05	8,20E-05	3,88E-05	6,53E-04	2,47E-04
306	7,36E-05	9,63E-05	4,09E-05	6,13E-04	2,57E-04
307	7,21E-05	7,12E-05	2,76E-05	6,17E-04	2,63E-04
308	7,14E-05	1,11E-04	2,76E-05	6,40E-04	2,54E-04
309	6,76E-05	1,25E-04	3,44E-05	6,45E-04	2,50E-04
310	6,48E-05	9,40E-05	3,38E-05	6,04E-04	2,57E-04
311	7,35E-05	9,72E-05	3,19E-05	5,51E-04	2,59E-04
312	6,22E-05	8,85E-05	5,53E-05	6,60E-04	2,50E-04
313	6,72E-05	9,04E-05	3,52E-05	6,13E-04	2,58E-04
314	7,80E-05	8,08E-05	2,99E-05	6,61E-04	2,55E-04
315	7,37E-05	7,83E-05	4,88E-05	6,36E-04	2,51E-04
316	6,14E-05	9,17E-05	3,63E-05	6,01E-04	2,60E-04
317	6,76E-05	8,19E-05	2,85E-05	6,60E-04	2,56E-04
318	6,04E-05	7,11E-05	3,30E-05	6,14E-04	2,57E-04
319	6,66E-05	7,16E-05	3,85E-05	6,89E-04	2,58E-04

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel ségrégué - Non lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
274	1,98E-05	1,79E-05	2,02E-05	1,05E-04	1,94E-05
275	2,45E-05	1,55E-05	1,71E-05	5,51E-05	2,01E-05
276	2,24E-05	2,53E-05	2,03E-05	1,78E-05	2,35E-05
277	1,90E-05	2,02E-05	2,00E-05	6,25E-05	1,98E-05
278	2,15E-05	1,71E-05	1,65E-05	9,09E-05	1,96E-05
279	2,09E-05	1,19E-05	1,94E-05	5,16E-05	1,70E-05
280	1,78E-05	1,70E-05	1,77E-05	1,37E-04	1,80E-05
281	1,84E-05	2,38E-05	1,91E-05	3,77E-05	2,09E-05
282	2,02E-05	1,25E-05	1,66E-05	1,28E-04	1,70E-05
283	2,15E-05	1,38E-05	1,77E-05	1,89E-05	1,78E-05
284	1,67E-05	1,87E-05	1,74E-05	1,34E-04	1,82E-05
285	1,99E-05	1,74E-05	1,58E-05	1,20E-04	1,90E-05
286	1,62E-05	1,68E-05	2,06E-05	6,24E-05	1,71E-05
287	1,78E-05	1,95E-05	1,78E-05	7,20E-05	1,88E-05
288	1,87E-05	1,74E-05	1,57E-05	6,11E-05	1,81E-05
289	1,79E-05	1,32E-05	1,93E-05	5,01E-05	1,61E-05
290	2,04E-05	1,63E-05	1,64E-05	1,21E-04	1,88E-05
291	2,05E-05	1,75E-05	1,60E-05	1,00E-04	1,92E-05
292	1,74E-05	1,87E-05	1,79E-05	5,58E-05	1,82E-05
293	2,07E-05	1,74E-05	1,73E-05	6,45E-05	1,92E-05
294	1,75E-05	1,91E-05	1,95E-05	8,75E-05	1,87E-05
295	2,15E-05	1,83E-05	1,64E-05	4,24E-05	1,98E-05
296	1,95E-05	2,15E-05	2,27E-05	8,92E-05	2,10E-05
297	1,97E-05	1,49E-05	1,71E-05	1,39E-04	1,79E-05
298	2,15E-05	1,93E-05	1,63E-05	1,25E-04	2,07E-05
299	1,81E-05	1,65E-05	1,69E-05	9,96E-05	1,77E-05
300	2,21E-05	2,07E-05	1,71E-05	1,19E-04	2,16E-05
301	1,91E-05	1,77E-05	1,69E-05	4,49E-05	1,84E-05
302	1,89E-05	1,65E-05	1,76E-05	6,18E-05	1,80E-05
303	2,07E-05	1,50E-05	1,49E-05	9,21E-05	1,81E-05
304	2,12E-05	1,27E-05	1,92E-05	5,71E-05	1,74E-05
305	1,95E-05	1,67E-05	1,79E-05	2,60E-05	1,82E-05
306	2,12E-05	1,82E-05	1,83E-05	6,82E-05	1,99E-05
307	1,81E-05	2,08E-05	1,81E-05	2,99E-04	2,06E-05
308	2,28E-05	1,93E-05	1,66E-05	9,46E-05	2,11E-05
309	1,83E-05	1,86E-05	1,68E-05	2,87E-05	1,83E-05
310	2,02E-05	2,85E-05	1,75E-05	2,00E-04	2,45E-05
311	1,95E-05	1,81E-05	1,71E-05	7,15E-05	1,89E-05
312	1,79E-05	1,39E-05	1,81E-05	1,78E-04	1,69E-05
313	1,61E-05	2,32E-05	1,64E-05	7,43E-05	1,95E-05
314	1,68E-05	1,33E-05	1,65E-05	3,80E-05	1,53E-05
315	1,88E-05	1,83E-05	1,64E-05	7,40E-05	1,87E-05
316	1,96E-05	1,74E-05	1,66E-05	8,77E-05	1,87E-05
317	2,00E-05	1,46E-05	1,66E-05	3,01E-05	1,74E-05
318	1,91E-05	1,45E-05	2,07E-05	6,37E-05	1,74E-05
319	1,77E-05	2,24E-05	2,32E-05	2,51E-05	2,02E-05

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel ségrégué - Lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
274	2,78E-04	4,32E-04	1,30E-04	2,33E-03	8,91E-04
275	2,80E-04	4,31E-04	1,43E-04	2,27E-03	8,76E-04
276	2,41E-04	4,90E-04	1,18E-04	2,22E-03	8,66E-04
277	3,10E-04	4,30E-04	1,76E-04	2,24E-03	8,81E-04
278	2,70E-04	3,96E-04	1,18E-04	2,19E-03	8,37E-04
279	2,78E-04	4,25E-04	1,11E-04	2,25E-03	8,65E-04
280	2,68E-04	4,09E-04	1,54E-04	2,25E-03	8,60E-04
281	2,55E-04	3,68E-04	1,46E-04	2,29E-03	8,55E-04
282	2,96E-04	4,80E-04	1,44E-04	2,32E-03	9,13E-04
283	2,63E-04	4,24E-04	1,09E-04	2,28E-03	8,69E-04
284	2,89E-04	3,91E-04	1,20E-04	2,26E-03	8,64E-04
285	2,60E-04	3,93E-04	1,40E-04	2,29E-03	8,62E-04
286	2,83E-04	4,21E-04	1,77E-04	2,32E-03	8,90E-04
287	2,85E-04	4,21E-04	9,62E-05	2,31E-03	8,84E-04
288	2,79E-04	4,78E-04	1,26E-04	2,25E-03	8,85E-04
289	2,91E-04	3,75E-04	1,66E-04	2,31E-03	8,76E-04
290	2,72E-04	4,20E-04	1,26E-04	2,21E-03	8,52E-04
291	2,75E-04	4,27E-04	1,11E-04	2,24E-03	8,62E-04
292	2,85E-04	4,70E-04	1,33E-04	2,22E-03	8,77E-04
293	2,60E-04	4,21E-04	1,09E-04	2,27E-03	8,63E-04
294	2,96E-04	4,16E-04	1,17E-04	2,20E-03	8,55E-04
295	2,91E-04	4,01E-04	9,18E-05	2,32E-03	8,82E-04
296	2,68E-04	4,34E-04	1,63E-04	2,24E-03	8,65E-04
297	2,74E-04	4,51E-04	1,79E-04	2,32E-03	8,96E-04
298	3,05E-04	4,59E-04	1,52E-04	2,27E-03	8,94E-04
299	3,15E-04	4,67E-04	1,58E-04	2,29E-03	9,06E-04
300	3,17E-04	4,13E-04	1,13E-04	2,25E-03	8,75E-04
301	2,89E-04	3,65E-04	1,78E-04	2,36E-03	8,86E-04
302	2,64E-04	4,01E-04	1,87E-04	2,26E-03	8,61E-04
303	2,71E-04	3,93E-04	1,30E-04	2,29E-03	8,66E-04
304	2,80E-04	3,79E-04	1,70E-04	2,27E-03	8,62E-04
305	2,81E-04	4,02E-04	1,48E-04	2,19E-03	8,47E-04
306	3,05E-04	3,89E-04	1,26E-04	2,30E-03	8,79E-04
307	2,98E-04	4,43E-04	1,28E-04	2,31E-03	8,96E-04
308	2,85E-04	3,78E-04	9,61E-05	2,28E-03	8,62E-04
309	2,89E-04	3,71E-04	8,02E-05	2,27E-03	8,57E-04
310	2,86E-04	4,27E-04	9,87E-05	2,23E-03	8,64E-04
311	2,84E-04	4,67E-04	1,73E-04	2,25E-03	8,85E-04
312	2,83E-04	4,13E-04	1,38E-04	2,22E-03	8,58E-04
313	2,85E-04	4,25E-04	1,72E-04	2,28E-03	8,80E-04
314	2,73E-04	4,06E-04	1,65E-04	2,32E-03	8,82E-04
315	2,67E-04	4,35E-04	2,49E-04	2,20E-03	8,59E-04
316	2,87E-04	4,36E-04	1,61E-04	2,30E-03	8,89E-04
317	2,76E-04	3,81E-04	1,79E-04	2,33E-03	8,79E-04
318	2,75E-04	4,09E-04	1,34E-04	2,32E-03	8,82E-04
319	2,94E-04	4,24E-04	1,56E-04	2,27E-03	8,81E-04

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel non ségrégué - Lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
320	5,76E-05	9,18E-05	4,87E-05	6,18E-04	2,60E-04
321	6,75E-05	9,59E-05	3,87E-05	6,54E-04	2,49E-04
322	6,33E-05	8,10E-05	4,32E-05	6,93E-04	2,52E-04
323	8,26E-05	7,05E-05	2,67E-05	6,45E-04	2,51E-04
324	7,34E-05	9,78E-05	4,28E-05	6,72E-04	2,61E-04
325	7,82E-05	8,90E-05	3,39E-05	6,64E-04	2,46E-04
326	7,34E-05	1,08E-04	3,46E-05	6,75E-04	2,52E-04
327	6,97E-05	1,13E-04	3,45E-05	6,67E-04	2,51E-04
328	6,81E-05	9,79E-05	5,07E-05	7,08E-04	2,55E-04
329	7,38E-05	7,76E-05	3,78E-05	6,53E-04	2,56E-04
330	6,96E-05	8,32E-05	3,61E-05	6,60E-04	2,54E-04
331	6,31E-05	7,53E-05	3,88E-05	6,23E-04	2,64E-04
332	6,30E-05	7,92E-05	3,09E-05	6,67E-04	2,59E-04
333	8,23E-05	8,53E-05	3,17E-05	6,30E-04	2,58E-04
334	6,37E-05	8,28E-05	3,58E-05	6,41E-04	2,62E-04
335	6,92E-05	8,20E-05	4,19E-05	6,26E-04	2,56E-04
336	5,89E-05	1,11E-04	3,68E-05	5,97E-04	2,58E-04
337	6,29E-05	1,12E-04	4,31E-05	6,09E-04	2,52E-04
338	6,55E-05	1,06E-04	2,81E-05	5,87E-04	2,50E-04
339	7,89E-05	1,03E-04	4,63E-05	6,52E-04	2,58E-04
340	7,23E-05	9,63E-05	4,19E-05	6,56E-04	2,53E-04
341	6,94E-05	7,91E-05	3,17E-05	6,44E-04	2,55E-04
342	6,58E-05	9,53E-05	3,05E-05	6,42E-04	2,42E-04
343	6,60E-05	9,92E-05	3,49E-05	6,49E-04	2,60E-04
344	6,77E-05	1,04E-04	4,64E-05	6,79E-04	2,49E-04
345	6,61E-05	9,70E-05	4,55E-05	6,40E-04	2,59E-04
346	6,88E-05	1,06E-04	4,13E-05	6,50E-04	2,52E-04
347	7,25E-05	8,01E-05	4,33E-05	6,15E-04	2,60E-04
348	7,37E-05	1,05E-04	2,45E-05	6,24E-04	2,56E-04
349	7,44E-05	8,12E-05	3,12E-05	6,67E-04	2,61E-04
350	6,51E-05	7,39E-05	4,00E-05	7,17E-04	2,53E-04
351	6,75E-05	8,24E-05	3,19E-05	7,18E-04	2,58E-04
352	6,75E-05	7,52E-05	3,87E-05	6,55E-04	2,56E-04
353	7,24E-05	9,71E-05	3,85E-05	6,34E-04	2,49E-04
354	8,30E-05	1,19E-04	3,83E-05	7,06E-04	2,54E-04
355	7,05E-05	9,73E-05	3,78E-05	6,14E-04	2,53E-04
356	6,42E-05	7,62E-05	3,26E-05	6,12E-04	2,58E-04
357	6,87E-05	9,75E-05	4,78E-05	5,75E-04	2,59E-04
358	6,15E-05	1,06E-04	4,03E-05	7,30E-04	2,56E-04
359	7,43E-05	7,32E-05	3,11E-05	6,58E-04	2,51E-04
360	6,34E-05	1,01E-04	3,21E-05	6,30E-04	2,57E-04
361	6,73E-05	1,13E-04	4,05E-05	6,50E-04	2,55E-04
362	6,28E-05	8,99E-05	4,36E-05	6,24E-04	2,55E-04
363	6,51E-05	8,45E-05	3,07E-05	6,80E-04	2,54E-04
364	6,50E-05	9,95E-05	2,56E-05	7,08E-04	2,63E-04
365	6,99E-05	1,02E-04	3,32E-05	6,40E-04	2,55E-04

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel ségrégué - Non lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
320	1,87E-05	2,23E-05	1,83E-05	1,83E-04	2,10E-05
321	2,12E-05	1,90E-05	2,11E-05	3,04E-05	2,03E-05
322	1,80E-05	2,58E-05	1,64E-05	4,21E-05	2,14E-05
323	2,15E-05	1,55E-05	1,78E-05	2,74E-05	1,86E-05
324	2,01E-05	1,83E-05	1,75E-05	6,53E-05	1,94E-05
325	1,86E-05	1,57E-05	1,73E-05	7,25E-05	1,75E-05
326	1,87E-05	1,86E-05	1,84E-05	2,32E-04	1,97E-05
327	1,86E-05	1,19E-05	2,14E-05	7,89E-05	1,62E-05
328	1,71E-05	1,75E-05	1,84E-05	7,57E-05	1,77E-05
329	1,77E-05	1,62E-05	1,68E-05	6,72E-05	1,72E-05
330	1,84E-05	1,83E-05	1,65E-05	7,84E-05	1,85E-05
331	1,96E-05	1,70E-05	1,73E-05	1,82E-04	1,90E-05
332	1,64E-05	1,99E-05	1,72E-05	1,01E-04	1,84E-05
333	2,11E-05	1,89E-05	1,53E-05	2,38E-05	1,97E-05
334	2,00E-05	2,05E-05	1,64E-05	7,17E-05	2,02E-05
335	1,79E-05	2,32E-05	1,54E-05	6,89E-05	2,03E-05
336	1,73E-05	2,61E-05	1,57E-05	3,03E-05	2,11E-05
337	1,96E-05	2,14E-05	1,66E-05	4,96E-05	2,03E-05
338	2,01E-05	3,02E-05	1,85E-05	5,36E-05	2,46E-05
339	1,99E-05	1,72E-05	2,11E-05	1,91E-05	1,88E-05
340	1,96E-05	1,21E-05	1,68E-05	9,38E-05	1,64E-05
341	2,00E-05	1,84E-05	1,81E-05	1,76E-04	1,99E-05
342	1,85E-05	1,42E-05	2,23E-05	4,67E-05	1,70E-05
343	2,04E-05	1,81E-05	1,82E-05	1,22E-04	1,97E-05
344	1,95E-05	1,77E-05	1,60E-05	6,77E-05	1,86E-05
345	2,21E-05	2,37E-05	1,62E-05	6,49E-05	2,26E-05
346	1,83E-05	2,46E-05	1,60E-05	1,43E-04	2,15E-05
347	2,11E-05	2,33E-05	1,67E-05	1,42E-05	2,17E-05
348	2,12E-05	1,70E-05	1,60E-05	1,22E-04	1,95E-05
349	1,91E-05	1,65E-05	1,67E-05	7,38E-05	1,80E-05
350	2,02E-05	2,53E-05	1,87E-05	8,46E-05	2,27E-05
351	1,99E-05	2,01E-05	1,81E-05	7,47E-05	2,01E-05
352	1,91E-05	2,22E-05	1,72E-05	1,52E-04	2,09E-05
353	1,98E-05	1,45E-05	2,05E-05	1,92E-05	1,75E-05
354	2,19E-05	1,85E-05	1,70E-05	3,95E-05	2,01E-05
355	1,98E-05	1,93E-05	1,65E-05	2,97E-05	1,94E-05
356	2,11E-05	1,69E-05	1,69E-05	1,18E-04	1,94E-05
357	2,04E-05	2,11E-05	1,66E-05	1,14E-04	2,09E-05
358	1,93E-05	1,61E-05	1,65E-05	1,17E-04	1,81E-05
359	1,75E-05	1,92E-05	1,69E-05	1,23E-04	1,87E-05
360	1,96E-05	2,71E-05	1,85E-05	8,74E-05	2,32E-05
361	1,73E-05	1,44E-05	1,61E-05	2,95E-05	1,60E-05
362	1,98E-05	1,84E-05	1,72E-05	1,94E-05	1,90E-05
363	1,88E-05	1,63E-05	1,79E-05	9,15E-05	1,80E-05
364	1,82E-05	1,31E-05	1,67E-05	1,79E-04	1,66E-05
365	2,35E-05	1,71E-05	1,67E-05	9,58E-05	2,05E-05

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel ségrégué - Lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
320	2,83E-04	4,42E-04	1,03E-04	2,29E-03	8,84E-04
321	2,93E-04	3,99E-04	1,22E-04	2,19E-03	8,46E-04
322	2,64E-04	4,17E-04	1,37E-04	2,22E-03	8,53E-04
323	2,71E-04	4,31E-04	8,87E-05	2,23E-03	8,59E-04
324	2,82E-04	4,33E-04	1,70E-04	2,32E-03	8,94E-04
325	2,84E-04	4,29E-04	1,15E-04	2,16E-03	8,44E-04
326	2,75E-04	4,30E-04	1,83E-04	2,21E-03	8,60E-04
327	2,89E-04	4,31E-04	1,19E-04	2,22E-03	8,64E-04
328	2,64E-04	3,77E-04	1,22E-04	2,35E-03	8,75E-04
329	2,80E-04	4,24E-04	1,10E-04	2,29E-03	8,79E-04
330	2,85E-04	4,16E-04	1,38E-04	2,26E-03	8,71E-04
331	3,06E-04	4,69E-04	1,28E-04	2,30E-03	9,06E-04
332	3,00E-04	4,74E-04	9,43E-05	2,25E-03	8,89E-04
333	2,74E-04	4,19E-04	1,75E-04	2,30E-03	8,80E-04
334	2,96E-04	4,48E-04	1,67E-04	2,29E-03	8,94E-04
335	2,83E-04	4,61E-04	1,41E-04	2,22E-03	8,72E-04
336	3,06E-04	4,07E-04	1,32E-04	2,26E-03	8,76E-04
337	2,88E-04	3,60E-04	1,61E-04	2,27E-03	8,58E-04
338	2,75E-04	4,20E-04	1,23E-04	2,16E-03	8,40E-04
339	2,83E-04	4,31E-04	1,83E-04	2,28E-03	8,83E-04
340	2,92E-04	4,27E-04	9,79E-05	2,25E-03	8,71E-04
341	2,86E-04	3,88E-04	1,33E-04	2,28E-03	8,68E-04
342	2,58E-04	3,66E-04	1,07E-04	2,22E-03	8,31E-04
343	2,81E-04	4,12E-04	1,74E-04	2,32E-03	8,86E-04
344	2,91E-04	3,98E-04	1,38E-04	2,20E-03	8,51E-04
345	2,76E-04	4,07E-04	1,67E-04	2,29E-03	8,76E-04
346	2,53E-04	4,12E-04	1,25E-04	2,25E-03	8,54E-04
347	2,81E-04	4,65E-04	2,05E-04	2,24E-03	8,84E-04
348	2,90E-04	4,01E-04	2,22E-04	2,26E-03	8,74E-04
349	3,00E-04	4,63E-04	1,40E-04	2,28E-03	8,95E-04
350	2,83E-04	3,56E-04	1,39E-04	2,27E-03	8,54E-04
351	2,87E-04	4,11E-04	8,96E-05	2,31E-03	8,80E-04
352	2,82E-04	3,93E-04	2,02E-04	2,27E-03	8,69E-04
353	3,03E-04	4,01E-04	1,62E-04	2,19E-03	8,53E-04
354	2,49E-04	4,43E-04	1,53E-04	2,25E-03	8,65E-04
355	2,86E-04	3,86E-04	1,17E-04	2,27E-03	8,63E-04
356	2,83E-04	4,63E-04	1,29E-04	2,25E-03	8,82E-04
357	2,79E-04	4,09E-04	1,05E-04	2,32E-03	8,82E-04
358	2,68E-04	4,23E-04	1,21E-04	2,31E-03	8,79E-04
359	2,89E-04	3,98E-04	1,29E-04	2,23E-03	8,56E-04
360	2,86E-04	3,93E-04	1,50E-04	2,27E-03	8,67E-04
361	2,85E-04	4,24E-04	1,51E-04	2,28E-03	8,79E-04
362	2,82E-04	4,22E-04	1,42E-04	2,26E-03	8,72E-04
363	2,81E-04	4,23E-04	1,94E-04	2,24E-03	8,69E-04
364	2,77E-04	5,19E-04	1,61E-04	2,28E-03	9,07E-04
365	2,97E-04	4,11E-04	1,51E-04	2,24E-03	8,68E-04

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel non ségrégué - Lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
366	7,91E-05	9,58E-05	3,37E-05	6,68E-04	2,50E-04
367	6,33E-05	7,46E-05	3,63E-05	6,59E-04	2,56E-04
368	6,15E-05	1,13E-04	3,58E-05	7,01E-04	2,55E-04
369	7,35E-05	9,25E-05	4,07E-05	6,68E-04	2,55E-04
370	6,93E-05	7,67E-05	4,44E-05	5,88E-04	2,55E-04
371	6,26E-05	1,03E-04	2,86E-05	5,44E-04	2,53E-04
372	6,64E-05	8,54E-05	3,61E-05	6,54E-04	2,64E-04
373	7,08E-05	8,49E-05	2,66E-05	5,89E-04	2,59E-04
374	7,36E-05	9,37E-05	3,98E-05	6,90E-04	2,49E-04
375	7,54E-05	1,24E-04	2,79E-05	5,76E-04	2,59E-04
376	8,10E-05	9,57E-05	3,87E-05	6,58E-04	2,55E-04
377	6,58E-05	9,69E-05	2,75E-05	6,35E-04	2,42E-04
378	7,41E-05	7,32E-05	3,82E-05	6,82E-04	2,49E-04
379	7,08E-05	8,37E-05	2,93E-05	6,61E-04	2,57E-04
380	6,45E-05	9,05E-05	4,18E-05	5,88E-04	2,56E-04
381	6,61E-05	9,44E-05	3,34E-05	6,29E-04	2,54E-04
382	6,80E-05	1,07E-04	4,75E-05	5,85E-04	2,50E-04
383	6,81E-05	8,94E-05	4,32E-05	6,21E-04	2,54E-04
384	6,99E-05	8,49E-05	4,07E-05	5,83E-04	2,56E-04
385	7,04E-05	7,91E-05	3,57E-05	6,62E-04	2,45E-04
386	6,46E-05	9,31E-05	3,81E-05	5,82E-04	2,62E-04
387	7,48E-05	8,93E-05	3,67E-05	6,19E-04	2,50E-04
388	6,92E-05	6,32E-05	3,10E-05	6,56E-04	2,55E-04
389	7,05E-05	5,66E-05	4,28E-05	6,64E-04	2,59E-04
390	6,24E-05	1,06E-04	4,20E-05	6,47E-04	2,48E-04
391	7,44E-05	9,42E-05	3,05E-05	6,67E-04	2,49E-04
392	6,61E-05	8,77E-05	5,06E-05	6,62E-04	2,62E-04
393	7,03E-05	5,98E-05	3,85E-05	6,24E-04	2,50E-04
394	6,72E-05	8,21E-05	4,43E-05	6,58E-04	2,59E-04
395	7,69E-05	7,60E-05	3,47E-05	6,49E-04	2,56E-04
396	6,85E-05	9,08E-05	4,25E-05	6,68E-04	2,62E-04
397	6,97E-05	7,55E-05	4,04E-05	6,95E-04	2,52E-04
398	7,81E-05	8,02E-05	4,35E-05	7,01E-04	2,57E-04
399	5,92E-05	8,68E-05	5,10E-05	6,58E-04	2,57E-04
400	7,15E-05	1,07E-04	3,43E-05	6,46E-04	2,52E-04
401	6,52E-05	6,51E-05	2,75E-05	7,24E-04	2,60E-04
402	7,01E-05	1,07E-04	3,66E-05	6,40E-04	2,56E-04
403	6,94E-05	8,88E-05	3,12E-05	6,45E-04	2,51E-04
404	7,43E-05	9,86E-05	3,60E-05	6,12E-04	2,60E-04
405	7,24E-05	9,40E-05	3,73E-05	5,59E-04	2,52E-04
406	7,10E-05	8,77E-05	4,07E-05	6,80E-04	2,47E-04
407	6,94E-05	7,98E-05	4,06E-05	5,85E-04	2,45E-04
408	6,84E-05	8,96E-05	3,52E-05	6,33E-04	2,65E-04
409	6,81E-05	6,67E-05	3,03E-05	6,31E-04	2,50E-04
410	6,99E-05	1,02E-04	4,03E-05	5,91E-04	2,54E-04
411	7,15E-05	8,46E-05	4,69E-05	6,36E-04	2,58E-04

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel ségrégué - Non lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
366	2,17E-05	1,95E-05	1,80E-05	4,01E-05	2,05E-05
367	1,66E-05	1,77E-05	1,54E-05	6,73E-05	1,72E-05
368	2,08E-05	1,56E-05	1,59E-05	8,66E-05	1,85E-05
369	1,85E-05	1,39E-05	1,87E-05	9,67E-05	1,69E-05
370	1,80E-05	1,68E-05	1,71E-05	5,13E-05	1,76E-05
371	1,98E-05	2,42E-05	1,70E-05	8,52E-05	2,18E-05
372	1,75E-05	2,14E-05	1,73E-05	7,19E-05	1,95E-05
373	1,79E-05	2,02E-05	1,91E-05	5,76E-05	1,92E-05
374	1,95E-05	1,57E-05	1,93E-05	1,21E-04	1,83E-05
375	2,01E-05	1,89E-05	1,84E-05	3,48E-05	1,95E-05
376	1,82E-05	1,91E-05	2,02E-05	1,13E-04	1,92E-05
377	1,88E-05	2,09E-05	1,61E-05	1,40E-04	2,01E-05
378	1,77E-05	2,02E-05	1,86E-05	4,33E-05	1,90E-05
379	1,88E-05	2,07E-05	1,64E-05	1,04E-04	1,98E-05
380	2,01E-05	1,26E-05	1,57E-05	8,83E-05	1,68E-05
381	1,84E-05	2,19E-05	2,05E-05	7,63E-05	2,04E-05
382	1,71E-05	1,78E-05	1,79E-05	4,39E-05	1,76E-05
383	1,85E-05	2,11E-05	1,93E-05	4,98E-05	1,99E-05
384	1,67E-05	1,27E-05	1,72E-05	5,08E-05	1,51E-05
385	1,70E-05	1,85E-05	1,65E-05	6,23E-05	1,79E-05
386	1,76E-05	2,88E-05	1,72E-05	6,16E-05	2,27E-05
387	1,95E-05	1,92E-05	1,78E-05	3,07E-05	1,93E-05
388	2,17E-05	2,01E-05	1,66E-05	3,37E-05	2,06E-05
389	2,06E-05	2,05E-05	1,76E-05	1,61E-04	2,10E-05
390	1,85E-05	1,74E-05	1,69E-05	8,08E-05	1,82E-05
391	1,85E-05	1,48E-05	1,57E-05	5,91E-05	1,69E-05
392	1,87E-05	1,85E-05	1,63E-05	9,05E-05	1,88E-05
393	1,87E-05	1,95E-05	1,83E-05	3,57E-05	1,91E-05
394	1,66E-05	1,82E-05	1,56E-05	6,72E-05	1,75E-05
395	1,82E-05	2,52E-05	1,68E-05	1,25E-04	2,17E-05
396	1,91E-05	2,21E-05	2,08E-05	9,07E-05	2,09E-05
397	1,80E-05	1,40E-05	1,79E-05	3,51E-05	1,63E-05
398	1,93E-05	2,23E-05	1,55E-05	2,19E-04	2,13E-05
399	1,90E-05	1,49E-05	1,65E-05	3,63E-05	1,71E-05
400	1,99E-05	1,52E-05	1,73E-05	8,66E-05	1,80E-05
401	1,99E-05	2,10E-05	1,76E-05	3,01E-05	2,03E-05
402	2,00E-05	1,94E-05	1,60E-05	3,32E-05	1,95E-05
403	1,87E-05	1,72E-05	1,62E-05	1,58E-05	1,78E-05
404	2,09E-05	2,11E-05	1,61E-05	4,45E-05	2,08E-05
405	1,73E-05	1,71E-05	1,65E-05	2,42E-05	1,72E-05
406	1,68E-05	1,74E-05	1,61E-05	6,24E-05	1,72E-05
407	1,66E-05	1,88E-05	2,13E-05	1,18E-04	1,84E-05
408	2,22E-05	1,74E-05	1,70E-05	4,06E-05	1,98E-05
409	1,95E-05	2,04E-05	1,81E-05	7,46E-05	2,01E-05
410	1,98E-05	1,85E-05	1,68E-05	3,33E-05	1,91E-05
411	2,00E-05	1,31E-05	1,95E-05	1,22E-04	1,74E-05

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel ségrégué - Lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
366	2,82E-04	4,10E-04	1,09E-04	2,20E-03	8,49E-04
367	2,83E-04	4,43E-04	1,45E-04	2,27E-03	8,81E-04
368	2,89E-04	4,33E-04	1,40E-04	2,24E-03	8,73E-04
369	3,07E-04	3,92E-04	1,37E-04	2,28E-03	8,77E-04
370	2,81E-04	4,12E-04	1,28E-04	2,29E-03	8,76E-04
371	2,96E-04	3,73E-04	1,03E-04	2,26E-03	8,57E-04
372	2,91E-04	4,56E-04	1,93E-04	2,32E-03	9,04E-04
373	2,81E-04	4,57E-04	1,41E-04	2,27E-03	8,86E-04
374	2,76E-04	3,95E-04	1,17E-04	2,23E-03	8,51E-04
375	2,85E-04	4,79E-04	1,34E-04	2,24E-03	8,86E-04
376	2,89E-04	3,97E-04	1,16E-04	2,28E-03	8,71E-04
377	2,53E-04	3,75E-04	1,98E-04	2,16E-03	8,22E-04
378	2,66E-04	3,77E-04	1,02E-04	2,27E-03	8,51E-04
379	2,87E-04	4,30E-04	1,46E-04	2,27E-03	8,78E-04
380	2,75E-04	4,32E-04	1,59E-04	2,29E-03	8,80E-04
381	2,87E-04	4,37E-04	9,79E-05	2,22E-03	8,65E-04
382	2,92E-04	4,16E-04	1,48E-04	2,20E-03	8,58E-04
383	2,56E-04	4,26E-04	1,43E-04	2,26E-03	8,64E-04
384	3,03E-04	4,34E-04	1,22E-04	2,28E-03	8,87E-04
385	2,96E-04	3,88E-04	8,17E-05	2,17E-03	8,38E-04
386	2,79E-04	4,80E-04	1,25E-04	2,25E-03	8,86E-04
387	2,80E-04	3,72E-04	1,66E-04	2,25E-03	8,53E-04
388	2,74E-04	4,22E-04	1,29E-04	2,25E-03	8,66E-04
389	2,51E-04	3,95E-04	1,50E-04	2,37E-03	8,82E-04
390	2,79E-04	3,72E-04	1,39E-04	2,24E-03	8,48E-04
391	2,82E-04	3,88E-04	1,49E-04	2,23E-03	8,54E-04
392	3,08E-04	4,49E-04	1,42E-04	2,30E-03	8,99E-04
393	2,65E-04	3,75E-04	1,61E-04	2,27E-03	8,54E-04
394	2,84E-04	4,56E-04	1,40E-04	2,29E-03	8,90E-04
395	2,76E-04	4,19E-04	1,30E-04	2,26E-03	8,68E-04
396	2,76E-04	4,66E-04	1,30E-04	2,29E-03	8,91E-04
397	2,71E-04	3,82E-04	1,44E-04	2,31E-03	8,69E-04
398	2,76E-04	4,28E-04	1,07E-04	2,27E-03	8,72E-04
399	2,84E-04	3,65E-04	1,73E-04	2,36E-03	8,84E-04
400	2,61E-04	4,29E-04	1,58E-04	2,25E-03	8,65E-04
401	2,86E-04	4,33E-04	1,07E-04	2,30E-03	8,87E-04
402	2,76E-04	4,11E-04	9,48E-05	2,30E-03	8,75E-04
403	2,96E-04	4,49E-04	1,59E-04	2,17E-03	8,61E-04
404	2,94E-04	4,28E-04	1,16E-04	2,29E-03	8,84E-04
405	2,92E-04	4,30E-04	1,01E-04	2,23E-03	8,66E-04
406	2,90E-04	3,91E-04	1,12E-04	2,21E-03	8,48E-04
407	2,89E-04	3,88E-04	1,97E-04	2,16E-03	8,38E-04
408	2,80E-04	4,69E-04	1,31E-04	2,33E-03	9,05E-04
409	2,78E-04	3,89E-04	1,07E-04	2,23E-03	8,49E-04
410	2,81E-04	4,59E-04	1,41E-04	2,20E-03	8,67E-04
411	2,73E-04	4,43E-04	1,38E-04	2,30E-03	8,87E-04

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel non ségrégué - Lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
412	7,11E-05	8,59E-05	2,86E-05	7,02E-04	2,48E-04
413	7,31E-05	9,29E-05	3,98E-05	6,42E-04	2,55E-04
414	6,86E-05	8,29E-05	3,82E-05	6,78E-04	2,62E-04
415	6,46E-05	8,24E-05	2,48E-05	6,45E-04	2,52E-04
416	7,05E-05	1,04E-04	2,67E-05	6,34E-04	2,54E-04
417	7,52E-05	9,87E-05	3,82E-05	5,97E-04	2,57E-04
418	6,34E-05	7,92E-05	3,38E-05	6,78E-04	2,59E-04
419	7,52E-05	8,46E-05	3,73E-05	6,21E-04	2,52E-04
420	6,86E-05	8,53E-05	3,70E-05	6,45E-04	2,64E-04
421	8,51E-05	8,85E-05	2,51E-05	7,09E-04	2,53E-04
422	7,34E-05	8,95E-05	3,16E-05	6,11E-04	2,57E-04
423	6,91E-05	1,06E-04	4,43E-05	6,61E-04	2,54E-04
424	5,99E-05	9,16E-05	3,49E-05	6,71E-04	2,56E-04
425	7,25E-05	9,12E-05	4,26E-05	6,13E-04	2,56E-04
426	6,39E-05	8,96E-05	3,64E-05	6,81E-04	2,52E-04
427	6,99E-05	7,42E-05	4,02E-05	6,32E-04	2,60E-04
428	6,36E-05	8,97E-05	2,65E-05	6,04E-04	2,63E-04
429	5,35E-05	9,78E-05	3,87E-05	6,56E-04	2,49E-04
430	7,51E-05	9,79E-05	4,34E-05	6,96E-04	2,59E-04
431	8,09E-05	1,10E-04	3,72E-05	6,15E-04	2,53E-04
432	6,29E-05	8,90E-05	3,63E-05	6,94E-04	2,67E-04
433	6,00E-05	9,67E-05	4,12E-05	7,13E-04	2,55E-04
434	7,60E-05	8,77E-05	4,19E-05	6,89E-04	2,56E-04
435	7,02E-05	8,64E-05	3,46E-05	6,40E-04	2,64E-04
436	7,65E-05	1,14E-04	3,24E-05	6,14E-04	2,52E-04
437	6,97E-05	8,37E-05	5,18E-05	6,21E-04	2,54E-04
438	6,77E-05	8,74E-05	3,88E-05	6,88E-04	2,57E-04
439	6,80E-05	9,69E-05	4,24E-05	5,52E-04	2,51E-04
440	6,66E-05	7,35E-05	4,15E-05	6,75E-04	2,55E-04
441	7,36E-05	7,25E-05	3,82E-05	6,13E-04	2,53E-04
442	6,33E-05	8,81E-05	4,01E-05	7,13E-04	2,57E-04
443	6,32E-05	7,60E-05	4,45E-05	6,36E-04	2,54E-04
444	7,16E-05	8,37E-05	4,11E-05	5,88E-04	2,54E-04
445	6,82E-05	7,67E-05	4,30E-05	6,39E-04	2,64E-04
446	7,23E-05	8,78E-05	3,65E-05	6,10E-04	2,61E-04
447	7,47E-05	1,02E-04	3,43E-05	6,94E-04	2,63E-04
448	6,93E-05	9,39E-05	3,13E-05	6,18E-04	2,51E-04
449	6,74E-05	8,24E-05	3,76E-05	6,84E-04	2,52E-04
450	7,36E-05	9,66E-05	4,07E-05	5,92E-04	2,60E-04
451	7,15E-05	1,01E-04	5,27E-05	6,20E-04	2,55E-04
452	7,18E-05	1,15E-04	5,19E-05	6,82E-04	2,58E-04
453	7,18E-05	8,84E-05	3,50E-05	6,18E-04	2,63E-04
454	7,28E-05	1,08E-04	4,85E-05	6,43E-04	2,68E-04
455	6,85E-05	1,00E-04	4,45E-05	6,02E-04	2,56E-04
456	8,76E-05	9,44E-05	3,42E-05	6,92E-04	2,50E-04
457	6,54E-05	1,02E-04	3,53E-05	6,90E-04	2,52E-04

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel ségrégué - Non lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
412	1,71E-05	1,67E-05	1,63E-05	2,12E-05	1,69E-05
413	2,20E-05	1,70E-05	1,62E-05	2,72E-04	2,06E-05
414	1,84E-05	2,99E-05	1,63E-05	1,07E-04	2,37E-05
415	2,17E-05	2,04E-05	1,90E-05	2,59E-04	2,21E-05
416	1,78E-05	1,58E-05	1,53E-05	2,18E-05	1,67E-05
417	1,68E-05	2,13E-05	1,79E-05	1,03E-04	1,93E-05
418	2,15E-05	2,17E-05	1,53E-05	3,27E-05	2,12E-05
419	2,15E-05	1,54E-05	1,90E-05	1,09E-04	1,90E-05
420	1,94E-05	1,29E-05	1,66E-05	6,05E-05	1,65E-05
421	1,71E-05	1,37E-05	1,67E-05	1,67E-04	1,63E-05
422	1,92E-05	2,72E-05	1,62E-05	1,81E-05	2,25E-05
423	1,89E-05	2,12E-05	1,74E-05	4,59E-05	1,99E-05
424	1,91E-05	1,68E-05	1,99E-05	1,27E-04	1,87E-05
425	2,02E-05	1,90E-05	2,44E-05	3,46E-05	2,01E-05
426	1,82E-05	1,58E-05	1,68E-05	3,90E-05	1,71E-05
427	1,70E-05	1,83E-05	1,78E-05	4,16E-05	1,78E-05
428	2,17E-05	2,05E-05	1,78E-05	8,47E-05	2,12E-05
429	1,65E-05	1,44E-05	1,73E-05	1,11E-04	1,61E-05
430	1,83E-05	1,93E-05	1,70E-05	4,54E-05	1,88E-05
431	1,93E-05	2,04E-05	1,60E-05	1,18E-04	2,00E-05
432	2,12E-05	1,30E-05	1,84E-05	6,13E-05	1,76E-05
433	2,20E-05	1,67E-05	1,76E-05	8,82E-05	1,96E-05
434	2,04E-05	1,79E-05	1,61E-05	7,71E-05	1,93E-05
435	2,12E-05	3,40E-05	1,58E-05	7,77E-05	2,68E-05
436	1,96E-05	1,94E-05	2,05E-05	2,50E-05	1,96E-05
437	1,93E-05	2,13E-05	1,66E-05	1,38E-04	2,06E-05
438	1,92E-05	1,70E-05	1,69E-05	5,42E-05	1,82E-05
439	1,98E-05	2,16E-05	1,83E-05	2,84E-04	2,17E-05
440	1,77E-05	1,64E-05	1,53E-05	1,95E-05	1,70E-05
441	2,20E-05	2,48E-05	1,68E-05	7,06E-05	2,31E-05
442	2,01E-05	1,77E-05	1,68E-05	6,11E-05	1,90E-05
443	1,88E-05	1,86E-05	1,66E-05	1,33E-04	1,91E-05
444	2,16E-05	1,23E-05	1,60E-05	1,79E-04	1,79E-05
445	2,22E-05	2,22E-05	1,80E-05	2,44E-05	2,19E-05
446	2,08E-05	1,72E-05	1,80E-05	1,51E-04	1,96E-05
447	1,78E-05	1,75E-05	1,60E-05	8,81E-05	1,79E-05
448	2,04E-05	1,71E-05	2,03E-05	2,01E-05	1,89E-05
449	1,79E-05	1,71E-05	1,55E-05	7,66E-05	1,76E-05
450	1,99E-05	2,01E-05	1,69E-05	1,21E-04	2,03E-05
451	2,03E-05	1,24E-05	2,01E-05	2,28E-05	1,68E-05
452	1,77E-05	1,55E-05	1,66E-05	8,29E-05	1,70E-05
453	2,13E-05	2,21E-05	1,68E-05	6,32E-05	2,15E-05
454	1,84E-05	2,18E-05	2,09E-05	9,69E-05	2,05E-05
455	2,80E-05	1,94E-05	1,77E-05	4,28E-05	2,35E-05
456	1,77E-05	2,16E-05	2,11E-05	8,17E-05	2,00E-05
457	1,94E-05	1,41E-05	1,68E-05	5,57E-05	1,70E-05

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel ségrégué - Lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
412	2,71E-04	4,51E-04	1,28E-04	2,18E-03	8,53E-04
413	2,98E-04	4,11E-04	1,63E-04	2,24E-03	8,69E-04
414	2,82E-04	4,44E-04	2,18E-04	2,26E-03	8,83E-04
415	2,75E-04	4,24E-04	1,24E-04	2,20E-03	8,52E-04
416	2,70E-04	4,17E-04	1,82E-04	2,28E-03	8,75E-04
417	3,26E-04	4,34E-04	1,11E-04	2,22E-03	8,79E-04
418	2,68E-04	4,47E-04	1,17E-04	2,29E-03	8,82E-04
419	2,84E-04	3,80E-04	8,92E-05	2,28E-03	8,61E-04
420	3,01E-04	5,00E-04	1,44E-04	2,28E-03	9,09E-04
421	2,83E-04	4,30E-04	1,36E-04	2,26E-03	8,73E-04
422	2,98E-04	4,23E-04	1,27E-04	2,23E-03	8,69E-04
423	2,95E-04	4,26E-04	1,44E-04	2,22E-03	8,66E-04
424	2,74E-04	4,57E-04	1,50E-04	2,25E-03	8,77E-04
425	2,91E-04	4,23E-04	1,50E-04	2,25E-03	8,74E-04
426	3,01E-04	3,96E-04	1,10E-04	2,25E-03	8,66E-04
427	2,69E-04	4,71E-04	1,08E-04	2,31E-03	8,93E-04
428	2,90E-04	4,58E-04	1,63E-04	2,29E-03	8,96E-04
429	2,83E-04	3,88E-04	1,48E-04	2,24E-03	8,57E-04
430	2,84E-04	4,64E-04	1,27E-04	2,27E-03	8,88E-04
431	2,82E-04	3,98E-04	9,60E-05	2,26E-03	8,60E-04
432	2,97E-04	4,86E-04	1,17E-04	2,35E-03	9,19E-04
433	2,88E-04	3,85E-04	1,36E-04	2,29E-03	8,69E-04
434	2,72E-04	3,96E-04	8,88E-05	2,32E-03	8,73E-04
435	3,01E-04	4,61E-04	1,28E-04	2,24E-03	8,85E-04
436	2,80E-04	4,00E-04	1,16E-04	2,25E-03	8,59E-04
437	2,68E-04	3,93E-04	1,40E-04	2,29E-03	8,66E-04
438	2,79E-04	4,06E-04	1,40E-04	2,31E-03	8,80E-04
439	2,71E-04	4,02E-04	1,36E-04	2,22E-03	8,49E-04
440	3,11E-04	3,98E-04	1,02E-04	2,28E-03	8,77E-04
441	2,76E-04	4,09E-04	1,11E-04	2,23E-03	8,55E-04
442	2,88E-04	3,97E-04	1,37E-04	2,31E-03	8,79E-04
443	2,85E-04	4,24E-04	8,09E-05	2,26E-03	8,70E-04
444	2,93E-04	4,16E-04	1,63E-04	2,24E-03	8,70E-04
445	2,74E-04	4,46E-04	1,17E-04	2,34E-03	8,96E-04
446	2,88E-04	4,29E-04	1,43E-04	2,32E-03	8,93E-04
447	2,59E-04	4,60E-04	1,62E-04	2,36E-03	9,05E-04
448	2,48E-04	4,10E-04	1,27E-04	2,27E-03	8,57E-04
449	2,59E-04	4,18E-04	1,75E-04	2,25E-03	8,63E-04
450	2,66E-04	3,97E-04	1,94E-04	2,35E-03	8,85E-04
451	2,85E-04	4,28E-04	1,26E-04	2,28E-03	8,78E-04
452	2,93E-04	4,50E-04	1,42E-04	2,27E-03	8,87E-04
453	2,54E-04	4,52E-04	1,76E-04	2,34E-03	8,96E-04
454	2,93E-04	4,83E-04	1,02E-04	2,35E-03	9,16E-04
455	2,91E-04	3,87E-04	1,59E-04	2,26E-03	8,65E-04
456	2,63E-04	4,20E-04	1,23E-04	2,22E-03	8,52E-04
457	2,83E-04	4,39E-04	1,46E-04	2,22E-03	8,66E-04

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel non ségrégué - Lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
458	7,01E-05	1,12E-04	3,22E-05	6,84E-04	2,61E-04
459	7,01E-05	7,88E-05	2,82E-05	5,78E-04	2,53E-04
460	7,74E-05	8,67E-05	5,11E-05	6,61E-04	2,49E-04
461	7,40E-05	7,58E-05	3,55E-05	5,90E-04	2,55E-04
462	7,47E-05	9,49E-05	5,09E-05	5,90E-04	2,55E-04
463	6,92E-05	1,10E-04	4,52E-05	7,37E-04	2,59E-04
464	6,72E-05	9,02E-05	3,39E-05	6,91E-04	2,59E-04
465	6,86E-05	1,12E-04	3,48E-05	6,54E-04	2,52E-04
466	7,25E-05	9,20E-05	3,07E-05	6,69E-04	2,50E-04
467	8,73E-05	7,99E-05	2,95E-05	6,30E-04	2,53E-04
468	7,83E-05	8,64E-05	3,43E-05	6,70E-04	2,54E-04
469	8,52E-05	7,97E-05	3,31E-05	6,53E-04	2,63E-04
470	6,66E-05	9,62E-05	4,13E-05	7,06E-04	2,49E-04
471	6,71E-05	9,46E-05	4,72E-05	6,98E-04	2,50E-04
472	6,42E-05	9,61E-05	3,42E-05	5,92E-04	2,55E-04
473	7,06E-05	8,73E-05	3,53E-05	6,32E-04	2,48E-04
474	7,30E-05	8,18E-05	2,41E-05	6,23E-04	2,50E-04
475	7,00E-05	1,02E-04	4,21E-05	6,49E-04	2,61E-04
476	5,73E-05	1,01E-04	2,61E-05	5,91E-04	2,57E-04
477	7,27E-05	9,18E-05	3,67E-05	6,61E-04	2,58E-04
478	6,51E-05	6,61E-05	3,34E-05	6,28E-04	2,57E-04
479	7,01E-05	8,82E-05	3,47E-05	6,52E-04	2,56E-04
480	6,95E-05	9,86E-05	3,25E-05	5,88E-04	2,60E-04
481	6,90E-05	8,98E-05	3,53E-05	6,87E-04	2,55E-04
482	7,22E-05	9,29E-05	3,07E-05	6,81E-04	2,54E-04
483	6,76E-05	9,04E-05	3,71E-05	6,22E-04	2,60E-04
484	7,53E-05	9,99E-05	3,19E-05	6,13E-04	2,61E-04
485	6,96E-05	1,04E-04	4,13E-05	6,55E-04	2,53E-04
486	7,75E-05	7,60E-05	2,53E-05	6,46E-04	2,55E-04
487	6,69E-05	1,19E-04	3,61E-05	6,30E-04	2,58E-04
488	7,62E-05	7,79E-05	2,74E-05	6,39E-04	2,48E-04
489	6,36E-05	1,08E-04	2,99E-05	6,87E-04	2,56E-04
490	7,03E-05	8,15E-05	2,90E-05	6,99E-04	2,68E-04
491	7,62E-05	8,55E-05	3,73E-05	5,68E-04	2,51E-04
492	7,03E-05	8,72E-05	3,68E-05	6,32E-04	2,57E-04
493	8,48E-05	6,91E-05	3,63E-05	6,61E-04	2,49E-04
494	6,79E-05	9,46E-05	3,49E-05	6,36E-04	2,55E-04
495	6,83E-05	8,59E-05	4,93E-05	6,78E-04	2,68E-04
496	7,01E-05	9,18E-05	3,41E-05	6,40E-04	2,54E-04
497	7,09E-05	7,00E-05	3,91E-05	6,50E-04	2,60E-04
498	8,00E-05	1,17E-04	3,26E-05	6,48E-04	2,54E-04
499	7,05E-05	9,25E-05	3,69E-05	6,13E-04	2,57E-04
500	7,46E-05	8,37E-05	3,55E-05	6,52E-04	2,65E-04
501	8,16E-05	8,29E-05	3,32E-05	6,65E-04	2,58E-04
502	7,70E-05	9,61E-05	4,09E-05	6,40E-04	2,44E-04
503	7,33E-05	1,00E-04	3,10E-05	6,21E-04	2,57E-04

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel ségrégué - Non lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
458	1,75E-05	1,53E-05	1,65E-05	1,21E-04	1,70E-05
459	1,83E-05	1,55E-05	1,59E-05	4,49E-05	1,70E-05
460	1,68E-05	1,36E-05	1,71E-05	9,07E-05	1,58E-05
461	1,71E-05	2,10E-05	1,61E-05	1,28E-04	1,93E-05
462	1,70E-05	2,04E-05	1,65E-05	9,95E-05	1,89E-05
463	2,24E-05	2,84E-05	1,51E-05	1,84E-04	2,53E-05
464	2,25E-05	2,46E-05	1,92E-05	5,05E-05	2,33E-05
465	1,83E-05	1,29E-05	1,62E-05	2,53E-05	1,58E-05
466	1,82E-05	2,31E-05	1,75E-05	1,96E-05	2,03E-05
467	2,06E-05	1,63E-05	1,77E-05	1,93E-05	1,85E-05
468	1,91E-05	1,49E-05	1,75E-05	1,78E-04	1,79E-05
469	1,82E-05	1,31E-05	1,97E-05	6,11E-05	1,63E-05
470	1,85E-05	1,44E-05	1,69E-05	1,64E-04	1,73E-05
471	1,69E-05	2,46E-05	2,14E-05	1,56E-04	2,13E-05
472	2,44E-05	1,76E-05	1,64E-05	2,08E-04	2,17E-05
473	1,79E-05	1,82E-05	1,65E-05	7,40E-05	1,82E-05
474	1,71E-05	1,91E-05	1,59E-05	6,33E-05	1,81E-05
475	2,07E-05	1,39E-05	1,64E-05	1,90E-04	1,82E-05
476	1,97E-05	1,51E-05	1,76E-05	4,97E-05	1,77E-05
477	2,15E-05	2,15E-05	1,87E-05	2,71E-05	2,13E-05
478	1,84E-05	1,36E-05	1,73E-05	4,44E-04	1,82E-05
479	1,74E-05	3,18E-05	2,12E-05	8,54E-05	2,44E-05
480	1,83E-05	1,77E-05	1,68E-05	5,44E-05	1,81E-05
481	1,75E-05	1,61E-05	2,01E-05	5,83E-05	1,72E-05
482	1,84E-05	1,44E-05	1,72E-05	1,23E-05	1,65E-05
483	1,82E-05	1,65E-05	1,73E-05	7,52E-05	1,77E-05
484	2,02E-05	2,03E-05	1,77E-05	4,95E-05	2,02E-05
485	1,94E-05	1,66E-05	1,71E-05	1,10E-04	1,84E-05
486	1,79E-05	2,21E-05	1,67E-05	4,43E-05	1,98E-05
487	1,65E-05	1,72E-05	1,67E-05	4,48E-05	1,70E-05
488	1,84E-05	1,55E-05	2,68E-05	8,54E-05	1,81E-05
489	1,93E-05	1,93E-05	1,80E-05	1,09E-04	1,96E-05
490	2,32E-05	2,22E-05	1,59E-05	7,75E-05	2,25E-05
491	2,31E-05	1,82E-05	1,73E-05	1,96E-05	2,05E-05
492	2,02E-05	2,20E-05	1,96E-05	1,17E-04	2,14E-05
493	1,97E-05	2,56E-05	1,58E-05	4,15E-05	2,21E-05
494	1,71E-05	2,12E-05	1,60E-05	6,11E-05	1,90E-05
495	1,97E-05	2,33E-05	1,68E-05	9,95E-05	2,15E-05
496	1,68E-05	1,71E-05	1,73E-05	1,34E-04	1,75E-05
497	1,86E-05	1,75E-05	1,74E-05	2,94E-05	1,81E-05
498	1,91E-05	2,30E-05	1,73E-05	4,94E-05	2,08E-05
499	2,27E-05	2,76E-05	1,65E-05	4,01E-05	2,45E-05
500	1,90E-05	1,91E-05	1,65E-05	5,47E-05	1,90E-05
501	1,79E-05	2,15E-05	2,34E-05	7,87E-05	2,02E-05
502	1,75E-05	2,14E-05	1,77E-05	3,52E-05	1,93E-05
503	1,72E-05	2,51E-05	1,91E-05	3,77E-05	2,09E-05

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel ségrégué - Lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
458	3,14E-04	4,53E-04	1,42E-04	2,28E-03	8,97E-04
459	2,67E-04	3,93E-04	1,67E-04	2,30E-03	8,71E-04
460	2,90E-04	3,83E-04	1,41E-04	2,25E-03	8,60E-04
461	2,76E-04	4,05E-04	9,19E-05	2,30E-03	8,71E-04
462	2,65E-04	4,04E-04	1,11E-04	2,31E-03	8,71E-04
463	2,86E-04	4,29E-04	8,44E-05	2,25E-03	8,68E-04
464	2,84E-04	4,53E-04	1,07E-04	2,24E-03	8,75E-04
465	3,08E-04	4,35E-04	1,60E-04	2,20E-03	8,70E-04
466	2,92E-04	3,91E-04	1,62E-04	2,20E-03	8,50E-04
467	2,91E-04	3,55E-04	1,53E-04	2,31E-03	8,67E-04
468	2,89E-04	3,95E-04	1,04E-04	2,29E-03	8,70E-04
469	3,13E-04	4,66E-04	1,66E-04	2,29E-03	9,07E-04
470	2,70E-04	4,28E-04	1,52E-04	2,21E-03	8,56E-04
471	2,72E-04	4,37E-04	1,31E-04	2,17E-03	8,48E-04
472	2,97E-04	3,70E-04	1,58E-04	2,27E-03	8,64E-04
473	2,85E-04	3,91E-04	1,38E-04	2,21E-03	8,49E-04
474	2,66E-04	4,41E-04	1,19E-04	2,20E-03	8,55E-04
475	2,76E-04	4,56E-04	1,26E-04	2,32E-03	8,95E-04
476	2,60E-04	4,37E-04	9,55E-05	2,32E-03	8,83E-04
477	2,86E-04	3,83E-04	9,90E-05	2,32E-03	8,76E-04
478	2,83E-04	4,49E-04	1,30E-04	2,26E-03	8,80E-04
479	2,81E-04	4,02E-04	1,67E-04	2,25E-03	8,63E-04
480	2,76E-04	4,48E-04	1,35E-04	2,32E-03	8,94E-04
481	2,87E-04	4,51E-04	1,75E-04	2,23E-03	8,76E-04
482	2,80E-04	4,12E-04	1,30E-04	2,29E-03	8,75E-04
483	2,84E-04	4,59E-04	1,41E-04	2,30E-03	8,95E-04
484	2,89E-04	4,68E-04	1,23E-04	2,28E-03	8,92E-04
485	2,54E-04	4,01E-04	1,26E-04	2,31E-03	8,67E-04
486	2,69E-04	3,91E-04	2,03E-04	2,29E-03	8,71E-04
487	2,79E-04	4,33E-04	1,32E-04	2,31E-03	8,87E-04
488	2,66E-04	4,21E-04	1,24E-04	2,21E-03	8,50E-04
489	2,84E-04	4,11E-04	1,29E-04	2,28E-03	8,75E-04
490	3,00E-04	4,35E-04	1,25E-04	2,36E-03	9,09E-04
491	2,77E-04	4,14E-04	1,14E-04	2,22E-03	8,55E-04
492	2,79E-04	4,22E-04	1,17E-04	2,27E-03	8,73E-04
493	2,90E-04	3,84E-04	8,76E-05	2,20E-03	8,43E-04
494	2,79E-04	4,16E-04	2,02E-04	2,26E-03	8,73E-04
495	3,10E-04	4,81E-04	1,70E-04	2,30E-03	9,12E-04
496	2,68E-04	4,72E-04	1,06E-04	2,23E-03	8,72E-04
497	2,75E-04	4,27E-04	1,38E-04	2,34E-03	8,93E-04
498	2,82E-04	4,19E-04	1,44E-04	2,23E-03	8,64E-04
499	2,79E-04	4,11E-04	1,33E-04	2,25E-03	8,65E-04
500	3,10E-04	4,27E-04	1,20E-04	2,36E-03	9,08E-04
501	3,02E-04	4,20E-04	1,37E-04	2,27E-03	8,80E-04
502	2,68E-04	3,75E-04	1,65E-04	2,18E-03	8,31E-04
503	2,84E-04	4,30E-04	1,67E-04	2,25E-03	8,75E-04

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel non ségrégué - Lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
504	6,85E-05	7,26E-05	3,49E-05	6,31E-04	2,59E-04
505	7,02E-05	7,71E-05	4,46E-05	6,95E-04	2,64E-04
506	7,73E-05	1,17E-04	2,58E-05	6,32E-04	2,50E-04
507	7,01E-05	9,07E-05	2,69E-05	6,95E-04	2,61E-04
508	7,07E-05	1,03E-04	2,97E-05	6,86E-04	2,54E-04
509	6,55E-05	8,50E-05	4,46E-05	7,64E-04	2,49E-04
510	7,26E-05	8,57E-05	4,39E-05	6,15E-04	2,58E-04
511	7,58E-05	7,59E-05	4,50E-05	5,92E-04	2,57E-04
512	6,50E-05	6,11E-05	2,87E-05	5,88E-04	2,51E-04
513	7,75E-05	1,07E-04	2,67E-05	6,93E-04	2,56E-04
514	7,86E-05	9,70E-05	3,41E-05	6,47E-04	2,52E-04
515	6,85E-05	7,90E-05	3,73E-05	6,72E-04	2,55E-04
516	8,43E-05	8,43E-05	3,55E-05	6,09E-04	2,56E-04
517	5,75E-05	6,63E-05	4,60E-05	6,38E-04	2,54E-04
518	7,44E-05	9,24E-05	3,10E-05	7,03E-04	2,49E-04
519	6,38E-05	7,56E-05	3,32E-05	6,34E-04	2,60E-04
520	6,82E-05	9,32E-05	2,61E-05	6,86E-04	2,53E-04
521	6,87E-05	1,01E-04	2,65E-05	6,41E-04	2,51E-04
522	7,24E-05	1,02E-04	2,97E-05	6,58E-04	2,54E-04
523	7,37E-05	8,00E-05	3,50E-05	6,24E-04	2,56E-04
524	7,35E-05	8,90E-05	2,82E-05	6,47E-04	2,60E-04
525	7,70E-05	7,57E-05	3,75E-05	6,86E-04	2,57E-04
526	6,36E-05	8,35E-05	3,14E-05	6,42E-04	2,55E-04
527	6,01E-05	8,43E-05	3,73E-05	6,32E-04	2,59E-04
528	6,76E-05	1,08E-04	2,49E-05	5,81E-04	2,58E-04
529	6,48E-05	9,31E-05	5,04E-05	5,94E-04	2,62E-04
530	7,12E-05	9,78E-05	3,87E-05	6,86E-04	2,58E-04
531	6,87E-05	9,91E-05	4,04E-05	6,85E-04	2,51E-04
532	7,35E-05	9,77E-05	4,13E-05	6,19E-04	2,54E-04
533	7,28E-05	9,41E-05	3,63E-05	6,29E-04	2,60E-04
534	7,24E-05	1,18E-04	3,80E-05	6,22E-04	2,62E-04
535	7,89E-05	1,19E-04	3,10E-05	6,53E-04	2,49E-04
536	6,12E-05	1,11E-04	3,87E-05	6,87E-04	2,65E-04
537	6,92E-05	1,16E-04	2,99E-05	6,67E-04	2,59E-04
538	6,40E-05	9,74E-05	3,79E-05	6,09E-04	2,57E-04
539	7,63E-05	8,99E-05	3,07E-05	6,99E-04	2,56E-04
540	7,21E-05	9,52E-05	4,36E-05	6,13E-04	2,60E-04
541	7,55E-05	1,25E-04	3,63E-05	6,80E-04	2,61E-04
542	7,01E-05	6,82E-05	2,57E-05	7,00E-04	2,53E-04
543	7,65E-05	1,16E-04	4,46E-05	6,74E-04	2,54E-04
544	6,67E-05	1,10E-04	4,28E-05	6,49E-04	2,62E-04
545	6,85E-05	1,01E-04	3,54E-05	6,64E-04	2,48E-04
546	7,12E-05	9,96E-05	5,46E-05	6,51E-04	2,61E-04
547	6,58E-05	9,51E-05	3,00E-05	6,23E-04	2,66E-04
548	6,31E-05	9,97E-05	2,52E-05	5,92E-04	2,59E-04
549	8,06E-05	7,98E-05	3,88E-05	6,61E-04	2,61E-04

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel ségrégué - Non lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
504	1,81E-05	1,95E-05	1,89E-05	5,76E-05	1,90E-05
505	1,98E-05	2,36E-05	1,96E-05	1,62E-04	2,22E-05
506	1,87E-05	2,10E-05	1,65E-05	7,78E-05	1,98E-05
507	1,71E-05	1,98E-05	1,66E-05	1,55E-04	1,89E-05
508	2,20E-05	1,32E-05	1,66E-05	1,15E-04	1,82E-05
509	1,94E-05	1,55E-05	1,60E-05	8,97E-05	1,77E-05
510	1,96E-05	1,51E-05	1,87E-05	6,08E-05	1,78E-05
511	1,63E-05	2,34E-05	1,66E-05	1,31E-04	2,00E-05
512	2,09E-05	2,20E-05	2,05E-05	3,92E-05	2,14E-05
513	2,13E-05	2,26E-05	1,83E-05	2,22E-04	2,26E-05
514	1,82E-05	1,84E-05	1,69E-05	3,58E-05	1,83E-05
515	1,80E-05	1,46E-05	1,76E-05	4,32E-05	1,66E-05
516	1,86E-05	2,09E-05	2,15E-05	9,16E-05	2,02E-05
517	2,46E-05	1,28E-05	2,22E-05	6,94E-05	1,94E-05
518	2,31E-05	1,40E-05	1,73E-05	8,35E-05	1,90E-05
519	1,85E-05	1,88E-05	1,77E-05	2,68E-05	1,86E-05
520	1,86E-05	2,77E-05	1,86E-05	4,26E-05	2,27E-05
521	1,69E-05	1,73E-05	2,09E-05	5,46E-05	1,76E-05
522	2,06E-05	1,84E-05	1,66E-05	3,68E-05	1,94E-05
523	1,98E-05	1,41E-05	1,70E-05	2,91E-05	1,71E-05
524	1,92E-05	1,85E-05	1,64E-05	8,48E-05	1,90E-05
525	2,08E-05	1,82E-05	1,60E-05	8,06E-05	1,96E-05
526	1,82E-05	2,11E-05	1,64E-05	3,03E-05	1,94E-05
527	1,72E-05	2,53E-05	1,60E-05	7,45E-05	2,10E-05
528	2,46E-05	1,97E-05	1,75E-05	6,15E-05	2,21E-05
529	1,72E-05	1,96E-05	2,87E-05	9,49E-05	1,95E-05
530	1,60E-05	2,24E-05	2,07E-05	5,70E-05	1,94E-05
531	1,73E-05	2,05E-05	1,57E-05	3,81E-05	1,87E-05
532	1,86E-05	1,56E-05	1,80E-05	2,64E-05	1,73E-05
533	1,71E-05	1,37E-05	1,73E-05	7,39E-05	1,59E-05
534	1,79E-05	1,77E-05	1,62E-05	8,29E-05	1,80E-05
535	2,10E-05	2,03E-05	1,59E-05	4,04E-05	2,04E-05
536	1,97E-05	1,82E-05	1,77E-05	4,09E-05	1,90E-05
537	2,05E-05	2,23E-05	1,84E-05	3,38E-04	2,27E-05
538	2,07E-05	1,99E-05	1,61E-05	4,12E-05	2,01E-05
539	1,83E-05	1,69E-05	1,74E-05	7,99E-05	1,79E-05
540	1,74E-05	1,83E-05	1,70E-05	8,17E-05	1,80E-05
541	1,82E-05	1,69E-05	1,96E-05	3,20E-05	1,78E-05
542	1,81E-05	2,08E-05	1,59E-05	2,19E-04	2,01E-05
543	1,89E-05	1,60E-05	1,59E-05	4,45E-05	1,75E-05
544	2,23E-05	1,85E-05	2,01E-05	1,03E-04	2,09E-05
545	1,73E-05	1,98E-05	1,71E-05	2,62E-05	1,84E-05
546	2,06E-05	1,54E-05	1,98E-05	3,00E-05	1,83E-05
547	1,99E-05	1,54E-05	1,61E-05	2,65E-04	1,88E-05
548	1,87E-05	2,38E-05	1,90E-05	1,27E-04	2,15E-05
549	1,78E-05	2,63E-05	1,51E-05	6,49E-05	2,16E-05

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel ségrégué - Lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
504	3,05E-04	4,29E-04	1,22E-04	2,29E-03	8,88E-04
505	2,86E-04	4,36E-04	1,36E-04	2,33E-03	8,97E-04
506	2,89E-04	3,90E-04	1,10E-04	2,23E-03	8,53E-04
507	2,82E-04	4,06E-04	1,67E-04	2,35E-03	8,92E-04
508	2,47E-04	4,31E-04	1,76E-04	2,27E-03	8,69E-04
509	2,72E-04	4,42E-04	1,12E-04	2,20E-03	8,55E-04
510	2,78E-04	4,24E-04	1,43E-04	2,31E-03	8,86E-04
511	2,77E-04	4,51E-04	1,23E-04	2,25E-03	8,76E-04
512	2,74E-04	4,19E-04	1,01E-04	2,20E-03	8,49E-04
513	2,73E-04	4,44E-04	1,48E-04	2,22E-03	8,65E-04
514	2,84E-04	4,39E-04	1,41E-04	2,21E-03	8,64E-04
515	2,68E-04	4,25E-04	1,23E-04	2,30E-03	8,78E-04
516	3,01E-04	3,79E-04	1,35E-04	2,29E-03	8,71E-04
517	2,91E-04	3,60E-04	1,53E-04	2,29E-03	8,65E-04
518	2,75E-04	3,72E-04	1,87E-04	2,24E-03	8,50E-04
519	2,67E-04	4,24E-04	1,49E-04	2,34E-03	8,91E-04
520	2,75E-04	4,51E-04	1,34E-04	2,18E-03	8,56E-04
521	2,86E-04	4,22E-04	1,37E-04	2,22E-03	8,61E-04
522	2,93E-04	3,84E-04	1,51E-04	2,27E-03	8,67E-04
523	2,94E-04	4,45E-04	2,06E-04	2,24E-03	8,80E-04
524	2,92E-04	4,27E-04	1,69E-04	2,31E-03	8,91E-04
525	2,73E-04	3,78E-04	1,48E-04	2,35E-03	8,79E-04
526	2,96E-04	4,30E-04	1,50E-04	2,23E-03	8,71E-04
527	2,92E-04	4,39E-04	1,26E-04	2,26E-03	8,80E-04
528	2,71E-04	4,17E-04	1,09E-04	2,30E-03	8,75E-04
529	2,71E-04	4,61E-04	1,68E-04	2,31E-03	8,95E-04
530	2,70E-04	4,63E-04	1,57E-04	2,26E-03	8,81E-04
531	2,76E-04	3,73E-04	1,27E-04	2,28E-03	8,60E-04
532	2,74E-04	4,50E-04	9,57E-05	2,25E-03	8,73E-04
533	2,78E-04	4,78E-04	1,08E-04	2,31E-03	8,99E-04
534	2,87E-04	4,45E-04	1,12E-04	2,34E-03	9,01E-04
535	2,85E-04	4,03E-04	1,10E-04	2,19E-03	8,46E-04
536	2,76E-04	4,55E-04	1,48E-04	2,36E-03	9,09E-04
537	2,74E-04	4,29E-04	1,18E-04	2,29E-03	8,77E-04
538	2,83E-04	4,12E-04	9,68E-05	2,29E-03	8,75E-04
539	2,89E-04	3,96E-04	1,28E-04	2,30E-03	8,77E-04
540	2,93E-04	4,07E-04	1,24E-04	2,34E-03	8,91E-04
541	2,89E-04	4,30E-04	1,35E-04	2,33E-03	8,96E-04
542	2,74E-04	4,08E-04	1,16E-04	2,25E-03	8,60E-04
543	2,82E-04	4,01E-04	9,35E-05	2,30E-03	8,73E-04
544	2,81E-04	4,08E-04	1,28E-04	2,35E-03	8,90E-04
545	2,76E-04	4,03E-04	1,19E-04	2,21E-03	8,47E-04
546	2,92E-04	4,19E-04	1,67E-04	2,32E-03	8,94E-04
547	2,82E-04	4,93E-04	1,40E-04	2,32E-03	9,11E-04
548	3,07E-04	4,33E-04	1,03E-04	2,25E-03	8,79E-04
549	3,03E-04	4,76E-04	1,58E-04	2,23E-03	8,87E-04

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel non ségrégué - Lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
550	6,42E-05	9,60E-05	3,48E-05	6,21E-04	2,58E-04
551	7,87E-05	1,09E-04	3,88E-05	6,80E-04	2,51E-04
552	6,76E-05	8,79E-05	2,72E-05	6,81E-04	2,57E-04
553	6,72E-05	1,09E-04	3,08E-05	6,28E-04	2,65E-04
554	6,99E-05	1,19E-04	3,22E-05	5,87E-04	2,54E-04
555	7,39E-05	8,52E-05	4,06E-05	5,95E-04	2,56E-04
556	6,80E-05	8,90E-05	2,95E-05	7,46E-04	2,60E-04
557	7,33E-05	1,00E-04	3,18E-05	6,14E-04	2,55E-04
558	6,91E-05	9,14E-05	3,33E-05	6,43E-04	2,44E-04
559	6,58E-05	9,57E-05	3,17E-05	6,51E-04	2,46E-04
560	6,89E-05	1,11E-04	3,21E-05	6,40E-04	2,48E-04
561	6,52E-05	9,45E-05	2,98E-05	6,45E-04	2,56E-04
562	6,52E-05	9,44E-05	3,95E-05	5,78E-04	2,63E-04
563	7,38E-05	8,80E-05	3,05E-05	6,82E-04	2,57E-04
564	7,20E-05	1,06E-04	3,57E-05	6,00E-04	2,61E-04
565	7,38E-05	9,89E-05	3,68E-05	5,86E-04	2,47E-04
566	7,55E-05	7,78E-05	3,16E-05	6,94E-04	2,53E-04
567	7,14E-05	1,01E-04	3,51E-05	6,29E-04	2,54E-04
568	7,49E-05	1,06E-04	3,50E-05	6,69E-04	2,51E-04
569	7,76E-05	9,58E-05	4,07E-05	6,22E-04	2,53E-04
570	7,17E-05	8,73E-05	3,67E-05	6,39E-04	2,55E-04
571	6,77E-05	8,09E-05	4,57E-05	5,84E-04	2,53E-04
572	7,05E-05	8,34E-05	4,00E-05	5,83E-04	2,53E-04
573	7,23E-05	7,71E-05	4,26E-05	7,06E-04	2,45E-04
574	6,22E-05	7,89E-05	3,94E-05	6,26E-04	2,57E-04
575	7,75E-05	8,91E-05	3,10E-05	6,20E-04	2,54E-04
576	7,68E-05	9,86E-05	4,59E-05	6,62E-04	2,50E-04
577	6,32E-05	9,26E-05	3,08E-05	6,42E-04	2,57E-04
578	8,05E-05	9,15E-05	2,33E-05	6,53E-04	2,50E-04
579	7,27E-05	8,05E-05	3,41E-05	6,90E-04	2,56E-04
580	6,30E-05	9,74E-05	3,38E-05	6,08E-04	2,53E-04
581	6,94E-05	7,90E-05	2,98E-05	6,16E-04	2,56E-04
582	7,19E-05	1,14E-04	3,09E-05	6,59E-04	2,59E-04
583	7,27E-05	8,52E-05	4,30E-05	6,78E-04	2,53E-04
584	6,34E-05	8,83E-05	3,33E-05	6,90E-04	2,62E-04
585	6,44E-05	1,03E-04	4,00E-05	7,48E-04	2,54E-04
586	6,41E-05	7,58E-05	3,15E-05	6,50E-04	2,54E-04
587	7,68E-05	9,89E-05	3,74E-05	5,89E-04	2,63E-04
588	5,82E-05	9,89E-05	3,54E-05	5,76E-04	2,58E-04
589	7,92E-05	9,97E-05	2,64E-05	6,94E-04	2,49E-04
590	7,52E-05	9,54E-05	4,72E-05	6,92E-04	2,66E-04
591	7,53E-05	6,50E-05	5,40E-05	6,45E-04	2,57E-04
592	6,08E-05	1,17E-04	4,10E-05	6,54E-04	2,51E-04
593	7,00E-05	9,35E-05	3,26E-05	6,05E-04	2,66E-04
594	7,47E-05	9,17E-05	3,50E-05	6,75E-04	2,54E-04
595	6,41E-05	1,03E-04	3,47E-05	6,54E-04	2,57E-04

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel ségrégué - Non lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
550	1,76E-05	1,62E-05	1,67E-05	3,98E-05	1,70E-05
551	1,75E-05	1,92E-05	1,90E-05	7,11E-05	1,86E-05
552	2,17E-05	2,01E-05	1,96E-05	4,65E-05	2,09E-05
553	2,18E-05	1,60E-05	1,60E-05	5,22E-05	1,89E-05
554	1,90E-05	1,99E-05	1,75E-05	3,98E-05	1,94E-05
555	1,83E-05	1,71E-05	1,67E-05	2,36E-04	1,87E-05
556	2,18E-05	1,84E-05	1,65E-05	4,06E-05	2,00E-05
557	1,75E-05	1,98E-05	1,79E-05	1,64E-04	1,93E-05
558	1,76E-05	1,83E-05	1,71E-05	4,98E-05	1,80E-05
559	1,89E-05	1,74E-05	1,99E-05	8,70E-05	1,86E-05
560	1,69E-05	1,44E-05	1,89E-05	5,40E-05	1,61E-05
561	2,01E-05	1,39E-05	1,62E-05	6,88E-05	1,73E-05
562	1,77E-05	1,84E-05	1,63E-05	1,37E-04	1,85E-05
563	2,24E-05	1,73E-05	1,76E-05	7,29E-05	2,00E-05
564	1,65E-05	2,15E-05	1,82E-05	8,53E-05	1,92E-05
565	1,97E-05	1,86E-05	1,59E-05	8,21E-05	1,92E-05
566	2,00E-05	1,45E-05	1,72E-05	1,28E-04	1,79E-05
567	1,91E-05	1,72E-05	1,78E-05	3,55E-05	1,82E-05
568	1,85E-05	1,70E-05	1,73E-05	1,06E-04	1,81E-05
569	1,78E-05	1,82E-05	2,08E-05	2,94E-05	1,82E-05
570	1,72E-05	1,94E-05	1,64E-05	4,02E-05	1,82E-05
571	1,80E-05	1,61E-05	1,67E-05	7,67E-05	1,73E-05
572	2,09E-05	1,77E-05	2,44E-05	5,49E-05	1,99E-05
573	1,86E-05	1,59E-05	1,98E-05	2,93E-04	1,88E-05
574	2,13E-05	1,72E-05	1,58E-05	3,30E-05	1,91E-05
575	1,52E-05	1,78E-05	1,57E-05	9,88E-05	1,68E-05
576	1,96E-05	1,97E-05	1,76E-05	1,04E-04	1,99E-05
577	1,95E-05	1,77E-05	1,94E-05	1,26E-04	1,92E-05
578	2,18E-05	2,42E-05	1,77E-05	1,95E-04	2,34E-05
579	2,09E-05	2,39E-05	1,98E-05	7,18E-05	2,24E-05
580	1,81E-05	1,56E-05	1,61E-05	9,58E-05	1,72E-05
581	1,91E-05	2,66E-05	2,07E-05	2,37E-05	2,25E-05
582	2,17E-05	1,24E-05	1,61E-05	7,40E-05	1,75E-05
583	2,17E-05	1,50E-05	1,67E-05	5,12E-05	1,85E-05
584	1,97E-05	2,21E-05	1,56E-05	2,78E-05	2,05E-05
585	1,77E-05	1,92E-05	1,66E-05	4,35E-05	1,84E-05
586	2,10E-05	2,02E-05	1,59E-05	2,39E-04	2,13E-05
587	1,92E-05	1,72E-05	1,58E-05	8,58E-05	1,84E-05
588	1,79E-05	1,56E-05	1,77E-05	2,75E-05	1,69E-05
589	1,97E-05	1,31E-05	1,74E-05	5,04E-05	1,68E-05
590	2,19E-05	1,70E-05	1,74E-05	5,12E-05	1,95E-05
591	1,78E-05	1,45E-05	1,81E-05	4,82E-05	1,66E-05
592	1,64E-05	1,32E-05	1,68E-05	5,31E-05	1,52E-05
593	1,94E-05	2,39E-05	2,09E-05	7,00E-05	2,17E-05
594	1,91E-05	1,68E-05	1,84E-05	1,95E-05	1,80E-05
595	2,19E-05	2,13E-05	1,73E-05	4,97E-05	2,14E-05

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel ségrégué - Lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
550	2,84E-04	4,48E-04	1,20E-04	2,29E-03	8,87E-04
551	2,68E-04	3,91E-04	1,69E-04	2,26E-03	8,59E-04
552	2,73E-04	4,22E-04	1,45E-04	2,28E-03	8,75E-04
553	3,03E-04	4,23E-04	1,37E-04	2,36E-03	9,08E-04
554	2,93E-04	4,06E-04	1,10E-04	2,26E-03	8,68E-04
555	2,68E-04	4,25E-04	1,41E-04	2,29E-03	8,76E-04
556	2,69E-04	4,46E-04	1,53E-04	2,31E-03	8,89E-04
557	3,00E-04	4,31E-04	1,18E-04	2,23E-03	8,71E-04
558	2,45E-04	3,77E-04	1,14E-04	2,23E-03	8,34E-04
559	2,70E-04	4,28E-04	1,08E-04	2,17E-03	8,41E-04
560	2,72E-04	3,97E-04	1,04E-04	2,25E-03	8,55E-04
561	3,09E-04	4,25E-04	1,97E-04	2,25E-03	8,81E-04
562	2,96E-04	4,35E-04	1,52E-04	2,33E-03	9,01E-04
563	2,76E-04	3,79E-04	1,52E-04	2,33E-03	8,77E-04
564	2,87E-04	4,69E-04	1,24E-04	2,29E-03	8,95E-04
565	2,80E-04	3,73E-04	9,16E-05	2,23E-03	8,43E-04
566	2,83E-04	4,38E-04	9,93E-05	2,24E-03	8,68E-04
567	3,08E-04	4,05E-04	9,73E-05	2,25E-03	8,69E-04
568	2,68E-04	4,01E-04	1,38E-04	2,26E-03	8,60E-04
569	2,89E-04	4,24E-04	1,34E-04	2,23E-03	8,67E-04
570	2,79E-04	3,82E-04	1,28E-04	2,32E-03	8,73E-04
571	2,74E-04	4,18E-04	1,53E-04	2,26E-03	8,69E-04
572	2,83E-04	4,20E-04	1,80E-04	2,21E-03	8,61E-04
573	2,56E-04	3,71E-04	9,31E-05	2,24E-03	8,38E-04
574	2,89E-04	3,84E-04	1,62E-04	2,31E-03	8,77E-04
575	2,91E-04	4,17E-04	1,19E-04	2,26E-03	8,73E-04
576	2,99E-04	3,84E-04	1,31E-04	2,21E-03	8,51E-04
577	2,83E-04	4,17E-04	1,40E-04	2,29E-03	8,78E-04
578	2,69E-04	3,83E-04	1,26E-04	2,22E-03	8,42E-04
579	3,10E-04	4,34E-04	1,22E-04	2,19E-03	8,65E-04
580	2,79E-04	4,00E-04	1,20E-04	2,28E-03	8,68E-04
581	2,90E-04	4,26E-04	1,60E-04	2,22E-03	8,66E-04
582	2,83E-04	4,03E-04	1,26E-04	2,35E-03	8,91E-04
583	2,79E-04	4,08E-04	1,52E-04	2,25E-03	8,65E-04
584	3,13E-04	4,22E-04	1,21E-04	2,30E-03	8,93E-04
585	2,98E-04	4,16E-04	1,63E-04	2,23E-03	8,68E-04
586	3,03E-04	4,23E-04	1,31E-04	2,20E-03	8,61E-04
587	2,72E-04	4,40E-04	1,06E-04	2,37E-03	9,01E-04
588	2,98E-04	4,00E-04	1,96E-04	2,31E-03	8,87E-04
589	2,87E-04	4,02E-04	8,84E-05	2,23E-03	8,54E-04
590	2,83E-04	4,98E-04	1,38E-04	2,31E-03	9,10E-04
591	2,85E-04	4,23E-04	1,76E-04	2,29E-03	8,84E-04
592	2,85E-04	3,84E-04	1,17E-04	2,29E-03	8,67E-04
593	2,80E-04	4,73E-04	1,74E-04	2,32E-03	9,04E-04
594	2,89E-04	4,02E-04	1,19E-04	2,28E-03	8,71E-04
595	2,80E-04	4,19E-04	9,49E-05	2,28E-03	8,71E-04

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel non ségrégué - Lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
596	6,75E-05	1,03E-04	3,72E-05	6,35E-04	2,49E-04
597	7,40E-05	9,08E-05	2,87E-05	7,02E-04	2,53E-04
598	7,37E-05	7,05E-05	3,81E-05	6,21E-04	2,50E-04
599	6,69E-05	8,17E-05	3,94E-05	6,63E-04	2,49E-04
600	6,85E-05	1,12E-04	4,54E-05	6,74E-04	2,51E-04
601	7,40E-05	9,67E-05	3,98E-05	6,06E-04	2,52E-04
602	6,25E-05	8,20E-05	3,49E-05	6,04E-04	2,44E-04
603	6,80E-05	7,48E-05	3,49E-05	6,37E-04	2,58E-04
604	7,11E-05	1,04E-04	3,96E-05	6,81E-04	2,64E-04
605	7,67E-05	1,10E-04	2,45E-05	6,57E-04	2,61E-04
606	7,65E-05	9,24E-05	3,67E-05	6,57E-04	2,51E-04
607	7,63E-05	9,67E-05	4,00E-05	6,47E-04	2,58E-04
608	6,91E-05	8,33E-05	3,16E-05	6,06E-04	2,53E-04
609	7,80E-05	7,61E-05	3,05E-05	6,13E-04	2,46E-04
610	7,16E-05	9,91E-05	2,47E-05	6,40E-04	2,55E-04
611	6,87E-05	7,78E-05	3,17E-05	6,80E-04	2,46E-04
612	7,49E-05	1,06E-04	2,74E-05	6,09E-04	2,50E-04
613	7,36E-05	8,08E-05	3,04E-05	6,47E-04	2,51E-04
614	7,03E-05	7,86E-05	3,06E-05	6,29E-04	2,52E-04
615	7,62E-05	9,76E-05	4,13E-05	5,99E-04	2,51E-04
616	6,95E-05	8,35E-05	2,40E-05	6,88E-04	2,49E-04
617	7,00E-05	8,46E-05	3,36E-05	6,95E-04	2,64E-04
618	5,86E-05	1,35E-04	3,42E-05	6,21E-04	2,53E-04
619	7,85E-05	6,78E-05	3,12E-05	6,76E-04	2,61E-04
620	7,29E-05	7,76E-05	3,89E-05	6,40E-04	2,58E-04
621	7,45E-05	7,99E-05	3,49E-05	6,09E-04	2,62E-04
622	7,06E-05	9,48E-05	3,60E-05	6,14E-04	2,57E-04
623	7,09E-05	1,19E-04	3,20E-05	7,29E-04	2,49E-04
624	8,17E-05	6,59E-05	3,38E-05	6,84E-04	2,52E-04
625	7,36E-05	8,36E-05	3,76E-05	6,31E-04	2,58E-04
626	6,64E-05	9,47E-05	4,97E-05	6,42E-04	2,50E-04
627	7,35E-05	8,87E-05	3,24E-05	6,11E-04	2,58E-04
628	7,09E-05	9,42E-05	3,63E-05	5,76E-04	2,46E-04
629	6,77E-05	8,53E-05	4,13E-05	6,77E-04	2,64E-04
630	6,75E-05	8,89E-05	4,15E-05	6,97E-04	2,56E-04
631	7,12E-05	8,20E-05	3,85E-05	6,27E-04	2,58E-04
632	6,97E-05	7,71E-05	4,73E-05	6,49E-04	2,59E-04
633	7,24E-05	8,53E-05	3,00E-05	6,35E-04	2,62E-04
634	7,64E-05	9,74E-05	3,45E-05	5,72E-04	2,54E-04
635	7,09E-05	9,89E-05	3,09E-05	6,96E-04	2,49E-04
636	6,65E-05	8,06E-05	4,14E-05	5,79E-04	2,62E-04
637	6,80E-05	1,05E-04	3,95E-05	6,84E-04	2,52E-04
638	6,90E-05	1,28E-04	3,17E-05	6,23E-04	2,61E-04
639	6,41E-05	9,50E-05	3,70E-05	6,01E-04	2,56E-04
640	7,41E-05	8,61E-05	4,65E-05	5,87E-04	2,53E-04
641	7,05E-05	9,34E-05	4,94E-05	6,13E-04	2,51E-04

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel ségrégué - Non lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
596	1,89E-05	2,51E-05	1,66E-05	4,41E-05	2,16E-05
597	2,02E-05	1,49E-05	1,63E-05	2,48E-05	1,76E-05
598	2,34E-05	1,57E-05	1,71E-05	2,69E-04	2,07E-05
599	1,98E-05	2,01E-05	1,62E-05	2,29E-05	1,97E-05
600	1,75E-05	1,50E-05	1,70E-05	4,63E-05	1,65E-05
601	1,76E-05	2,42E-05	1,66E-05	7,35E-05	2,07E-05
602	1,65E-05	1,71E-05	1,58E-05	1,03E-04	1,71E-05
603	1,78E-05	1,96E-05	1,90E-05	9,27E-05	1,90E-05
604	2,02E-05	2,90E-05	1,75E-05	9,79E-05	2,43E-05
605	1,82E-05	2,05E-05	1,79E-05	6,38E-05	1,94E-05
606	1,68E-05	1,90E-05	1,68E-05	1,04E-04	1,82E-05
607	1,99E-05	1,21E-05	1,70E-05	6,77E-05	1,65E-05
608	2,07E-05	1,81E-05	1,73E-05	4,85E-05	1,94E-05
609	1,63E-05	2,15E-05	1,82E-05	6,25E-05	1,90E-05
610	2,32E-05	2,09E-05	1,53E-05	5,04E-05	2,17E-05
611	1,80E-05	1,95E-05	1,58E-05	9,88E-05	1,89E-05
612	1,83E-05	1,45E-05	1,58E-05	7,44E-05	1,67E-05
613	1,91E-05	1,55E-05	1,64E-05	1,23E-04	1,78E-05
614	2,06E-05	1,96E-05	1,62E-05	1,61E-05	1,98E-05
615	1,94E-05	1,66E-05	1,91E-05	4,14E-05	1,83E-05
616	1,71E-05	1,58E-05	1,61E-05	7,33E-05	1,67E-05
617	1,74E-05	2,49E-05	1,74E-05	3,45E-05	2,08E-05
618	1,71E-05	1,50E-05	1,61E-05	3,28E-05	1,62E-05
619	1,84E-05	2,17E-05	1,64E-05	8,86E-05	2,00E-05
620	1,64E-05	1,36E-05	1,71E-05	6,08E-05	1,54E-05
621	1,74E-05	1,90E-05	1,90E-05	5,19E-05	1,84E-05
622	1,77E-05	2,43E-05	1,85E-05	1,65E-04	2,14E-05
623	1,84E-05	1,47E-05	1,68E-05	3,25E-05	1,67E-05
624	1,89E-05	1,69E-05	1,67E-05	4,50E-05	1,80E-05
625	2,02E-05	2,72E-05	1,64E-05	5,84E-05	2,32E-05
626	2,11E-05	1,48E-05	1,70E-05	1,08E-04	1,84E-05
627	1,90E-05	2,87E-05	1,82E-05	7,34E-05	2,35E-05
628	2,14E-05	1,98E-05	2,01E-05	1,94E-04	2,14E-05
629	2,04E-05	1,98E-05	1,68E-05	1,57E-05	1,99E-05
630	1,62E-05	1,84E-05	2,06E-05	1,42E-04	1,81E-05
631	1,86E-05	1,76E-05	2,06E-05	5,71E-05	1,85E-05
632	1,83E-05	1,50E-05	1,66E-05	3,15E-05	1,68E-05
633	1,97E-05	2,54E-05	2,07E-05	5,52E-05	2,24E-05
634	1,84E-05	1,35E-05	1,79E-05	7,99E-05	1,65E-05
635	1,66E-05	1,62E-05	1,81E-05	2,75E-05	1,66E-05
636	1,96E-05	1,70E-05	1,60E-05	2,28E-05	1,82E-05
637	2,36E-05	1,63E-05	1,61E-05	1,27E-04	2,03E-05
638	1,90E-05	2,42E-05	2,18E-05	1,53E-04	2,22E-05
639	2,08E-05	1,32E-05	1,83E-05	4,86E-05	1,74E-05
640	2,12E-05	1,57E-05	1,75E-05	8,91E-05	1,89E-05
641	1,83E-05	1,60E-05	1,58E-05	4,50E-05	1,72E-05

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel ségrégué - Lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
596	2,87E-04	3,63E-04	1,26E-04	2,22E-03	8,44E-04
597	2,93E-04	4,27E-04	1,33E-04	2,24E-03	8,70E-04
598	2,57E-04	4,13E-04	1,77E-04	2,21E-03	8,48E-04
599	2,71E-04	3,89E-04	1,48E-04	2,22E-03	8,47E-04
600	2,85E-04	3,75E-04	1,78E-04	2,27E-03	8,62E-04
601	2,89E-04	4,03E-04	1,21E-04	2,23E-03	8,57E-04
602	2,65E-04	3,88E-04	1,54E-04	2,20E-03	8,39E-04
603	2,64E-04	4,23E-04	1,79E-04	2,31E-03	8,81E-04
604	2,97E-04	4,64E-04	1,40E-04	2,26E-03	8,90E-04
605	2,92E-04	4,69E-04	1,79E-04	2,26E-03	8,91E-04
606	2,84E-04	3,96E-04	1,23E-04	2,24E-03	8,58E-04
607	2,82E-04	3,97E-04	1,27E-04	2,35E-03	8,89E-04
608	2,73E-04	4,20E-04	1,54E-04	2,25E-03	8,65E-04
609	2,71E-04	4,18E-04	1,35E-04	2,17E-03	8,41E-04
610	2,92E-04	3,84E-04	1,21E-04	2,27E-03	8,66E-04
611	2,70E-04	3,73E-04	1,28E-04	2,22E-03	8,41E-04
612	2,74E-04	4,13E-04	1,50E-04	2,24E-03	8,60E-04
613	2,88E-04	3,99E-04	1,27E-04	2,24E-03	8,60E-04
614	2,79E-04	4,01E-04	1,61E-04	2,24E-03	8,60E-04
615	2,68E-04	4,22E-04	1,66E-04	2,23E-03	8,60E-04
616	2,75E-04	3,96E-04	1,18E-04	2,25E-03	8,56E-04
617	2,87E-04	4,60E-04	1,26E-04	2,32E-03	9,01E-04
618	2,65E-04	4,19E-04	1,41E-04	2,29E-03	8,73E-04
619	2,88E-04	4,51E-04	1,25E-04	2,29E-03	8,90E-04
620	2,94E-04	4,36E-04	1,12E-04	2,31E-03	8,93E-04
621	2,78E-04	4,58E-04	1,64E-04	2,32E-03	8,99E-04
622	2,69E-04	4,34E-04	1,34E-04	2,27E-03	8,74E-04
623	2,85E-04	3,68E-04	1,35E-04	2,26E-03	8,56E-04
624	2,85E-04	4,31E-04	1,06E-04	2,23E-03	8,65E-04
625	2,80E-04	4,36E-04	1,50E-04	2,25E-03	8,71E-04
626	2,87E-04	3,79E-04	1,36E-04	2,24E-03	8,54E-04
627	2,71E-04	4,23E-04	1,40E-04	2,27E-03	8,71E-04
628	2,88E-04	3,85E-04	1,20E-04	2,16E-03	8,32E-04
629	2,78E-04	5,01E-04	1,05E-04	2,30E-03	9,03E-04
630	2,86E-04	4,17E-04	1,30E-04	2,28E-03	8,76E-04
631	2,74E-04	4,50E-04	9,26E-05	2,29E-03	8,82E-04
632	2,79E-04	4,68E-04	8,56E-05	2,30E-03	8,92E-04
633	2,90E-04	4,44E-04	1,13E-04	2,29E-03	8,89E-04
634	2,80E-04	4,53E-04	8,79E-05	2,26E-03	8,76E-04
635	2,95E-04	3,96E-04	1,49E-04	2,22E-03	8,56E-04
636	2,94E-04	4,61E-04	1,64E-04	2,30E-03	9,00E-04
637	2,98E-04	4,27E-04	1,68E-04	2,18E-03	8,58E-04
638	2,58E-04	4,26E-04	1,84E-04	2,32E-03	8,84E-04
639	3,09E-04	3,84E-04	1,19E-04	2,30E-03	8,78E-04
640	2,70E-04	4,19E-04	1,35E-04	2,26E-03	8,66E-04
641	3,05E-04	3,90E-04	8,80E-05	2,24E-03	8,61E-04

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel non ségrégué - Lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
642	6,71E-05	9,93E-05	4,20E-05	5,75E-04	2,58E-04
643	7,54E-05	7,50E-05	2,57E-05	6,34E-04	2,55E-04
644	6,57E-05	1,08E-04	2,85E-05	6,46E-04	2,54E-04
645	6,60E-05	7,79E-05	2,89E-05	7,19E-04	2,55E-04
646	7,20E-05	8,02E-05	4,06E-05	6,68E-04	2,55E-04
647	7,75E-05	9,72E-05	4,39E-05	6,41E-04	2,52E-04
648	7,22E-05	9,91E-05	4,32E-05	5,86E-04	2,54E-04
649	6,41E-05	9,08E-05	4,08E-05	6,71E-04	2,53E-04
650	6,61E-05	8,57E-05	4,71E-05	6,72E-04	2,51E-04
651	6,09E-05	7,26E-05	3,43E-05	6,27E-04	2,52E-04
652	7,37E-05	7,77E-05	3,06E-05	5,97E-04	2,59E-04
653	7,57E-05	8,65E-05	3,96E-05	6,68E-04	2,55E-04
654	6,96E-05	9,12E-05	3,95E-05	5,81E-04	2,50E-04
655	6,40E-05	9,60E-05	4,32E-05	6,93E-04	2,58E-04
656	7,28E-05	8,99E-05	6,50E-05	7,03E-04	2,54E-04
657	6,47E-05	8,29E-05	4,85E-05	5,98E-04	2,51E-04
658	7,37E-05	1,07E-04	4,19E-05	6,70E-04	2,59E-04
659	7,90E-05	7,79E-05	3,46E-05	5,79E-04	2,48E-04
660	6,31E-05	8,13E-05	4,40E-05	6,89E-04	2,55E-04
661	6,63E-05	8,80E-05	4,41E-05	6,44E-04	2,61E-04
662	7,04E-05	9,84E-05	3,96E-05	6,51E-04	2,53E-04
663	7,54E-05	1,06E-04	4,39E-05	6,34E-04	2,67E-04
664	7,98E-05	8,29E-05	3,13E-05	6,63E-04	2,58E-04
665	7,43E-05	6,92E-05	2,84E-05	6,93E-04	2,52E-04
666	6,63E-05	8,10E-05	4,16E-05	6,86E-04	2,56E-04
667	5,96E-05	7,88E-05	4,14E-05	6,56E-04	2,55E-04
668	6,15E-05	8,15E-05	3,23E-05	5,67E-04	2,49E-04
669	7,21E-05	5,88E-05	2,87E-05	6,36E-04	2,49E-04
670	7,09E-05	8,45E-05	3,54E-05	7,16E-04	2,60E-04
671	7,71E-05	9,33E-05	4,35E-05	6,89E-04	2,50E-04
672	7,14E-05	7,94E-05	3,64E-05	6,19E-04	2,49E-04
673	8,16E-05	9,21E-05	3,22E-05	6,67E-04	2,44E-04
674	7,16E-05	7,79E-05	3,24E-05	6,17E-04	2,44E-04
675	6,41E-05	6,86E-05	3,48E-05	5,99E-04	2,48E-04
676	6,55E-05	7,65E-05	3,05E-05	6,56E-04	2,45E-04
677	8,17E-05	1,10E-04	3,62E-05	6,36E-04	2,58E-04
678	7,96E-05	7,99E-05	3,52E-05	6,00E-04	2,55E-04
679	7,33E-05	9,42E-05	2,86E-05	6,55E-04	2,53E-04
680	7,42E-05	9,94E-05	3,30E-05	6,41E-04	2,56E-04
681	7,15E-05	8,36E-05	3,51E-05	6,87E-04	2,54E-04
682	6,91E-05	8,51E-05	3,66E-05	6,83E-04	2,58E-04
683	7,22E-05	8,79E-05	3,94E-05	6,16E-04	2,57E-04
684	7,53E-05	8,52E-05	3,73E-05	6,47E-04	2,52E-04
685	8,29E-05	9,21E-05	4,78E-05	5,89E-04	2,53E-04
686	8,13E-05	1,15E-04	3,87E-05	6,63E-04	2,59E-04
687	7,64E-05	1,00E-04	3,47E-05	6,73E-04	2,61E-04

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel ségrégué - Non lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
642	2,01E-05	3,15E-05	1,72E-05	5,98E-05	2,51E-05
643	1,93E-05	1,18E-05	1,96E-05	1,13E-04	1,65E-05
644	1,91E-05	1,78E-05	2,31E-05	4,16E-05	1,89E-05
645	1,67E-05	1,62E-05	1,54E-05	7,59E-05	1,67E-05
646	1,86E-05	1,82E-05	1,61E-05	9,46E-05	1,86E-05
647	2,00E-05	2,04E-05	1,84E-05	7,34E-05	2,03E-05
648	1,79E-05	1,41E-05	2,03E-05	2,03E-05	1,64E-05
649	2,04E-05	2,12E-05	1,65E-05	3,02E-05	2,05E-05
650	2,13E-05	1,60E-05	1,93E-05	1,25E-04	1,93E-05
651	1,68E-05	1,93E-05	1,62E-05	1,75E-04	1,87E-05
652	2,05E-05	2,46E-05	1,53E-05	7,83E-05	2,22E-05
653	1,91E-05	1,75E-05	1,84E-05	3,75E-05	1,84E-05
654	1,88E-05	1,52E-05	1,68E-05	3,66E-04	1,88E-05
655	1,63E-05	2,46E-05	2,06E-05	7,18E-05	2,06E-05
656	1,65E-05	1,96E-05	1,51E-05	6,64E-05	1,80E-05
657	1,85E-05	1,38E-05	1,79E-05	1,79E-05	1,64E-05
658	1,69E-05	1,87E-05	1,90E-05	7,13E-05	1,81E-05
659	1,87E-05	1,64E-05	1,77E-05	5,73E-05	1,78E-05
660	2,00E-05	1,50E-05	1,95E-05	1,07E-04	1,82E-05
661	1,95E-05	2,60E-05	1,76E-05	4,42E-05	2,23E-05
662	1,67E-05	1,56E-05	1,77E-05	1,35E-04	1,69E-05
663	1,83E-05	1,28E-05	1,94E-05	5,13E-05	1,61E-05
664	1,62E-05	2,47E-05	1,79E-05	3,82E-05	2,02E-05
665	2,16E-05	2,17E-05	1,71E-05	1,13E-04	2,17E-05
666	2,20E-05	1,32E-05	1,97E-05	1,19E-04	1,84E-05
667	1,77E-05	2,06E-05	2,09E-05	7,92E-05	1,95E-05
668	1,88E-05	2,21E-05	1,75E-05	7,50E-05	2,04E-05
669	2,23E-05	1,44E-05	1,69E-05	1,33E-04	1,89E-05
670	2,32E-05	1,38E-05	1,62E-05	7,38E-05	1,88E-05
671	1,95E-05	2,62E-05	1,86E-05	3,00E-05	2,24E-05
672	2,27E-05	1,39E-05	1,65E-05	1,78E-05	1,83E-05
673	1,70E-05	1,78E-05	2,09E-05	2,42E-04	1,87E-05
674	1,91E-05	1,80E-05	1,77E-05	1,21E-04	1,90E-05
675	1,65E-05	1,72E-05	1,68E-05	1,96E-05	1,69E-05
676	1,97E-05	1,66E-05	1,75E-05	2,11E-04	1,91E-05
677	2,28E-05	1,32E-05	1,75E-05	1,02E-04	1,85E-05
678	2,12E-05	2,12E-05	1,62E-05	6,53E-05	2,10E-05
679	2,10E-05	2,05E-05	1,68E-05	3,12E-05	2,05E-05
680	1,97E-05	1,68E-05	1,58E-05	4,58E-05	1,82E-05
681	1,70E-05	2,21E-05	1,81E-05	1,86E-05	1,93E-05
682	2,14E-05	1,40E-05	1,76E-05	2,26E-04	1,88E-05
683	1,82E-05	1,82E-05	1,65E-05	8,70E-05	1,84E-05
684	1,71E-05	1,57E-05	1,58E-05	1,90E-04	1,72E-05
685	1,84E-05	1,72E-05	2,06E-05	5,96E-05	1,82E-05
686	2,06E-05	1,85E-05	1,59E-05	8,75E-05	1,96E-05
687	2,01E-05	1,36E-05	1,56E-05	6,11E-05	1,71E-05

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel ségrégué - Lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
642	2,87E-04	3,68E-04	1,69E-04	2,29E-03	8,65E-04
643	2,74E-04	4,07E-04	1,34E-04	2,31E-03	8,77E-04
644	2,69E-04	4,25E-04	1,26E-04	2,26E-03	8,67E-04
645	2,68E-04	4,59E-04	1,55E-04	2,26E-03	8,79E-04
646	2,83E-04	4,13E-04	2,05E-04	2,25E-03	8,71E-04
647	2,64E-04	3,76E-04	1,43E-04	2,28E-03	8,57E-04
648	2,71E-04	4,12E-04	1,04E-04	2,31E-03	8,76E-04
649	2,70E-04	4,18E-04	1,16E-04	2,25E-03	8,60E-04
650	2,84E-04	4,03E-04	1,14E-04	2,23E-03	8,55E-04
651	2,74E-04	4,21E-04	1,31E-04	2,23E-03	8,60E-04
652	2,93E-04	4,22E-04	1,33E-04	2,27E-03	8,77E-04
653	2,80E-04	4,12E-04	1,80E-04	2,28E-03	8,75E-04
654	2,79E-04	4,04E-04	1,13E-04	2,22E-03	8,53E-04
655	2,77E-04	4,10E-04	1,07E-04	2,31E-03	8,79E-04
656	2,90E-04	4,00E-04	8,63E-05	2,28E-03	8,70E-04
657	2,71E-04	4,20E-04	1,68E-04	2,24E-03	8,64E-04
658	2,78E-04	4,54E-04	1,45E-04	2,29E-03	8,88E-04
659	2,64E-04	3,65E-04	9,49E-05	2,27E-03	8,48E-04
660	2,88E-04	5,03E-04	1,47E-04	2,17E-03	8,75E-04
661	2,74E-04	5,05E-04	1,34E-04	2,23E-03	8,86E-04
662	2,97E-04	3,82E-04	1,05E-04	2,30E-03	8,72E-04
663	3,03E-04	5,19E-04	1,47E-04	2,31E-03	9,23E-04
664	2,72E-04	4,30E-04	1,36E-04	2,30E-03	8,81E-04
665	2,85E-04	3,90E-04	1,59E-04	2,23E-03	8,55E-04
666	3,05E-04	4,06E-04	1,58E-04	2,27E-03	8,77E-04
667	2,73E-04	4,77E-04	2,21E-04	2,19E-03	8,72E-04
668	2,83E-04	4,36E-04	1,15E-04	2,16E-03	8,47E-04
669	2,84E-04	3,89E-04	1,85E-04	2,20E-03	8,49E-04
670	2,72E-04	4,07E-04	1,16E-04	2,36E-03	8,91E-04
671	2,86E-04	4,03E-04	7,76E-05	2,20E-03	8,46E-04
672	2,91E-04	3,57E-04	1,02E-04	2,27E-03	8,53E-04
673	2,77E-04	3,89E-04	1,12E-04	2,18E-03	8,34E-04
674	2,70E-04	3,73E-04	1,57E-04	2,18E-03	8,31E-04
675	2,83E-04	3,82E-04	1,37E-04	2,24E-03	8,52E-04
676	2,73E-04	4,44E-04	1,00E-04	2,13E-03	8,36E-04
677	2,71E-04	4,34E-04	1,79E-04	2,29E-03	8,84E-04
678	2,80E-04	4,45E-04	1,66E-04	2,21E-03	8,65E-04
679	2,96E-04	3,81E-04	1,41E-04	2,26E-03	8,62E-04
680	2,99E-04	4,45E-04	1,19E-04	2,25E-03	8,79E-04
681	2,86E-04	4,03E-04	1,42E-04	2,26E-03	8,68E-04
682	2,80E-04	4,43E-04	1,22E-04	2,29E-03	8,84E-04
683	2,76E-04	4,05E-04	1,18E-04	2,33E-03	8,82E-04
684	2,77E-04	3,99E-04	1,39E-04	2,27E-03	8,66E-04
685	2,81E-04	4,24E-04	1,44E-04	2,25E-03	8,68E-04
686	2,96E-04	4,26E-04	1,27E-04	2,29E-03	8,84E-04
687	2,94E-04	4,82E-04	1,27E-04	2,27E-03	8,97E-04

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel non ségrégué - Lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
688	7,18E-05	8,06E-05	3,72E-05	6,08E-04	2,60E-04
689	6,45E-05	7,86E-05	4,20E-05	6,52E-04	2,50E-04
690	6,75E-05	8,92E-05	4,66E-05	6,60E-04	2,57E-04
691	7,69E-05	8,99E-05	4,07E-05	6,82E-04	2,57E-04
692	8,72E-05	8,07E-05	2,48E-05	6,51E-04	2,45E-04
693	7,04E-05	7,82E-05	3,57E-05	7,12E-04	2,66E-04
694	7,75E-05	9,69E-05	3,10E-05	6,75E-04	2,61E-04
695	6,54E-05	8,25E-05	2,75E-05	6,63E-04	2,57E-04
696	6,78E-05	1,03E-04	3,31E-05	7,15E-04	2,54E-04
697	7,73E-05	8,79E-05	2,55E-05	6,93E-04	2,48E-04
698	6,42E-05	8,31E-05	4,46E-05	6,28E-04	2,51E-04
699	7,48E-05	8,96E-05	5,99E-05	6,51E-04	2,53E-04
700	7,07E-05	9,25E-05	3,41E-05	6,53E-04	2,63E-04
701	6,86E-05	6,67E-05	3,74E-05	7,10E-04	2,48E-04
702	7,28E-05	1,05E-04	3,63E-05	6,73E-04	2,62E-04
703	7,35E-05	8,67E-05	4,12E-05	6,73E-04	2,59E-04
704	6,26E-05	1,13E-04	4,34E-05	6,81E-04	2,62E-04
705	6,44E-05	1,08E-04	3,90E-05	6,17E-04	2,54E-04
706	7,32E-05	6,65E-05	3,97E-05	6,29E-04	2,55E-04
707	6,50E-05	8,63E-05	3,40E-05	6,40E-04	2,53E-04
708	7,19E-05	9,21E-05	4,12E-05	6,65E-04	2,56E-04
709	6,42E-05	9,57E-05	3,29E-05	6,56E-04	2,47E-04
710	7,33E-05	8,42E-05	3,73E-05	7,13E-04	2,57E-04
711	5,92E-05	9,51E-05	3,39E-05	6,25E-04	2,63E-04
712	7,10E-05	7,40E-05	3,43E-05	6,30E-04	2,56E-04
713	6,17E-05	1,25E-04	4,06E-05	6,33E-04	2,56E-04
714	6,83E-05	1,14E-04	3,38E-05	6,03E-04	2,65E-04
715	6,82E-05	8,26E-05	3,22E-05	6,56E-04	2,52E-04
716	8,32E-05	9,71E-05	2,65E-05	5,60E-04	2,59E-04
717	6,50E-05	9,14E-05	3,39E-05	6,84E-04	2,52E-04
718	5,82E-05	9,35E-05	3,22E-05	6,28E-04	2,52E-04
719	7,44E-05	8,98E-05	2,95E-05	7,05E-04	2,50E-04
720	6,72E-05	9,25E-05	2,57E-05	6,29E-04	2,52E-04
721	6,32E-05	9,25E-05	3,60E-05	5,93E-04	2,53E-04
722	6,99E-05	6,48E-05	3,63E-05	6,57E-04	2,57E-04
723	6,49E-05	1,24E-04	3,56E-05	6,86E-04	2,64E-04
724	6,25E-05	1,03E-04	3,36E-05	6,26E-04	2,49E-04
725	8,08E-05	9,48E-05	4,25E-05	6,68E-04	2,56E-04
726	7,44E-05	8,66E-05	3,80E-05	6,27E-04	2,56E-04
727	7,45E-05	1,28E-04	4,57E-05	6,59E-04	2,56E-04
728	6,39E-05	9,40E-05	4,49E-05	6,50E-04	2,50E-04
729	7,27E-05	7,98E-05	4,82E-05	6,65E-04	2,56E-04
730	6,22E-05	1,02E-04	5,58E-05	5,64E-04	2,61E-04
731	6,47E-05	9,23E-05	3,51E-05	6,34E-04	2,57E-04
732	6,77E-05	1,18E-04	3,45E-05	6,14E-04	2,57E-04
733	7,03E-05	1,02E-04	3,18E-05	6,40E-04	2,50E-04

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel ségrégué - Non lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
688	2,01E-05	1,43E-05	1,58E-05	6,88E-05	1,75E-05
689	1,94E-05	1,72E-05	1,62E-05	3,26E-05	1,83E-05
690	1,85E-05	1,69E-05	1,79E-05	8,34E-05	1,81E-05
691	1,96E-05	2,11E-05	1,83E-05	4,17E-05	2,03E-05
692	1,83E-05	1,62E-05	1,63E-05	8,93E-05	1,75E-05
693	2,02E-05	2,03E-05	1,61E-05	7,44E-05	2,02E-05
694	1,93E-05	2,10E-05	2,06E-05	2,72E-04	2,14E-05
695	1,64E-05	2,10E-05	1,65E-05	2,18E-04	1,94E-05
696	1,99E-05	1,29E-05	1,53E-05	9,64E-05	1,68E-05
697	1,70E-05	1,64E-05	1,64E-05	5,46E-05	1,69E-05
698	1,82E-05	1,78E-05	1,80E-05	5,41E-05	1,82E-05
699	1,75E-05	2,04E-05	1,59E-05	7,66E-05	1,89E-05
700	2,00E-05	2,55E-05	1,90E-05	6,70E-05	2,26E-05
701	1,86E-05	1,41E-05	1,61E-05	2,57E-05	1,65E-05
702	1,98E-05	1,46E-05	1,70E-05	6,27E-05	1,75E-05
703	2,11E-05	2,08E-05	1,94E-05	7,58E-05	2,11E-05
704	2,20E-05	2,07E-05	1,55E-05	2,34E-05	2,10E-05
705	1,79E-05	1,55E-05	2,32E-05	6,60E-05	1,75E-05
706	1,93E-05	1,44E-05	2,09E-05	1,10E-04	1,77E-05
707	1,99E-05	1,85E-05	1,87E-05	6,18E-05	1,94E-05
708	1,80E-05	1,38E-05	1,65E-05	4,90E-05	1,62E-05
709	2,20E-05	1,43E-05	2,13E-05	1,71E-05	1,85E-05
710	1,82E-05	2,17E-05	1,73E-05	1,85E-05	1,97E-05
711	1,76E-05	1,57E-05	1,66E-05	1,07E-04	1,71E-05
712	1,90E-05	2,60E-05	1,69E-05	5,72E-05	2,21E-05
713	2,07E-05	1,39E-05	1,86E-05	3,33E-05	1,76E-05
714	1,93E-05	1,75E-05	1,99E-05	2,58E-04	1,97E-05
715	1,87E-05	1,65E-05	1,73E-05	6,09E-05	1,78E-05
716	2,11E-05	1,78E-05	1,72E-05	5,31E-05	1,95E-05
717	1,94E-05	1,42E-05	1,64E-05	6,11E-05	1,71E-05
718	2,06E-05	1,46E-05	1,54E-05	2,68E-04	1,88E-05
719	1,82E-05	1,70E-05	1,57E-05	1,21E-04	1,79E-05
720	2,05E-05	2,11E-05	1,72E-05	7,44E-05	2,07E-05
721	2,11E-05	2,76E-05	1,66E-05	4,00E-05	2,37E-05
722	2,14E-05	1,94E-05	1,94E-05	1,47E-04	2,10E-05
723	2,25E-05	2,11E-05	1,66E-05	6,76E-05	2,16E-05
724	1,85E-05	2,06E-05	1,62E-05	8,62E-05	1,96E-05
725	1,79E-05	1,73E-05	1,80E-05	9,99E-05	1,81E-05
726	2,27E-05	2,67E-05	1,78E-05	2,10E-05	2,41E-05
727	1,89E-05	1,66E-05	1,66E-05	6,69E-05	1,79E-05
728	1,82E-05	1,78E-05	1,76E-05	8,35E-05	1,83E-05
729	2,08E-05	1,98E-05	1,75E-05	8,64E-05	2,04E-05
730	1,80E-05	1,86E-05	1,65E-05	9,98E-05	1,86E-05
731	1,98E-05	1,76E-05	1,84E-05	1,95E-04	1,96E-05
732	1,88E-05	1,94E-05	1,56E-05	5,18E-05	1,90E-05
733	1,69E-05	1,63E-05	1,84E-05	1,01E-04	1,72E-05

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel ségrégué - Lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
688	2,72E-04	4,48E-04	2,00E-04	2,31E-03	8,95E-04
689	2,93E-04	4,00E-04	1,45E-04	2,22E-03	8,57E-04
690	2,88E-04	4,13E-04	1,54E-04	2,30E-03	8,82E-04
691	2,65E-04	4,45E-04	1,82E-04	2,27E-03	8,77E-04
692	2,66E-04	4,06E-04	1,34E-04	2,19E-03	8,41E-04
693	2,72E-04	4,62E-04	1,50E-04	2,36E-03	9,08E-04
694	2,87E-04	4,33E-04	1,33E-04	2,30E-03	8,88E-04
695	2,87E-04	4,50E-04	1,68E-04	2,24E-03	8,78E-04
696	2,68E-04	4,18E-04	9,82E-05	2,31E-03	8,75E-04
697	2,96E-04	3,96E-04	1,42E-04	2,21E-03	8,54E-04
698	2,68E-04	3,99E-04	1,33E-04	2,27E-03	8,61E-04
699	2,93E-04	4,12E-04	1,22E-04	2,24E-03	8,66E-04
700	2,89E-04	4,48E-04	1,53E-04	2,29E-03	8,91E-04
701	2,62E-04	4,33E-04	1,07E-04	2,22E-03	8,55E-04
702	2,92E-04	4,52E-04	1,28E-04	2,33E-03	9,02E-04
703	2,70E-04	3,86E-04	2,07E-04	2,34E-03	8,82E-04
704	2,71E-04	4,25E-04	1,83E-04	2,33E-03	8,91E-04
705	2,82E-04	4,42E-04	1,17E-04	2,25E-03	8,72E-04
706	2,82E-04	4,35E-04	1,03E-04	2,26E-03	8,74E-04
707	2,78E-04	3,95E-04	1,19E-04	2,27E-03	8,64E-04
708	3,03E-04	4,34E-04	1,46E-04	2,26E-03	8,83E-04
709	2,64E-04	3,68E-04	1,24E-04	2,25E-03	8,45E-04
710	2,66E-04	3,96E-04	1,42E-04	2,33E-03	8,78E-04
711	2,77E-04	4,69E-04	1,36E-04	2,34E-03	9,06E-04
712	2,81E-04	3,84E-04	1,24E-04	2,29E-03	8,66E-04
713	3,02E-04	3,96E-04	1,28E-04	2,29E-03	8,79E-04
714	3,04E-04	4,74E-04	1,33E-04	2,30E-03	9,07E-04
715	3,10E-04	4,79E-04	9,49E-05	2,15E-03	8,65E-04
716	2,63E-04	4,15E-04	1,10E-04	2,34E-03	8,84E-04
717	2,89E-04	3,85E-04	1,85E-04	2,27E-03	8,67E-04
718	2,43E-04	4,25E-04	8,15E-05	2,28E-03	8,60E-04
719	2,74E-04	4,36E-04	1,37E-04	2,20E-03	8,57E-04
720	2,82E-04	3,73E-04	1,23E-04	2,26E-03	8,56E-04
721	2,85E-04	4,19E-04	1,17E-04	2,20E-03	8,54E-04
722	2,76E-04	3,88E-04	1,32E-04	2,32E-03	8,74E-04
723	3,00E-04	4,78E-04	1,15E-04	2,27E-03	8,98E-04
724	2,90E-04	4,19E-04	1,37E-04	2,18E-03	8,50E-04
725	2,71E-04	4,18E-04	1,83E-04	2,29E-03	8,77E-04
726	2,76E-04	4,18E-04	1,34E-04	2,24E-03	8,62E-04
727	2,70E-04	4,04E-04	1,99E-04	2,31E-03	8,79E-04
728	2,74E-04	4,10E-04	2,14E-04	2,21E-03	8,55E-04
729	2,98E-04	3,85E-04	1,51E-04	2,28E-03	8,70E-04
730	2,97E-04	4,65E-04	1,13E-04	2,28E-03	8,94E-04
731	2,88E-04	4,35E-04	1,89E-04	2,25E-03	8,77E-04
732	2,51E-04	4,07E-04	1,25E-04	2,35E-03	8,81E-04
733	2,70E-04	4,16E-04	1,46E-04	2,24E-03	8,60E-04

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel non ségrégué - Lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
734	7,07E-05	1,09E-04	3,75E-05	6,50E-04	2,52E-04
735	7,20E-05	7,66E-05	5,64E-05	5,76E-04	2,55E-04
736	7,52E-05	8,90E-05	3,39E-05	6,77E-04	2,53E-04
737	6,51E-05	1,10E-04	2,96E-05	6,45E-04	2,44E-04
738	6,83E-05	7,50E-05	4,03E-05	5,90E-04	2,46E-04
739	7,56E-05	9,37E-05	2,74E-05	5,91E-04	2,50E-04
740	7,10E-05	9,43E-05	3,32E-05	6,86E-04	2,65E-04
741	6,38E-05	8,32E-05	3,54E-05	7,19E-04	2,59E-04
742	6,12E-05	7,62E-05	3,46E-05	6,57E-04	2,57E-04
743	7,26E-05	9,51E-05	4,35E-05	6,31E-04	2,54E-04
744	6,31E-05	9,38E-05	2,58E-05	6,72E-04	2,55E-04
745	6,34E-05	8,72E-05	2,67E-05	6,84E-04	2,51E-04
746	6,45E-05	1,10E-04	4,20E-05	5,88E-04	2,51E-04
747	7,08E-05	1,09E-04	4,26E-05	6,41E-04	2,54E-04
748	7,54E-05	8,01E-05	4,67E-05	6,03E-04	2,51E-04
749	6,13E-05	9,69E-05	2,83E-05	6,27E-04	2,55E-04
750	7,06E-05	8,08E-05	2,74E-05	6,13E-04	2,59E-04
751	6,70E-05	9,88E-05	2,42E-05	6,58E-04	2,60E-04
752	7,50E-05	7,97E-05	3,19E-05	6,84E-04	2,53E-04
753	6,97E-05	1,04E-04	3,27E-05	6,68E-04	2,56E-04
754	6,85E-05	8,78E-05	4,15E-05	5,80E-04	2,68E-04
755	6,11E-05	8,69E-05	4,99E-05	6,94E-04	2,52E-04
756	7,57E-05	9,61E-05	3,52E-05	6,48E-04	2,63E-04
757	7,09E-05	7,38E-05	3,53E-05	6,20E-04	2,54E-04
758	6,28E-05	9,97E-05	4,18E-05	6,77E-04	2,57E-04
759	7,00E-05	9,50E-05	3,91E-05	6,38E-04	2,58E-04
760	8,20E-05	1,11E-04	3,39E-05	6,42E-04	2,58E-04
761	8,07E-05	9,57E-05	3,43E-05	7,10E-04	2,54E-04
762	6,51E-05	8,90E-05	3,66E-05	6,47E-04	2,65E-04
763	6,21E-05	1,21E-04	2,87E-05	5,83E-04	2,59E-04
764	8,14E-05	1,00E-04	3,16E-05	6,91E-04	2,55E-04
765	7,69E-05	8,05E-05	3,03E-05	6,38E-04	2,47E-04
766	7,58E-05	1,02E-04	3,02E-05	6,75E-04	2,58E-04
767	6,43E-05	1,25E-04	4,67E-05	5,70E-04	2,56E-04
768	6,35E-05	9,82E-05	3,90E-05	6,16E-04	2,59E-04
769	7,69E-05	1,13E-04	2,74E-05	6,25E-04	2,54E-04
770	6,86E-05	1,18E-04	4,10E-05	6,99E-04	2,55E-04
771	6,29E-05	8,98E-05	2,78E-05	6,28E-04	2,56E-04
772	7,70E-05	1,10E-04	3,17E-05	6,32E-04	2,54E-04
773	6,37E-05	8,69E-05	5,06E-05	6,77E-04	2,58E-04
774	6,71E-05	1,08E-04	2,67E-05	7,52E-04	2,58E-04
775	7,28E-05	1,01E-04	3,79E-05	5,86E-04	2,49E-04
776	7,14E-05	8,90E-05	3,22E-05	6,10E-04	2,57E-04
777	7,89E-05	9,26E-05	4,03E-05	6,24E-04	2,50E-04
778	7,95E-05	9,48E-05	4,02E-05	6,37E-04	2,61E-04
779	7,10E-05	8,11E-05	3,58E-05	6,61E-04	2,57E-04

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel ségrégué - Non lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
734	2,10E-05	1,45E-05	1,59E-05	5,42E-05	1,79E-05
735	2,10E-05	2,19E-05	1,95E-05	5,03E-05	2,14E-05
736	1,94E-05	1,40E-05	1,87E-05	4,21E-05	1,71E-05
737	1,80E-05	1,68E-05	2,02E-05	1,02E-04	1,81E-05
738	1,85E-05	1,90E-05	1,71E-05	2,99E-04	2,00E-05
739	2,18E-05	1,39E-05	2,54E-05	1,93E-05	1,86E-05
740	1,89E-05	1,54E-05	1,83E-05	5,04E-05	1,75E-05
741	1,88E-05	1,43E-05	1,78E-05	1,23E-04	1,72E-05
742	1,98E-05	2,05E-05	1,58E-05	3,14E-05	1,99E-05
743	1,89E-05	1,76E-05	1,91E-05	5,48E-05	1,85E-05
744	1,71E-05	2,03E-05	2,01E-05	8,66E-05	1,91E-05
745	1,81E-05	2,03E-05	1,65E-05	6,97E-05	1,92E-05
746	1,91E-05	2,17E-05	1,61E-05	5,25E-05	2,02E-05
747	1,79E-05	1,51E-05	1,61E-05	4,69E-05	1,67E-05
748	1,79E-05	1,85E-05	2,20E-05	1,11E-04	1,89E-05
749	1,65E-05	2,82E-05	1,75E-05	5,08E-05	2,19E-05
750	2,07E-05	2,74E-05	1,62E-05	8,27E-05	2,36E-05
751	2,35E-05	1,73E-05	1,72E-05	5,89E-05	2,05E-05
752	2,02E-05	2,15E-05	1,68E-05	9,10E-05	2,08E-05
753	1,96E-05	1,80E-05	1,72E-05	4,46E-05	1,88E-05
754	2,15E-05	1,76E-05	1,58E-05	1,32E-04	1,99E-05
755	1,68E-05	2,14E-05	1,77E-05	1,35E-04	1,94E-05
756	2,16E-05	2,77E-05	1,70E-05	4,63E-05	2,41E-05
757	2,10E-05	2,33E-05	1,56E-05	1,30E-04	2,21E-05
758	1,70E-05	1,52E-05	2,01E-05	1,69E-04	1,72E-05
759	1,86E-05	2,26E-05	1,69E-05	1,14E-04	2,07E-05
760	2,04E-05	2,34E-05	1,67E-05	1,39E-04	2,20E-05
761	1,99E-05	1,75E-05	1,65E-05	9,42E-05	1,89E-05
762	1,72E-05	1,37E-05	1,67E-05	1,44E-04	1,63E-05
763	2,24E-05	2,25E-05	1,74E-05	7,18E-05	2,23E-05
764	2,47E-05	1,55E-05	1,95E-05	4,52E-05	2,04E-05
765	1,85E-05	1,17E-05	1,60E-05	3,51E-05	1,54E-05
766	2,13E-05	1,63E-05	1,80E-05	5,84E-05	1,90E-05
767	1,69E-05	1,61E-05	1,65E-05	5,00E-05	1,67E-05
768	2,22E-05	1,42E-05	1,68E-05	6,45E-05	1,85E-05
769	1,95E-05	2,18E-05	1,94E-05	6,52E-05	2,07E-05
770	1,91E-05	1,57E-05	1,73E-05	3,46E-05	1,75E-05
771	1,78E-05	1,77E-05	1,80E-05	9,22E-05	1,81E-05
772	2,15E-05	1,52E-05	1,82E-05	6,01E-05	1,86E-05
773	1,88E-05	1,45E-05	1,58E-05	3,04E-05	1,67E-05
774	1,95E-05	1,48E-05	1,56E-05	4,90E-05	1,73E-05
775	1,79E-05	1,54E-05	1,76E-05	7,43E-05	1,70E-05
776	1,90E-05	2,73E-05	1,76E-05	5,53E-05	2,27E-05
777	1,68E-05	1,36E-05	1,72E-05	7,24E-05	1,57E-05
778	1,63E-05	2,21E-05	1,67E-05	4,43E-05	1,90E-05
779	1,99E-05	1,33E-05	1,72E-05	8,72E-05	1,71E-05

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel ségrégué - Lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
734	3,02E-04	4,09E-04	1,30E-04	2,22E-03	8,62E-04
735	2,81E-04	4,18E-04	1,15E-04	2,25E-03	8,66E-04
736	2,49E-04	4,59E-04	1,36E-04	2,25E-03	8,70E-04
737	2,67E-04	3,84E-04	9,89E-05	2,20E-03	8,35E-04
738	2,67E-04	3,82E-04	8,13E-05	2,21E-03	8,36E-04
739	2,72E-04	4,35E-04	1,36E-04	2,19E-03	8,53E-04
740	2,81E-04	4,34E-04	1,09E-04	2,40E-03	9,11E-04
741	2,82E-04	4,39E-04	1,28E-04	2,31E-03	8,91E-04
742	2,95E-04	4,20E-04	1,20E-04	2,27E-03	8,78E-04
743	2,77E-04	3,99E-04	1,68E-04	2,28E-03	8,70E-04
744	2,81E-04	4,38E-04	1,17E-04	2,26E-03	8,73E-04
745	2,70E-04	3,88E-04	1,44E-04	2,26E-03	8,56E-04
746	2,82E-04	4,13E-04	1,45E-04	2,20E-03	8,53E-04
747	2,45E-04	4,60E-04	1,09E-04	2,28E-03	8,74E-04
748	2,98E-04	3,58E-04	1,56E-04	2,26E-03	8,57E-04
749	2,77E-04	4,24E-04	1,29E-04	2,23E-03	8,63E-04
750	2,60E-04	3,91E-04	1,29E-04	2,34E-03	8,76E-04
751	3,03E-04	4,34E-04	1,01E-04	2,28E-03	8,86E-04
752	2,69E-04	3,95E-04	1,55E-04	2,26E-03	8,60E-04
753	2,89E-04	4,17E-04	1,86E-04	2,27E-03	8,77E-04
754	2,91E-04	4,76E-04	1,78E-04	2,34E-03	9,17E-04
755	2,84E-04	4,27E-04	1,13E-04	2,22E-03	8,59E-04
756	2,90E-04	4,23E-04	1,35E-04	2,30E-03	8,86E-04
757	2,67E-04	3,66E-04	1,24E-04	2,31E-03	8,61E-04
758	2,98E-04	4,22E-04	1,50E-04	2,28E-03	8,83E-04
759	2,62E-04	4,46E-04	1,62E-04	2,27E-03	8,77E-04
760	2,63E-04	4,39E-04	9,07E-05	2,29E-03	8,76E-04
761	2,78E-04	4,09E-04	1,38E-04	2,28E-03	8,70E-04
762	3,00E-04	4,96E-04	7,93E-05	2,33E-03	9,16E-04
763	2,60E-04	4,34E-04	1,05E-04	2,30E-03	8,77E-04
764	2,93E-04	3,94E-04	1,53E-04	2,27E-03	8,69E-04
765	2,70E-04	4,09E-04	1,27E-04	2,22E-03	8,52E-04
766	2,93E-04	4,37E-04	1,39E-04	2,27E-03	8,82E-04
767	2,85E-04	4,42E-04	1,34E-04	2,27E-03	8,82E-04
768	3,03E-04	3,99E-04	1,56E-04	2,31E-03	8,87E-04
769	2,98E-04	4,09E-04	1,74E-04	2,22E-03	8,62E-04
770	2,66E-04	4,47E-04	1,28E-04	2,27E-03	8,76E-04
771	2,90E-04	4,14E-04	1,99E-04	2,27E-03	8,78E-04
772	2,93E-04	3,64E-04	1,29E-04	2,31E-03	8,70E-04
773	2,84E-04	4,38E-04	1,64E-04	2,29E-03	8,88E-04
774	2,74E-04	4,22E-04	1,31E-04	2,33E-03	8,87E-04
775	2,64E-04	3,89E-04	1,23E-04	2,27E-03	8,56E-04
776	2,91E-04	3,82E-04	1,84E-04	2,27E-03	8,68E-04
777	2,71E-04	4,24E-04	1,20E-04	2,24E-03	8,61E-04
778	2,83E-04	4,16E-04	1,12E-04	2,35E-03	8,93E-04
779	2,88E-04	3,89E-04	1,07E-04	2,34E-03	8,83E-04

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel non ségrégué - Lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
780	6,99E-05	1,12E-04	2,93E-05	6,28E-04	2,57E-04
781	6,83E-05	9,55E-05	4,37E-05	6,36E-04	2,55E-04
782	7,91E-05	9,38E-05	3,98E-05	5,61E-04	2,51E-04
783	7,38E-05	1,03E-04	2,53E-05	6,60E-04	2,55E-04
784	6,44E-05	9,97E-05	2,62E-05	6,99E-04	2,62E-04
785	7,53E-05	8,77E-05	3,65E-05	6,06E-04	2,55E-04
786	6,69E-05	6,91E-05	4,43E-05	6,50E-04	2,52E-04
787	6,41E-05	9,25E-05	4,25E-05	6,06E-04	2,63E-04
788	6,77E-05	8,80E-05	3,81E-05	6,02E-04	2,60E-04
789	7,44E-05	7,81E-05	4,13E-05	6,42E-04	2,54E-04
790	7,42E-05	8,19E-05	3,84E-05	5,91E-04	2,51E-04
791	6,66E-05	8,42E-05	4,50E-05	6,62E-04	2,59E-04
792	6,32E-05	9,54E-05	4,09E-05	6,58E-04	2,51E-04
793	7,22E-05	1,02E-04	3,57E-05	5,77E-04	2,57E-04
794	6,97E-05	8,18E-05	3,29E-05	5,95E-04	2,56E-04
795	7,46E-05	1,03E-04	3,81E-05	6,68E-04	2,50E-04
796	6,77E-05	9,34E-05	3,79E-05	6,53E-04	2,58E-04
797	6,51E-05	9,00E-05	3,47E-05	6,43E-04	2,54E-04
798	8,18E-05	7,09E-05	3,97E-05	6,90E-04	2,49E-04
799	7,01E-05	1,01E-04	2,89E-05	6,41E-04	2,61E-04
800	6,82E-05	9,36E-05	3,06E-05	6,33E-04	2,51E-04
801	8,10E-05	1,05E-04	3,21E-05	7,05E-04	2,57E-04
802	6,59E-05	1,01E-04	3,12E-05	6,96E-04	2,65E-04
803	7,46E-05	9,79E-05	3,73E-05	6,79E-04	2,56E-04
804	6,47E-05	1,06E-04	3,62E-05	6,69E-04	2,52E-04
805	6,30E-05	9,35E-05	3,50E-05	7,81E-04	2,55E-04
806	6,27E-05	7,98E-05	3,44E-05	6,37E-04	2,53E-04
807	7,17E-05	7,55E-05	2,52E-05	6,78E-04	2,50E-04
808	6,65E-05	9,92E-05	5,06E-05	6,25E-04	2,57E-04
809	7,88E-05	8,19E-05	4,50E-05	6,00E-04	2,50E-04
810	7,14E-05	9,26E-05	4,05E-05	6,08E-04	2,51E-04
811	7,71E-05	8,68E-05	4,34E-05	6,42E-04	2,55E-04
812	6,70E-05	1,18E-04	4,85E-05	6,27E-04	2,61E-04
813	7,62E-05	8,12E-05	2,65E-05	6,39E-04	2,51E-04
814	6,40E-05	8,40E-05	3,26E-05	7,17E-04	2,62E-04
815	6,87E-05	8,54E-05	3,88E-05	6,13E-04	2,53E-04
816	7,03E-05	8,33E-05	4,41E-05	6,56E-04	2,53E-04
817	6,49E-05	9,58E-05	3,56E-05	6,33E-04	2,53E-04
818	7,60E-05	7,29E-05	2,32E-05	6,89E-04	2,56E-04
819	6,24E-05	7,84E-05	3,47E-05	6,92E-04	2,60E-04
820	6,94E-05	8,91E-05	3,22E-05	6,62E-04	2,56E-04
821	6,67E-05	8,32E-05	4,06E-05	6,63E-04	2,45E-04
822	6,80E-05	8,21E-05	3,91E-05	6,66E-04	2,61E-04
823	6,40E-05	1,04E-04	3,08E-05	6,42E-04	2,58E-04
824	6,97E-05	1,12E-04	3,38E-05	6,71E-04	2,59E-04
825	7,81E-05	1,13E-04	3,97E-05	6,71E-04	2,57E-04

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel ségrégué - Non lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
780	1,83E-05	1,76E-05	1,63E-05	2,02E-04	1,87E-05
781	2,09E-05	1,30E-05	1,71E-05	9,40E-05	1,75E-05
782	2,13E-05	1,91E-05	2,15E-05	6,96E-05	2,06E-05
783	1,87E-05	1,99E-05	1,67E-05	5,92E-05	1,93E-05
784	1,69E-05	2,30E-05	1,60E-05	1,01E-04	1,99E-05
785	1,82E-05	1,64E-05	2,08E-05	7,04E-05	1,79E-05
786	1,90E-05	1,93E-05	1,69E-05	9,45E-05	1,94E-05
787	2,15E-05	1,62E-05	2,09E-05	1,75E-04	1,99E-05
788	1,83E-05	2,08E-05	1,63E-05	1,05E-04	1,97E-05
789	1,66E-05	2,09E-05	1,75E-05	1,49E-04	1,92E-05
790	2,15E-05	1,61E-05	1,94E-05	2,55E-05	1,90E-05
791	1,90E-05	2,62E-05	1,68E-05	4,62E-05	2,21E-05
792	2,23E-05	1,33E-05	2,06E-05	3,85E-05	1,83E-05
793	2,11E-05	2,56E-05	1,55E-05	1,11E-04	2,31E-05
794	1,97E-05	2,07E-05	1,62E-05	6,38E-05	2,01E-05
795	1,75E-05	2,78E-05	2,27E-05	4,81E-05	2,26E-05
796	1,93E-05	1,84E-05	1,69E-05	4,14E-05	1,88E-05
797	1,86E-05	2,11E-05	2,09E-05	6,32E-05	2,01E-05
798	1,93E-05	1,57E-05	1,95E-05	3,41E-05	1,78E-05
799	2,27E-05	1,74E-05	1,72E-05	6,87E-05	2,02E-05
800	1,96E-05	1,78E-05	2,03E-05	4,03E-05	1,90E-05
801	2,06E-05	1,40E-05	1,66E-05	9,71E-05	1,77E-05
802	1,71E-05	1,57E-05	1,59E-05	8,18E-05	1,67E-05
803	1,80E-05	1,92E-05	1,88E-05	7,67E-05	1,89E-05
804	2,12E-05	1,21E-05	1,72E-05	8,19E-05	1,72E-05
805	2,03E-05	1,48E-05	1,63E-05	3,09E-05	1,76E-05
806	1,91E-05	1,52E-05	1,61E-05	9,06E-05	1,75E-05
807	1,72E-05	2,12E-05	1,62E-05	2,30E-04	1,99E-05
808	2,06E-05	1,97E-05	1,64E-05	1,58E-04	2,05E-05
809	2,25E-05	1,62E-05	1,77E-05	4,90E-05	1,95E-05
810	1,99E-05	1,73E-05	1,81E-05	5,71E-05	1,88E-05
811	1,90E-05	1,66E-05	1,85E-05	8,40E-05	1,82E-05
812	2,13E-05	1,26E-05	1,76E-05	1,21E-04	1,77E-05
813	2,36E-05	1,94E-05	1,63E-05	2,43E-05	2,12E-05
814	1,74E-05	2,20E-05	1,64E-05	7,52E-05	1,96E-05
815	1,85E-05	1,69E-05	1,68E-05	2,86E-04	1,90E-05
816	1,51E-05	1,82E-05	1,76E-05	4,83E-05	1,68E-05
817	1,96E-05	1,91E-05	2,09E-05	6,50E-05	1,97E-05
818	2,07E-05	2,07E-05	1,99E-05	6,45E-05	2,09E-05
819	1,85E-05	2,05E-05	1,64E-05	6,79E-05	1,95E-05
820	2,10E-05	1,27E-05	1,87E-05	1,87E-05	1,72E-05
821	1,90E-05	1,98E-05	1,77E-05	5,44E-05	1,94E-05
822	1,72E-05	1,50E-05	1,65E-05	9,96E-05	1,66E-05
823	2,01E-05	1,47E-05	1,82E-05	2,81E-05	1,76E-05
824	1,73E-05	1,67E-05	1,98E-05	9,05E-05	1,76E-05
825	2,06E-05	1,57E-05	1,58E-05	1,72E-04	1,88E-05

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel ségrégué - Lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
780	2,64E-04	4,38E-04	1,52E-04	2,30E-03	8,81E-04
781	2,72E-04	4,29E-04	1,56E-04	2,27E-03	8,75E-04
782	2,63E-04	3,65E-04	9,84E-05	2,30E-03	8,55E-04
783	3,06E-04	4,22E-04	1,39E-04	2,23E-03	8,70E-04
784	2,71E-04	4,25E-04	1,36E-04	2,35E-03	8,95E-04
785	2,80E-04	4,43E-04	1,55E-04	2,25E-03	8,74E-04
786	2,84E-04	4,17E-04	1,48E-04	2,22E-03	8,59E-04
787	3,17E-04	4,53E-04	1,26E-04	2,28E-03	8,97E-04
788	2,86E-04	4,38E-04	1,35E-04	2,29E-03	8,87E-04
789	2,90E-04	3,85E-04	1,49E-04	2,28E-03	8,69E-04
790	2,79E-04	3,83E-04	1,35E-04	2,26E-03	8,59E-04
791	2,71E-04	4,30E-04	1,22E-04	2,29E-03	8,76E-04
792	3,06E-04	3,92E-04	1,27E-04	2,23E-03	8,61E-04
793	2,86E-04	4,11E-04	1,23E-04	2,26E-03	8,67E-04
794	2,73E-04	4,28E-04	1,54E-04	2,27E-03	8,73E-04
795	2,61E-04	4,08E-04	1,21E-04	2,21E-03	8,43E-04
796	2,75E-04	4,36E-04	1,99E-04	2,29E-03	8,85E-04
797	2,60E-04	4,27E-04	1,70E-04	2,26E-03	8,67E-04
798	2,85E-04	3,83E-04	1,54E-04	2,24E-03	8,55E-04
799	2,64E-04	4,51E-04	1,55E-04	2,31E-03	8,91E-04
800	2,65E-04	3,81E-04	1,62E-04	2,27E-03	8,57E-04
801	2,81E-04	4,61E-04	1,49E-04	2,26E-03	8,84E-04
802	2,95E-04	4,47E-04	2,21E-04	2,35E-03	9,14E-04
803	2,87E-04	4,36E-04	1,84E-04	2,24E-03	8,76E-04
804	2,75E-04	4,18E-04	1,82E-04	2,25E-03	8,67E-04
805	2,81E-04	4,39E-04	2,00E-04	2,25E-03	8,77E-04
806	2,98E-04	4,06E-04	1,55E-04	2,24E-03	8,67E-04
807	2,71E-04	4,35E-04	1,08E-04	2,20E-03	8,53E-04
808	2,91E-04	4,31E-04	9,48E-05	2,26E-03	8,75E-04
809	2,80E-04	4,23E-04	1,76E-04	2,19E-03	8,54E-04
810	2,73E-04	4,12E-04	1,14E-04	2,24E-03	8,58E-04
811	2,76E-04	4,22E-04	8,71E-05	2,29E-03	8,75E-04
812	2,89E-04	4,73E-04	1,08E-04	2,29E-03	8,97E-04
813	2,69E-04	4,27E-04	1,11E-04	2,21E-03	8,53E-04
814	2,65E-04	4,54E-04	1,64E-04	2,32E-03	8,95E-04
815	2,82E-04	4,01E-04	1,25E-04	2,27E-03	8,66E-04
816	2,92E-04	4,04E-04	1,17E-04	2,26E-03	8,69E-04
817	2,83E-04	3,79E-04	1,28E-04	2,28E-03	8,64E-04
818	2,78E-04	4,61E-04	1,50E-04	2,22E-03	8,72E-04
819	2,77E-04	4,44E-04	1,50E-04	2,30E-03	8,90E-04
820	2,71E-04	4,00E-04	1,38E-04	2,33E-03	8,80E-04
821	2,71E-04	3,93E-04	1,28E-04	2,18E-03	8,35E-04
822	2,86E-04	4,26E-04	1,14E-04	2,36E-03	9,02E-04
823	2,63E-04	4,18E-04	1,61E-04	2,33E-03	8,85E-04
824	2,66E-04	4,24E-04	1,36E-04	2,34E-03	8,90E-04
825	2,82E-04	4,09E-04	1,34E-04	2,30E-03	8,79E-04

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel non ségrégué - Lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
826	6,18E-05	1,12E-04	5,49E-05	5,64E-04	2,52E-04
827	6,56E-05	9,80E-05	5,04E-05	6,50E-04	2,57E-04
828	6,72E-05	9,31E-05	4,43E-05	7,21E-04	2,51E-04
829	7,49E-05	8,95E-05	3,07E-05	5,62E-04	2,59E-04
830	7,56E-05	6,77E-05	4,80E-05	7,36E-04	2,59E-04
831	7,86E-05	7,36E-05	2,55E-05	6,58E-04	2,58E-04
832	8,17E-05	7,80E-05	3,81E-05	6,22E-04	2,54E-04
833	7,84E-05	8,52E-05	2,75E-05	6,28E-04	2,65E-04
834	7,52E-05	7,73E-05	3,19E-05	6,16E-04	2,60E-04
835	7,38E-05	8,31E-05	3,50E-05	5,98E-04	2,52E-04
836	7,95E-05	9,03E-05	3,34E-05	6,55E-04	2,59E-04
837	6,64E-05	1,02E-04	3,28E-05	6,35E-04	2,53E-04
838	8,01E-05	9,13E-05	3,56E-05	6,33E-04	2,54E-04
839	6,55E-05	1,09E-04	2,67E-05	6,21E-04	2,47E-04
840	7,15E-05	9,62E-05	3,56E-05	6,50E-04	2,49E-04
841	7,66E-05	9,45E-05	4,50E-05	6,96E-04	2,54E-04
842	6,66E-05	9,06E-05	3,08E-05	6,25E-04	2,58E-04
843	7,27E-05	8,72E-05	4,24E-05	6,78E-04	2,58E-04
844	7,01E-05	9,63E-05	2,76E-05	6,24E-04	2,61E-04
845	7,00E-05	9,26E-05	3,66E-05	6,05E-04	2,57E-04
846	6,49E-05	9,84E-05	3,20E-05	6,90E-04	2,57E-04
847	7,28E-05	1,05E-04	3,05E-05	6,71E-04	2,59E-04
848	6,23E-05	1,04E-04	3,87E-05	7,00E-04	2,61E-04
849	7,39E-05	9,48E-05	3,52E-05	6,20E-04	2,61E-04
850	7,09E-05	9,44E-05	3,08E-05	6,08E-04	2,58E-04
851	6,04E-05	8,47E-05	3,31E-05	6,48E-04	2,52E-04
852	6,51E-05	8,49E-05	3,87E-05	6,73E-04	2,54E-04
853	6,98E-05	7,05E-05	4,34E-05	6,88E-04	2,60E-04
854	6,40E-05	9,79E-05	4,26E-05	6,28E-04	2,58E-04
855	6,79E-05	9,75E-05	4,51E-05	6,28E-04	2,51E-04
856	6,30E-05	1,13E-04	4,17E-05	6,63E-04	2,55E-04
857	7,34E-05	1,06E-04	3,42E-05	6,22E-04	2,62E-04
858	6,75E-05	8,62E-05	3,73E-05	6,36E-04	2,62E-04
859	6,60E-05	1,11E-04	3,82E-05	6,34E-04	2,50E-04
860	6,28E-05	8,71E-05	4,17E-05	6,66E-04	2,58E-04
861	7,79E-05	1,10E-04	3,66E-05	6,28E-04	2,57E-04
862	7,13E-05	1,16E-04	2,94E-05	7,36E-04	2,59E-04
863	7,11E-05	8,32E-05	3,21E-05	6,49E-04	2,59E-04
864	6,82E-05	7,67E-05	4,20E-05	7,26E-04	2,52E-04
865	7,29E-05	8,70E-05	3,33E-05	6,47E-04	2,65E-04
866	6,64E-05	1,15E-04	2,69E-05	6,66E-04	2,49E-04
867	6,07E-05	9,99E-05	3,06E-05	6,53E-04	2,52E-04
868	6,48E-05	1,18E-04	2,87E-05	7,13E-04	2,54E-04
869	7,16E-05	8,08E-05	3,82E-05	6,13E-04	2,51E-04
870	6,45E-05	6,07E-05	2,94E-05	6,11E-04	2,56E-04
871	6,44E-05	7,32E-05	3,33E-05	6,46E-04	2,58E-04

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel ségrégué - Non lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
826	1,88E-05	1,34E-05	1,67E-05	8,53E-05	1,66E-05
827	1,78E-05	1,94E-05	1,65E-05	1,06E-04	1,88E-05
828	1,72E-05	1,19E-05	1,73E-05	8,04E-05	1,51E-05
829	2,18E-05	2,08E-05	1,98E-05	2,67E-05	2,12E-05
830	2,08E-05	1,94E-05	2,18E-05	1,14E-04	2,07E-05
831	1,99E-05	2,25E-05	2,03E-05	4,92E-05	2,12E-05
832	2,15E-05	1,95E-05	1,70E-05	2,29E-05	2,03E-05
833	1,98E-05	1,85E-05	1,81E-05	1,32E-04	1,96E-05
834	1,83E-05	2,16E-05	1,92E-05	6,22E-05	2,00E-05
835	1,96E-05	2,31E-05	1,80E-05	1,09E-04	2,14E-05
836	2,29E-05	1,98E-05	1,97E-05	4,81E-05	2,14E-05
837	2,08E-05	2,59E-05	1,88E-05	1,30E-04	2,34E-05
838	1,84E-05	1,94E-05	2,09E-05	1,09E-04	1,95E-05
839	1,80E-05	1,60E-05	1,72E-05	1,78E-05	1,71E-05
840	1,98E-05	2,10E-05	1,97E-05	1,68E-04	2,10E-05
841	2,11E-05	1,30E-05	1,76E-05	6,12E-05	1,75E-05
842	2,16E-05	1,43E-05	2,12E-05	1,11E-04	1,88E-05
843	2,26E-05	1,87E-05	1,68E-05	1,43E-04	2,10E-05
844	1,93E-05	1,49E-05	1,72E-05	2,15E-05	1,72E-05
845	2,02E-05	2,74E-05	1,70E-05	5,25E-05	2,33E-05
846	2,20E-05	1,74E-05	1,59E-05	1,59E-04	2,02E-05
847	1,98E-05	1,82E-05	1,63E-05	1,03E-04	1,92E-05
848	1,72E-05	1,77E-05	1,62E-05	1,16E-04	1,78E-05
849	2,08E-05	2,31E-05	1,98E-05	1,28E-04	2,22E-05
850	1,83E-05	1,50E-05	1,65E-05	3,89E-05	1,68E-05
851	1,88E-05	1,61E-05	1,90E-05	9,77E-05	1,80E-05
852	2,15E-05	1,29E-05	1,62E-05	8,43E-05	1,76E-05
853	1,73E-05	1,96E-05	1,69E-05	5,31E-05	1,84E-05
854	1,99E-05	1,65E-05	2,07E-05	1,61E-05	1,84E-05
855	1,84E-05	2,38E-05	1,71E-05	1,60E-04	2,13E-05
856	1,89E-05	1,86E-05	1,62E-05	4,48E-05	1,87E-05
857	1,70E-05	2,05E-05	1,74E-05	6,56E-05	1,88E-05
858	1,68E-05	2,19E-05	2,16E-05	5,53E-05	1,96E-05
859	1,81E-05	1,92E-05	1,63E-05	9,70E-05	1,88E-05
860	2,40E-05	2,36E-05	1,72E-05	8,77E-05	2,36E-05
861	1,72E-05	2,05E-05	1,80E-05	8,59E-05	1,90E-05
862	1,67E-05	2,20E-05	1,64E-05	8,39E-05	1,93E-05
863	2,16E-05	1,73E-05	1,61E-05	5,73E-05	1,95E-05
864	2,01E-05	1,88E-05	1,74E-05	1,76E-04	2,01E-05
865	2,31E-05	1,69E-05	2,16E-05	3,12E-05	2,03E-05
866	2,11E-05	1,73E-05	1,80E-05	7,31E-05	1,95E-05
867	2,09E-05	1,38E-05	1,64E-05	1,03E-04	1,78E-05
868	2,08E-05	2,56E-05	1,89E-05	1,02E-04	2,31E-05
869	2,24E-05	2,11E-05	1,77E-05	1,34E-04	2,20E-05
870	2,14E-05	1,78E-05	2,06E-05	8,18E-05	2,01E-05
871	1,87E-05	1,84E-05	1,79E-05	6,88E-05	1,87E-05

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel ségrégué - Lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
826	2,86E-04	4,16E-04	9,18E-05	2,26E-03	8,67E-04
827	2,91E-04	4,25E-04	1,49E-04	2,28E-03	8,81E-04
828	2,76E-04	4,38E-04	1,13E-04	2,24E-03	8,67E-04
829	2,84E-04	4,37E-04	1,31E-04	2,28E-03	8,81E-04
830	2,98E-04	4,39E-04	1,33E-04	2,27E-03	8,83E-04
831	2,74E-04	4,36E-04	1,28E-04	2,28E-03	8,77E-04
832	2,70E-04	4,58E-04	1,02E-04	2,22E-03	8,65E-04
833	2,59E-04	4,55E-04	1,51E-04	2,38E-03	9,08E-04
834	3,06E-04	4,34E-04	1,04E-04	2,29E-03	8,89E-04
835	2,64E-04	3,83E-04	1,58E-04	2,26E-03	8,55E-04
836	2,97E-04	4,28E-04	1,21E-04	2,27E-03	8,80E-04
837	2,54E-04	4,15E-04	1,04E-04	2,25E-03	8,55E-04
838	2,78E-04	4,02E-04	1,43E-04	2,27E-03	8,66E-04
839	2,81E-04	3,57E-04	1,01E-04	2,26E-03	8,48E-04
840	2,84E-04	4,11E-04	8,42E-05	2,19E-03	8,46E-04
841	2,85E-04	4,26E-04	1,59E-04	2,25E-03	8,72E-04
842	2,81E-04	3,86E-04	1,95E-04	2,33E-03	8,82E-04
843	2,51E-04	4,07E-04	1,66E-04	2,33E-03	8,76E-04
844	2,97E-04	4,68E-04	1,23E-04	2,29E-03	8,99E-04
845	2,79E-04	4,22E-04	1,08E-04	2,26E-03	8,68E-04
846	2,84E-04	3,99E-04	1,16E-04	2,30E-03	8,75E-04
847	2,83E-04	4,30E-04	1,58E-04	2,30E-03	8,85E-04
848	2,93E-04	4,56E-04	1,20E-04	2,30E-03	8,96E-04
849	2,91E-04	4,12E-04	1,91E-04	2,29E-03	8,84E-04
850	2,94E-04	4,24E-04	1,32E-04	2,31E-03	8,89E-04
851	2,81E-04	3,99E-04	1,57E-04	2,25E-03	8,62E-04
852	2,82E-04	3,75E-04	1,51E-04	2,31E-03	8,71E-04
853	2,69E-04	4,28E-04	1,25E-04	2,34E-03	8,91E-04
854	2,78E-04	4,49E-04	8,10E-05	2,29E-03	8,84E-04
855	2,90E-04	4,03E-04	1,51E-04	2,20E-03	8,51E-04
856	2,88E-04	4,04E-04	9,94E-05	2,29E-03	8,72E-04
857	2,98E-04	4,56E-04	1,41E-04	2,29E-03	8,97E-04
858	2,84E-04	4,42E-04	1,42E-04	2,32E-03	8,94E-04
859	2,69E-04	4,20E-04	1,15E-04	2,23E-03	8,55E-04
860	3,06E-04	3,66E-04	1,47E-04	2,29E-03	8,71E-04
861	3,09E-04	4,08E-04	1,03E-04	2,27E-03	8,78E-04
862	2,83E-04	4,35E-04	1,24E-04	2,30E-03	8,86E-04
863	2,74E-04	4,47E-04	1,34E-04	2,29E-03	8,86E-04
864	2,56E-04	3,82E-04	1,27E-04	2,30E-03	8,60E-04
865	3,03E-04	4,40E-04	1,36E-04	2,34E-03	9,05E-04
866	2,63E-04	4,07E-04	1,50E-04	2,22E-03	8,48E-04
867	2,82E-04	4,05E-04	1,19E-04	2,26E-03	8,65E-04
868	2,86E-04	3,99E-04	1,58E-04	2,23E-03	8,58E-04
869	2,85E-04	3,92E-04	9,68E-05	2,22E-03	8,49E-04
870	2,54E-04	4,33E-04	1,00E-04	2,30E-03	8,74E-04
871	2,91E-04	4,24E-04	1,44E-04	2,29E-03	8,83E-04

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel non ségrégué - Lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
872	6,80E-05	8,80E-05	4,21E-05	6,32E-04	2,56E-04
873	6,75E-05	8,42E-05	4,54E-05	5,81E-04	2,59E-04
874	6,65E-05	9,43E-05	5,73E-05	6,51E-04	2,58E-04
875	6,54E-05	1,09E-04	4,32E-05	6,22E-04	2,53E-04
876	7,33E-05	1,03E-04	2,90E-05	6,76E-04	2,65E-04
877	6,18E-05	1,17E-04	3,10E-05	6,64E-04	2,53E-04
878	7,05E-05	1,02E-04	3,42E-05	7,32E-04	2,51E-04
879	6,39E-05	1,10E-04	2,93E-05	6,86E-04	2,52E-04
880	6,38E-05	9,94E-05	4,16E-05	6,15E-04	2,58E-04
881	8,16E-05	1,19E-04	3,46E-05	6,45E-04	2,61E-04
882	6,81E-05	1,14E-04	3,06E-05	6,05E-04	2,48E-04
883	6,72E-05	8,74E-05	4,17E-05	7,16E-04	2,55E-04
884	7,07E-05	8,33E-05	3,90E-05	6,99E-04	2,53E-04
885	7,01E-05	7,05E-05	3,03E-05	6,74E-04	2,47E-04
886	6,86E-05	1,14E-04	4,20E-05	6,14E-04	2,54E-04
887	7,07E-05	9,36E-05	4,92E-05	6,92E-04	2,51E-04
888	6,86E-05	8,98E-05	3,50E-05	5,78E-04	2,60E-04
889	7,41E-05	1,04E-04	4,07E-05	6,52E-04	2,55E-04
890	7,26E-05	1,17E-04	2,94E-05	6,41E-04	2,49E-04
891	6,23E-05	1,02E-04	4,21E-05	6,74E-04	2,51E-04
892	7,02E-05	9,61E-05	2,59E-05	6,46E-04	2,56E-04
893	6,95E-05	1,09E-04	3,49E-05	5,97E-04	2,57E-04
894	7,36E-05	1,01E-04	3,21E-05	6,55E-04	2,56E-04
895	7,65E-05	7,24E-05	3,12E-05	7,19E-04	2,60E-04
896	7,03E-05	7,43E-05	2,98E-05	6,55E-04	2,52E-04
897	7,10E-05	1,02E-04	2,75E-05	6,65E-04	2,54E-04
898	7,51E-05	8,86E-05	3,34E-05	6,09E-04	2,54E-04
899	7,54E-05	7,47E-05	3,37E-05	6,47E-04	2,55E-04
900	7,07E-05	9,16E-05	4,57E-05	6,36E-04	2,49E-04
901	8,15E-05	7,60E-05	3,79E-05	6,80E-04	2,51E-04
902	6,29E-05	8,98E-05	3,59E-05	6,90E-04	2,58E-04
903	5,87E-05	8,03E-05	3,05E-05	6,67E-04	2,49E-04
904	5,59E-05	1,29E-04	3,19E-05	6,14E-04	2,56E-04
905	7,61E-05	8,46E-05	3,65E-05	6,75E-04	2,57E-04
906	6,80E-05	9,14E-05	4,43E-05	7,19E-04	2,56E-04
907	7,12E-05	7,78E-05	4,34E-05	6,74E-04	2,63E-04
908	7,47E-05	1,05E-04	3,32E-05	6,79E-04	2,50E-04
909	6,97E-05	1,09E-04	3,20E-05	6,10E-04	2,57E-04
910	6,23E-05	8,92E-05	3,27E-05	6,48E-04	2,49E-04
911	7,70E-05	9,60E-05	4,35E-05	5,68E-04	2,55E-04
912	6,78E-05	1,02E-04	2,48E-05	6,51E-04	2,59E-04
913	7,08E-05	1,15E-04	5,35E-05	6,63E-04	2,53E-04
914	7,93E-05	1,00E-04	3,75E-05	6,42E-04	2,48E-04
915	6,92E-05	9,37E-05	4,06E-05	6,07E-04	2,57E-04
916	6,83E-05	5,82E-05	3,15E-05	6,81E-04	2,52E-04
917	8,59E-05	8,93E-05	2,99E-05	6,36E-04	2,60E-04

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel ségrégué - Non lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
872	2,17E-05	2,07E-05	1,63E-05	6,16E-05	2,10E-05
873	1,90E-05	2,89E-05	1,69E-05	8,81E-05	2,36E-05
874	1,95E-05	1,71E-05	2,12E-05	8,74E-05	1,89E-05
875	2,24E-05	2,02E-05	1,72E-05	8,25E-05	2,13E-05
876	1,92E-05	1,80E-05	1,80E-05	2,11E-05	1,86E-05
877	2,04E-05	1,64E-05	2,01E-05	7,77E-05	1,89E-05
878	1,81E-05	2,11E-05	1,79E-05	6,03E-05	1,96E-05
879	1,89E-05	1,54E-05	1,70E-05	5,83E-05	1,74E-05
880	1,93E-05	2,47E-05	1,68E-05	1,41E-04	2,21E-05
881	1,92E-05	2,18E-05	2,02E-05	5,99E-05	2,06E-05
882	1,67E-05	1,23E-05	1,55E-05	1,63E-04	1,54E-05
883	1,79E-05	1,65E-05	1,62E-05	1,39E-04	1,77E-05
884	2,03E-05	1,97E-05	1,64E-05	6,29E-05	1,99E-05
885	2,01E-05	2,07E-05	2,24E-05	5,86E-05	2,07E-05
886	1,61E-05	1,38E-05	1,90E-05	5,48E-05	1,55E-05
887	1,73E-05	1,63E-05	1,79E-05	2,22E-05	1,69E-05
888	1,88E-05	2,15E-05	1,68E-05	2,33E-05	1,98E-05
889	1,81E-05	1,60E-05	1,67E-05	4,57E-05	1,72E-05
890	2,10E-05	1,83E-05	1,61E-05	2,99E-05	1,95E-05
891	1,96E-05	1,39E-05	1,84E-05	3,09E-05	1,71E-05
892	1,93E-05	2,00E-05	2,22E-05	7,15E-05	2,01E-05
893	1,91E-05	1,83E-05	1,82E-05	6,20E-05	1,89E-05
894	2,12E-05	1,38E-05	1,61E-05	5,41E-05	1,77E-05
895	1,82E-05	1,59E-05	1,77E-05	1,02E-04	1,76E-05
896	1,78E-05	1,93E-05	1,72E-05	9,09E-05	1,87E-05
897	2,14E-05	2,10E-05	1,56E-05	4,09E-05	2,09E-05
898	1,89E-05	1,79E-05	2,47E-05	1,54E-04	1,95E-05
899	2,12E-05	1,47E-05	1,66E-05	3,54E-05	1,80E-05
900	2,01E-05	1,49E-05	1,81E-05	4,43E-05	1,78E-05
901	1,85E-05	1,72E-05	1,81E-05	1,07E-04	1,83E-05
902	2,06E-05	1,66E-05	1,70E-05	1,33E-04	1,91E-05
903	1,92E-05	1,51E-05	1,62E-05	2,81E-05	1,72E-05
904	2,61E-05	1,50E-05	1,63E-05	4,53E-05	2,06E-05
905	1,76E-05	2,13E-05	2,46E-05	1,40E-04	2,04E-05
906	2,74E-05	1,70E-05	1,61E-05	7,58E-05	2,22E-05
907	2,18E-05	2,72E-05	1,74E-05	6,08E-05	2,40E-05
908	2,16E-05	1,64E-05	1,76E-05	5,27E-05	1,92E-05
909	1,82E-05	1,52E-05	1,67E-05	4,68E-05	1,69E-05
910	1,77E-05	1,89E-05	1,77E-05	4,39E-05	1,84E-05
911	1,93E-05	2,51E-05	1,66E-05	5,13E-05	2,18E-05
912	2,42E-05	2,27E-05	1,63E-05	1,39E-04	2,35E-05
913	1,80E-05	1,66E-05	1,81E-05	9,46E-05	1,78E-05
914	1,84E-05	1,65E-05	1,85E-05	6,49E-05	1,78E-05
915	1,96E-05	2,65E-05	2,10E-05	4,65E-05	2,29E-05
916	2,14E-05	1,43E-05	1,66E-05	1,81E-04	1,87E-05
917	2,04E-05	1,67E-05	1,61E-05	1,37E-04	1,90E-05

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel ségrégué - Lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
872	2,92E-04	3,81E-04	1,52E-04	2,28E-03	8,69E-04
873	2,57E-04	4,98E-04	1,30E-04	2,22E-03	8,76E-04
874	2,59E-04	4,41E-04	1,26E-04	2,32E-03	8,85E-04
875	2,67E-04	4,25E-04	1,32E-04	2,24E-03	8,60E-04
876	2,99E-04	4,30E-04	2,06E-04	2,35E-03	9,10E-04
877	2,54E-04	4,28E-04	1,51E-04	2,26E-03	8,65E-04
878	2,93E-04	3,95E-04	1,19E-04	2,23E-03	8,57E-04
879	2,79E-04	3,81E-04	1,61E-04	2,29E-03	8,66E-04
880	2,75E-04	4,28E-04	1,50E-04	2,27E-03	8,74E-04
881	2,89E-04	4,48E-04	1,30E-04	2,29E-03	8,89E-04
882	2,51E-04	4,37E-04	1,11E-04	2,23E-03	8,56E-04
883	2,97E-04	4,57E-04	1,19E-04	2,23E-03	8,76E-04
884	2,95E-04	3,53E-04	1,37E-04	2,29E-03	8,62E-04
885	3,19E-04	3,47E-04	1,59E-04	2,18E-03	8,38E-04
886	2,99E-04	4,32E-04	1,18E-04	2,25E-03	8,77E-04
887	2,86E-04	4,11E-04	1,09E-04	2,24E-03	8,61E-04
888	2,93E-04	4,41E-04	1,56E-04	2,29E-03	8,89E-04
889	2,97E-04	3,88E-04	1,78E-04	2,29E-03	8,77E-04
890	2,82E-04	3,83E-04	1,68E-04	2,22E-03	8,49E-04
891	2,69E-04	4,10E-04	1,89E-04	2,24E-03	8,62E-04
892	2,92E-04	3,85E-04	1,09E-04	2,30E-03	8,72E-04
893	2,75E-04	4,11E-04	1,03E-04	2,32E-03	8,80E-04
894	2,67E-04	4,45E-04	1,10E-04	2,28E-03	8,78E-04
895	3,01E-04	4,01E-04	1,39E-04	2,34E-03	8,94E-04
896	2,75E-04	3,84E-04	1,15E-04	2,28E-03	8,62E-04
897	2,93E-04	4,28E-04	1,23E-04	2,22E-03	8,65E-04
898	2,91E-04	4,33E-04	1,33E-04	2,22E-03	8,66E-04
899	2,90E-04	4,03E-04	1,08E-04	2,29E-03	8,74E-04
900	2,75E-04	3,89E-04	1,17E-04	2,24E-03	8,53E-04
901	2,90E-04	3,93E-04	1,22E-04	2,24E-03	8,59E-04
902	2,78E-04	4,59E-04	1,48E-04	2,25E-03	8,81E-04
903	2,77E-04	4,11E-04	1,43E-04	2,22E-03	8,56E-04
904	2,93E-04	4,12E-04	1,07E-04	2,27E-03	8,71E-04
905	2,91E-04	4,34E-04	9,02E-05	2,27E-03	8,77E-04
906	2,78E-04	4,33E-04	1,62E-04	2,23E-03	8,67E-04
907	3,08E-04	4,16E-04	1,55E-04	2,29E-03	8,88E-04
908	2,89E-04	3,77E-04	1,04E-04	2,25E-03	8,54E-04
909	2,93E-04	4,32E-04	1,05E-04	2,28E-03	8,83E-04
910	2,72E-04	3,82E-04	1,45E-04	2,24E-03	8,51E-04
911	2,70E-04	4,34E-04	1,54E-04	2,24E-03	8,66E-04
912	2,89E-04	4,39E-04	1,15E-04	2,24E-03	8,73E-04
913	2,95E-04	3,81E-04	1,23E-04	2,28E-03	8,66E-04
914	2,72E-04	4,39E-04	1,57E-04	2,18E-03	8,51E-04
915	2,87E-04	4,19E-04	1,14E-04	2,26E-03	8,70E-04
916	2,55E-04	4,34E-04	1,36E-04	2,25E-03	8,63E-04
917	2,81E-04	4,28E-04	1,76E-04	2,31E-03	8,91E-04

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel non ségrégué - Lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
918	7,02E-05	7,22E-05	3,67E-05	6,95E-04	2,53E-04
919	7,37E-05	7,22E-05	3,24E-05	7,03E-04	2,52E-04
920	7,33E-05	1,14E-04	3,61E-05	6,14E-04	2,55E-04
921	6,62E-05	7,73E-05	2,84E-05	6,81E-04	2,50E-04
922	6,48E-05	7,56E-05	4,15E-05	6,54E-04	2,57E-04
923	5,75E-05	9,25E-05	2,40E-05	6,88E-04	2,56E-04
924	7,54E-05	1,01E-04	2,85E-05	6,86E-04	2,64E-04
925	7,41E-05	9,16E-05	3,03E-05	7,01E-04	2,60E-04
926	7,29E-05	8,29E-05	4,87E-05	6,85E-04	2,52E-04
927	7,23E-05	6,73E-05	3,73E-05	5,38E-04	2,52E-04
928	6,93E-05	8,24E-05	3,98E-05	7,12E-04	2,53E-04
929	6,00E-05	8,79E-05	4,16E-05	6,00E-04	2,57E-04
930	6,57E-05	1,01E-04	3,13E-05	7,09E-04	2,60E-04
931	6,74E-05	8,08E-05	5,14E-05	5,89E-04	2,53E-04
932	6,75E-05	1,11E-04	3,91E-05	6,35E-04	2,65E-04
933	7,11E-05	1,05E-04	3,08E-05	6,29E-04	2,62E-04
934	6,77E-05	8,95E-05	3,22E-05	5,55E-04	2,62E-04
935	6,52E-05	7,95E-05	3,73E-05	6,61E-04	2,64E-04
936	6,67E-05	1,04E-04	3,09E-05	7,14E-04	2,56E-04
937	7,14E-05	1,18E-04	3,52E-05	6,97E-04	2,50E-04
938	7,29E-05	6,87E-05	4,75E-05	7,05E-04	2,47E-04
939	5,79E-05	8,97E-05	3,39E-05	5,61E-04	2,58E-04
940	6,98E-05	9,04E-05	3,74E-05	6,84E-04	2,60E-04
941	6,39E-05	9,37E-05	4,62E-05	6,43E-04	2,56E-04
942	6,01E-05	6,98E-05	2,80E-05	6,18E-04	2,57E-04
943	6,31E-05	1,00E-04	3,50E-05	5,50E-04	2,58E-04
944	6,29E-05	8,70E-05	3,63E-05	6,84E-04	2,59E-04
945	7,63E-05	6,78E-05	3,76E-05	7,28E-04	2,61E-04
946	7,86E-05	9,19E-05	3,13E-05	6,63E-04	2,55E-04
947	6,80E-05	9,79E-05	3,76E-05	6,80E-04	2,44E-04
948	6,21E-05	1,11E-04	3,39E-05	5,72E-04	2,51E-04
949	5,70E-05	8,58E-05	2,60E-05	7,14E-04	2,59E-04
950	6,16E-05	7,03E-05	3,71E-05	6,17E-04	2,53E-04
951	7,04E-05	1,02E-04	2,82E-05	6,61E-04	2,53E-04
952	7,97E-05	7,88E-05	3,17E-05	6,81E-04	2,61E-04
953	6,96E-05	9,37E-05	3,27E-05	6,15E-04	2,51E-04
954	6,93E-05	9,76E-05	4,09E-05	7,31E-04	2,50E-04
955	6,42E-05	8,46E-05	3,89E-05	6,40E-04	2,62E-04
956	6,81E-05	1,04E-04	3,49E-05	6,79E-04	2,51E-04
957	6,83E-05	1,05E-04	4,41E-05	6,46E-04	2,59E-04
958	6,67E-05	9,32E-05	4,08E-05	6,38E-04	2,56E-04
959	7,07E-05	1,19E-04	3,56E-05	7,07E-04	2,56E-04
960	6,60E-05	8,61E-05	3,82E-05	6,53E-04	2,53E-04
961	6,31E-05	9,55E-05	3,24E-05	6,72E-04	2,53E-04
962	6,63E-05	9,71E-05	3,32E-05	6,43E-04	2,62E-04
963	7,49E-05	7,66E-05	3,66E-05	6,11E-04	2,55E-04

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel ségrégué - Non lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
918	1,78E-05	1,78E-05	1,54E-05	6,09E-05	1,78E-05
919	1,90E-05	1,33E-05	1,77E-05	4,11E-05	1,65E-05
920	2,05E-05	1,93E-05	2,15E-05	2,03E-04	2,09E-05
921	1,76E-05	2,02E-05	1,67E-05	7,55E-05	1,90E-05
922	1,88E-05	1,79E-05	1,74E-05	5,67E-05	1,85E-05
923	1,98E-05	3,29E-05	2,04E-05	1,19E-04	2,61E-05
924	2,00E-05	2,82E-05	2,10E-05	7,06E-05	2,39E-05
925	1,91E-05	1,65E-05	1,63E-05	1,17E-04	1,82E-05
926	1,72E-05	1,74E-05	2,02E-05	4,74E-05	1,77E-05
927	1,78E-05	1,73E-05	1,59E-05	2,44E-05	1,75E-05
928	1,94E-05	1,84E-05	1,68E-05	1,14E-04	1,92E-05
929	2,31E-05	1,75E-05	1,91E-05	3,77E-05	2,04E-05
930	2,29E-05	1,58E-05	1,78E-05	1,87E-05	1,93E-05
931	1,87E-05	2,12E-05	1,78E-05	6,63E-05	2,00E-05
932	2,32E-05	1,83E-05	1,64E-05	1,19E-04	2,10E-05
933	1,87E-05	1,63E-05	1,58E-05	9,70E-05	1,78E-05
934	1,81E-05	2,57E-05	1,63E-05	1,33E-04	2,19E-05
935	1,89E-05	2,48E-05	1,62E-05	5,84E-05	2,15E-05
936	1,65E-05	1,25E-05	1,55E-05	7,58E-05	1,49E-05
937	1,70E-05	1,68E-05	1,70E-05	7,78E-05	1,72E-05
938	1,87E-05	1,46E-05	1,70E-05	5,99E-05	1,70E-05
939	1,79E-05	1,70E-05	1,83E-05	1,14E-04	1,80E-05
940	1,90E-05	1,36E-05	1,92E-05	6,11E-05	1,68E-05
941	2,02E-05	1,42E-05	1,69E-05	5,00E-05	1,75E-05
942	1,94E-05	1,73E-05	2,00E-05	5,38E-05	1,87E-05
943	2,18E-05	2,03E-05	1,73E-05	8,37E-05	2,11E-05
944	1,83E-05	1,73E-05	2,11E-05	3,55E-05	1,82E-05
945	1,82E-05	1,80E-05	1,71E-05	1,27E-04	1,86E-05
946	1,61E-05	2,05E-05	1,78E-05	4,07E-04	2,01E-05
947	1,91E-05	1,38E-05	2,02E-05	1,06E-04	1,73E-05
948	1,87E-05	1,42E-05	1,67E-05	6,59E-05	1,68E-05
949	2,10E-05	1,63E-05	1,66E-05	1,13E-04	1,91E-05
950	2,06E-05	2,75E-05	1,75E-05	2,29E-05	2,34E-05
951	1,80E-05	1,40E-05	1,93E-05	1,14E-04	1,68E-05
952	2,09E-05	1,61E-05	2,08E-05	2,41E-05	1,87E-05
953	1,80E-05	1,54E-05	1,97E-05	3,67E-05	1,71E-05
954	1,67E-05	2,14E-05	1,61E-05	5,89E-05	1,89E-05
955	1,98E-05	2,63E-05	1,64E-05	6,43E-05	2,26E-05
956	1,88E-05	1,44E-05	1,61E-05	1,40E-04	1,72E-05
957	2,13E-05	1,77E-05	1,77E-05	1,04E-04	1,98E-05
958	2,00E-05	1,60E-05	1,75E-05	7,71E-05	1,83E-05
959	1,79E-05	2,26E-05	1,58E-05	6,11E-05	2,00E-05
960	1,66E-05	1,21E-05	1,79E-05	2,01E-04	1,56E-05
961	1,91E-05	1,66E-05	1,73E-05	1,67E-04	1,86E-05
962	1,99E-05	2,10E-05	1,77E-05	5,23E-05	2,04E-05
963	2,21E-05	1,70E-05	1,61E-05	4,15E-05	1,95E-05

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel ségrégué - Lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
918	2,73E-04	4,27E-04	1,26E-04	2,26E-03	8,69E-04
919	2,69E-04	4,36E-04	1,27E-04	2,25E-03	8,68E-04
920	3,02E-04	3,82E-04	1,65E-04	2,26E-03	8,67E-04
921	2,83E-04	3,65E-04	1,89E-04	2,25E-03	8,54E-04
922	2,82E-04	4,38E-04	1,60E-04	2,28E-03	8,82E-04
923	2,90E-04	3,77E-04	9,06E-05	2,26E-03	8,56E-04
924	2,99E-04	4,19E-04	8,02E-05	2,33E-03	8,93E-04
925	3,01E-04	3,96E-04	1,63E-04	2,33E-03	8,91E-04
926	2,68E-04	4,33E-04	1,24E-04	2,24E-03	8,64E-04
927	2,84E-04	4,54E-04	1,23E-04	2,20E-03	8,65E-04
928	2,94E-04	4,08E-04	1,12E-04	2,24E-03	8,63E-04
929	2,72E-04	4,68E-04	1,18E-04	2,24E-03	8,74E-04
930	2,72E-04	4,80E-04	1,37E-04	2,27E-03	8,89E-04
931	2,80E-04	4,31E-04	1,85E-04	2,21E-03	8,63E-04
932	2,85E-04	4,17E-04	1,55E-04	2,37E-03	9,03E-04
933	3,08E-04	4,46E-04	1,13E-04	2,31E-03	9,00E-04
934	2,92E-04	4,27E-04	1,61E-04	2,30E-03	8,89E-04
935	2,92E-04	4,62E-04	1,52E-04	2,29E-03	8,98E-04
936	2,65E-04	4,38E-04	1,04E-04	2,32E-03	8,85E-04
937	2,68E-04	4,09E-04	1,38E-04	2,25E-03	8,60E-04
938	2,78E-04	4,12E-04	1,29E-04	2,20E-03	8,50E-04
939	3,02E-04	4,02E-04	1,03E-04	2,32E-03	8,85E-04
940	2,71E-04	4,21E-04	1,29E-04	2,36E-03	8,95E-04
941	2,97E-04	4,02E-04	1,80E-04	2,28E-03	8,80E-04
942	2,91E-04	3,94E-04	1,22E-04	2,32E-03	8,80E-04
943	2,62E-04	4,01E-04	1,40E-04	2,33E-03	8,78E-04
944	2,80E-04	4,02E-04	1,22E-04	2,36E-03	8,90E-04
945	2,95E-04	4,53E-04	1,27E-04	2,30E-03	8,96E-04
946	2,72E-04	4,24E-04	1,05E-04	2,26E-03	8,68E-04
947	2,66E-04	4,12E-04	1,25E-04	2,17E-03	8,36E-04
948	2,64E-04	3,97E-04	1,43E-04	2,28E-03	8,62E-04
949	2,84E-04	4,59E-04	1,94E-04	2,25E-03	8,86E-04
950	2,86E-04	4,05E-04	9,71E-05	2,22E-03	8,55E-04
951	2,79E-04	4,09E-04	1,16E-04	2,28E-03	8,70E-04
952	3,00E-04	4,25E-04	1,36E-04	2,31E-03	8,92E-04
953	2,81E-04	4,18E-04	8,77E-05	2,25E-03	8,64E-04
954	2,58E-04	4,13E-04	9,97E-05	2,24E-03	8,53E-04
955	2,96E-04	4,46E-04	1,43E-04	2,28E-03	8,89E-04
956	2,70E-04	4,49E-04	1,15E-04	2,22E-03	8,63E-04
957	2,78E-04	4,40E-04	1,67E-04	2,28E-03	8,83E-04
958	2,78E-04	4,56E-04	1,51E-04	2,24E-03	8,76E-04
959	2,77E-04	4,07E-04	9,31E-05	2,30E-03	8,73E-04
960	2,83E-04	4,09E-04	1,50E-04	2,27E-03	8,72E-04
961	2,67E-04	4,16E-04	1,51E-04	2,27E-03	8,67E-04
962	2,85E-04	4,26E-04	1,25E-04	2,34E-03	8,94E-04
963	2,83E-04	3,94E-04	9,86E-05	2,29E-03	8,69E-04

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel non ségrégué - Lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
964	7,13E-05	9,81E-05	3,90E-05	6,67E-04	2,55E-04
965	6,44E-05	9,22E-05	2,89E-05	5,99E-04	2,65E-04
966	7,56E-05	9,58E-05	3,45E-05	5,95E-04	2,50E-04
967	6,52E-05	8,16E-05	4,00E-05	7,01E-04	2,59E-04
968	7,37E-05	1,03E-04	3,79E-05	5,82E-04	2,48E-04
969	7,21E-05	9,16E-05	3,36E-05	6,67E-04	2,57E-04
970	6,89E-05	8,00E-05	2,89E-05	6,69E-04	2,52E-04
971	6,83E-05	8,89E-05	3,37E-05	6,54E-04	2,56E-04
972	7,35E-05	9,25E-05	2,97E-05	6,51E-04	2,56E-04
973	6,52E-05	9,91E-05	4,21E-05	6,09E-04	2,53E-04
974	6,63E-05	6,09E-05	3,91E-05	6,60E-04	2,51E-04
975	7,45E-05	8,91E-05	3,52E-05	6,46E-04	2,51E-04
976	7,30E-05	8,84E-05	4,13E-05	6,37E-04	2,52E-04
977	6,32E-05	8,70E-05	5,54E-05	6,95E-04	2,59E-04
978	7,57E-05	1,04E-04	3,32E-05	6,53E-04	2,54E-04
979	5,81E-05	8,47E-05	2,90E-05	6,33E-04	2,60E-04
980	6,79E-05	1,19E-04	3,64E-05	6,69E-04	2,54E-04
981	7,10E-05	8,63E-05	3,75E-05	6,45E-04	2,61E-04
982	6,00E-05	8,94E-05	3,40E-05	6,62E-04	2,54E-04
983	7,16E-05	9,70E-05	3,92E-05	6,11E-04	2,59E-04
984	6,76E-05	9,00E-05	3,08E-05	7,02E-04	2,58E-04
985	7,62E-05	8,90E-05	4,20E-05	6,40E-04	2,51E-04
986	7,27E-05	1,09E-04	3,12E-05	6,64E-04	2,49E-04
987	7,57E-05	8,97E-05	3,51E-05	6,13E-04	2,54E-04
988	7,12E-05	8,70E-05	3,36E-05	6,45E-04	2,41E-04
989	6,43E-05	8,18E-05	3,37E-05	5,69E-04	2,57E-04
990	7,48E-05	6,41E-05	3,27E-05	6,50E-04	2,54E-04
991	6,48E-05	6,37E-05	2,89E-05	6,37E-04	2,55E-04
992	6,67E-05	8,25E-05	3,36E-05	6,57E-04	2,59E-04
993	7,04E-05	9,62E-05	4,01E-05	7,36E-04	2,57E-04
994	7,38E-05	7,57E-05	3,97E-05	6,63E-04	2,57E-04
995	7,45E-05	7,03E-05	4,66E-05	6,99E-04	2,58E-04
996	6,61E-05	7,51E-05	3,96E-05	6,56E-04	2,54E-04
997	6,43E-05	8,39E-05	3,86E-05	6,70E-04	2,50E-04
998	6,30E-05	9,19E-05	3,98E-05	6,73E-04	2,58E-04
999	7,26E-05	1,10E-04	3,77E-05	6,22E-04	2,55E-04
1000	6,00E-05	9,52E-05	3,69E-05	6,04E-04	2,56E-04

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel ségrégué - Non lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
964	1,62E-05	1,91E-05	2,08E-05	5,66E-05	1,80E-05
965	1,88E-05	1,92E-05	2,11E-05	1,84E-05	1,91E-05
966	1,94E-05	1,62E-05	1,77E-05	7,85E-05	1,81E-05
967	2,19E-05	2,62E-05	1,74E-05	3,76E-05	2,35E-05
968	1,90E-05	1,48E-05	1,72E-05	7,01E-05	1,73E-05
969	2,06E-05	1,69E-05	1,64E-05	5,82E-05	1,89E-05
970	1,82E-05	1,40E-05	1,94E-05	2,24E-04	1,75E-05
971	1,83E-05	2,03E-05	1,99E-05	7,88E-05	1,96E-05
972	1,76E-05	2,12E-05	1,68E-05	3,95E-05	1,92E-05
973	1,93E-05	1,85E-05	2,00E-05	1,02E-04	1,94E-05
974	2,21E-05	1,51E-05	1,92E-05	5,34E-05	1,90E-05
975	1,82E-05	2,05E-05	1,58E-05	4,67E-05	1,92E-05
976	2,03E-05	1,42E-05	1,47E-05	2,46E-05	1,72E-05
977	1,92E-05	1,38E-05	1,70E-05	7,12E-05	1,69E-05
978	1,74E-05	2,11E-05	1,64E-05	2,56E-04	2,01E-05
979	1,99E-05	2,73E-05	1,71E-05	1,60E-05	2,30E-05
980	1,98E-05	1,77E-05	1,60E-05	1,60E-04	1,92E-05
981	1,84E-05	2,79E-05	2,15E-05	1,65E-04	2,35E-05
982	1,91E-05	2,28E-05	2,01E-05	6,43E-05	2,10E-05
983	1,77E-05	1,65E-05	1,92E-05	3,41E-05	1,73E-05
984	2,26E-05	1,90E-05	1,76E-05	1,49E-04	2,13E-05
985	1,87E-05	2,14E-05	1,69E-05	9,51E-05	2,02E-05
986	1,96E-05	1,20E-05	1,77E-05	7,51E-05	1,64E-05
987	1,96E-05	1,85E-05	2,10E-05	1,02E-04	1,96E-05
988	2,01E-05	1,49E-05	1,74E-05	6,52E-05	1,78E-05
989	1,83E-05	1,87E-05	1,73E-05	4,06E-04	2,03E-05
990	1,76E-05	1,33E-05	1,85E-05	2,35E-05	1,58E-05
991	1,85E-05	1,83E-05	1,69E-05	7,08E-05	1,85E-05
992	1,91E-05	1,95E-05	1,71E-05	2,11E-05	1,92E-05
993	1,90E-05	2,23E-05	1,62E-05	3,76E-05	2,04E-05
994	1,86E-05	1,50E-05	1,58E-05	6,26E-05	1,70E-05
995	1,90E-05	2,09E-05	1,78E-05	9,24E-05	2,01E-05
996	1,95E-05	1,76E-05	1,73E-05	1,25E-04	1,90E-05
997	1,78E-05	1,83E-05	1,87E-05	2,63E-05	1,81E-05
998	2,14E-05	1,85E-05	1,67E-05	1,10E-04	2,02E-05
999	1,90E-05	1,44E-05	1,68E-05	5,75E-05	1,70E-05
1000	2,25E-05	1,33E-05	1,70E-05	6,04E-05	1,82E-05

Taux de lixiviation de l'arsenic modélisés

Itération	Matériel ségrégué - Lixiviable				
	Amphibolite	Métasédiments	Pegmatite stérile	Ultramafique	Stériles combinés
	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week	mg/kg/week
964	2,90E-04	4,21E-04	1,41E-04	2,26E-03	8,74E-04
965	2,80E-04	4,54E-04	1,65E-04	2,35E-03	9,06E-04
966	2,71E-04	4,05E-04	1,52E-04	2,24E-03	8,56E-04
967	2,79E-04	4,09E-04	1,51E-04	2,29E-03	8,76E-04
968	3,01E-04	3,79E-04	1,78E-04	2,21E-03	8,52E-04
969	2,64E-04	4,60E-04	1,16E-04	2,27E-03	8,79E-04
970	2,91E-04	4,04E-04	1,08E-04	2,26E-03	8,67E-04
971	2,90E-04	4,32E-04	1,17E-04	2,25E-03	8,74E-04
972	2,97E-04	4,04E-04	1,42E-04	2,28E-03	8,75E-04
973	2,54E-04	4,45E-04	1,48E-04	2,23E-03	8,62E-04
974	2,74E-04	4,24E-04	9,76E-05	2,22E-03	8,56E-04
975	2,69E-04	4,40E-04	1,10E-04	2,21E-03	8,56E-04
976	2,69E-04	3,95E-04	1,51E-04	2,28E-03	8,65E-04
977	2,53E-04	4,44E-04	1,35E-04	2,34E-03	8,91E-04
978	2,80E-04	3,95E-04	1,92E-04	2,26E-03	8,65E-04
979	2,73E-04	4,41E-04	1,23E-04	2,28E-03	8,78E-04
980	2,64E-04	4,32E-04	1,37E-04	2,26E-03	8,67E-04
981	2,67E-04	4,07E-04	1,51E-04	2,33E-03	8,82E-04
982	2,79E-04	3,77E-04	8,00E-05	2,30E-03	8,63E-04
983	2,90E-04	4,18E-04	1,86E-04	2,31E-03	8,91E-04
984	2,87E-04	4,26E-04	1,44E-04	2,27E-03	8,77E-04
985	2,92E-04	3,61E-04	1,25E-04	2,25E-03	8,53E-04
986	2,86E-04	3,79E-04	1,36E-04	2,26E-03	8,59E-04
987	2,88E-04	4,17E-04	1,64E-04	2,23E-03	8,65E-04
988	2,69E-04	3,46E-04	1,22E-04	2,20E-03	8,25E-04
989	2,54E-04	4,39E-04	1,92E-04	2,28E-03	8,75E-04
990	3,05E-04	4,01E-04	1,02E-04	2,28E-03	8,75E-04
991	2,95E-04	4,19E-04	9,72E-05	2,27E-03	8,73E-04
992	2,76E-04	4,23E-04	1,60E-04	2,31E-03	8,86E-04
993	2,95E-04	4,19E-04	1,01E-04	2,27E-03	8,74E-04
994	2,70E-04	4,36E-04	1,40E-04	2,31E-03	8,84E-04
995	3,02E-04	3,92E-04	1,18E-04	2,30E-03	8,78E-04
996	2,93E-04	4,16E-04	1,33E-04	2,25E-03	8,68E-04
997	2,69E-04	4,21E-04	1,79E-04	2,21E-03	8,55E-04
998	2,86E-04	4,21E-04	1,12E-04	2,29E-03	8,79E-04
999	2,90E-04	4,24E-04	1,78E-04	2,26E-03	8,78E-04
1000	2,88E-04	4,16E-04	1,34E-04	2,28E-03	8,76E-04

Concentrations modélisées

Temps (années)	Contribution des résidus à la concentration			Contribution des stériles à la concentration			Concentration combinée		
	Arsenic	Antimoine	Lithium	Arsenic	Antimoine	Lithium	Arsenic	Antimoine	Lithium
	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
2028-01-01	0,00	0,00	0,00	0,00	0,41	0,08	0,00	0,41	0,08
2029-01-01	0,00	0,00	0,00	0,00	0,41	0,08	0,00	0,41	0,08
2030-01-01	0,17	0,05	0,05	0,01	0,41	0,08	0,18	0,47	0,13
2031-01-01	2,13	0,65	0,64	0,44	0,41	0,08	2,57	1,07	0,73
2032-01-01	3,50	1,06	1,02	0,74	0,41	0,08	4,25	1,47	1,10
2033-01-01	5,52	1,66	1,58	0,76	0,41	0,08	6,28	2,07	1,66
2034-01-01	4,31	1,26	1,14	0,70	0,41	0,08	5,00	1,68	1,22
2035-01-01	7,34	2,20	2,04	0,81	0,41	0,08	8,15	2,61	2,12
2036-01-01	7,78	2,31	2,09	1,30	0,41	0,08	9,08	2,72	2,17
2037-01-01	8,05	2,38	2,11	1,55	0,41	0,08	9,60	2,79	2,20
2038-01-01	8,25	2,43	2,13	1,73	0,41	0,08	9,98	2,85	2,21
2039-01-01	8,40	2,48	2,14	1,83	0,41	0,08	10,22	2,89	2,22
2040-01-01	8,51	2,51	2,14	1,84	0,41	0,08	10,35	2,92	2,22
2041-01-01	8,60	2,54	2,14	1,72	0,41	0,08	10,32	2,95	2,23
2042-01-01	8,66	2,55	2,14	1,47	0,41	0,08	10,13	2,97	2,22
2043-01-01	8,74	2,58	2,15	1,23	0,41	0,08	9,97	2,99	2,23
2044-01-01	8,79	2,60	2,15	1,00	0,41	0,08	9,79	3,01	2,23
2045-01-01	8,83	2,61	2,15	0,82	0,41	0,08	9,65	3,02	2,23
2046-01-01	8,87	2,62	2,15	0,68	0,41	0,08	9,55	3,04	2,23
2047-01-01	8,61	2,55	2,06	0,56	0,41	0,08	9,17	2,96	2,14
2048-01-01	7,50	2,21	1,72	0,47	0,41	0,08	7,97	2,62	1,80
2049-01-01	4,83	1,40	0,92	0,40	0,41	0,08	5,22	1,81	1,01
2050-01-01	3,72	1,09	0,65	0,34	0,41	0,08	4,07	1,50	0,73
2051-01-01	1,77	0,51	0,12	0,34	0,41	0,08	2,11	0,92	0,20
2052-01-01	1,35	0,40	0,07	0,29	0,41	0,08	1,64	0,82	0,15
2053-01-01	1,08	0,34	0,04	0,22	0,41	0,08	1,30	0,75	0,12
2054-01-01	0,90	0,29	0,03	0,19	0,41	0,08	1,09	0,70	0,11
2055-01-01	0,76	0,25	0,02	0,17	0,41	0,08	0,93	0,66	0,10
2056-01-01	0,65	0,22	0,02	0,15	0,41	0,08	0,80	0,63	0,10
2057-01-01	0,56	0,19	0,01	0,13	0,41	0,08	0,69	0,61	0,09
2058-01-01	0,49	0,17	0,01	0,12	0,41	0,08	0,61	0,59	0,09
2059-01-01	0,43	0,16	0,01	0,11	0,41	0,08	0,53	0,57	0,09
2060-01-01	0,38	0,14	0,01	0,09	0,41	0,08	0,47	0,56	0,09

VISION
GEOCHEMISTRY

G2. Note technique portant sur la caractérisation géochimique (Atkins, 2026a)

AtkinsRéalis	NOTE TECHNIQUE Classification des matériaux miniers selon le GCRMM		
	No de document :	**Rév.**	**Date :**
	PMT-003-24A-QAQ-0001_V0 708538-3500-40ER-0001	00	19 mars 2026

Titre du document : **CLASSIFICATION DES MATÉRIAUX MINIERS DU PROJET SHAAKICHIUWAANAAN SELON LES CRITÈRES DU GUIDE DE CARACTÉRISATION DES RÉSIDUS MINIERS ET DU MINERAI (GCRMM)**

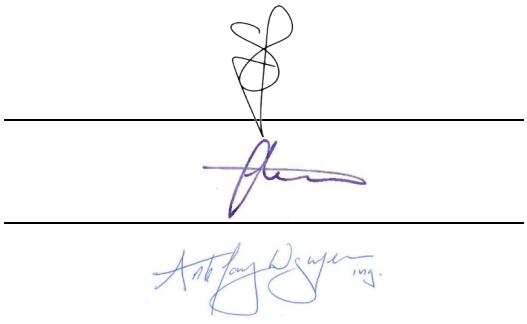
Client : **RESSOURCES PMET INC**

Projet : **PROJET LITHIUM SHAAKICHIUWAANAAN**

Préparé sous DSI[1] *par :* Sébastien Bal, ing. PRT, M. Ing.
n°OIQ : 6087452

Préparé par Eliane Fried, ing., M.Sc.A.
n°OIQ : 140160

Révisé par : Anh-Long Nguyen, ing.
n°OIQ : 122858



[1] *DSI : Direction et surveillance Immédiates par un ingénieur, tel que spécifié par l'Ordre des ingénieurs du Québec pour encadrer la contribution des non-ingénieurs ou candidats à la profession d'ingénieur (CPI) à la réalisation d'activités réservées aux ingénieurs.*
PRT : Permis Restrictif Temporaire

Note au lecteur

Ce rapport a été préparé et les travaux mentionnés dans ce rapport ont été entrepris par AtkinsRéalis Canada inc. (AtkinsRéalis), pour l'usage exclusif de Ressources PMET Inc. (PMET), qui a été partie à l'élaboration de l'étendue des travaux et en comprend les limites. La méthodologie, les constatations, les conclusions et les recommandations de ce rapport sont basées uniquement sur la portée des travaux et sont soumises aux considérations de temps et de budget décrites dans la proposition et/ou le contrat en vertu duquel ce rapport a été publié. L'utilisation du présent rapport par un tiers, la confiance qu'il accorde à celui-ci ou la décision qu'il prend en se fondant sur celui-ci sont la responsabilité exclusive de ce tiers. AtkinsRéalis n'assume aucune responsabilité à l'égard des dommages qui pourraient être subis ou engagés par un tiers en raison de l'utilisation de ce rapport, de la confiance accordée à celui-ci ou de toute décision prise en fonction de celui-ci.

Les constatations, conclusions et recommandations contenues dans ce rapport (i) ont été élaborées d'une manière conforme au niveau de compétence normalement exercé par les professionnels exerçant actuellement dans des conditions similaires dans la région, et (ii) reflètent le meilleur jugement de AtkinsRéalis basé sur les informations disponibles au moment de la préparation de ce rapport. Aucune autre garantie, expresse ou implicite, n'est donnée à l'égard des services professionnels fournis à PMET ou des constatations, conclusions et recommandations contenues dans le présent rapport. Les constatations et les conclusions contenues dans le présent rapport ne sont valables qu'à la date du présent rapport et peuvent être fondées, en partie, sur des renseignements fournis par d'autres personnes. Si l'une ou l'autre des informations est inexacte, de nouvelles informations sont découvertes ou les paramètres du projet changent, des modifications au présent rapport pourraient être nécessaires.

Ce rapport doit être lu dans son ensemble, car des sections prises hors contexte peuvent être trompeuses. Si des divergences surviennent entre la version préliminaire (ébauche) et la version finale de ce rapport, c'est la version finale qui prime. Rien dans le présent rapport ne vise à constituer ou à fournir une opinion juridique.

Le contenu de ce rapport est confidentiel et exclusif. Sauf par PMET, il n'est pas permis de reproduire ou de distribuer le présent rapport ou d'utiliser l'information contenue dans les présentes, en totalité ou en partie, ou de s'y fier, sans la permission expresse écrite de PMET et de AtkinsRéalis.

Liste des révisions

#	Prép.	Rév.	App.	Date	Pages	Remarques
PA	EF/SVB			2026-03-05	Toutes	Pour révision interne
PB	EF/SVB	ALN		2026-03-06	Toutes	Pour commentaires
00	EF	ALN		2026-03-18	pp 1, 3, 31-33	Émission finale

Table des matières

1. Introduction 1

1.1 Contexte 1

1.2 Objectif de l'étude 1

2. Programme de caractérisation 2

2.1 Échantillonnage 2

2.2 Programme analytique 2

2.2.1 Essais en cellules humides (Vision Geochemistry, 2025) 3

2.2.2 Essais en colonnes sur les résidus miniers de procédé (Vision Geochemistry, 2025) 4

2.2.3 Essais en colonnes sur les stériles (UQAT) 4

3. Critères comparatifs 6

4. Composition minéralogique 8

5. Granulométrie 13

6. Classification des matériaux miniers 15

6.1 Potentiel de génération d'acide 15

6.1.1 Distribution du soufre et du carbone et représentativité des essais 15

6.1.2 Essais statiques 16

6.1.3 Essais cinétiques 18

6.2 Potentiel de lixiviabilité 21

6.2.1 Distribution de l'arsenic et représentativité des essais 21

6.2.2 Essais de lixiviation statiques 22

6.2.3 Essais de lixiviation cinétiques 25

6.2.4 Sommaire sur la lixiviabilité des matériaux miniers 27

6.2.5 Matériaux à risques élevés 28

6.3 Radioactivité 28

7. Conclusions et recommandations 30

8. Références 33

Liste des tableaux

Tableau 2-1 Programme analytique des lithologies du projet 2
Tableau 2-2 Liste des échantillons soumis aux essais en cellules humides 3
Tableau 2-3 Description des essais cinétiques en colonnes pour les stériles (UQAT) 5
Tableau 4-1 Composition minéralogique des différents matériaux miniers (méthode DRX) 8
Tableau 4-2 Composition minéralogique des lithologies stériles (méthode TIMA en % massique) 9
Tableau 4-3 Composition minéralogique du minerai (méthode TIMA en % massique) 11
Tableau 6-1 Sommaire des résultats des essais de détermination du potentiel de génération d'acide 17
Tableau 6-2 Interprétation du potentiel de lixiviabilité des matériaux miniers 24
Tableau 6-3 Interprétation de la lixiviabilité des lithologies et des résidus miniers 27
Tableau 7-1 Classification des lithologies concernées par le projet 30

Liste des figures

Figure 5-1 Granulométrie attendue pour les lithologies stériles du projet (à gauche, tirée de Vision Geochemistry, 2025) et granulométrie des échantillons mis à l'essai dans les colonnes UQAT (à droite) 13
Figure 5-2 Granulométrie des résidus miniers produits par les essais métallurgiques (AtkinsRéalis, 2025) 14
Figure 6-1 Distribution des teneurs en soufre sous forme de sulfures (vue d'ensemble à gauche et vue zoomée à droite) 15
Figure 6-2 Distribution des teneurs en carbone total (vue d'ensemble à gauche et vue zoomée à droite) 16
Figure 6-3 Comparaison du PN évalué sur la base de la teneur en carbonates et du PN Sobek modifié 18
Figure 6-4 Évolution du pH dans les lixiviats des cellules humides (Vision Geochemistry, 2025) 19
Figure 6-5 Évolution de l'acidité dans les lixiviats des cellules humides (Vision Geochemistry, 2025) 19
Figure 6-6 Évolution de la concentration en sulfates dans les lixiviats des cellules humides (Vision Geochemistry, 2025) 20
Figure 6-7 Courbes d'oxydation/neutralisation pour les lithologies ultramafique, métasédiments et amphibolite (à gauche) et leur extrapolation (à droite) 21
Figure 6-8 Distribution des teneurs en arsenic extractible (vue d'ensemble à gauche et vue zoomée à droite) 22
Figure 6-9 Teneurs en thorium et uranium extractibles 29

Liste des annexes

Annexe A. Résultats des essais cinétiques

1. Introduction

AtkinsRéalis a été mandatée par Innova, une filiale québécoise entièrement détenue par Ressources PMET inc., pour réaliser une étude de faisabilité optimisée pour la gestion des résidus miniers et de l'eau pour le projet minier Shaakichiuwaanaan. Le site est situé dans la région d'Eeyou Istchee Baie-James, dans la province de Québec. Il se trouve à environ 220 km à l'est de Radisson et à environ 240 km au nord-nord-est de Nemaska. Le projet permettra d'extraire du spodumène d'un gisement de pegmatite à l'aide d'une méthode hybride combinant l'exploitation à ciel ouvert et l'exploitation souterraine. La durée d'exploitation du projet est actuellement estimée à 23 ans.

1.1 Contexte

La caractérisation des propriétés géochimiques des matériaux miniers qui seront produits lors de l'exploitation du gisement a été entreprise depuis 2023. La plupart des analyses réalisées jusqu'à présent sur les lithologies stériles, le minerai et les résidus miniers de procédé ont été présentées dans le rapport de Vision Geochemistry (2025). Toutefois, la classification des différents lithologies et matériaux miniers selon les critères du Guide de caractérisation des résidus miniers et du minerai (MELCC, 2020), ci-après GCRMM, n'a pas été complétée. De plus, des informations requises, telles que la composition minéralogique des matériaux miniers et les résultats des essais de lixiviation en colonne sur les stériles n'étaient également pas inclus dans le document.

La présente étude vise à valider les hypothèses émises dans le rapport de Vision Geochemistry (2025), à compléter les résultats de caractérisation géochimique des matériaux miniers du projet et, par conséquent, à mettre à jour leur classification selon les critères du GCRMM sur la base de l'information disponible en date de ce rapport.

1.2 Objectif de l'étude

L'objectif de la présente note technique est de valider et mettre à jour l'interprétation des données de caractérisation géochimique de matériaux miniers du projet Shaakichiuwaanaan selon la méthodologie du GCRMM. Les matériaux pourront être ainsi classifiés selon les différentes catégories décrites dans le guide (acidogènes, lixiviables, etc.), permettant ainsi d'évaluer l'impact potentiel sur l'environnement lors de leur entreposage en surface.

Cette note comprend également des résultats d'analyse qui n'avaient pas été présentés antérieurement. Il s'agit de la composition minéralogique des matériaux ainsi que des résultats d'essais de lixiviation en colonne réalisés dans le cadre d'un doctorat de l'Université du Québec en Abitibi-Témiscamingue (UQAT).

2. Programme de caractérisation

2.1 Échantillonnage

Au total, 350 échantillons ont été sélectionnés sur des carottes de forage d'exploration et analysés au laboratoire. Le détail de la sélection des échantillons est présenté dans Vision (2025). La stratégie d'échantillonnage visait à capturer la variabilité spatiale et compositionnelle des matériaux miniers. Parmi ces échantillons, 316 étaient des échantillons de stériles appartenant à quatre types lithologiques : amphibolite, métasédiments, pegmatite stérile et roches ultramafiques. À ceux-ci s'ajoutent des échantillons de minerai de pegmatite à spodumène (25) et de résidus miniers (9). Tous ces matériaux miniers ont été soumis à des tests statiques et cinétiques afin de déterminer leur capacité à générer de l'acidité et à lixivier des métaux (Vision Geochemistry, 2025).

2.2 Programme analytique

L'ensemble de ces matériaux a été soumis à divers volets d'analyses, incluant des essais de détermination du potentiel de génération d'acide, des essais de lixiviation, des essais cinétiques et des caractérisations minéralogiques. Le **Tableau 2-1** présente la répartition détaillée du nombre d'échantillons analysés pour chaque type de test selon la lithologie. Une partie de ces analyses a été détaillée dans l'étude de Vision Geochemistry (2025), c'est notamment le cas des essais statiques, et d'une partie des essais en colonne. À cela s'ajoutent les essais en colonne effectués par l'UQAT sur l'ensemble des lithologies du projet, ainsi que les résultats sur la minéralogie de la majorité de ces dernières.

Tableau 2-1 Programme analytique des lithologies du projet

Lithologie	PGA (1)	Métaux extractibles (2)	Essais de lixiviation				Minéralogie	
			SPLP et CTEU-9 (3)	TCLP (3)	Cellules humides	Colonnes	DRX	TIMA
Amphibolite	128	128	128	41	5+1dup	3	7	2
Métasédiments	101	101	101	50	3	2	1	1
Ultramafique	54	54	54	8	3	2	2	3
Pegmatite	33	33	33	13	2	1	90	-
Pegmatite à spodumène (minerai)	25	25	25	8	2	-	456	13
Résidus miniers	9	9	9	9	-	5+1dup.	-	-

Notes :

1. *Potentiel de génération d'acide – Sobek modifié ;*
2. *La méthode CEAEQ MA 200 Mét. 1.2 (digestion partielle) permet d'analyser la teneur en métaux extractibles dans les échantillons ;*
3. *Méthode MA100 Lix.com : SPLP : essai de lixiviation simulant les pluies acides, CTEU-9 : essai à l'eau déionisée, TCLP : essai de lixiviation à l'acide acétique.*

Les essais cinétiques réalisés sur les matériaux produits par le projet minier sont décrits dans les sections suivantes.

2.2.1 Essais en cellules humides (Vision Geochemistry, 2025)

La configuration de ces essais est décrite dans le rapport de Vision, et est également normée par l'ASTM (ASTM D5744). Il est donc possible de se référer à ces documents pour plus d'information. En tout, 15 essais en cellules humides ont été réalisés. La sélection des échantillons a été réalisée afin de couvrir les intervalles de teneurs en soufre et en arsenic observés dans les différentes lithologies ainsi que divers potentiels de génération d'acide tels que déterminés de façon préliminaire lors des essais statiques. Ces essais se sont déroulés sur une période de 100 semaines. Le **Tableau 2-2** présente la liste des essais réalisés ainsi que les paramètres qui ont guidé la sélection des échantillons.

Tableau 2-2 Liste des échantillons soumis aux essais en cellules humides

Nom de l'échantillon	Lithologie	Paramètres de sélection des échantillons		
		% $S_{sulfure}$	Potentiel de génération d'acide selon les essais statiques	Teneur en arsenic (ppm)
CV5-WR-HCT-2	Amphibolite	1,12	PGA	33
CV5-WR-HCT-5	Amphibolite	0,62	PGA	150
CV5-WR-HCT-14	Amphibolite	0,08	NPGA	11
CV5-WR-HCT-22	Amphibolite	0,04	NPGA	46
CV5-WR-HCT-33	Amphibolite	0,05	NPGA	5,9
CV5-WR-HCT-36	Ultramafique	0,12	NPGA	440
CV5-WR-HCT-39	Métasédiments	0,90	PGA	42
CV5-WR-HCT-50	Métasédiments	0,21	NPGA	100
CV5-WR-HCT-56	Métasédiments	0,58	PGA	13
CV5-WR-HCT-59	Ultramafique	0,04	NPGA	92
CV5-WR-HCT-62	Ultramafique	0,04	NPGA	880
CV5-WR-HCT-64	Pegmatite	0,04	NPGA	14
CV5-WR-HCT-69	Pegmatite	0,04	NPGA	7,2
CV5-WR-HCT-74	Pegmatite à spodumène	0,27	NPGA	17
CV5-WR-HCT-76	Pegmatite à spodumène	0,15	NPGA	3,8

Note : PGA : Potentiellement générateur d'acidité ; NPGA : Potentiellement non générateur d'acidité

2.2.2 Essais en colonnes sur les résidus miniers de procédé (Vision Geochemistry, 2025)

Des essais de lixiviation en colonne ont été réalisés sur des échantillons de résidus miniers issus de différentes étapes du procédé ainsi qu'un composite de l'ensemble de ces échantillons. Les résultats sont disponibles pour vingt semaines d'essai pour cinq échantillons de résidus miniers (Vision Geochemistry, 2025).

- CV5-CL-1 : résidus du procédé de flottation ;
- CV5-CL-2 : composé intermédiaire du procédé ("middlings") ;
- CV5-CL-3 : résidus issus de la séparation magnétique ;
- CV5-CL-4 : résidus du "bypass" ;
- CV5-CL-5 : composite représentatif des futurs résidus de procédés qui seront entreposés sur le site. Un duplicata de cet échantillon a été testé, dans le but de contrôler la validité des résultats.

Des échantillons de 30 cm de hauteur ont été testés dans des colonnes de 15 cm de diamètre (environ 8,5 kg de matériel par colonne). Elles ont été réalisées en conditions drainées. Les rinçages ont été réalisés avec 2 litres d'eau déionisée tous les 15 jours. Le détail de ces essais est disponible dans le rapport de Vision Geochemistry (2025).

2.2.3 Essais en colonnes sur les stériles (UQAT)

Ces essais en colonne ont été réalisés sur les différentes lithologies stériles du gisement. Ils ont été réalisés dans le cadre du projet doctoral de madame Neila Seray sous la direction du professeur Benoît Plante de l'Université du Québec en Abitibi-Témiscamingue (UQAT) en collaboration avec PMET. Les échantillons ont été mis à l'essai soit en conditions drainées, soit en conditions submergées, afin de simuler différents scénarios d'entreposage potentiels. Chaque colonne contient un échantillon unique ou un mélange de lithologies, avec des masses variant d'environ 16 à 20 kg selon les matériaux. Elles sont de forme cylindrique, d'un mètre de longueur et de 14 cm de diamètre. Un géotextile est placé à leur base afin d'éviter la perte de matériaux fins. La configuration de chaque colonne est décrite dans le **Tableau 2-3**. Les échantillons sont principalement des composites des échantillons de carottes de forage qui ont été utilisés pour les essais en cellules humides décrites dans la **Section 2.2.1**. Les quantités de matériel ayant été insuffisantes pour obtenir le poids visé pour chaque colonne, celles-ci ont été complétées par des masses de 1,9 à 9,8 kg de rejets de forage.

Tableau 2-3 Description des essais cinétiques en colonnes pour les stériles (UQAT)

Colonne	Lithologie − Échantillons HCT	Condition	Masse finale dans la colonne
C1	Amphibolite PAG − HCT-5	drainée	≈ 17 kg
C2	Amphibolite NPAG − HCT-22	drainée	≈ 16 kg
C3	Ultramafique − HCT-36 / 59 / 62	drainée	≈ 20 kg
C4	Métasédiments − HCT-39 / 50	drainée	≈ 18 kg
C5	Pegmatite stérile − HCT-64 / 69	drainée	≈ 20 kg
C6	Mélange amphibolite − HCT-5 / 22	drainée	≈ 20 kg
C7	Métasédiments − HCT-39 / 50	submergée	≈ 18 kg
C8	Ultramafique − HCT-36 / 59 / 62	submergée	≈ 20 kg
C9	Mélange de toutes les lithologies stériles en proportions représentatives des matériaux extraits par le projet	drainée	≈ 20 kg

Le rinçage des colonnes a été réalisé tous les 15 jours, sur une période d'un an, excepté pour les colonnes C1 (amphibolite PAG) et C2 (amphibolite NPAG) dont les rinçages ont été réalisés sur une période de 6 mois. Par la suite, les deux échantillons ont été mélangés dans les proportions représentatives des matériaux extraits pour le projet et l'essai en colonne s'est poursuivi pendant 6 mois supplémentaires (colonne C6). La majorité des rinçages a été effectuée avec 1,8 L d'eau déionisée, à deux exceptions près : un volume réduit de 50 % aux rinçages 10 et 11 et un volume augmenté de 200 % aux rinçages 15 et 16. Enfin, les colonnes ont été placées à basse température (4 °C) pour les rinçages 22 et 24.

3. Critères comparatifs

Le Guide de caractérisation des résidus miniers et du minerai (ci-après, GCRMM), publié par le MELCC en juin 2020 et la Directive 019 (MELCCFP, 2025) considèrent que, à l'exception de l'effluent final, les substances liquides ou solides générées par l'extraction, la préparation et la séparation du minerai, y compris les matériaux résultant du traitement ou de l'épuration des eaux minières sont considérées comme des résidus miniers. Ainsi, la caractérisation géochimique des matériaux miniers du projet Shaakichiuwaanaan a été réalisée selon les critères énoncés dans ces documents.

Potentiel de génération d'acide

Selon le GCRMM, un résidu minier est considéré comme potentiellement générateur d'acide si sa teneur en soufre total est supérieure à 0,04 % et qu'au moins une des deux conditions suivantes est remplie :

- Un potentiel net de neutralisation (PNN) inférieur à 20 kg CaCO3/t ;
- Un ratio du potentiel de neutralisation (RPN) inférieur à 2.

Un résidu minier dont la teneur en soufre total est supérieure à 5 % est d'emblée considéré comme générateur d'acidité. Dans ce cas, l'initiateur du projet pourra choisir soit de considérer le matériel minier comme acidogène sans faire plus d'essais, soit de réaliser des essais cinétiques afin de vérifier son potentiel à générer de l'acidité.

Potentiel de lixiviation

Si la concentration en certains métaux dans un échantillon est supérieure au critère des sols A (équivalent à la teneur de fond pour le secteur à l'étude du Guide PSRTC (Beaulieu, 2021)), celui-ci doit être soumis aux essais de lixiviation selon les protocoles SPLP (lixiviation simulant les pluies acides) et CTEU-9 (lixiviation à l'eau).

Les résultats d'analyse des lixiviats et des fractions liquides des échantillons sont comparés aux critères suivants :

- Critères de qualité des eaux souterraines faisant résurgence dans les eaux de surface (critère RES, Annexe 7 du Guide PSRTC) ;
- Critères pour l'effluent final (Directive 019, Tableau 3-1) ;
- Critères pour les résidus miniers à risques élevés (GCRMM, Annexe A).

Pour qu'un résidu minier soit considéré comme non lixiviable, il faut que les concentrations en éléments métalliques dans le solide ne dépassent pas le critère A du Guide PSRTC ou que les lixiviats des essais SPLP et CTEU-9 montrent des concentrations en dessous des critères établis.

Pour qu'un résidu minier soit classé comme potentiellement lixiviable, deux conditions doivent être remplies : il faut qu'au moins un élément métallique soit présent dans la fraction solide à une teneur dépassant le critère A de l'Annexe 2 du Guide PSRTC et que ce même élément montre une concentration dans les lixiviats des essais SPLP et CTEU-9 supérieure au critère RES de l'Annexe 7 du Guide PSRTC.

Si ces conditions se vérifient pour un ou plusieurs éléments, des essais de lixiviation cinétiques peuvent être entrepris, tels que des essais de lixiviation en colonne ou des cellules de terrain pour vérifier le potentiel de lixiviabilité. Les concentrations dans les lixiviats de ces essais sont comparées aux mêmes critères que les lixiviats des essais statiques (SPLP et CTEU-9). Si l'initiateur du projet ne souhaite pas réaliser les essais cinétiques, les résidus peuvent être d'emblée classifiés comme lixiviables.

Résidus miniers à risques élevés (lixiviabilité)

Selon les critères du GCRMM, un matériau minier est considéré comme « à risques élevés » s'il produit, lors d'un essai TCLP, un lixiviat contenant un contaminant dont la concentration dépasse les critères de l'Annexe A du guide.

Radioactivité

Selon les critères de l'Annexe C du GCRMM, un résidu minier est considéré comme radioactif lorsqu'il émet des rayonnements ionisants (S) tels que le résultat de l'équation suivante, qui représente le calcul de la cote S, est supérieur à 1 :

S = C1/A1 + C2/A2 + C3/A3 + …Cn/An

où « C1, C2, C3, …Cn » représentent l'activité massique de ce résidu pour chaque radioélément qu'il contient, exprimée en kilobecquerels par kilogramme (kBq/kg)

et où « A1, A2, A3, …An » représentent, pour chaque radioélément qu'il contient, l'activité massique maximale mentionnée à l'Annexe 1 du Règlement sur les matières dangereuses. Celle-ci s'exprime en kilobecquerels par kilogramme (kBq/kg).

De la même façon, un résidu minier est considéré comme à risques élevés lorsqu'il est radioactif et son lixiviat d'essai TCLP émet des rayonnements ionisants (S), tels que le résultat de l'équation suivante, est supérieur à 0,05.

S = C1/A1 + C2/A2 + C3/A3 + …Cn/An

où « C1, C2, C3, …Cn » représentent l'activité volumique du lixiviat pour chaque radioélément qu'il contient, exprimée en kilobecquerels par litre (kBq/L)

et où « A1, A2, A3, …An » représentent, pour chaque radioélément qu'il contient, l'activité volumique décrite à l'Annexe 1 du Règlement sur les matières dangereuses. Cette activité est exprimée en kilobecquerels par litre (kBq/L).

4. Composition minéralogique

La composition minéralogique des matériaux miniers a été analysée sur des échantillons de carottes de forages réalisés entre 2021 et 2024. L'analyse a été réalisée sur les quatre lithologies de stériles : amphibolite, métasédiments (formation de Marbot), ultramafique et pegmatite ainsi que le minerai (pegmatite à spodumène). Ces lithologies ont été analysées à l'aide de deux technologies : la diffractométrie des rayons X (DRX) et la méthode TIMA (analyseur minéralogique automatisé de Tescan) basée sur l'imagerie réalisée au microscope électronique à balayage couplé à une analyse élémentaire en dispersion des rayons X.

L'analyse DRX a été réalisée sur 7 échantillons d'amphibolite, 2 échantillons d'ultramafiques, 1 échantillon de métasédiments, 90 échantillons de pegmatite et 456 échantillons de pegmatite à spodumène (minerai). Les résultats d'analyse sont résumés dans le **Tableau 4-1**.

Tableau 4-1 Composition minéralogique des différents matériaux miniers (méthode DRX)

(en % massique)	Amphibolite	Métasédiments (Marbot)	Ultramafique	Pegmatite	Pegmatite à spodumène (minerai)
Minéraux majeurs (> 10 %)	Plagioclase Amphiboles	Quartz Plagioclase	Phlogopite Amphiboles	Quartz Plagioclase	Quartz Plagioclase Spodumène
Minéraux mineurs (entre 1 et 10 %)	Quartz Microcline Chlorite Calcite Muscovite	Biotite Chlorite Muscovite Spodumène Feldspath K	Albite Muscovite Chlorite Magnétite Talc	Muscovite Microcline	Muscovite Microcline
Minéraux traces (< 1 %) ou sporadiques	Fluorite Magnétite	Tourmaline Magnétite Talc	Quartz Graphite	Spodumène Tourmaline Pollucite Beryl Chlorite Biotite Apatite	Tourmaline Pollucite Beryl Chlorite Biotite

L'amphibolite présente de l'hétérogénéité dans la composition minéralogique des différents échantillons. En général, elle montre une composition de plus de 50 % d'amphibolites, telle que l'actinolite et l'holmquistite et elle présente des teneurs en quartz variant entre 0,3 et 17,7 % massique avec une moyenne de 7 %. Les phases mineures sont la chlorite, la muscovite, le microcline et la calcite.

L'échantillon de métasédiments montre une composition de plus de 70 % de quartz et de plagioclase. Les phases mineures présentes sont la biotite, la chlorite, la muscovite, le spodumène et les feldspaths potassiques.

Les échantillons de roches ultramafiques sont composés à plus de 50 % de phlogopite et une proportion d'amphibole de l'ordre de 18 à 28 % massique. Les minéraux mineurs sont l'albite, la muscovite, la chlorite, la magnétite et le talc.

La pegmatite et la pegmatite à spodumène présentent des compositions minéralogiques relativement similaires, majoritairement composées de quartz et de plagioclase avec des minéraux mineurs, tels que la muscovite et le microcline. La principale différence est la teneur en spodumène, qui varie en moyenne de 24 % dans la pegmatite à spodumène et de 2,7 % dans la pegmatite considérée comme stérile.

La précision de la quantification DRX dépend étroitement de la qualité du modèle cristallographique et de la représentativité de l'échantillon analysé. Les méthodes d'interprétation des résultats permettent d'obtenir des proportions minéralogiques fiables, avec une incertitude de l'ordre de quelques pourcentages, lorsque les phases sont bien cristallisées. Cependant, la présence de phases amorphes, de textures préférentielles ou de chevauchements importants de pics peut réduire significativement la précision. Il est donc utile d'avoir recours à d'autres méthodes de quantification minéralogique afin d'obtenir plus de précision. De plus, l'analyse de la composition chimique des matériaux miniers a mis en évidence la présence d'arsenic, qui peut être problématique pour l'environnement.

Afin de vérifier la présence de minéraux potentiellement problématiques, une analyse minéralogique plus détaillée a été effectuée à l'aide de la méthode TIMA. Celle-ci permet d'identifier, de cartographier et de quantifier les minéraux présents sur la base de leur composition élémentaire. Cette méthode a été appliquée sur deux (2) échantillons d'amphibolite, trois (3) échantillons d'ultramafiques, un (1) échantillon de métasédiments (groupe de Guyer) et 13 échantillons de pegmatite à spodumène. Les résultats d'analyse sont résumés dans le **Tableau 4-2** pour les stériles et dans le **Tableau 4-3** pour le minerai. Les cases bleues indiquent les teneurs supérieures à 10 %. Les valeurs en gras indiquent des teneurs supérieures à 1 %. Les valeurs en gris indiquent des teneurs de moins de 0,1 %.

Tableau 4-2 Composition minéralogique des lithologies stériles (méthode TIMA en % massique)

Lithologie	Ultramafique	Ultramafique	Ultramafique	Amphibolite	Amphibolite	Métasediments
Échantillon	CV5-WR-HCT-62	CV5-WR-HCT-59	CV5-WR-HCT-36	CV5-WR-HCT-22	CV5-WR-HCT-5	CV5-WR-HCT-50
Quartz	0,99	**2,43**	**2,85**	**6,41**	11,33	16,60
Plagioclase	0,01	**8,36**	0,01	31,24	13,81	32,27
Feldsparth K	0,01	0,07	0,00	0,06	0,98	0,40
Muscovite	0,02	0,42	0,08	0,72	**2,36**	29,62
Spodumène	0,00	0,00	0,00	0,00	0,01	0,01
Tourmaline	**5,76**	0,03	26,27	0,39	**1,68**	**3,98**
Cookéite	0,00	0,00	0,00	0,00	0,00	0,00
Phosphates	0,01	0,19	0,02	0,17	0,11	0,05
Biotite	0,04	0,21	0,13	0,19	**1,04**	**2,67**
Chlorite	19,98	30,01	22,09	18,54	25,66	**9,14**
Epidote	0,01	0,12	0,04	**1,83**	**2,81**	0,34
Fluorite	**1,13**	0,10	0,22	0,29	0,33	0,21
Ilménite	0,32	0,19	0,24	0,05	0,44	0,03
Titanite	**1,54**	0,29	0,43	0,94	0,48	0,03
Rutile	0,00	0,00	0,00	0,02	0,00	0,16
Clinopyroxène	**7,55**	10,26	10,83	**3,58**	**9,89**	0,01
Orthopyroxène	11,86	**3,63**	11,69	0,00	**1,02**	0,00
Oxydes-Fe	**1,34**	0,05	0,08	0,07	0,12	0,08

Carbonates	10,66	0,40	**2,88**	0,29	0,81	**1,05**
Pétalite	0,00	0,00	0,00	0,01	0,04	0,02
Pollucite	0,00	0,00	0,00	0,00	0,00	0,00
Tantalite	0,00	0,00	0,00	0,00	0,00	0,00
Pyrite	0,01	0,03	0,00	0,03	**2,20**	0,50
Nickeline	0,05	0,00	0,15	0,00	0,02	0,00
Arsénopyrite	0,05	0,00	0,00	0,00	0,00	0,18
Gersdorffite	0,12	0,04	0,09	0,00	0,03	0,00
Pyrrhotite	0,75	**1,79**	0,05	0,02	**1,77**	**2,40**
Chalcopyrite	0,02	0,11	0,00	0,01	0,02	0,06
Pentlandite	0,04	0,03	0,00	0,00	0,00	0,00
Sphalérite	0,00	0,00	0,00	0,00	0,01	0,05
Amphibole	**2,57**	37,09	12,34	35,07	22,86	0,01
Talc	34,01	**4,03**	**9,11**	0,00	0,00	0,00
Autres	**1,19**	0,12	0,39	0,06	0,17	0,13

Tableau 4-3 Composition minéralogique du minerai (méthode TIMA en % massique)

Type de matériel	Pegmatite à spodumène (13 échantillons)		
Teneur	**Minimum**	**Médiane**	**Maximum**
Quartz	**2,02**	25,50	48,33
Albite	0,49	**7,58**	45,80
Microcline	**2,10**	**4,05**	**6,00**
Feldspath K	0,13	**1,21**	17,70
Muscovite	**1,20**	**2,71**	**7,80**
Spodumène	**3,00**	51,50	86,31
Tourmaline	0,40	**2,86**	15,50
Lépidolite	0,16	**1,08**	**3,12**
Cookéite	0,02	0,10	0,30
Beryl	0,00	0,00	0,00
Apatite	0,01	0,09	0,50
Biotite	0,20	0,52	**1,97**
Calcite	0,00	0,04	0,20
Chlorite	0,00	0,00	0,10
Fluorite	0,01	0,01	0,03
Grenat	0,01	0,03	0,22
Phosphates Li	0,00	0,00	0,05
Pétalite	0,10	0,47	**1,20**
Pollucite	0,00	0,00	0,04
Tantalite	0,00	0,02	**1,20**
Cassitérite	0,00	0,00	0,01
Sulfures	0,00	0,00	0,01
Zircon	0,00	0,00	0,01
Autres	0,10	0,15	0,60

Il est à noter que l'analyse TIMA ne permet pas de distinguer les différents types de carbonates, étant donné que cette méthode quantifie les proportions élémentaires et que les carbonates possèdent des compositions élémentaires très similaires (C + O + métal). De plus, les éléments légers comme le carbone sont difficiles à quantifier par cette méthode, car leur production de rayons X est faible par rapport aux éléments plus lourds (Goldstein et al. 2018).

Minéraux sulfurés

Aucun sulfure n'a été mis en évidence dans les lithologies stériles par la méthode DRX, excepté pour la pegmatite, dont un échantillon sur 90 a montré une teneur de 0,3 % de pyrite. Pour ce qui est du minerai, la présence de sulfures est rare : sur les 456 échantillons analysés par cette méthode, seuls 1 à 3 échantillons ont montré la présence de pyrite, bornite, sphalérite et/ou stannite avec des teneurs maximales de l'ordre de 0,5 à 1,4 %. De la jarosite a également été mise en évidence dans deux échantillons de minerai.

La méthode TIMA a permis d'identifier les sulfures présents dans l'amphibolite et l'ultramafique. Deux des trois échantillons d'ultramafique présentent des teneurs de 0,75 et 1,75 % de pyrrhotite ($Fe_{1-x}S$). De faibles teneurs de l'ordre de 0,1 % de gersdorffite (NiAsS) et de chalcopyrite ($CuFeS_2$) ont également été observées. L'un des échantillons d'amphibolite n'a montré aucune présence de sulfures, alors que le second a présenté une teneur en pyrrhotite de 1,77 %. L'échantillon de métasédiments a montré une teneur de 2,4 % de pyrrhotite et 0,18 % d'arsénopyrite (FeAsS). Dans la pegmatite à spodumène, aucune concentration significative en sulfure n'a été identifiée.

Il est à noter que les échantillons sélectionnés pour l'analyse TIMA sont ceux qui ont été utilisés pour les essais cinétiques en cellules humides. Certains d'entre eux ont été sélectionnés spécifiquement pour leur teneur élevée en sulfures. L'analyse TIMA permet d'identifier la nature des sulfures présents. Toutefois, au vu du faible nombre d'échantillons analysés par cette méthode, les quantifications obtenues ne peuvent être rapportées à l'ensemble de chaque lithologie. La distribution des teneurs en sulfures dans l'ensemble des échantillons prélevés dans chaque lithologie doit également être prise en compte.

Minéraux neutralisants

Certains minéraux ont la capacité de neutraliser l'acidité générée par l'oxydation des sulfures, tels que les carbonates et, dans une moindre mesure les plagioclases calciques. L'analyse par DRX a mis en évidence les minéraux suivants :

- Amphibolite : Présence de calcite dans cinq des sept échantillons d'amphibolite à des teneurs comprises entre 0,3 et 5,6 %. Les deux autres échantillons présentent des teneurs de 0 et 36,7 % de calcite. Le deuxième carbonate présent est l'ankérite identifiée dans deux des échantillons à des teneurs de 1,9 et 20,3 %.
- Métasédiments et ultramafique : Aucun carbonate n'a été identifié dans les échantillons de ces lithologies.
- Pegmatite : Deux échantillons de pegmatite ont montré des teneurs en carbonates de 0,427 % (minéral non identifié) pour l'un et de 6,8 % (dolomite) pour le second.
- Pegmatite à spodumène : Les carbonates identifiés sont la calcite et l'ankérite. Ils sont toutefois présents dans une minorité d'échantillons et à des teneurs très faibles (<0,05 %). Du fait de l'imprécision de la quantification par DRX. La présence de ces carbonates est incertaine.

Les résultats de quantification par la méthode TIMA confirment la présence de carbonates dans les lithologies stériles avec des teneurs comprises entre 0,4 % et 10,6 % pour les échantillons ultramafiques, entre 0,3 et 0,8 % pour l'amphibolite et de 1,1 % pour l'échantillon de métasédiments. Ces résultats confirment également que la teneur en calcite est très faible dans la pegmatite à spodumène avec une moyenne de 0,06 %.

Minéraux potentiellement problématiques

La présence de minéraux porteurs d'arsenic et de nickel a été mise en évidence par la méthode TIMA. Les échantillons d'ultramafiques montrent la présence de faibles quantités (<0,2 %) de nickéline (NiAs), de gersdorffite (NiAsS) et de pentlandite ($(Fe,Ni)_9S_8$). Les échantillons d'amphibolite présentent des teneurs traces en nickéline, gersdorffite de l'ordre de 0,02 %-0,03 %. L'échantillon de métasédiments présente une teneur de 0,18 % d'arsénopyrite (FeAsS). Les échantillons de pegmatite à spodumène contiennent de faibles quantités d'apatite, de fluorite et de phosphates de lithium. Ces échantillons montrent également une teneur moyenne de 0,47 % de pétalite ($LiAlSi_4O_{10}$). L'oxydation ou la dissolution de ces minéraux pourraient libérer des éléments chimiques (arsenic, nickel, lithium, phosphore, fluor) dans l'eau de contact avec ces matériaux et générer un impact potentiel.

5. Granulométrie

La granulométrie des échantillons joue un rôle déterminant dans la réactivité des minéraux et influence directement leurs propriétés géochimiques environnementales. La littérature scientifique montre que les fractions fines présentent généralement une réactivité plus élevée, en raison de leur surface spécifique accrue, ce qui favorise la libération d'éléments chimiques lors des processus de dissolution et d'altération. Les données disponibles sur la granulométrie des échantillons caractérisés sont décrites dans les sections suivantes.

Telle que décrite à la **Figure 5-1**, la taille de particules attendue pour les stériles extraits lors de l'exploitation est principalement comprise entre 1 cm et 1 m (Vision Geochemistry, 2025). Toutefois, dans la présente étude, les essais de lixiviation ont été réalisés sur des échantillons de carottes de forages concassés. Pour les essais en cellules humides, la granulométrie de l'échantillon a été réduite à moins de 6,3 mm. Pour les essais en colonne de l'UQAT, la taille de particule est comprise entre 0,35 et 20 mm selon l'évaluation par tamisage (**Figure 5-1**). Des essais de granulométrie laser ont également été réalisés sur la fraction fine non évaluée par tamisage. Ils ont mis en évidence des particules de taille allant jusqu'à 0,001 mm.

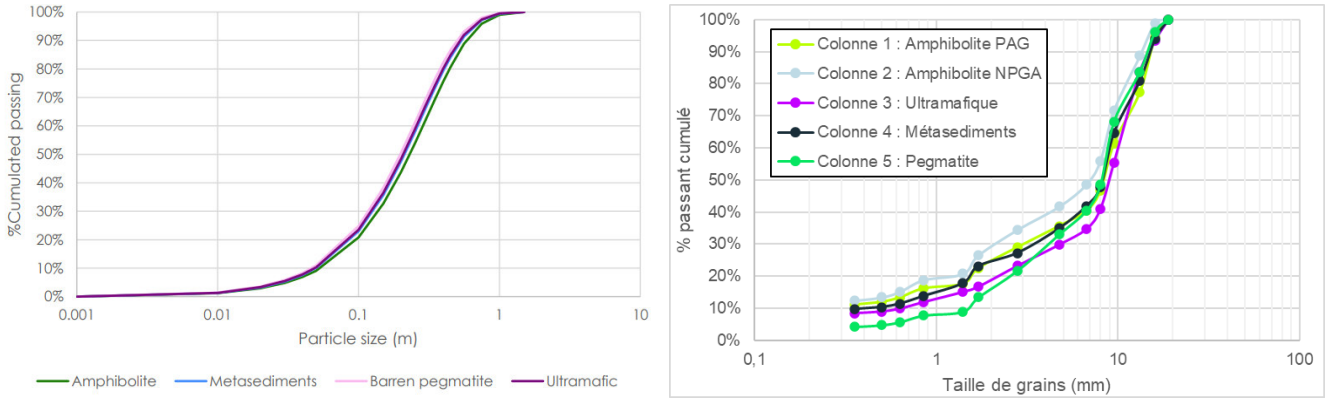


Figure 5-1 Granulométrie attendue pour les lithologies stériles du projet (à gauche, tirée de Vision Geochemistry, 2025) et granulométrie des échantillons mis à l'essai dans les colonnes UQAT (à droite)

La granulométrie des résidus miniers qui ont été produits lors des essais métallurgiques est présentée à la **Figure 5-2** (AtkinsRéalis, 2025). L'échantillon analysé est un composite des différents flux de résidus de procédés qui seront générés dans les proportions projetées lors de l'exploitation. Sa granulométrie est principalement celle d'un sable graveleux.

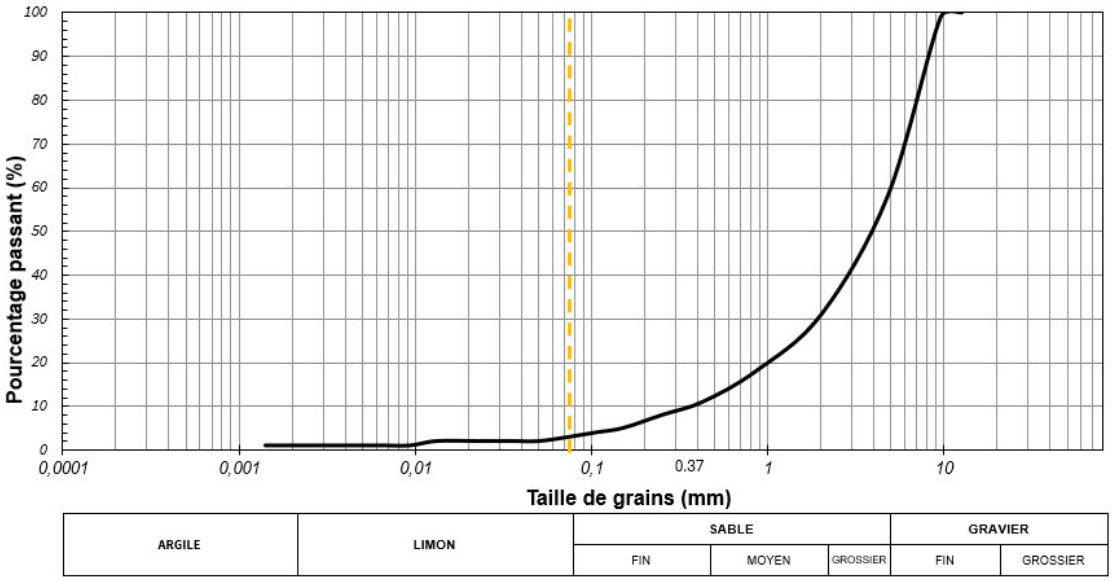


Figure 5-2 Granulométrie des résidus miniers produits par les essais métallurgiques (AtkinsRéalis, 2025)

6. Classification des matériaux miniers

L'ensemble des analyses géochimiques effectuées sur les matériaux miniers du projet ne sera pas présenté dans cette section. Comme mentionné en introduction, la majorité de ces résultats ont été détaillés dans une étude antérieure (Vision Geochemistry, 2025). Il est donc possible de se référer à cette étude pour visualiser les résultats complémentaires qui ont permis de classifier les matériaux miniers dans cette note technique. Les deux principaux facteurs de classification sont le potentiel de génération d'acide, et le potentiel de lixiviabilité. Les deux prochaines sections traiteront ainsi de ces facteurs, pour classifier les matériaux miniers du projet.

6.1 Potentiel de génération d'acide

6.1.1 Distribution du soufre et du carbone et représentativité des essais

La génération d'acidité dans un matériau est liée à l'oxydation des sulfures présents dans les échantillons. La teneur en soufre sous forme de sulfure permet d'évaluer de façon préliminaire le potentiel d'acidification. La teneur en carbone total permet de façon préliminaire d'évaluer la présence de minéraux neutralisants. La **Figure 6-1** et la Figure 6-2 présentent les distributions des teneurs en ces deux éléments sur les 350 échantillons analysés, répartis par lithologie. Il est observé que les teneurs en sulfures sont généralement faibles, en particulier dans l'ultramafique, la pegmatite, la pegmatite à spodumène et les résidus miniers qui sont générés à partir de cette dernière. Les teneurs en sulfures les plus importantes sont observées dans les métasédiments avec 75 % des teneurs comprises entre 0 et 0,43 % et 95 % des valeurs comprises entre 0 et 1 %.

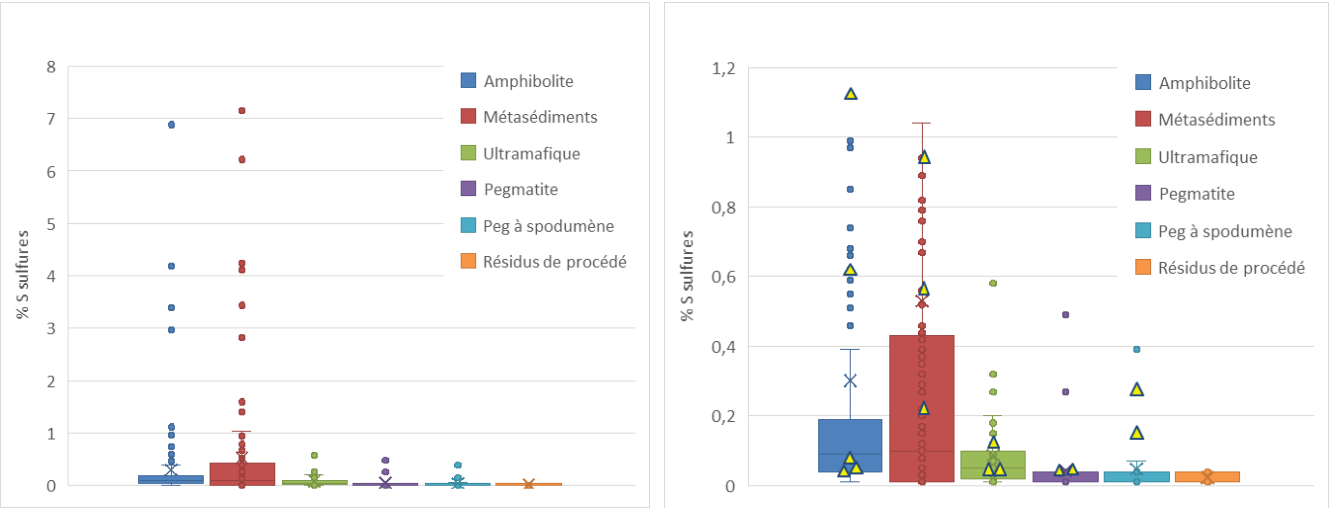


Figure 6-1 Distribution des teneurs en soufre sous forme de sulfures (vue d'ensemble à gauche et vue détaillée à droite)

Sur le graphique de droite de la **Figure 6-1**, les triangles indiquent les teneurs en soufre sous forme de sulfures des échantillons qui ont été utilisés pour les essais en cellules humides et les essais de lixiviation en colonne. Il est constaté que les échantillons sélectionnés pour ces essais couvrent adéquatement l'intervalle des concentrations mesurées lors des essais statiques pour l'amphibolite, l'ultramafique et la pegmatite. Pour les métasédiments, les trois échantillons sélectionnés ont une concentration en soufre sous forme de sulfures supérieure à la médiane des concentrations mesurées pour cette lithologie. Cette sélection permet d'évaluer le potentiel de génération d'acidité de la lithologie de façon conservatrice. Pour la pegmatite à spodumène, les échantillons sélectionnés présentent des concentrations considérablement plus élevées que celles observées dans l'ensemble de la lithologie. Elles ne sont pas représentatives des teneurs observées dans le minerai. L'objectif de ces deux essais est de vérifier le comportement de cette lithologie dans le cas de la présence locale de sulfures.

Pour ce qui est de la teneur en carbone total, les teneurs sont généralement faibles sur l'ensemble des matériaux miniers caractérisés. Les résultats confirment que les carbonates sont quasi absents de la pegmatite, de la pegmatite à spodumène et des résidus miniers. La lithologie ultramafique présente la plus grande teneur avec 95 % des teneurs comprises entre 0,01 % et 0,75 %.

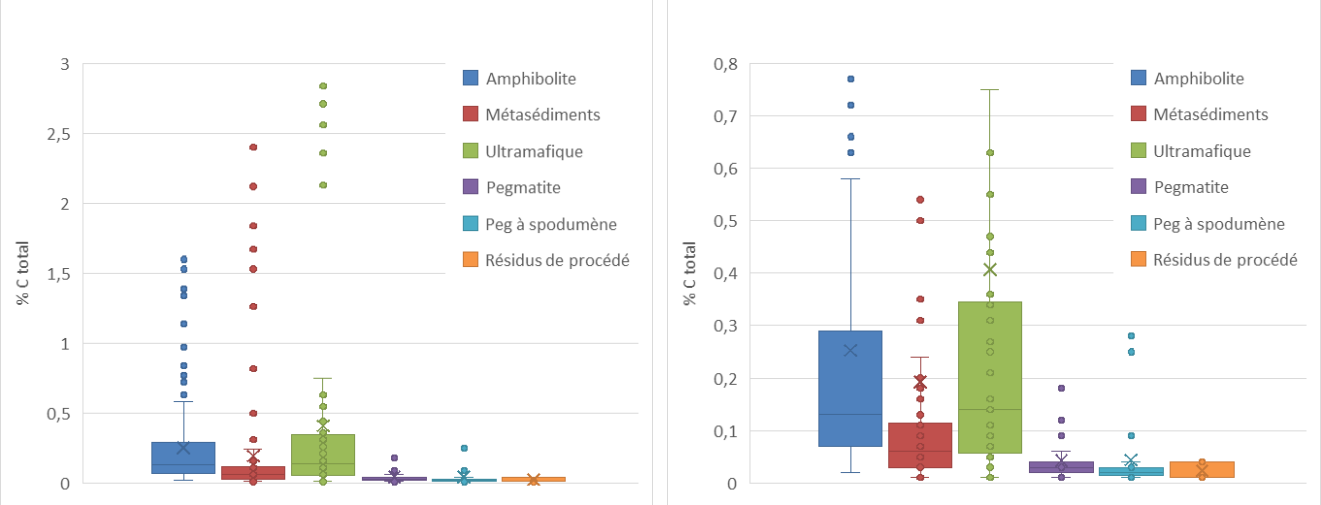


Figure 6-2 Distribution des teneurs en carbone total (vue d'ensemble à gauche et vue détaillée à droite)

6.1.2 Essais statiques

Les résultats des essais de détermination du potentiel de génération d'acide réalisés sur 350 échantillons de matériaux miniers sont fournis dans l'étude de caractérisation effectuée par Vision Geochemistry en 2025. Ces essais ont été réalisés sur les cinq lithologies du projet, ainsi que sur les résidus miniers.

Le **Tableau 6-1** présente un sommaire des résultats obtenus. Il contient les teneurs médianes en soufre pour chaque lithologie, le nombre d'échantillons interprétés comme non potentiellement générateurs d'acidité (NPGA) ou potentiellement générateurs d'acidité (PGA) selon les critères du GCRMM, ainsi que le ratio du potentiel de

neutralisation (RPN) calculé par le rapport de la médiane du potentiel de neutralisation (PN) des échantillons de la lithologie concernée sur la médiane des potentiels d'acidification (PA) de ces mêmes échantillons.

Tableau 6-1 Sommaire des résultats des essais de détermination du potentiel de génération d'acide

Lithologies	Nombre d'échantillons total	% de soufre total (médiane)	Nombre d'échantillons NPGA	Nombre d'échantillons PGA	RPN global
Amphibolite	128	0,14	112	16	5,3
Ultramafique	54	0,07	51	3	8,8
Métasédiments	101	0,18	65	36	2,4
Pegmatite	33	0,01	31	1	31,5
Pegmatite à spodumène	25	0,01	24	1	14,0
Résidus miniers	9	0,02	9	0	15,7

Pour la lithologie ultramafique, le nombre d'échantillons considéré comme PGA est faible en comparaison du nombre d'échantillons analysés et le RPN global de la lithologie est nettement supérieur à 2 (RPN global de 8,8). Il est également à noter que le PN de la lithologie ultramafique est sous forme de carbonate (**Figure 6-3**) qui est le minéral le plus efficace en termes de vitesse de réaction pour la neutralisation. Il est donc peu probable que cette lithologie soit acidogène.

Le nombre d'échantillons d'amphibolite PGA est relativement faible en comparaison au nombre d'échantillons analysés dans cette lithologie et son RPN global est de 5,3. Pour les métasédiments, le nombre d'échantillons PGA est proportionnellement plus élevé que pour l'ultramafique et l'amphibolite, et son RPN global est de 2,4. Pour ces deux lithologies stériles, les teneurs en carbonates sont plus faibles que dans la lithologie ultramafique, en particulier dans les métasédiments, et le PN semble provenir des carbonates ainsi que des silicates. Les silicates sont moins efficaces pour neutraliser l'acidité du fait d'une cinétique de réaction plus lente. La teneur en sulfures dans l'amphibolite étant généralement faible avec une teneur médiane de 0,07 %, il est toutefois probable que cette lithologie soit NPGA. Le potentiel de génération d'acide des métasédiments est plus incertain, car cette lithologie présente le RPN global le plus faible.

Les essais cinétiques ont été réalisés afin de pouvoir confirmer la classification de ces trois lithologies de stériles.

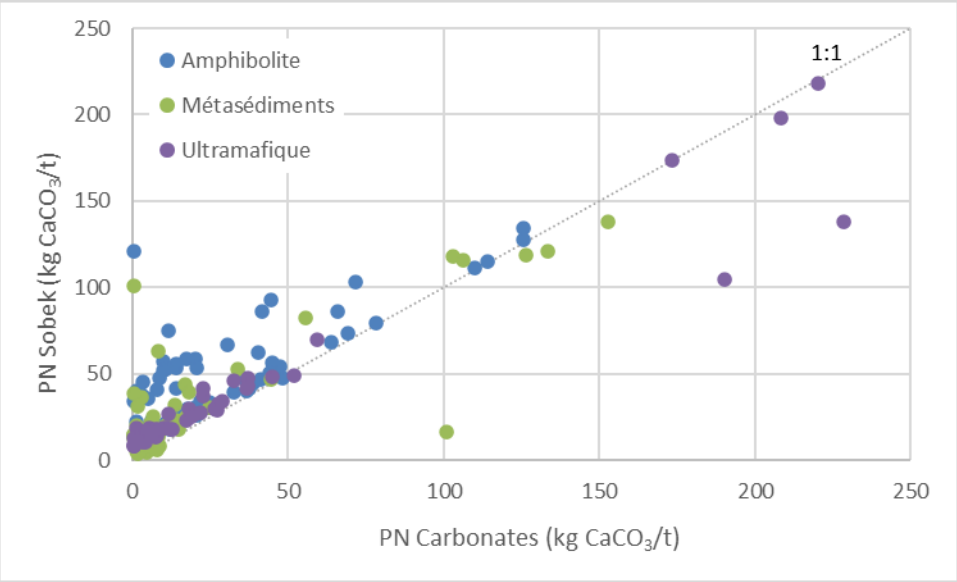


Figure 6-3 Comparaison du PN évalué sur la base de la teneur en carbonates et du PN Sobek modifié

6.1.3 Essais cinétiques

6.1.3.1 Essais en cellules humides

Des essais en cellules humides ont été réalisés sur les différents matériaux miniers du projet sur une période de deux années (Vision Geochemistry, 2025). Les résultats d'analyse des lixiviats des cellules ont montré des pH légèrement alcalins au début des essais avec des valeurs comprises entre 7,5 et 9. Puis ces valeurs ont progressivement baissé jusqu'à 60 semaines d'essais où elles se sont stabilisées entre 6 et 7,5 (**Figure 6-4**). Quelques valeurs légèrement en dessous de 6 ont été mesurées vers la fin de l'essai pour les cellules CV5-WR-HCT-59 (ultramafique) et -HCT-39 (métasédiments).

Les résultats indiquent que seules trois cellules (sur 15 au total) montrent une génération d'acidité qui reste toutefois de faible ampleur. Le lixiviat de l'échantillon d'amphibolite dans la cellule HCT-2 montre une faible acidité à court terme qui culmine à une valeur de 10 mg/L à 15 semaines d'essai, puis passe en dessous de la limite de détection pour le reste de la durée de l'essai (**Figure 6-5**).Le lixiviat de l'échantillon de métasédiments dans la cellule HCT-50 montre une acidité de concentration variable qui augmente à 18 mg/L à la 60e semaine de l'essai, puis redescend progressivement à 4 mg/L à la fin de celui-ci. Les concentrations en sulfates augmentent de 10 à 20 mg/L en fin d'essai (**Figure 6-6**) et la teneur en fer passe de 0,02 à 0,6 mg/L entre la 60e semaine de l'essai et la fin de celui-ci. Il est toutefois à mentionner que l'essai en cellule humide tend à favoriser le développement de conditions légèrement acides (pH 6) même pour des échantillons qui ne sont pas acidogènes du fait du pH relativement acide de l'eau déionisée et du rapport liquide sur solide élevé lors des rinçages. Le lixiviat de l'échantillon d'ultramafique dans la cellule HCT-59 montre une acidification moins marquée que l'échantillon de métasédiments HCT-50. L'acidité varie entre 2 et 9 mg/L tout au long de l'essai avec des valeurs légèrement plus élevées en fin d'essai (7-9 mg/L). Les essais en cellule humide confirment que les échantillons de pegmatite, de pegmatite à spodumène et de résidus miniers sont non acidogènes.

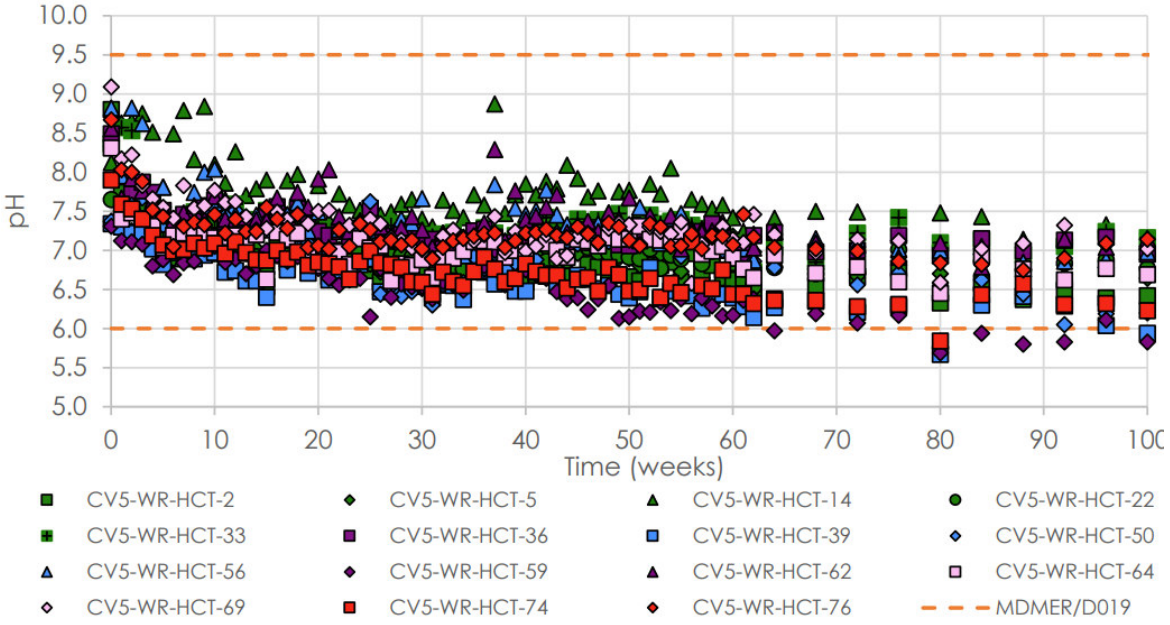


Figure 6-4 Évolution du pH dans les lixiviats des cellules humides (Vision Geochemistry, 2025)

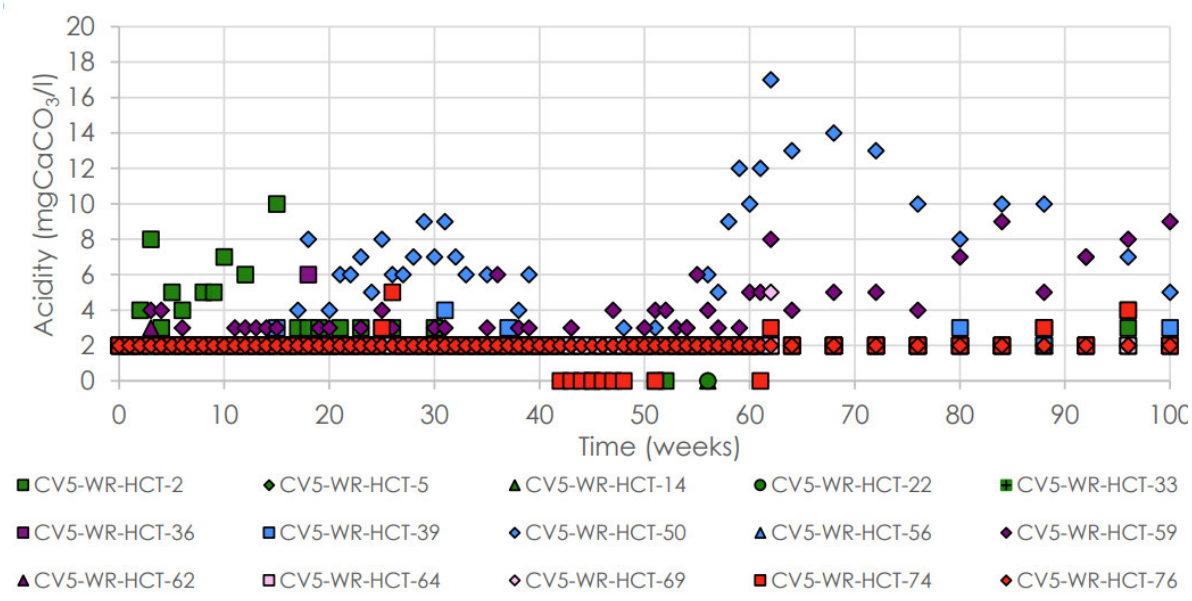


Figure 6-5 Évolution de l'acidité dans les lixiviats des cellules humides (Vision Geochemistry, 2025)

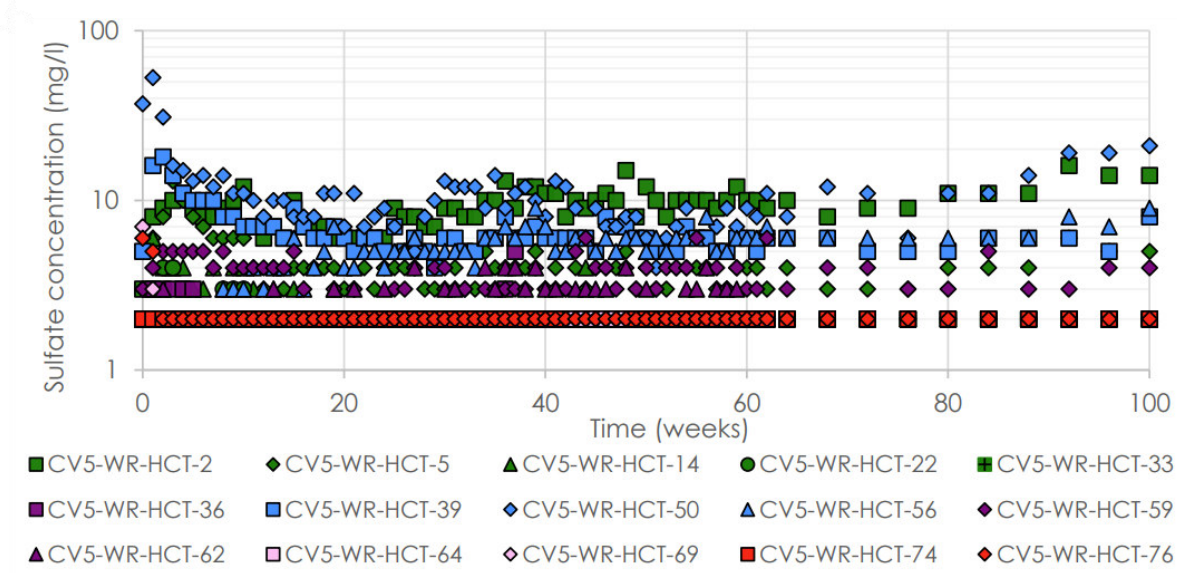


Figure 6-6 Évolution de la concentration en sulfates dans les lixiviats des cellules humides (Vision Geochemistry, 2025)

6.1.3.2 Essais en colonnes (UQAT)

Les essais en colonne sur les lithologies stériles ont été menés sur 336 jours. Les graphiques des résultats sont disponibles en **Annexe A**. Les résultats d'analyses des lixiviats en ce qui concerne le potentiel de génération d'acide sont les suivants :

- Pour toutes les lithologies, le pH passe de légèrement alcalin à autour de la neutralité en fin d'essai.
- L'acidité des lixiviats reste proche de la limite de détection (2-4 mg/L) tout au long des essais pour toutes les lithologies, ce qui signifie que, si de l'acidité est générée, la disponibilité des minéraux neutralisants est suffisante pour neutraliser l'acidité générée durant les 336 jours des essais.
- La concentration en sulfates est plus élevée dans les lixiviats de la colonne drainée de métasédiments (colonne C4) que pour les autres lithologies, indiquant qu'un phénomène d'oxydation des sulfures se produit. Cet argument est soutenu par le fait que les teneurs en sulfates dans les lixiviats de la colonne de métasédiments en conditions submergées (colonne C7) sont significativement inférieures à celles de la colonne C4. Les concentrations en soufre (sulfates) dans les lixiviats de la colonne C4 passe de 78 mg/L en début d'essai à 46 mg/L en fin d'essai alors que ceux de la colonne C7 submergée passe de 40 mg/L à 13 mg/L. La présence de l'eau limite la diffusion de l'oxygène vers les sulfures et donc leur oxydation. Pour les autres lithologies, la teneur en sulfates se maintient en dessous de 10 mg/L, ce qui semble indiquer une faible réactivité.

Les courbes de neutralisation/oxydation (Benzaazoua et al. 2004) ont été tracées pour les trois lithologies (ultramafique, amphibolite et métasédiments). Elles sont présentées à la **Figure 6-7**. Celles-ci permettent de comparer le taux de génération des charges cumulées normalisées en soufre (marqueur de l'oxydation) avec les charges cumulées normalisées de calcium, magnésium et manganèse (marqueurs de la neutralisation). Une relation linéaire est obtenue pour chaque lithologie et la pente de la droite est spécifique à chaque lithologie. Dans l'hypothèse où ce taux de réaction se maintiendrait dans le temps, il serait possible de vérifier, de façon théorique, pour chaque lithologie, lesquels des minéraux acidogènes ou neutralisants s'épuiseraient en premier, par

extrapolation. Lorsque la concentration moyenne initiale en soufre et la somme des concentrations moyennes en calcium, magnésium et manganèse sont comparées aux courbes extrapolées pour chaque lithologie, il est constaté que ces points sont localisés au-dessus de leur courbe respective. Selon cette interprétation, les sulfures seraient théoriquement épuisés avant les minéraux neutralisants. Par conséquent, les trois lithologies seraient considérées comme non acidogènes.

Cette méthode d'interprétation repose toutefois sur plusieurs hypothèses, dont celle selon laquelle la composition minéralogique serait homogène dans chaque lithologie, et celle selon laquelle la réactivité des minéraux resterait constante au cours du temps. Afin de consolider cette interprétation, des essais à plus grande échelle seraient requis afin de s'assurer de bien capter la variabilité au sein de chaque lithologie.

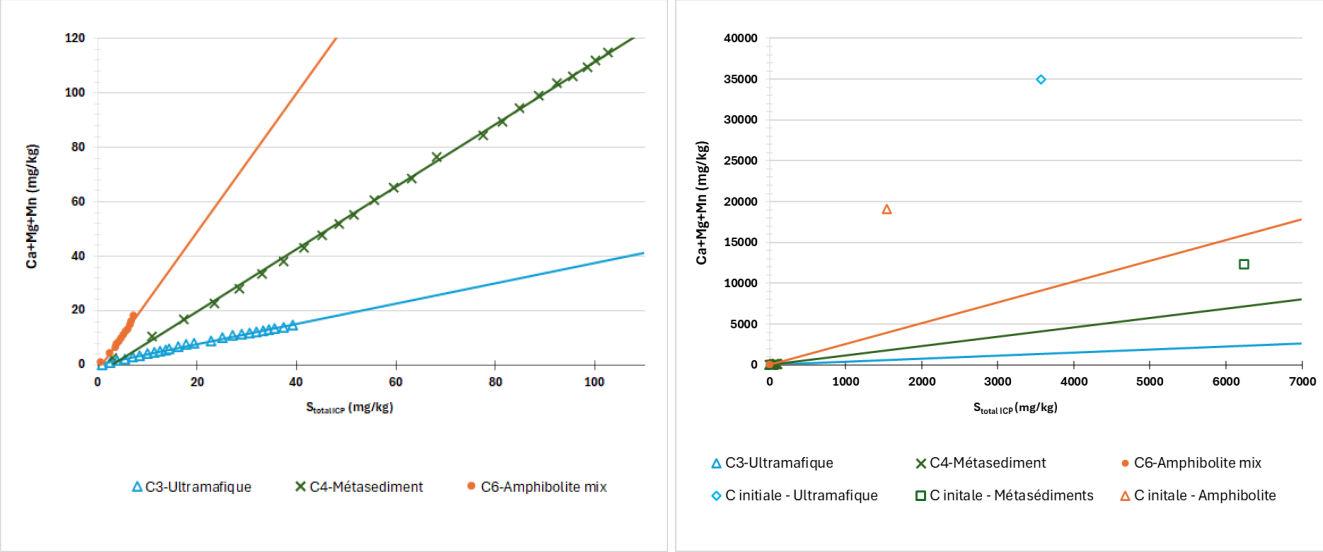


Figure 6-7 Courbes d'oxydation/neutralisation pour les lithologies ultramafique, métasédiments et amphibolite (à gauche) et leur extrapolation (à droite)

6.2 Potentiel de lixiviabilité

6.2.1 Distribution de l'arsenic et représentativité des essais

Sur la base des résultats des essais de lixiviation statiques (SPLP et CTEU9), l'arsenic est l'un des éléments d'intérêt quant à la lixiviabilité des matériaux miniers du projet. La **Figure 6-8** présente la distribution des teneurs en arsenic extractible des 350 échantillons analysés, répartis par lithologie. Il est observé que la teneur en arsenic est considérablement plus élevée dans la lithologie ultramafique que dans les autres lithologies avec une médiane de 210 ppm. Les autres lithologies montrent des médianes comprises en 10 et 16 ppm. Les résidus miniers présentent une médiane de 51 ppm.

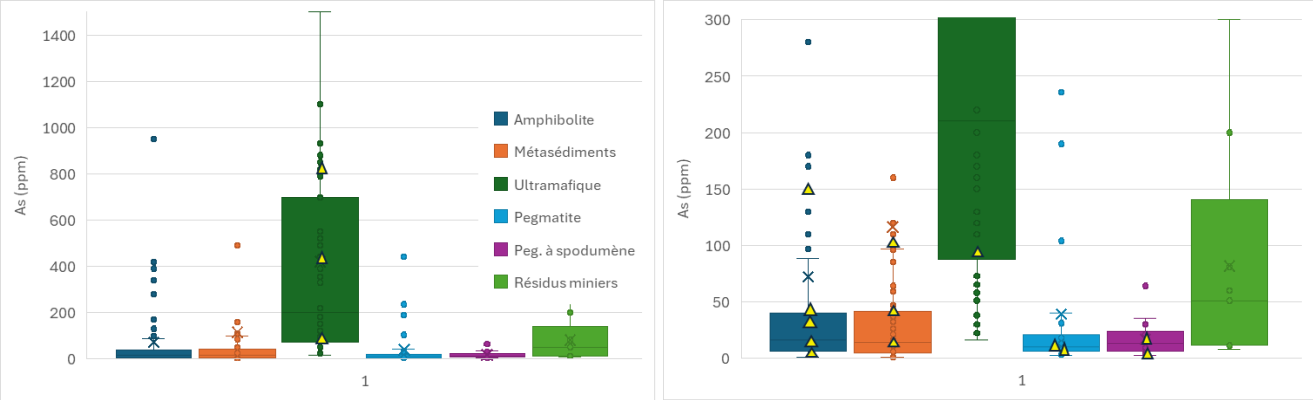


Figure 6-8 Distribution des teneurs en arsenic extractible (vue d'ensemble à gauche et vue détaillée à droite)

Sur les graphiques de la **Figure 6-8**, les triangles indiquent les teneurs en arsenic extractible des échantillons qui ont été utilisés pour les essais en cellules humides et les essais de lixiviation en colonne. Il est constaté que les échantillons sélectionnés pour ces essais couvrent adéquatement l'intervalle des concentrations mesurées lors des essais statiques pour chaque lithologie.

6.2.2 Essais de lixiviation statiques

Les données de teneurs en métaux extractibles et d'analyse des lixiviats des essais SPLP et CTEU-9 disponibles pour chaque matériau (Vision Geochemistry 2025) ont été réinterprétés par rapport aux critères du GCRMM afin de déterminer le potentiel de lixiviabilité de chacun d'eux. Le **Tableau 6-2** récapitule l'ensemble des résultats de la démarche de classification.

La lixiviabilité en métaux varie selon les lithologies, tant en nombre de dépassements des critères de classification qu'en type d'éléments chimiques. Une tendance générale se dégage toutefois : la lixiviation potentielle de l'arsenic apparaît comme un phénomène relativement commun dans toutes les lithologies évaluées, ainsi que dans les résidus miniers. D'autres éléments présentent également des dépassements de critères applicables (critère A et critère RES), c'est notamment le cas du cuivre (27 % des échantillons d'amphibolite, 12 % des échantillons des métasédiments, 17 % de la lithologie ultramafique ou encore 44 % des résidus miniers), ainsi que le chrome pour 78 % des échantillons appartenant à la lithologie ultramafique. D'autres dépassements plus sporadiques ont aussi été observés pour certains éléments, incluant l'argent, le cadmium, le plomb, le zinc et le nickel.

Pour l'interprétation des résultats des essais de lixiviation, il est requis de considérer non seulement la présence de dépassements des critères, mais aussi l'ampleur des écarts par rapport aux critères applicables. En ce qui concerne le Critère A, seuls l'arsenic et le nickel dépassent ce seuil d'un ordre de grandeur dans plusieurs échantillons provenant des lithologies amphibiotique, métasédimentaire et ultramafique. La lithologie ultramafique se distingue particulièrement : 30 % de ses échantillons présentent des dépassements en arsenic de deux ordres de grandeur par rapport au critère, et un échantillon dépasse même ce critère de trois (3) ordres de grandeur. Ces résultats soulignent un potentiel important de lixiviation de l'arsenic, surtout pour les unités ultramafiques.

Les résultats des essais de lixiviation CTEU-9 indiquent une mobilisation potentielle de l'arsenic dans les conditions des essais. En effet, 19 % des échantillons ultramafiques dépassent le critère RES pour l'arsenic de deux (2) ordres de grandeur, et 56 % d'un ordre de grandeur. Un total de 22 % des résidus miniers et de 8 % de la pegmatite (minerai) dépassent également d'un ordre de grandeur le critère RES pour ce métal. De plus, les résultats de ces essais montrent des dépassements de critères d'un ordre de grandeur pour plusieurs autres éléments. C'est notamment le cas de l'argent (22 % des échantillons de résidus miniers et 2 % pour les métasédiments), le chrome (7 % de la lithologie ultramafique), le cuivre (3 % des métasédiments et 6 % de la pegmatite stérile), le lithium (12 % de la pegmatite à spodumène), l'antimoine (22 % de l'ultramafique et 8 % de la pegmatite à spodumène) et le thorium (12 % de la pegmatite stérile, et 8 % de la pegmatite à spodumène).

En comparaison, les essais SPLP montrent un nombre plus limité de dépassements. Aucun dépassement ne dépasse un ordre de grandeur par rapport au critère, sauf pour l'argent, et ce, seulement dans quelques échantillons. Ces résultats suggèrent une lixiviabilité plus faible dans les conditions simulées par les essais SPLP, par rapport à celles représentées par les essais CTEU-9. Les essais CTEU-9 simulent des conditions plus rigoureuses que les essais SPLP du fait de pulvérisation de l'échantillon à -150 microns (-9,5 mm pour l'essai SPLP), un temps d'agitation de 7 jours (18 h pour l'essai SPLP) et un rapport de mélange liquide/solide cinq fois plus faible que celui du SPLP. L'objectif de cet essai n'est pas de reproduire les conditions d'altération du site, mais d'identifier les éléments chimiques d'intérêt dont la lixiviabilité doit être examinée plus en détail.

Tableau 6-2 Interprétation du potentiel de lixiviabilité des matériaux miniers

Lithologies	Métaux > Critère A [1]	SPLP >RES[2]	CTEU-9>RES[2]	Métaux>Critère A et lix>RES [3]	Classification préliminaire
Amphibolite n = 128	As (98), Cu (98), Ni (36), Cr (9), Sn (7), Co (3), Cd (2), Pb (2), Zn (2), Ag (1), Ba (1), Hg (1)	Zn (5), Ag (3), Cu (3), As (2)	Li (69), Cu (37), As (26), Sb (20), Ag (16), Cr (7) Cd (1), Pb (1), Th (1), V (1)	**Cu (35)**, **As (26)**, Ag (1), Cd (1), Cr (1)	Potentiellement lixiviable en cuivre et en arsenic
Métasédiments n = 101	As (70), Cu (18), Ni (12), Sn (12), Cr (8), Zn (6), Cd (5), Ag (3), Pb (3), Co (2), Mn (2), Ba (1), Hg (1)	Cu (4), Ag (2), Zn (2), As (1), Sb (1)	Li (63), Cu (34), Ag (21), As (16), Sb (9), Cr (5), Pb (5), Zn (3), Cd (2), V (2), Be (1), Mn (1), Th (1)	**As (16)**, **Cu (12)**, Cr (5), Ag (2), Pb (2), Zn (2), Cd (1)	Potentiellement lixiviable en arsenic et en cuivre
Ultramafique n = 54	As (54), Cr (53), Ni (53), Co (35), Cu (24), Sn (5), Ag (1), Cd (1), Mo (1), Pb (1), Zn (1)	As (17), Sb (1)	As (50), Cr (42), Sb (36), Li (21), Cu (13), Ni (8), Ag (7)	**As (50)**, **Cr (42)**, **Cu (9)**, **Ni (8)**, Ag (1)	Potentiellement lixiviable en arsenic, chrome, cuivre et nickel
Pegmatite à spodumène n = 25	As (22), Sn (4), Cr (3), Ag (1)	Cu (3), Ag (2), Be (2), Zn (2)	Li (25), As (19), Th (19), Sb (10), Ag (7), Be (7), Cu (6)	**As (18)**	Potentiellement lixiviable en arsenic
Pegmatite stérile n = 33	As (25, Cr (4), Cu (3), Sn (3), Ni (1), Pb (1)	Be (4), Cu (4), Ag (3), Zn (3), Pb (1)	As (24), Th (21), Cu (19), Be (13), Li (8), Ag (6), Pb (3), Fe (2), Sb (2), Cr (1), V (1), Zn (1)	**As (24)**, Cu (3), Pb (1)	Potentiellement lixiviable en arsenic
Résidus miniers n = 9	As (9), Cr (5), Ni (3)	Cu (3), Ag (2), Zn (2)	As (9), Th (6), Li (5), Sb (5), Cr (4), Cu (5), Ag (4), Zn (2), Th (1)	**As (9)**, **Cr (4)**	Potentiellement lixiviable en arsenic et en chrome

Notes :

1. *Il n'y a pas de critère A pour le lithium, l'antimoine et le thorium, entre autres. Ils ont toutefois été intégrés dans l'analyse comme étant des éléments chimiques d'intérêt.*
2. *Plusieurs éléments chimiques d'intérêt n'ont pas de critère RES. Les critères CVAA (critères de vie aquatique - effet aigu) ont été utilisés à titre indicatif. C'est le cas du béryllium, du chrome, du cobalt, de l'étain, du fer, du lithium, du thorium et du vanadium.*
3. *Comme mentionné dans la Section 3.0, pour qu'un échantillon soit considéré comme potentiellement lixiviable, les résultats des essais doivent démontrer à la fois un dépassement du critère A pour les métaux extractibles, et du critère RES pour les essais SPLP ou CTEU-9 et cela pour le même élément chimique dans le même échantillon.*

6.2.3 Essais de lixiviation cinétiques

Entre 2024 et 2025, des essais de lixiviation en colonnes sur les différentes lithologies stériles du projet (UQAT) et sur les résidus miniers (Vision Geochemistry, 2025) ont été réalisés afin de permettre une meilleure compréhension de la lixiviabilité en métaux de ces matériaux. Les résultats de ces essais sont présentés en **Annexe A**.

6.2.3.1 Lixiviabilité des lithologies stériles

Comme décrit dans la **Section 2.2**, des essais de lixiviation en colonne ont été effectués par l'UQAT sur l'ensemble des lithologies stériles pendant un an. Les résultats des essais sont résumés ci-dessous.

- Arsenic : des dépassements des critères D019 et RES sont observés pour l'ensemble des lithologies. Ces concentrations diminuent au cours des essais pour les échantillons de pegmatite et de métasédiments devenant inférieures au critère de la D019 après 200 et 100 jours d'essais respectivement. Pour les échantillons d'amphibolite et d'ultramafique, les concentrations se maintiennent au-dessus du critère RES sur les 300 jours des essais et, à titre indicatif, jusqu'à 250 jours d'essais, les concentrations en arsenic dans les échantillons d'ultramafique sont supérieures au critère de l'Annexe A du GCRMM définissant les résidus miniers à risques élevés. Les concentrations baissent légèrement vers la fin de l'essai, mais elles restent proches de ce critère jusqu'à la fin des essais. Jusqu'à 250 jours des essais, la concentration en arsenic dans la colonne d'ultramafique en conditions submergées présentent des concentrations en arsenic supérieures à celles observées dans la colonne d'ultramafique en conditions drainées. Ce phénomène semble indiquer la présence de minéraux porteurs d'arsenic qui présentent une certaine solubilité dans l'eau.
- Cadmium : Les concentrations en cadmium sont relativement stables et supérieures au critère RES pour chaque lithologie tout au long des essais, excepté pour la pegmatite et les métasédiments. Jusqu'à 70 jours d'essai, les concentrations sont supérieures au critère pour la pegmatite, puis elles baissent sous celui-ci. Pour les deux colonnes de métasédiments, les concentrations se maintiennent en dessous du critère tout au long de l'essai. Il est à noter que les concentrations en cadmium dans les lixiviats des essais en cellules humides étaient toujours proches ou égales à la limite de détection pour toutes les lithologies mises à l'essai.
- Cuivre : Les résultats montrent des concentrations relativement stables tout au long des essais, avec des concentrations généralement inférieures aux critères RES pour toutes les lithologies, excepté la pegmatite qui montre dans son lixiviat des concentrations supérieures au critère durant les 50 premiers jours des essais.
- Nickel : Les concentrations demeurent inférieures aux critères réglementaires pour l'ensemble des lithologies tout au long des essais, à l'exception de l'amphibolite en conditions submergées, qui présente quelques dépassements des critères RES/D019 en début d'essai. Cependant, après 200 jours d'essai, les concentrations chutent et restent sous les critères.
- Antimoine : Les deux colonnes d'ultramafique montrent des concentrations supérieures au critère RES pour toute la durée de l'essai. La colonne C9 (mélange de toutes les lithologies stériles) montre des concentrations supérieures au critère dans les premiers 150 jours de l'essai, probablement du fait de sa composante en ultramafique.
- Lithium, plomb, uranium, zinc : Les concentrations se maintiennent sous les critères RES (CVAA pour le lithium, à titre indicatif) pour toutes les lithologies sur toute la durée des essais.

6.2.3.2 Lixiviabilité du minerai

Deux essais en cellules humides, CV-WR-HCT-74 et -76, ont été réalisés sur le minerai (Vision Geochemistry, 2025). Les résultats de ces essais sont présentés en **Annexe A** pour les principaux éléments d'intérêt. Les résultats des essais ont mis en évidence dans les lixiviats de l'un de ces échantillons (HCT- 74) des concentrations en arsenic supérieures au critère RES pour les trois premiers rinçages et des concentrations en lithium égales au critère CVAA (Critère de vie aquatique – effet aigu) pour les deux premiers rinçages. Par la suite, les concentrations en ces deux éléments s'amenuisent progressivement dans les lixiviats. L'échantillon de la cellule HCT-76 ne montre pas de concentrations en arsenic ou en lithium supérieures à leur critère respectif pour toute la durée des essais. Les concentrations en cuivre, en nickel, en antimoine et en zinc dans les lixiviats des deux cellules restent en dessous de leur critère RES respectif tout au long des 100 semaines d'essai.

Sur la base de ces résultats, le minerai pourrait présenter un potentiel de lixiviabilité en arsenic et, à titre indicatif, en lithium à très court terme. Étant donné que les deux échantillons présentent des comportements différents, la représentativité des propriétés géochimiques de l'échantillon CV-WR-HCT-74 devrait être évaluée par rapport aux propriétés de la lithologie complète. Il est également recommandé de procéder à des essais de lixiviation en colonne sur le minerai afin de mettre à l'essai une masse plus grande d'échantillon dans des conditions plus représentatives des conditions de terrain.

6.2.3.3 Lixiviabilité des résidus miniers

Les essais cinétiques en colonne réalisés sur cinq échantillons de résidus miniers (Vision Geochemistry, 2025) confirment une partie des résultats des essais statiques. Quatre de ces échantillons présentent des lixiviats avec des concentrations qui dépassent les critères RES et D019 de l'arsenic, pendant toute la durée des essais, c'est notamment le cas de l'échantillon composite représentatif des résidus miniers qui seront entreposés sur le site (colonne CL-5). Les teneurs en chrome dans les lixiviats sont très faibles sur toute la période d'essai pour toutes les colonnes.

Malgré une concentration dans son lixiviat initial dépassant le critère RES pour les résidus miniers de flottation, les concentrations en cuivre mesurées dans les lixiviats sont inférieures à la limite de détection pour tous les échantillons à partir du troisième rinçage. Ce résultat indique l'absence d'un potentiel significatif de lixiviation du cuivre dans les résidus miniers évalués.

Pour l'antimoine, les résultats montrent une diminution graduelle des concentrations au fur et à mesure du déroulement des essais. Après quatre semaines de rinçage, les concentrations deviennent inférieures au critère RES, ce qui illustre une atténuation progressive du potentiel de relargage de cet élément au fil du temps. Des conclusions similaires peuvent être faites pour le lithium.

Les concentrations en uranium de l'échantillon CL-5 restent au-dessus du critère RES pendant huit (8) semaines sur vingt (20). Toutefois, la diminution constante de ces concentrations semble montrer qu'il n'y a pas de problématique de lixiviation à long terme en uranium pour les résidus miniers.

6.2.4 Sommaire sur la lixiviabilité des matériaux miniers

Les essais en cellule humide et les essais en colonne diffèrent principalement par leurs conditions expérimentales : les cellules humides appliquent des cycles standardisés d'humidification-séchage, tandis que les colonnes reproduisent de façon plus représentative les conditions observées sur le terrain. De plus, comme mentionné dans la Section 5.0, les différences de granulométrie des échantillons qui sont soumis à ces essais jouent un rôle prépondérant dans la réactivité des phases minérales présentes. Ces différences peuvent entraîner des comportements de lixiviation distincts selon les lithologies. Le rapport entre la quantité de lixiviat et la quantité de solide lixivié influe également sur les taux de lixiviation. Ce rapport est de l'ordre de 1 pour les essais en cellule humide et de 0,1 pour les essais en colonne. À titre comparatif, ce rapport est de 0,001 à 0,01 pour une halde à stériles (Dent et al., 2022).

Le **Tableau 6-3** synthétise les informations recueillies des différents essais afin de classifier les matériaux quant à leur lixiviabilité en métaux et métalloïdes. La classification est faite sur la base de l'information disponible en considérant que les propriétés des échantillons analysés pour une lithologie sont représentatives des propriétés de l'ensemble de cette lithologie.

Tableau 6-3 Interprétation de la lixiviabilité des lithologies et des résidus miniers

Lithologies/Matériaux	Selon les essais statiques	Selon les essais cinétiques		Classification
		À court terme	À long terme	
Amphibolite	arsenic, cuivre	As Cd Sb	As Cd Sb	Lixiviable
Métasédiments	arsenic, cuivre	As	-	Lixiviables
Ultramafique	arsenic, cuivre, chrome, nickel	As Cd	As Cd	Lixiviable
Pegmatite (stérile)	arsenic	As Cd Cu	-	Lixiviable
Pegmatite à spodumène (minerai)	arsenic	As (Li)*	-	à confirmer par des essais supplémentaires
Résidus miniers (composite)	arsenic, chrome	As U (Li)*	As	Lixiviable

* Le lithium (Li) ne possédant pas de critère RES, son critère CVAA a été utilisé afin de l'intégrer dans l'analyse à titre indicatif.

6.2.5 Matériaux à risques élevés

Dans le cadre des essais réalisés par Vision Geochemistry (2025), lors des essais de lixiviation TCLP, seuls deux échantillons ultramafiques sur huit ont montré des concentrations dans leur lixiviat supérieures au critère des résidus miniers à risques élevés pour l'arsenic. Les concentrations observées dans leur lixiviat étaient de 5,80 mg/L et 7,58 mg/L (critère de 5 mg/L).

La lithologie ultramafique est classée non acidogène (voir **Section 6.1**), ce qui signifie qu'elle ne devrait pas générer des conditions acides comparables à celles qui sont simulées lors de l'essai TCLP. Il est donc peu probable qu'elle produise naturellement un lixiviat présentant des concentrations en arsenic suffisamment élevées pour entraîner une classification « à risques élevés ». De plus, ces deux échantillons ne sont pas représentatifs de l'ensemble de la lithologie, car ils avaient été sélectionnés en raison de leurs teneurs élevées en arsenic. Ils semblent refléter ainsi des cas extrêmes plutôt que le comportement général de la lithologie ultramafique.

Sur la base de ces considérations, il est considéré qu'aucun des matériaux miniers du projet ne soit classé comme « à risques élevés » selon les critères du GCRMM.

6.3 Radioactivité

Une analyse préliminaire de la radioactivité des matériaux miniers du projet a été réalisée. La radioactivité des matériaux miniers provient principalement des isotopes de l'uranium et du thorium ainsi que des radionucléides faisant partie de leur chaine de décroissance. La **Figure 6-9** présente la distribution des teneurs en uranium et en thorium extractible analysés dans le cadre de l'étude de Vision Geochemistry (2025). Les teneurs en ces deux éléments sont faibles, de l'ordre du ppm pour l'ensemble des matériaux miniers du projet. Il semble a priori que la radioactivité potentielle de ces matériaux est faible. Il faut mentionner toutefois que les teneurs présentées sont des teneurs obtenues par digestion partielle des échantillons. Il est donc possible que ces teneurs sous-estiment la teneur totale des matériaux en ces éléments.

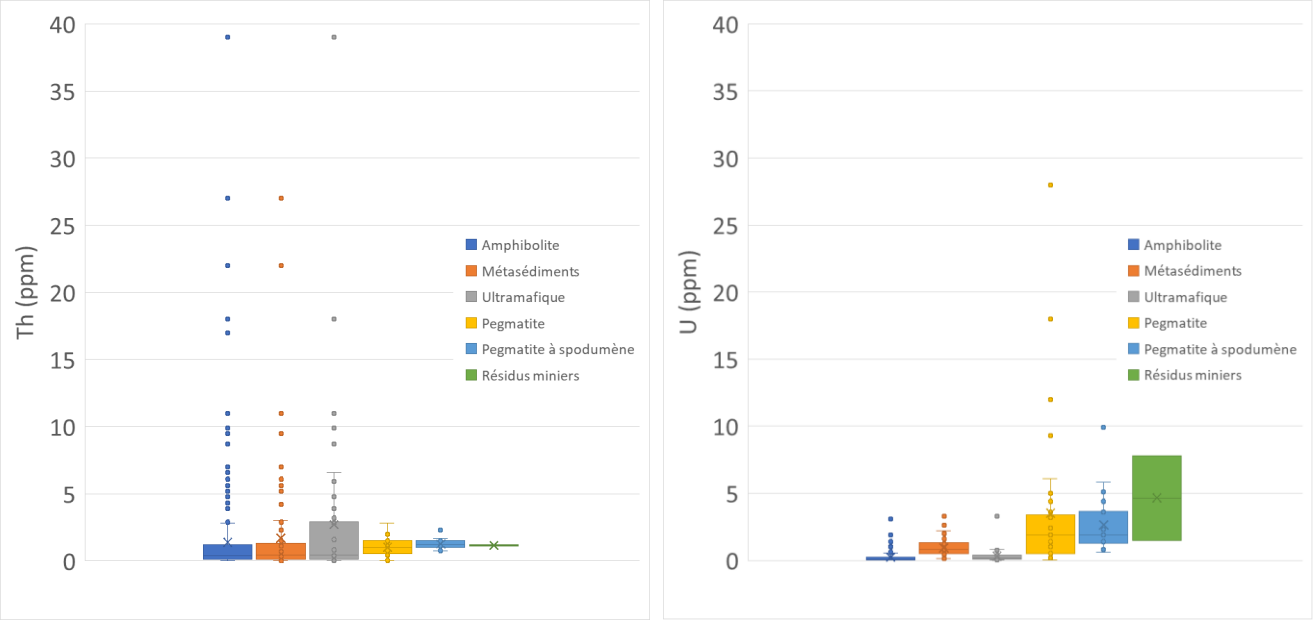


Figure 6-9 Teneurs en thorium et uranium extractibles

Dans le cadre des essais en colonne de l'UQAT, l'activité de certains radionucléides a été mesurée dans les lixiviats des colonnes C1 à C9 au mois 1 des essais et dans ceux des colonnes C3 à C9 au mois 9.

Les isotopes analysés sont le plomb-210, le radium-226 ainsi que le thorium-228, -230 et -232. Les lixiviats du mois 1 des essais en colonne montrent des activités généralement inférieures à la limite de détection, excepté pour les colonnes C4 (métasédiments), C5 (pegmatite stérile) et C7 (métasédiments en conditions submergées). Les isotopes détectés sont le radium -226, le thorium -230 et -232. Les activités les plus élevées sont observées dans le lixiviat de la colonne de pegmatite C5 avec des activités comprises entre 0,11 et 0,19 Bq/L. En comparant l'activité massique de ces radionucléides avec leur activité massique maximale, il est possible d'estimer, de façon partielle, le rayonnement ionisant S associé à chaque lithologie. Les valeurs obtenues pour chaque lithologie sont significativement inférieures au critère définissant les matériaux à risques élevés en termes de radioactivité. La situation est similaire au mois 9 des essais. Les isotopes détectés sont le radium -226 dans les lixiviats de toutes les colonnes, sauf la C6 (amphibolite) et le plomb -210 pour les colonnes C5 (pegmatite) et C6. Les activités sont toutefois trop faibles pour que les valeurs du coefficient S calculées soient supérieures au critère définissant les matériaux miniers à risques élevés. Les activités du radium -226 sont inférieures au critère de l'effluent final de la Directive 019 (0,37 Bq/L) lors de chaque mesure.

L'évaluation préliminaire du potentiel de radioactivité des matériaux miniers du projet semble indiquer qu'il est peu probable que ceux-ci soient classifiés comme radioactifs. Cette affirmation devra être confirmée par la réalisation d'essais permettant le calcul du coefficient de rayonnement S incluant l'ensemble des isotopes requis par le GCRMM.

7. Conclusions et recommandations

Une revue des données géochimiques disponibles a été réalisée afin de mettre à jour la classification des matériaux miniers qui seront produits dans le cadre de l'exploitation du projet Shaakichiuwaanaan selon les critères du Guide de caractérisation des résidus miniers et du minerai du Québec. Les données examinées incluent des résultats d'essais statiques réalisés sur 350 échantillons de stériles, de minerai et de résidus miniers ainsi que des résultats d'essais cinétiques en cellules humides et en colonnes. Une partie de ces résultats a été présentée antérieurement dans le rapport de Vision Geochemistry (2025). Le présent rapport vise à réaliser une validation et une mise à jour de l'interprétation présentée dans le rapport de 2025 sur la base des données additionnelles collectées.

Le **Tableau 7-1** présente une synthèse de la classification des différentes lithologies évaluées dans le cadre de cette revue. Cette vue d'ensemble constitue la base de l'interprétation des risques associés au comportement géochimique des matériaux du projet et servira à bâtir le programme de gestion des matériaux miniers sur le site. La classification est établie sur la base de l'information disponible au moment de cette revue en considérant que les propriétés des échantillons analysés pour une lithologie sont représentatives des propriétés de l'ensemble de cette lithologie.

Tableau 7-1 Classification des lithologies concernées par le projet

Lithologie	Acidogène	Lixiviabilité	À risques élevés	Radioactivité (évaluation préliminaire)
Amphibolite	Non	Lixiviable (**As, Cd, Sb**)	Non	Non
Métasédiments	Non	Lixiviables (As)	Non	Non
Ultramafique	Non	Lixiviable (**As, Cd**)	Non	Non
Pegmatite stérile	Non	Lixiviable (As, Cd, Cu)	Non	Non
Pegmatite spodumène	Non	Potentiellement lixiviable (As, Li), à confirmer par des essais supplémentaires	Non	Non
Résidus miniers	Non	Lixiviables (**As**, Li, U)	Non	Non

Note : les éléments **en gras** sont plus susceptibles d'être lixiviés sur le long terme selon les résultats des essais en colonne

Il est à noter que, dans le cadre du rapport de Vision Geochemistry (2025), plusieurs lithologies avaient été identifiées comme potentiellement acidogènes de façon préliminaire. À la lumière de l'information supplémentaire qui a été examinée dans le cadre de la présente étude, ce potentiel n'a pas été confirmé. L'ensemble des matériaux miniers du projet est considéré comme non acidogène. Il est toutefois recommandé de poursuivre les essais dans des conditions plus représentatives des conditions de l'exploitation afin de valider cette information.

Bien que toutes les lithologies aient été classifiées comme non acidogènes, la lithologie des métasédiments serait la plus sensible à une hétérogénéité de la distribution en sulfures ou en minéraux neutralisants. En effet, cette unité présente les teneurs en soufre les plus élevées et des teneurs en carbonates parmi les plus faibles. Le risque environnemental que pourrait représenter cette unité doit être évalué plus en détail.

Aucun matériau minier du projet n'a été classé comme « à risques élevés » dans le cadre de cette revue. Toutefois, les essais en colonne sur la roche ultramafique montrent des concentrations lixiviées de plus de 5 mg/L pour l'arsenic. Des essais à plus grande échelle doivent être mis en œuvre afin de vérifier les concentrations lixiviées dans les conditions du terrain.

Selon les résultats d'analyses disponibles, l'ensemble des matériaux miniers présentent un certain potentiel de lixiviabilité à court terme (métasédiments, pegmatite) ou à plus long terme (amphibolite, ultramafique et résidus miniers). Vision Geochemisty (2025) propose la mise en place d'un procédé de ségrégation permettant de séparer le stérile en deux groupes, l'un étant constitué de matériel à faibles risques, l'autre comprenant le matériel lixiviable et acidogène. Des essais de laboratoire débuteront en mars 2026 pour tester ces critères de ségrégation sur les différents matériaux miniers du projet et de vérifier la possibilité de produire du matériel à faible risque sur la base de ceux-ci.

Au terme de cet exercice, plusieurs recommandations peuvent être formulées afin d'améliorer la connaissance des propriétés des matériaux miniers du projet et de permettre une gestion adéquate de ceux-ci durant l'exploitation. Ces recommandations tiennent compte des commentaires de l'Agence d'évaluation d'impact du Canada (AEIC) qui ont été reçus par PMET en février 2026. Elles sont les suivantes :

- Étudier la répartition spatiale des éléments potentiellement problématiques (soufre, arsenic, antimoine, etc.) au sein du gisement afin de localiser les zones potentiellement enrichies. Les propriétés géochimiques de ces zones peuvent être différentes par rapport aux propriétés moyennes de la lithologie dans laquelle elle se retrouve.
- Réaliser des essais de lixiviation à plus grande échelle, avec une granulométrie représentative de celle observée dans les haldes à stériles, et dans les conditions d'altération du site.
- Réaliser des essais de validation des critères de ségrégation en laboratoire afin de vérifier la possibilité d'isoler un matériel à faibles risques à partir des lithologies stériles sur la base de ces critères.
- Réaliser un essai en colonne sur un composite d'échantillons représentatifs du minerai afin de finaliser la classification pour cette lithologie ;
- Examiner la représentativité des propriétés géochimiques de l'échantillon de minerai de la cellule humide CV-WR-HCT-74 par rapport aux propriétés de la lithologie complète ;
- Procéder à l'évaluation de la radioactivité des différentes lithologies/matériaux miniers du projet selon les exigences du GCRMM (évaluation du coefficient de rayonnement S) ;
- Analyser la composition minéralogique des résidus miniers, car ces données ne sont pas disponibles actuellement ;
- Augmenter le nombre d'analyses de la composition minéralogique des lithologies stériles sur des échantillons représentatifs afin, entre autres, de mieux identifier les minéraux neutralisants de l'unité de métasédiments ;

- Vérifier si un phénomène d'adsorption du nickel retarde l'émission de cet élément dans les lixiviats de la lithologie ultramafique ;
- Validation en conditions opérationnelles : Bien que les essais statiques et cinétiques offrent un cadre robuste, un programme de suivi en conditions réelles d'exploitation permettra également de confirmer les comportements anticipés.

Il est à noter que les travaux de caractérisation géochimique des matériaux miniers qui seront produits par le projet se poursuivent en 2026. Des essais de lixiviation sont en cours de démarrage au laboratoire et des essais de lixiviation en barils ont débuté en octobre 2025 sur le site de la future exploitation minière. Les recommandations mentionnées ci-dessus seront intégrées à ce programme de caractérisation.

8. Références

AtkinsRéalis. (2025). Laboratory geotechnical tailings testing report, PMET report no. CASN-A-370-GT-REP-0003, AtkinsRéalis report no. 702381-4000-4GER-0003, rev C, August 2025.

ASTM, 2024. Standard Test Method for Laboratory Weathering of Solid Materials Using a Humidity Cell.

Beaulieu. (2021). Guide d'intervention – Protection des sols et réhabilitation des terrains contaminés. MELCC. Ministère de l'Environnement et de la Lutte contre les Changements Climatiques.

Dent, J., Pearce, S., Brookshaw, D., Savage, R., Barnes, A., Mueller, S., & Kaasalainen, H. (2022). Case studies to demonstrate the importance of liquid to solid ratios for geochemical testing method selection and water quality prediction. In Proceedings of the 12th International Conference on Acid Rock Drainage (ICARD), Virtual conference, 18–24 September 2022.

Goldstein Joseph I., Dale E. Newbury, Joseph R. Michael, Nicholas W.M. Ritchie, John Henry J. Scott, David C. Joy. (2018). Scanning Electron Microscopy and X-Ray Microanalysis 4th Edition, Springer, 2018, 550 pp.

MELCC. (2020). Guide de caractérisation des résidus miniers et du minerai. Direction des eaux usées, juin 2020 : Ministère de l'Environnement et de la Lutte contre les Changements climatiques du Québec.

MELCCFP. (2025). Directive 019 sur l'industrie minière.

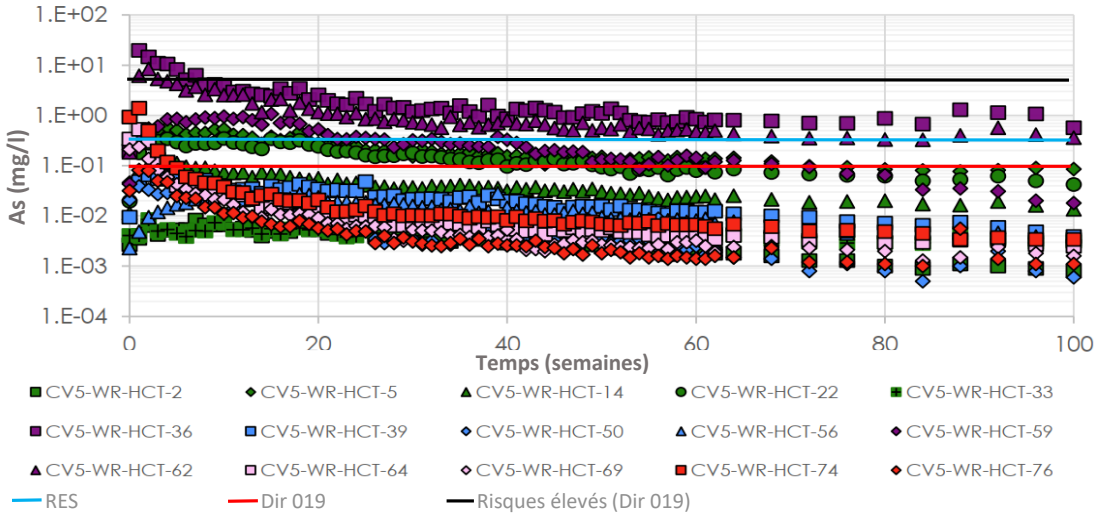
Vision Geochemistry. (2025). Geochemical Characterization & Modeling of Mine Waste Materials for the Shaakichiuwaanaan Project (CV5 Pegmatite): Feasibility Study Update.

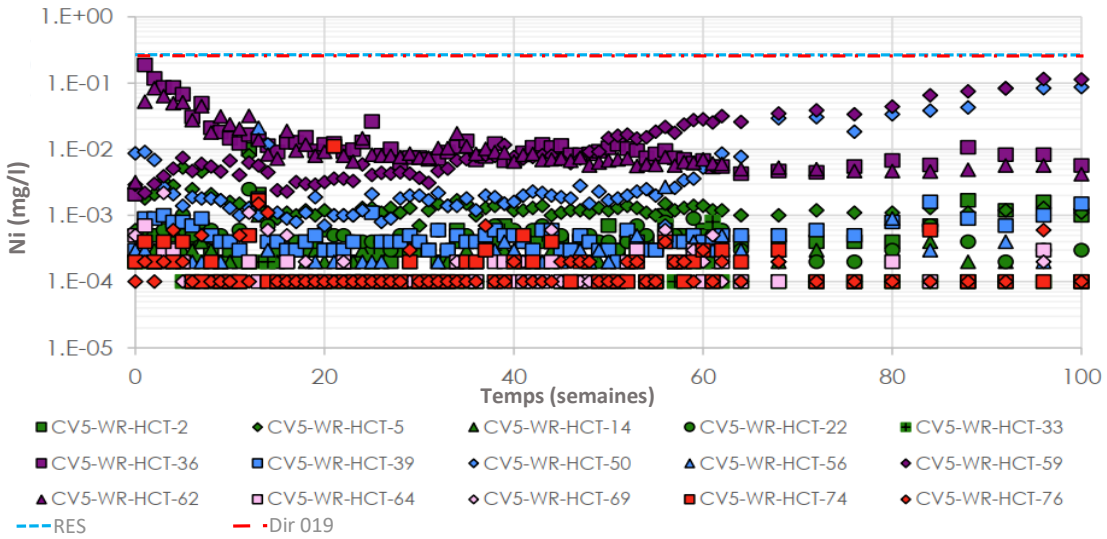
LISTE DES ANNEXES

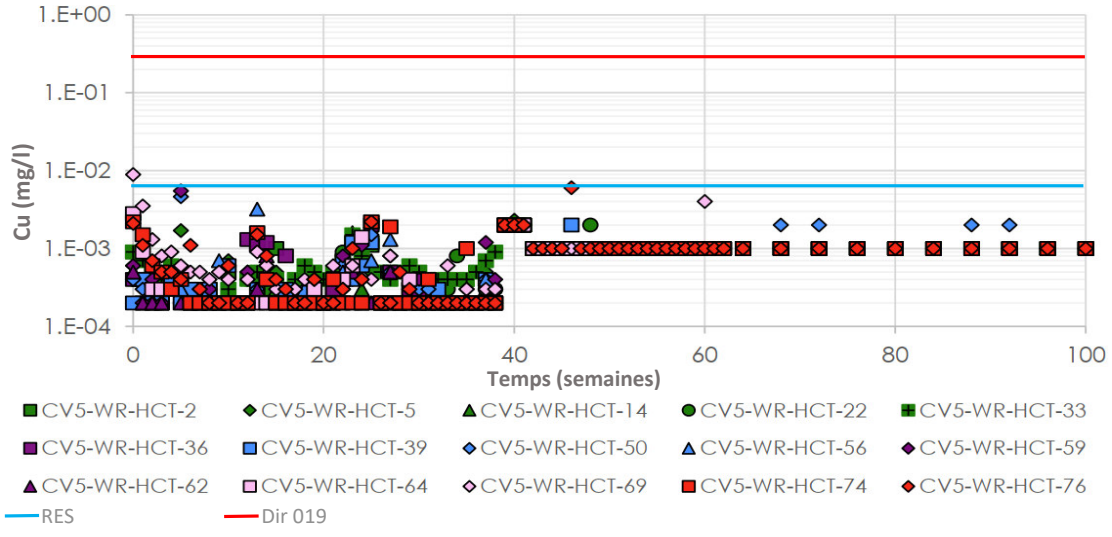
Annexe A. Résultats des essais cinétiques

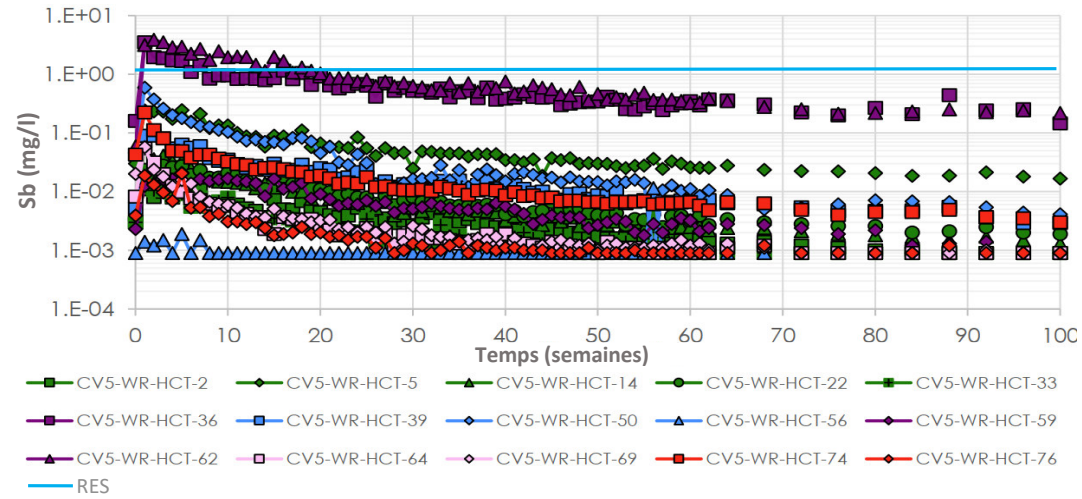
A.1 Résultats des essais en cellule humide (Vision Geochemistry, 2025)

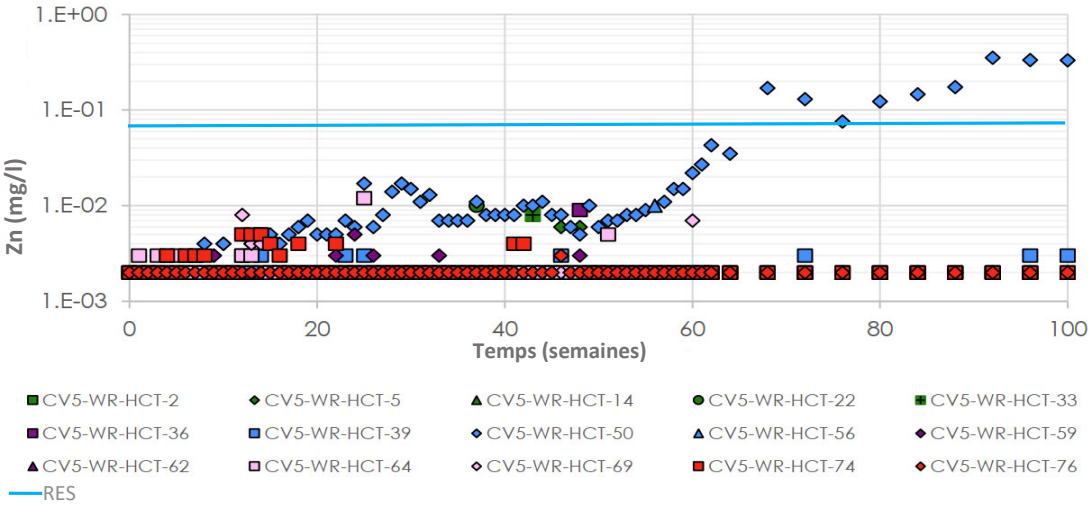
AtkinsRéalis - Sensitive / Sensible [FR]

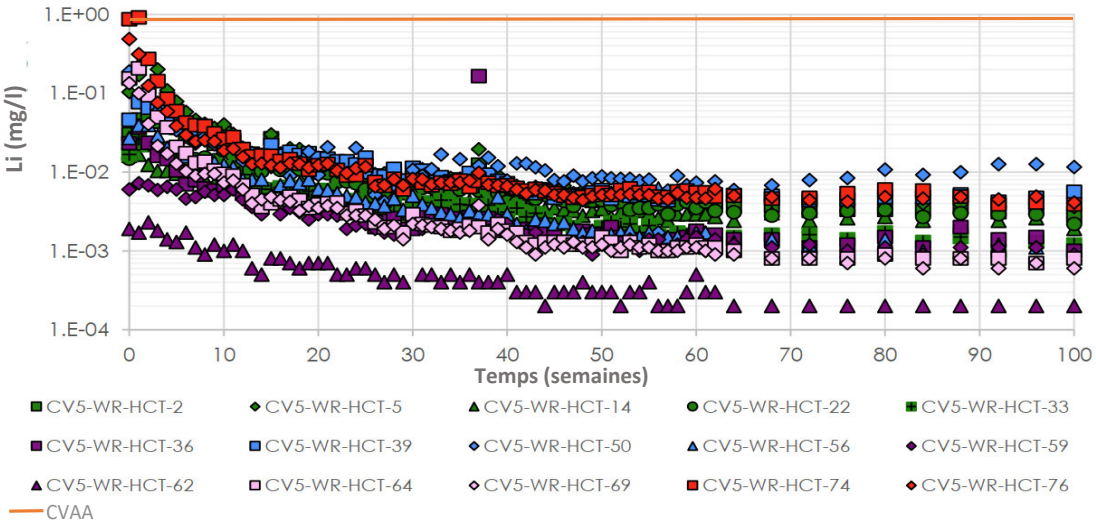

1.E+02
1.E+01
1.E+00
1.E-01
1.E-02
1.E-03
1.E-04
As (mg/l)
0
20
40
60
80
100
Temps (semaines)
CV5-WR-HCT-2
CV5-WR-HCT-5
CV5-WR-HCT-14
CV5-WR-HCT-22
CV5-WR-HCT-33
CV5-WR-HCT-36
CV5-WR-HCT-39
CV5-WR-HCT-50
CV5-WR-HCT-56
CV5-WR-HCT-59
CV5-WR-HCT-62
CV5-WR-HCT-64
CV5-WR-HCT-69
CV5-WR-HCT-74
CV5-WR-HCT-76
RES
Dir 019
Risques élevés (Dir 019)


1.E+00
1.E-01
1.E-02
1.E-03
1.E-04
1.E-05
Ni (mg/l)
0
20
40
60
80
100
Temps (semaines)
CV5-WR-HCT-2
CV5-WR-HCT-5
CV5-WR-HCT-14
CV5-WR-HCT-22
CV5-WR-HCT-33
CV5-WR-HCT-36
CV5-WR-HCT-39
CV5-WR-HCT-50
CV5-WR-HCT-56
CV5-WR-HCT-59
CV5-WR-HCT-62
CV5-WR-HCT-64
CV5-WR-HCT-69
CV5-WR-HCT-74
CV5-WR-HCT-76
RES
Dir 019


1.E+00
1.E-01
1.E-02
1.E-03
1.E-04
Cu (mg/l)
0
20
40
60
80
100
Temps (semaines)
CV5-WR-HCT-2
CV5-WR-HCT-5
CV5-WR-HCT-14
CV5-WR-HCT-22
CV5-WR-HCT-33
CV5-WR-HCT-36
CV5-WR-HCT-39
CV5-WR-HCT-50
CV5-WR-HCT-56
CV5-WR-HCT-59
CV5-WR-HCT-62
CV5-WR-HCT-64
CV5-WR-HCT-69
CV5-WR-HCT-74
CV5-WR-HCT-76
RES
Dir 019

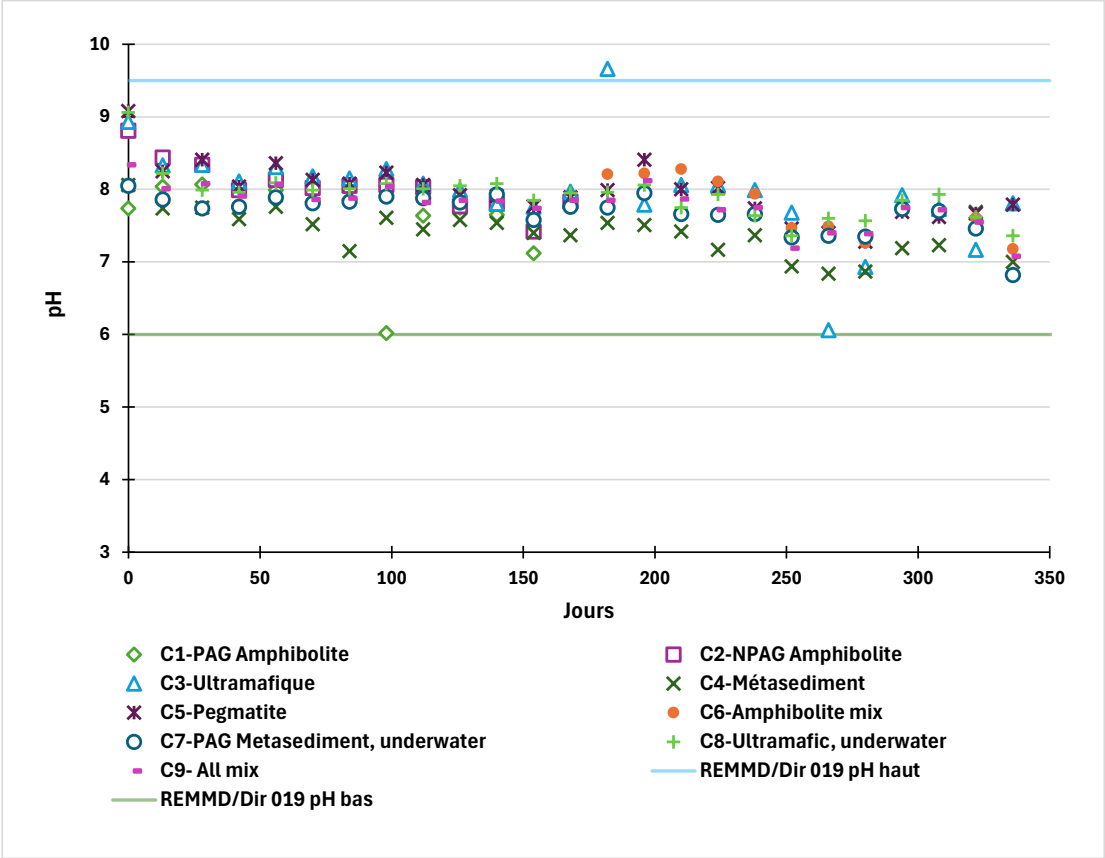

1.E+01
1.E+00
1.E-01
1.E-02
1.E-03
1.E-04
Sb (mg/l)
0
10
20
30
40
50
60
70
80
90
100
Temps (semaines)
CV5-WR-HCT-2
CV5-WR-HCT-5
CV5-WR-HCT-14
CV5-WR-HCT-22
CV5-WR-HCT-33
CV5-WR-HCT-36
CV5-WR-HCT-39
CV5-WR-HCT-50
CV5-WR-HCT-56
CV5-WR-HCT-59
CV5-WR-HCT-62
CV5-WR-HCT-64
CV5-WR-HCT-69
CV5-WR-HCT-74
CV5-WR-HCT-76
RES

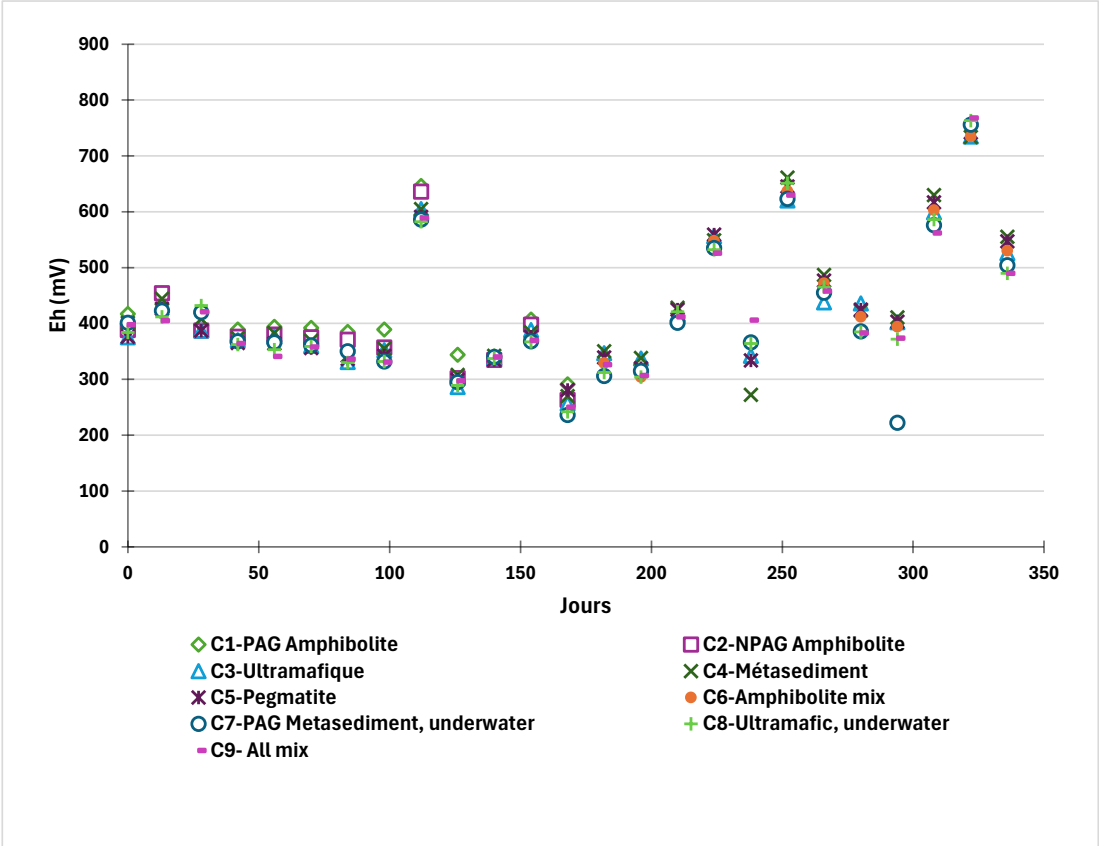

1.E+00
1.E-01
1.E-02
1.E-03
Zn (mg/l)
0
20
40
60
80
100
Temps (semaines)
CV5-WR-HCT-2
CV5-WR-HCT-5
CV5-WR-HCT-14
CV5-WR-HCT-22
CV5-WR-HCT-33
CV5-WR-HCT-36
CV5-WR-HCT-39
CV5-WR-HCT-50
CV5-WR-HCT-56
CV5-WR-HCT-59
CV5-WR-HCT-62
CV5-WR-HCT-64
CV5-WR-HCT-69
CV5-WR-HCT-74
CV5-WR-HCT-76
RES

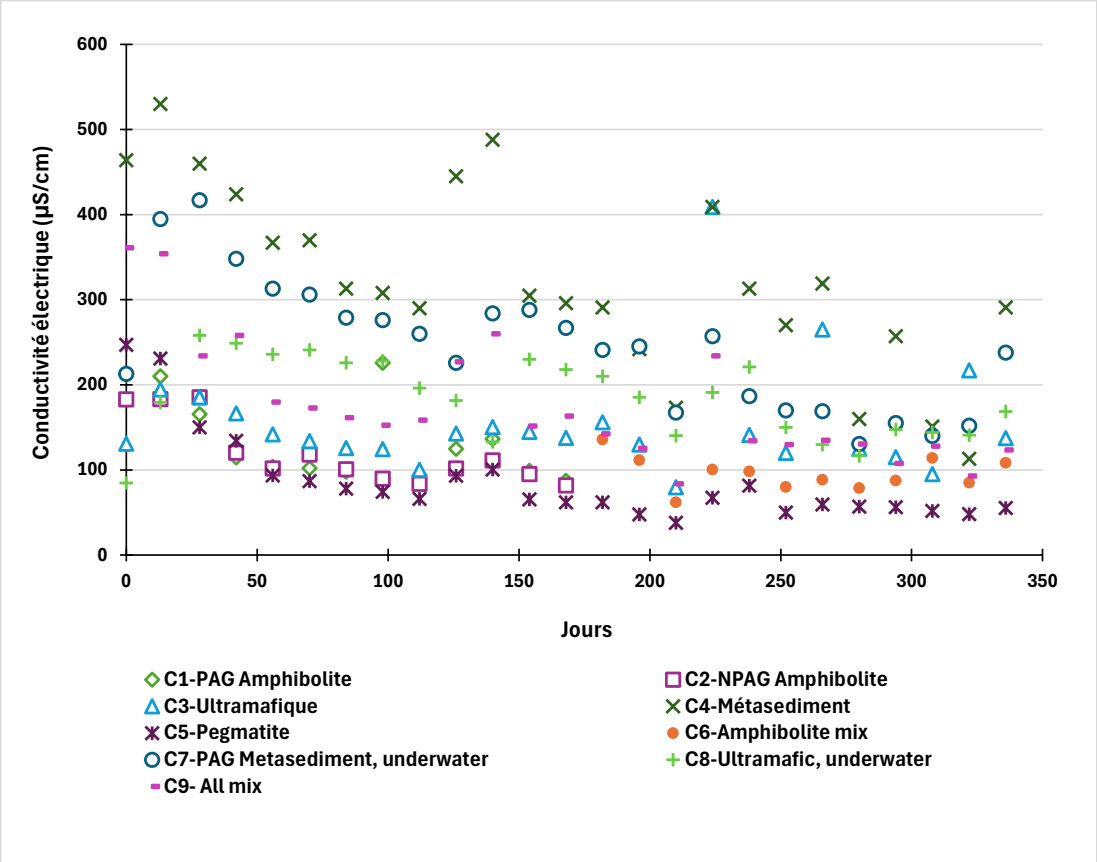

1.E+00
1.E-01
1.E-02
1.E-03
1.E-04
Li (mg/l)
0
10
20
30
40
50
60
70
80
90
100
Temps (semaines)
CV5-WR-HCT-2
CV5-WR-HCT-5
CV5-WR-HCT-14
CV5-WR-HCT-22
CV5-WR-HCT-33
CV5-WR-HCT-36
CV5-WR-HCT-39
CV5-WR-HCT-50
CV5-WR-HCT-56
CV5-WR-HCT-59
CV5-WR-HCT-62
CV5-WR-HCT-64
CV5-WR-HCT-69
CV5-WR-HCT-74
CV5-WR-HCT-76
CVAA

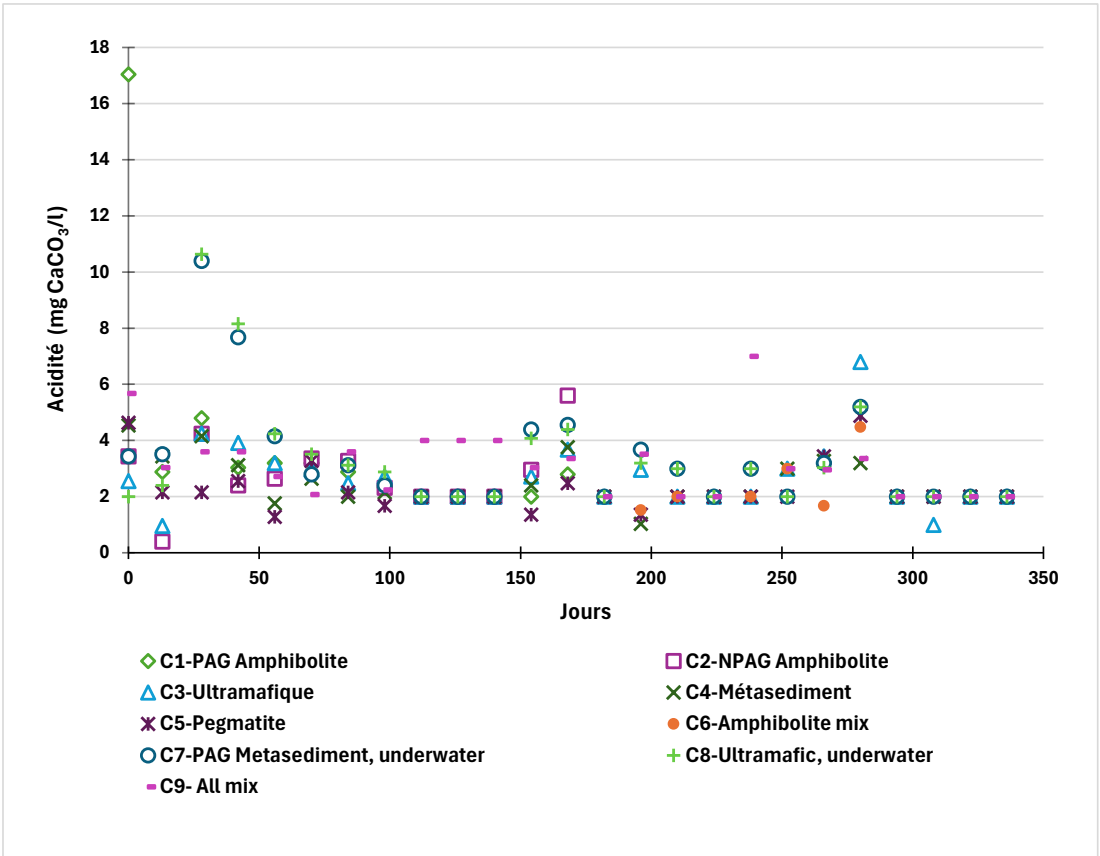
A.2 Résultats des essais en colonne – UQAT

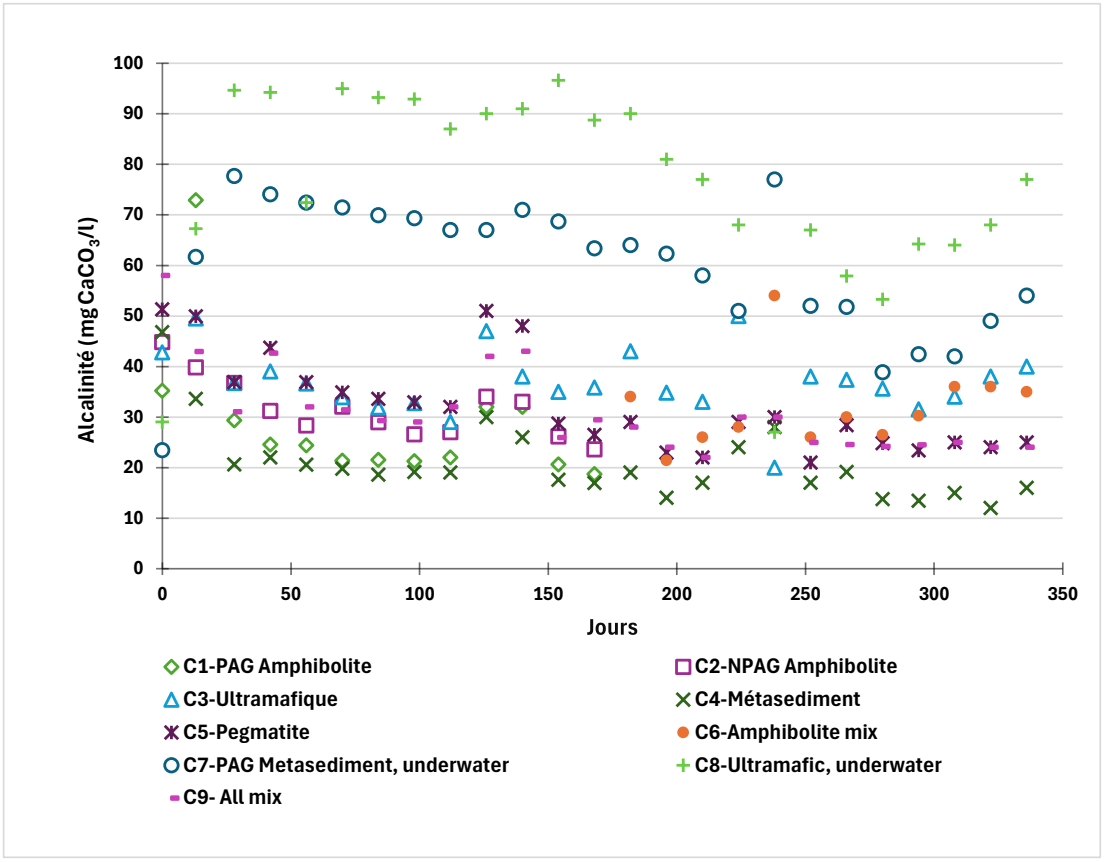
AtkinsRéalis - Sensitive / Sensible [FR]

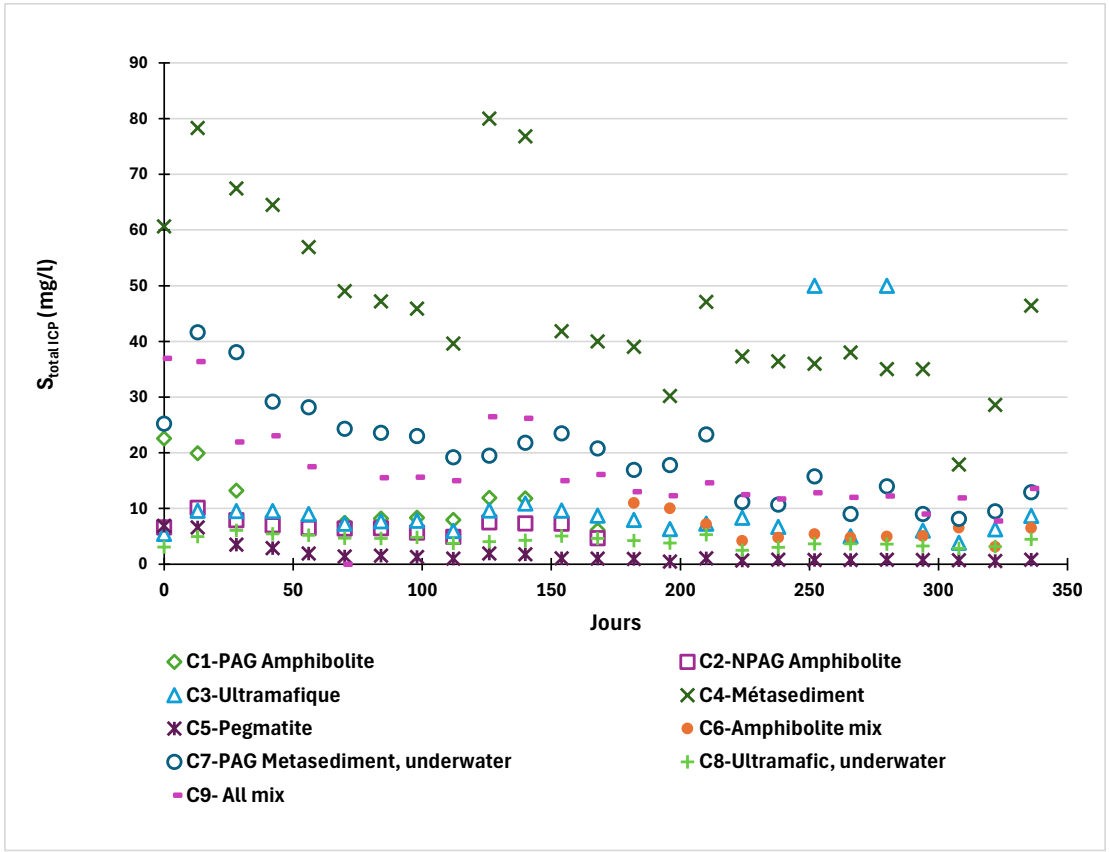

pH
Jours
C1-PAG Amphibolite
C2-NPAG Amphibolite
C3-Ultramafique
C4-Métasediment
C5-Pegmatite
C6-Amphibolite mix
C7-PAG Metasediment, underwater
C8-Ultramafic, underwater
C9- All mix
REMMD/Dir 019 pH haut
REMMD/Dir 019 pH bas

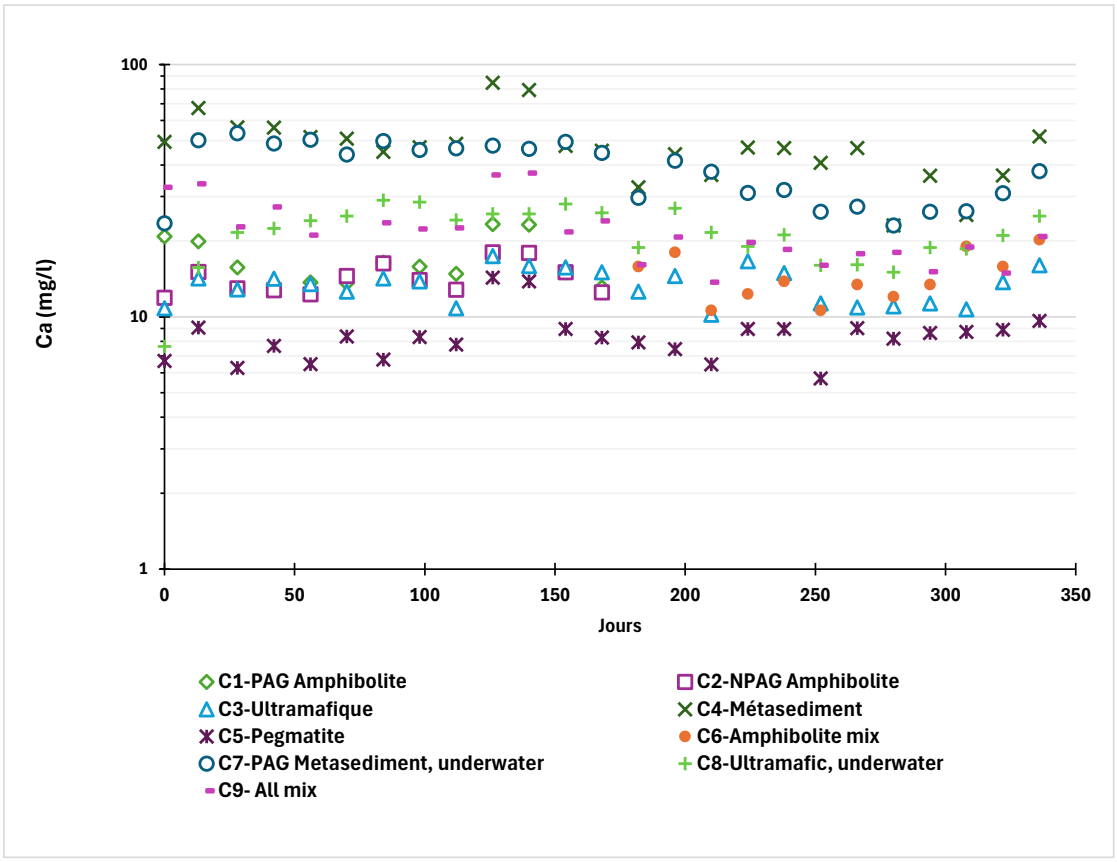

Eh (mV)
Jours
C1-PAG Amphibolite
C2-NPAG Amphibolite
C3-Ultramafique
C4-Métasediment
C5-Pegmatite
C6-Amphibolite mix
C7-PAG Metasediment, underwater
C8-Ultramafic, underwater
C9- All mix

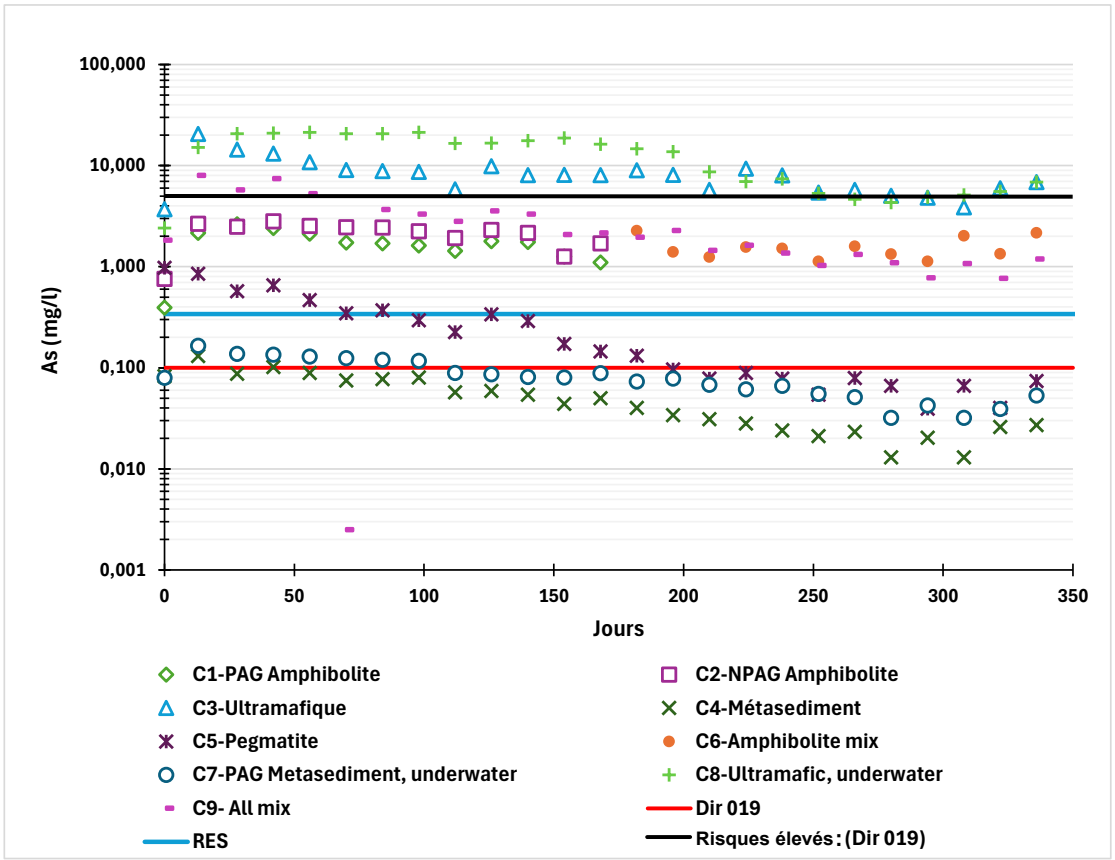

Conductivité électrique (µS/cm)
600
500
400
300
200
100
0
0
50
100
150
200
250
300
350
Jours
C1-PAG Amphibolite
C2-NPAG Amphibolite
C3-Ultramafique
C4-Métasediment
C5-Pegmatite
C6-Amphibolite mix
C7-PAG Metasediment, underwater
C8-Ultramafic, underwater
C9- All mix

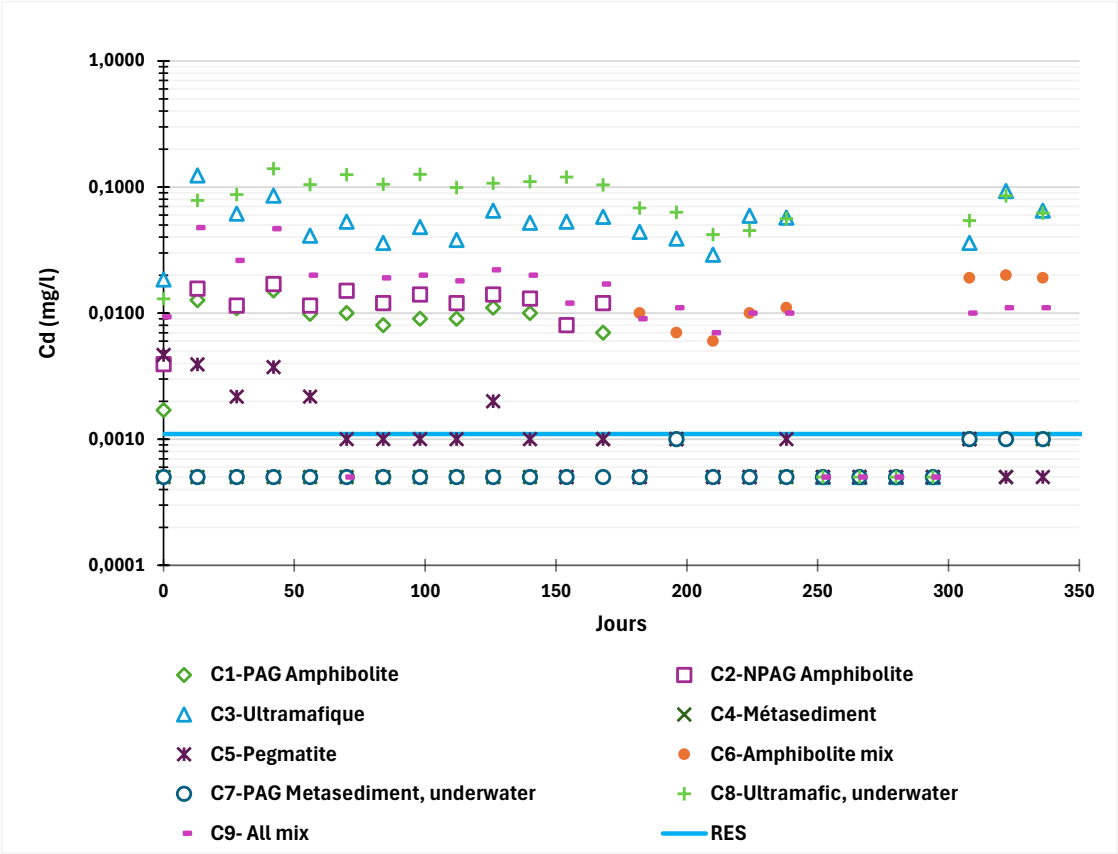

Acidité (mg CaCO3/l)
18
16
14
12
10
8
6
4
2
0
0
50
100
150
200
250
300
350
Jours
C1-PAG Amphibolite
C2-NPAG Amphibolite
C3-Ultramafique
C4-Métasediment
C5-Pegmatite
C6-Amphibolite mix
C7-PAG Metasediment, underwater
C8-Ultramafic, underwater
C9- All mix

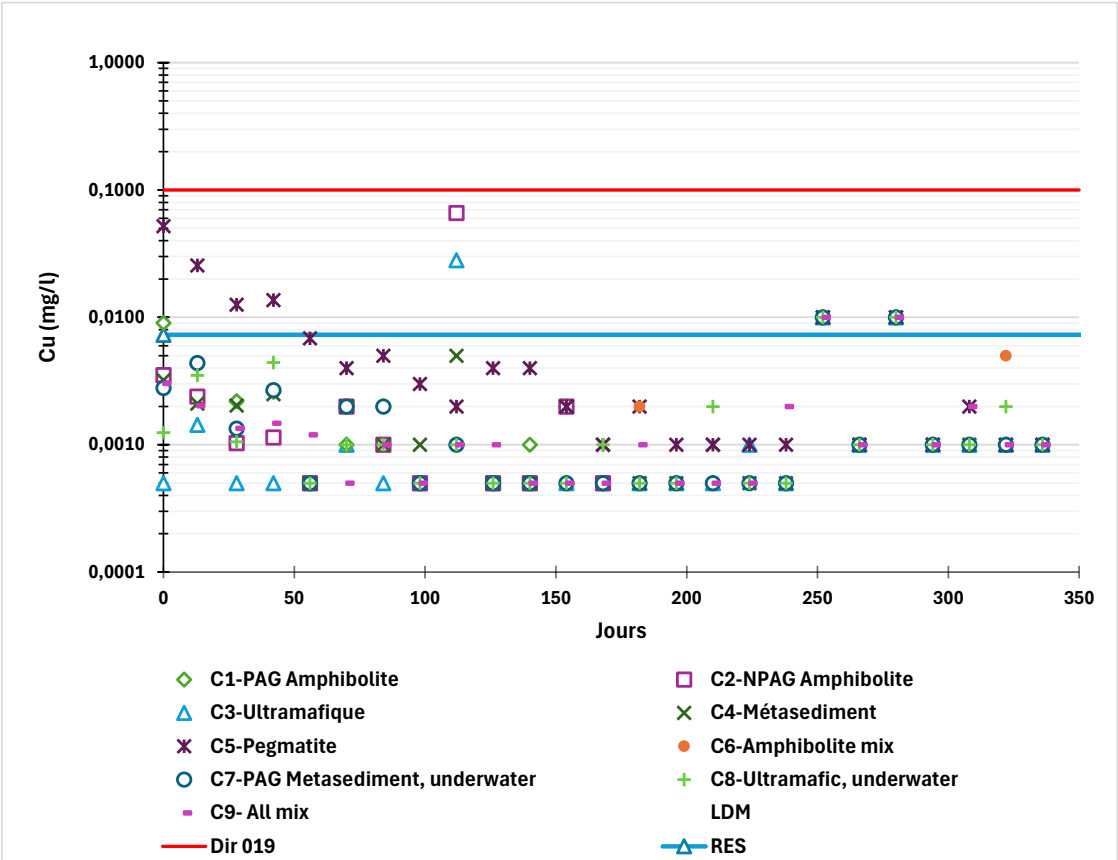

Alcalinité (mg CaCO3/l)
Jours
C1-PAG Amphibolite
C2-NPAG Amphibolite
C3-Ultramafique
C4-Métasediment
C5-Pegmatite
C6-Amphibolite mix
C7-PAG Metasediment, underwater
C8-Ultramafic, underwater
C9- All mix

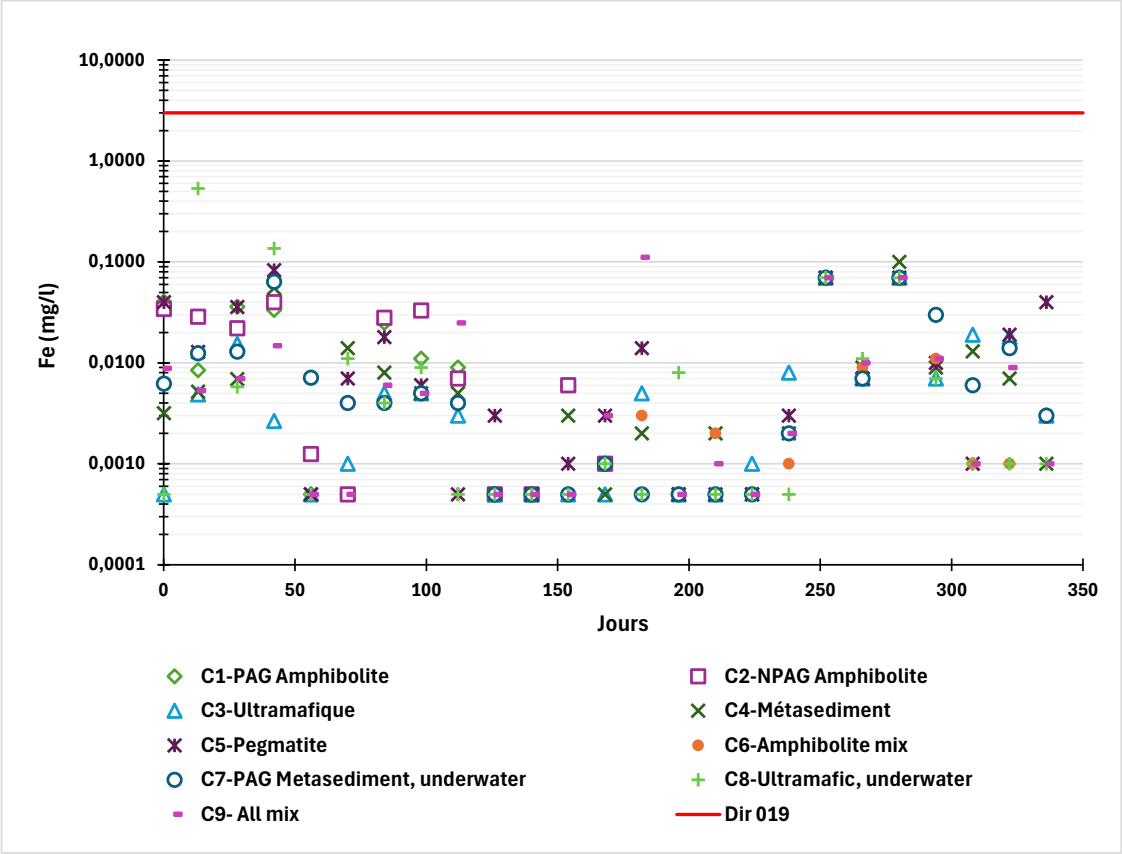

Stotal ICP (mg/l)
Jours
C1-PAG Amphibolite
C2-NPAG Amphibolite
C3-Ultramafique
C4-Métasediment
C5-Pegmatite
C6-Amphibolite mix
C7-PAG Metasediment, underwater
C8-Ultramafic, underwater
C9- All mix

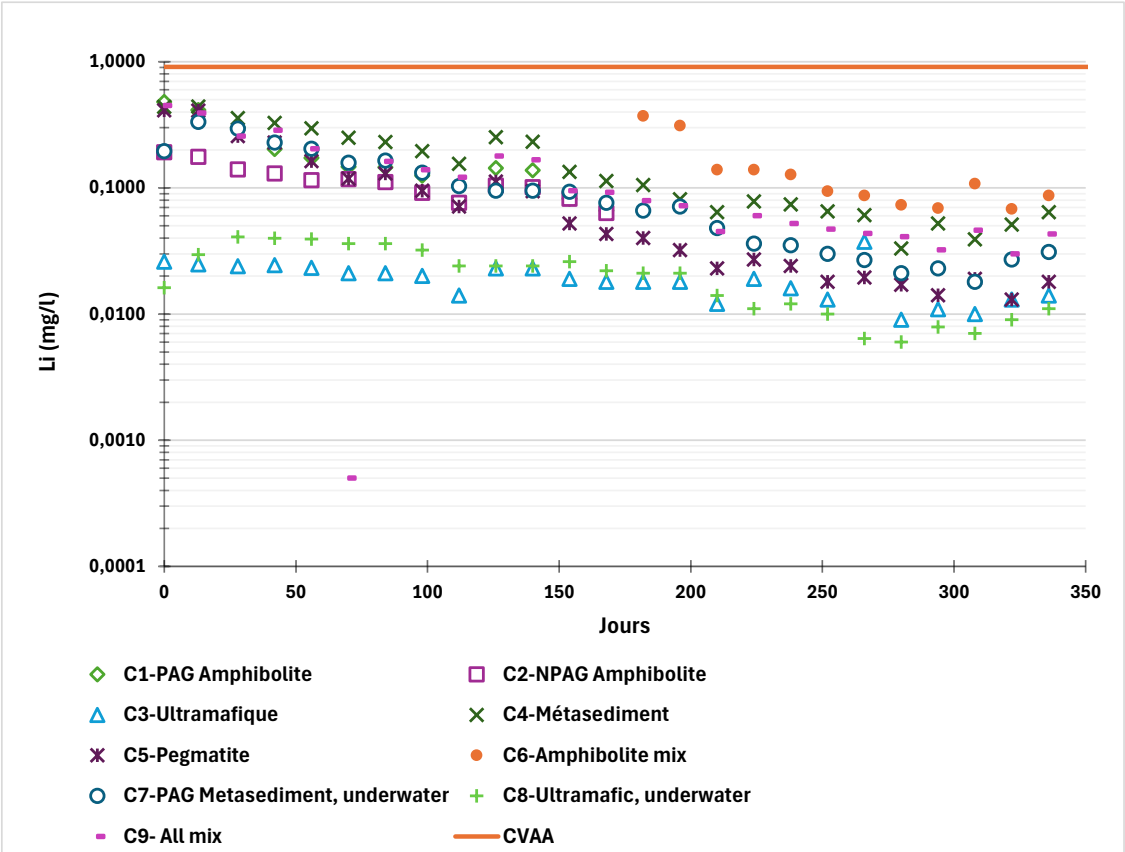

Ca (mg/l)
100
10
1
0
50
100
150
200
250
300
350
Jours
C1-PAG Amphibolite
C2-NPAG Amphibolite
C3-Ultramafique
C4-Métasediment
C5-Pegmatite
C6-Amphibolite mix
C7-PAG Metasediment, underwater
C8-Ultramafic, underwater
C9- All mix

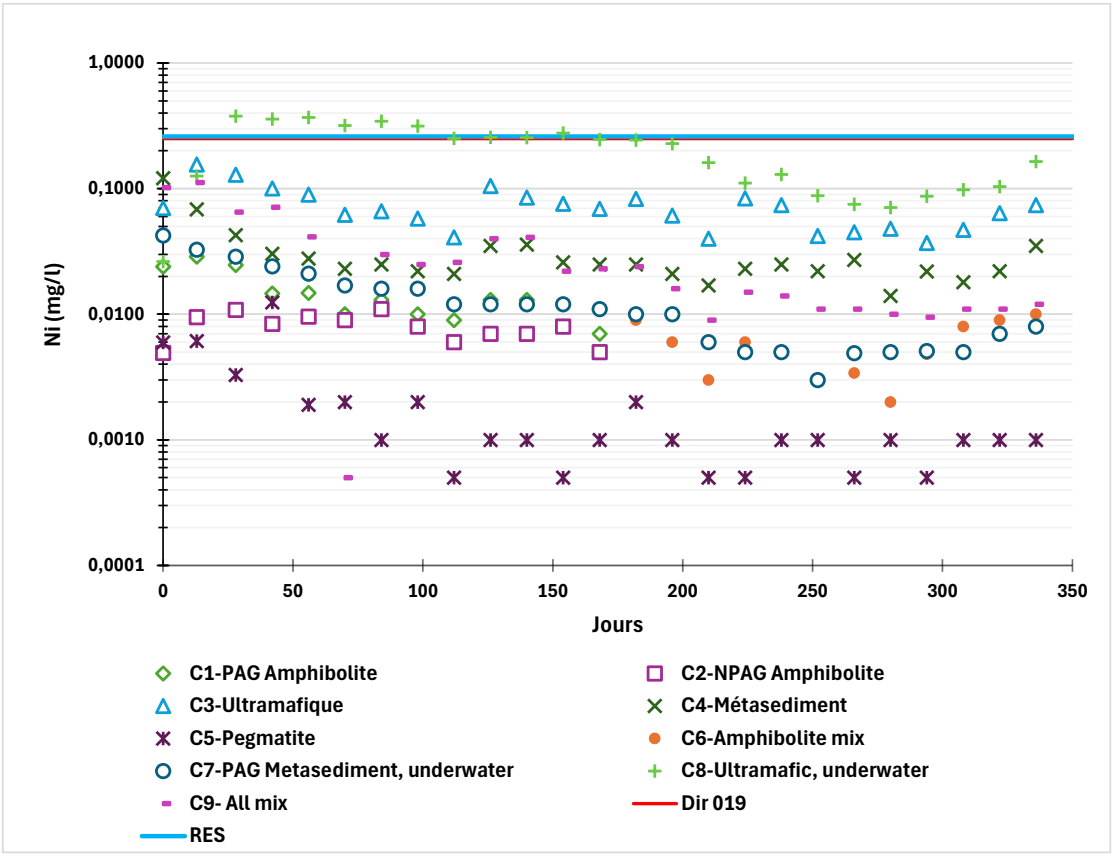

As (mg/l)
100,000
10,000
1,000
0,100
0,010
0,001
0
50
100
150
200
250
300
350
Jours
C1-PAG Amphibolite
C2-NPAG Amphibolite
C3-Ultramafique
C4-Métasediment
C5-Pegmatite
C6-Amphibolite mix
C7-PAG Metasediment, underwater
C8-Ultramafic, underwater
C9- All mix
Dir 019
RES
Risques élevés: (Dir 019)

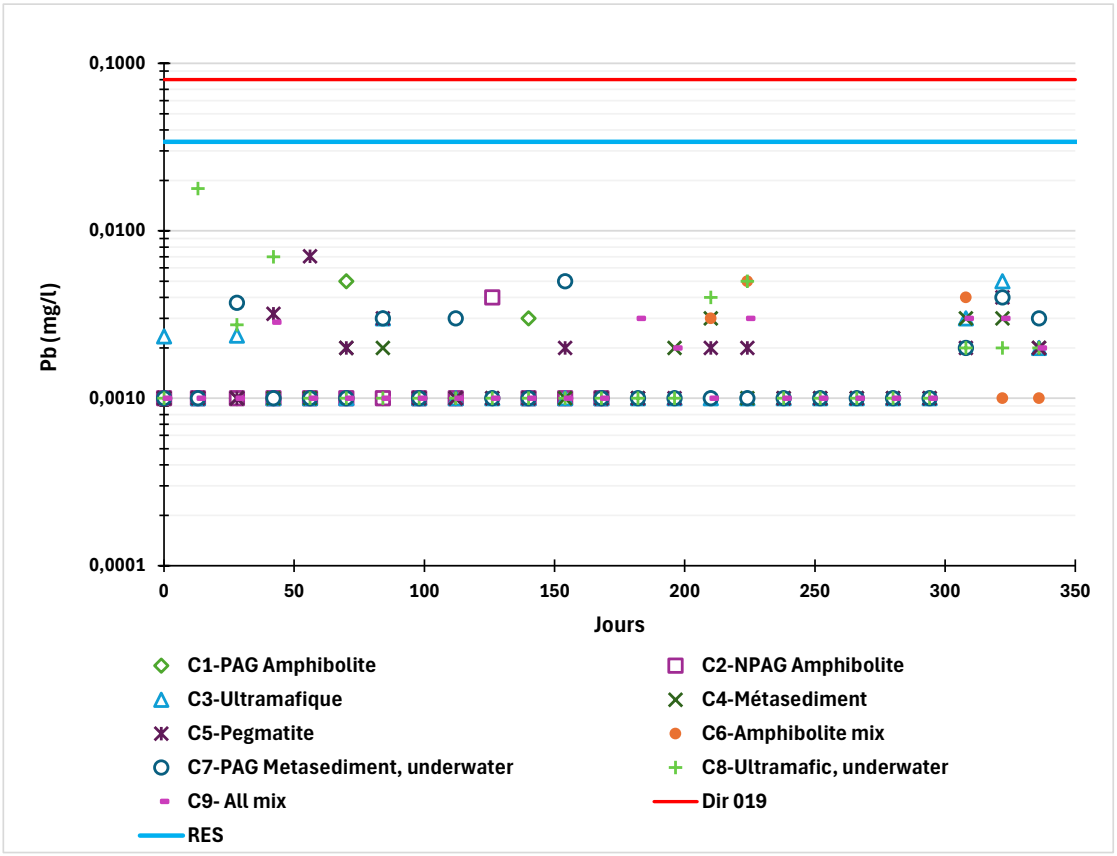

1,0000
0,1000
0,0100
0,0010
0,0001
Cd (mg/l)
0
50
100
150
200
250
300
350
Jours
C1-PAG Amphibolite
C2-NPAG Amphibolite
C3-Ultramafique
C4-Métasediment
C5-Pegmatite
C6-Amphibolite mix
C7-PAG Metasediment, underwater
C8-Ultramafic, underwater
C9- All mix
RES

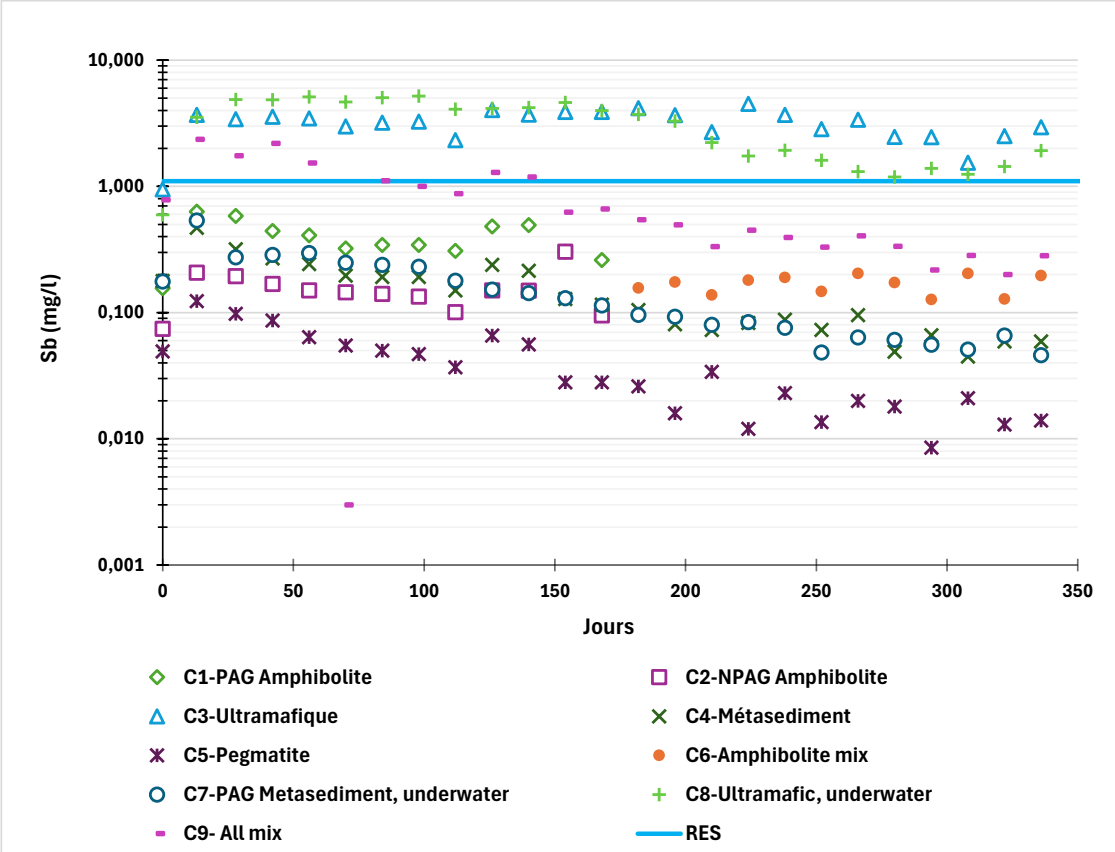

1,0000
0,1000
0,0100
0,0010
0,0001
Cu (mg/l)
0
50
100
150
200
250
300
350
Jours
C1-PAG Amphibolite
C2-NPAG Amphibolite
C3-Ultramafique
C4-Métasediment
C5-Pegmatite
C6-Amphibolite mix
C7-PAG Metasediment, underwater
C8-Ultramafic, underwater
C9- All mix
LDM
Dir 019
RES

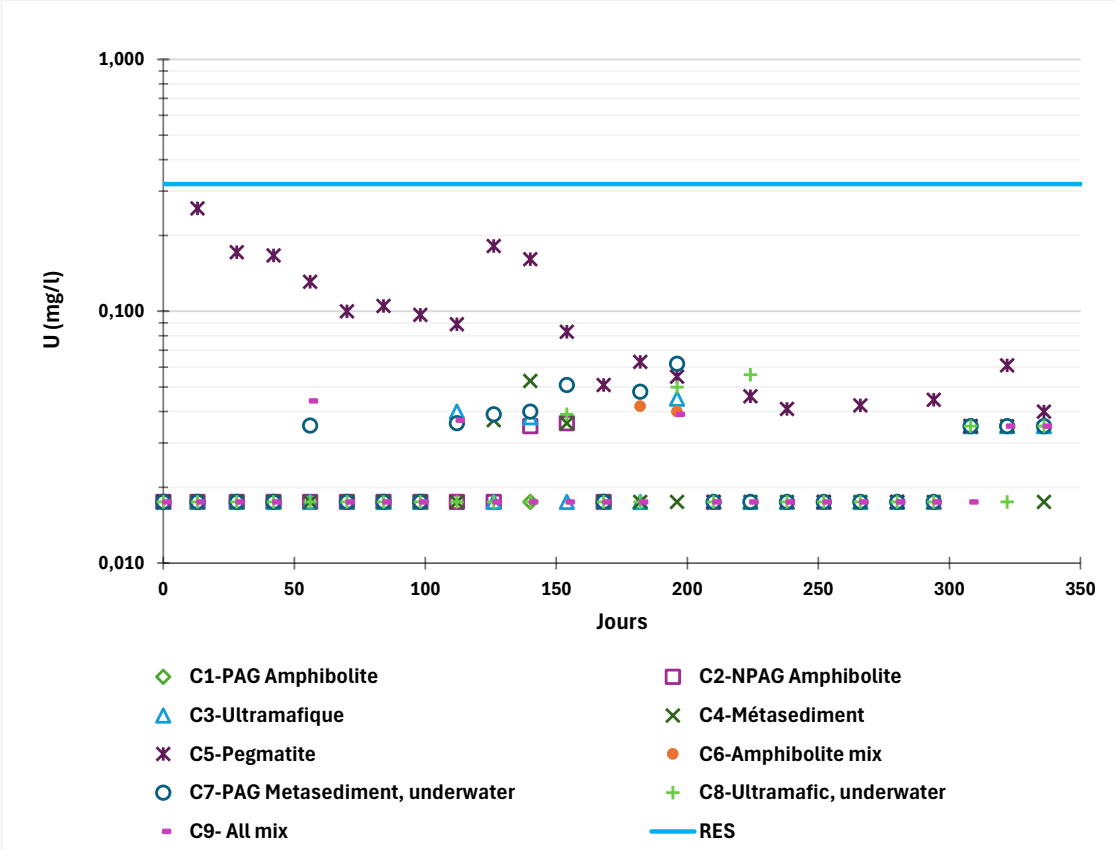

10,0000
1,0000
0,1000
0,0100
0,0010
0,0001
Fe (mg/l)
0
50
100
150
200
250
300
350
Jours
C1-PAG Amphibolite
C2-NPAG Amphibolite
C3-Ultramafique
C4-Métasediment
C5-Pegmatite
C6-Amphibolite mix
C7-PAG Metasediment, underwater
C8-Ultramafic, underwater
C9- All mix
Dir 019

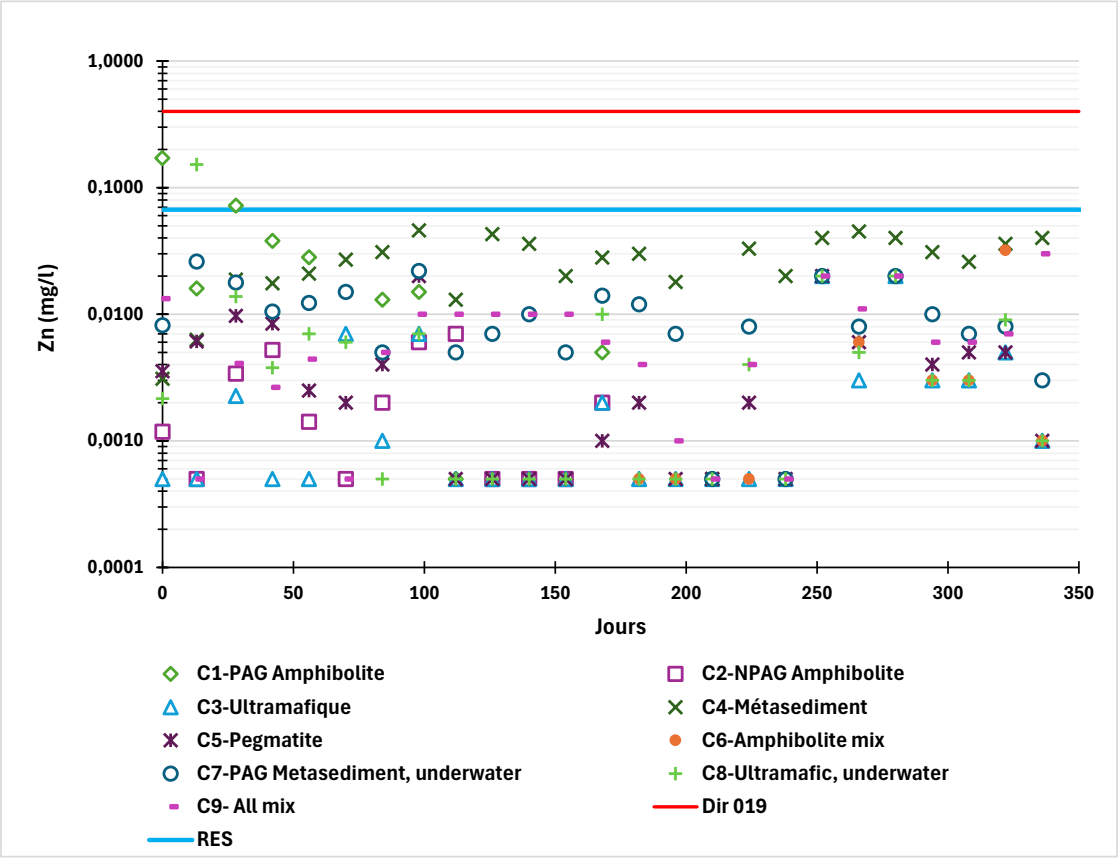

1,0000
0,1000
0,0100
0,0010
0,0001
Li (mg/l)
0
50
100
150
200
250
300
350
Jours
C1-PAG Amphibolite
C2-NPAG Amphibolite
C3-Ultramafique
C4-Métasediment
C5-Pegmatite
C6-Amphibolite mix
C7-PAG Metasediment, underwater
C8-Ultramafic, underwater
C9- All mix
CVAA


1,0000
0,1000
0,0100
0,0010
0,0001
Ni (mg/l)
0
50
100
150
200
250
300
350
Jours
C1-PAG Amphibolite
C2-NPAG Amphibolite
C3-Ultramafique
C4-Métasediment
C5-Pegmatite
C6-Amphibolite mix
C7-PAG Metasediment, underwater
C8-Ultramafic, underwater
C9- All mix
Dir 019
RES


0,1000
0,0100
0,0010
0,0001
Pb (mg/l)
0
50
100
150
200
250
300
350
Jours
C1-PAG Amphibolite
C2-NPAG Amphibolite
C3-Ultramafique
C4-Métasediment
C5-Pegmatite
C6-Amphibolite mix
C7-PAG Metasediment, underwater
C8-Ultramafic, underwater
C9- All mix
Dir 019
RES

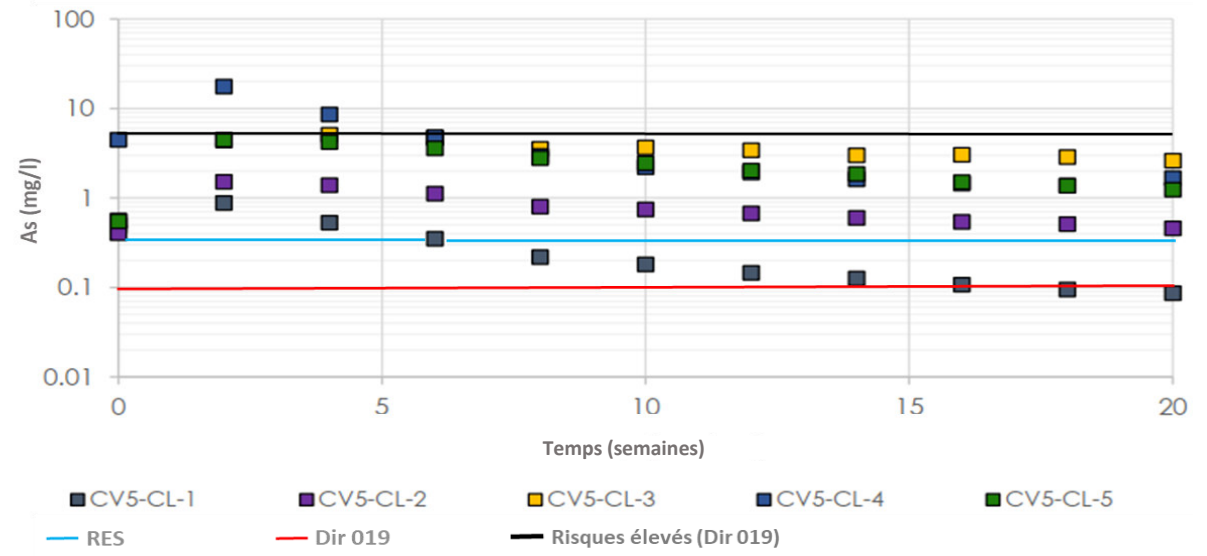

10,000
1,000
0,100
0,010
0,001
Sb (mg/l)
0
50
100
150
200
250
300
350
Jours
C1-PAG Amphibolite
C2-NPAG Amphibolite
C3-Ultramafique
C4-Métasediment
C5-Pegmatite
C6-Amphibolite mix
C7-PAG Metasediment, underwater
C8-Ultramafic, underwater
C9- All mix
RES

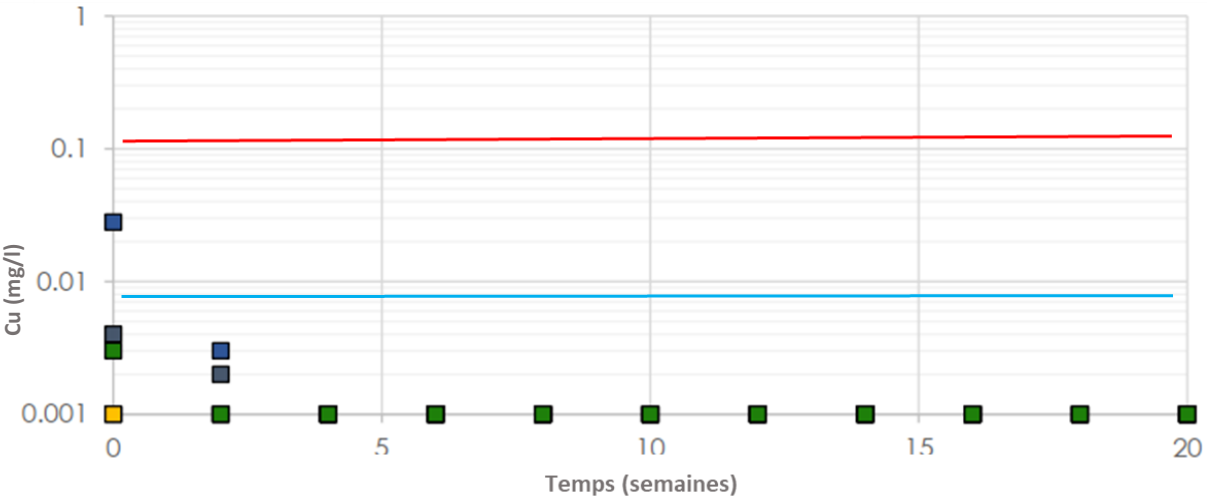

1,000
0,100
0,010
U (mg/l)
0
50
100
150
200
250
300
350
Jours
C1-PAG Amphibolite
C2-NPAG Amphibolite
C3-Ultramafique
C4-Métasediment
C5-Pegmatite
C6-Amphibolite mix
C7-PAG Metasediment, underwater
C8-Ultramafic, underwater
C9- All mix
RES

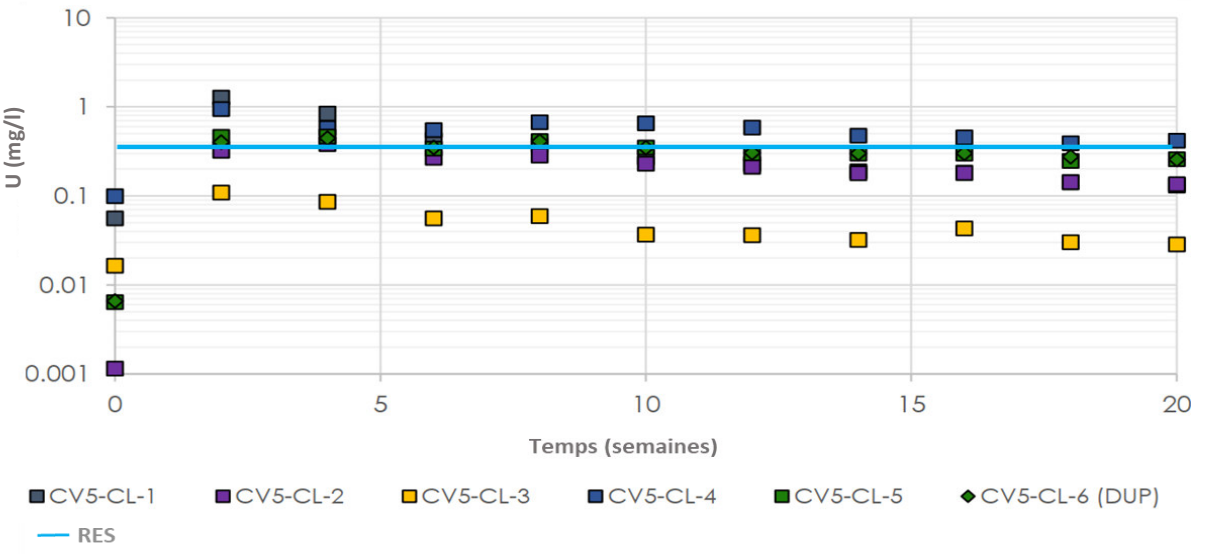

1,0000
0,1000
0,0100
0,0010
0,0001
Zn (mg/l)
0
50
100
150
200
250
300
350
Jours
C1-PAG Amphibolite
C2-NPAG Amphibolite
C3-Ultramafique
C4-Métasediment
C5-Pegmatite
C6-Amphibolite mix
C7-PAG Metasediment, underwater
C8-Ultramafic, underwater
C9- All mix
Dir 019
RES

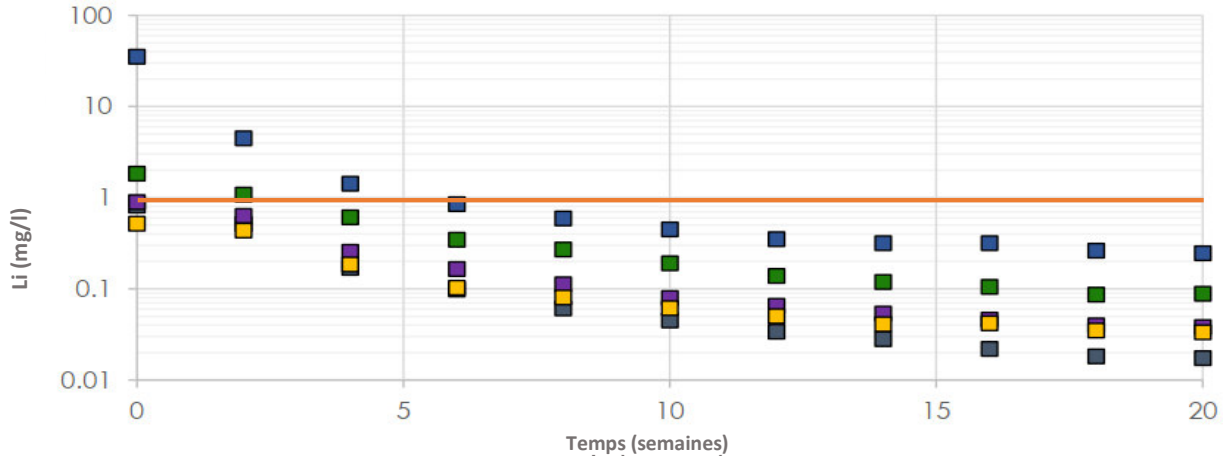
A.3 Résultats des essais en colonne – résidus miniers (Vision Geochemistry, 2025)

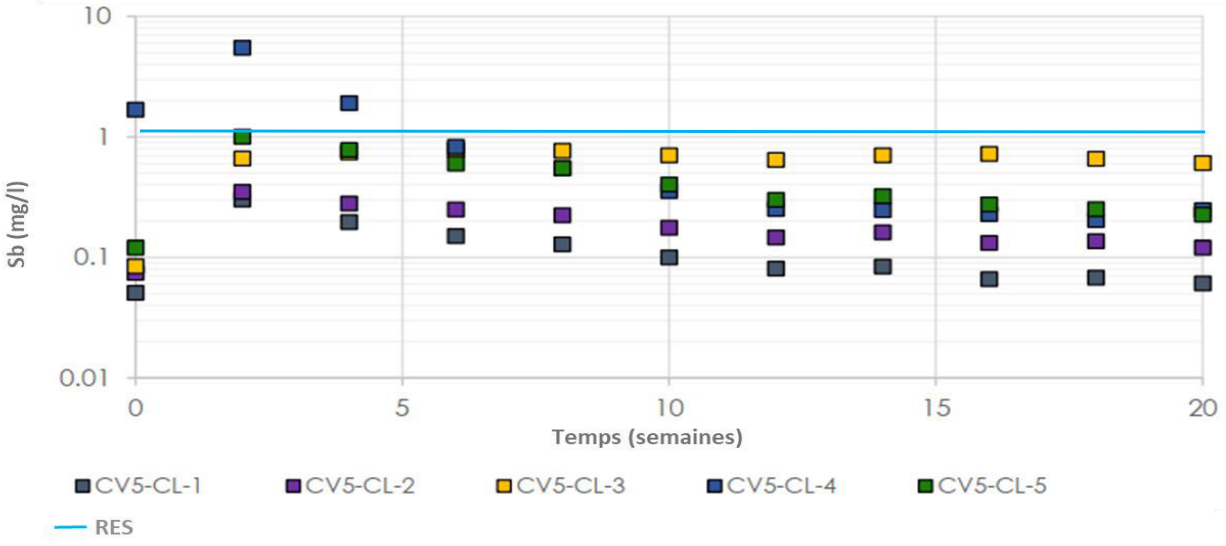
AtkinsRéalis - Sensitive / Sensible [FR]


100
10
1
0.1
0.01
As (mg/l)
0
5
10
15
20
Temps (semaines)
CV5-CL-1
CV5-CL-2
CV5-CL-3
CV5-CL-4
CV5-CL-5
RES
Dir 019
Risques élevés (Dir 019)


1
0.1
0.01
0.001
Cu (mg/l)
0
5
10
15
20
Temps (semaines)
CV5-CL-1
CV5-CL-2
CV5-CL-3
CV5-CL-4
CV5-CL-5
RES
Dir 019


10
1
0.1
0.01
0.001
U (mg/l)
0
5
10
15
20
Temps (semaines)
CV5-CL-1
CV5-CL-2
CV5-CL-3
CV5-CL-4
CV5-CL-5
CV5-CL-6 (DUP)
RES


100
10
1
0.1
0.01
Li (mg/l)
0
5
10
15
20
Temps (semaines)
CV5-CL-1
CV5-CL-2
CV5-CL-3
CV5-CL-4
CV5-CL-5
CVAA


10
1
0.1
0.01
Sb (mg/l)
0
5
10
15
20
Temps (semaines)
CV5-CL-1
CV5-CL-2
CV5-CL-3
CV5-CL-4
CV5-CL-5
RES

AtkinsRéalis
Minéraux et Métaux

© AtkinsRéalis sauf indication contraire
ATKINSRÉALIS - Sensible

Annexe H

Étude de faisabilité : Gestion des eaux et des résidus miniers (Atkins, 2026a)

AtkinsRéalis	NOTE TECHNIQUE Rapport d'étude de faisabilité		
	Numéro de document :	**Rév.**	**Date :**
	Numéro du document : CASN-A-370-GT-REP-0001 *AtkinsRéalis : 702381-0000-40ER-0001*	C	10 février 2026

Titre du document : **ÉTUDE DE FAISABILITÉ POUR LA GESTION DES RÉSIDUS, DES STÉRILES ET DES EAUX**

Client : **PATRIOT BATTERY METALS INC.**

Projet **PROJET LITHIUM SHAAKICHIUWAANAAN**

Préparé par : Sandra Pouliot, M.Sc.A., ing. #OIQ : 121003

B. Morrissette pour Sandra Pouliot

Antoine Cogulet, ing. Ph.D. #OIQ : 6028243

ing. PhD. #6028243.

Et : Holman Tellez, ing. #OIQ : 6083507

Geneviève Marchand, ing. #OIQ : 127590

Révisé par : Philip Addis, ing. #OIQ : 6076892

Philip Charles Addis -- P.Eng. - PEO

Digitally signed by Philip Charles Addis -- P.Eng. - PEO
DN: C=CA, O=CentrlO Pro, OU=Professional Engineers Ontario, uid=100193342 + CN=Philip Charles Addis -- P.Eng. - PEO
Reason: I am the author of this document
Location:
Date: 2026.02.18 15:07:28-05'00'
Foxit PDF Editor Version: 2025.2.0

Approuvé par : Bruno Morrissette, ing. #OIQ : 125157

(F-40ER-0012-MMG-F)

Note au lecteur

Le présent rapport est une traduction de la version anglophone du rapport portant le même numéro. En cas de disparité entre ces 2 rapports, la version anglophone prime.

Le présent rapport a été préparé et les travaux qui y sont mentionnés ont été réalisés par AtkinsRéalis Canada Inc. (AtkinsRéalis), à l'usage exclusif de Patriot Battery Metals Inc., qui a été partie à l'élaboration de l'étendue des travaux et en comprend les limites. La méthodologie, les constations, les conclusions et les recommandations contenues dans le présent rapport sont basées sur la portée des travaux et sont soumises aux considérations de temps et de budget décrites dans la proposition et/ou le contrat en vertu desquels le présent rapport a été publié. L'utilisation du présent par un tiers, la confiance qu'il accorde ou la décision qu'il prend en se fondant sur celui-ci sont la responsabilité exclusive dudit tiers. AtkinsRéalis n'assume aucune responsabilité à l'égard des dommages qui pourraient être subis ou engagés par un tiers en raison de l'utilisation de ce rapport, de la confiance accordée à celui-ci ou de toute décision prise en fonction de celui-ci.

Les constatations, conclusions et recommandations contenues dans le présent rapport (i) ont été élaborées d'une manière conforme au niveau de compétence normalement exercé par des professionnels exerçant actuellement dans des conditions similaires dans le domaine, et (ii) reflètent le meilleur jugement d'AtkinsRéalis basé sur les informations disponibles au moment de la préparation du présent rapport. Aucune autre garantie, expresse ou implicite, n'est donnée concernant les services professionnels fournis à Patriot Battery Metals Inc. ou des constatations, conclusions et recommandations contenues dans le présent rapport. Les constatations et les conclusions contenues dans le présent rapport ne sont valables qu'à la date du présent rapport et peuvent être fondées, en partie, sur des renseignements fournis par d'autres personnes. Si l'une ou l'autre des informations est inexacte, de nouvelles informations sont découvertes ou si les paramètres du projet changent, des modifications au présent rapport pourraient être nécessaires.

Ce rapport doit être lu dans son ensemble, car des sections prises hors contexte peuvent être trompeuses. Si des divergences surviennent entre la version préliminaire (ébauche) et la version finale de ce rapport, c'est la version finale qui prévaut. Rien dans le présent rapport ne vise à constituer ou à fournir une opinion juridique.

Le contenu du présent rapport est confidentiel et exclusif. Sauf par Patriot Battery Metals Inc., il n'est pas permis de reproduire ou de distribuer le présent rapport ou d'utiliser l'information contenue dans les présentes, en totalité ou en partie, ou de s'y fier, sans la permission expresse écrite de Patriot Battery Metals Inc. et d'AtkinsRéalis.

Liste des révisions

#	Prép.	Rév.	App.	Date	Pages	Remarques
PA	AC/GM/HT/SP	PA	BM	2025-11-03	Tous	Commentaire – Interne
PB	AC/GM/HT/SP	PB	BM	2025-11-12	Tous	Commentaire – Client
C	AC/GM/HT/SP	C	BM	2026-02-10	Tous	Émis pour étude de faisabilité

Table des matières

1. Introduction 1

2. Informations sur le site et le projet 2

3. Études complémentaires 3

3.1 Études et rapports antérieurs 3

3.2 Météorologie 4

3.3 Géologie 5

3.4 Géotechnique 5

3.5 Géochimie 7

3.6 Hydrogéologie 7

4. Critères de conception 9

4.1 Gestion des résidus et des stériles 9

4.1.1 Données d'exploitation 9

4.1.2 Classement des risques 9

4.1.3 Sismicité 10

4.1.4 Stabilité des haldes 10

4.1.5 Stabilité des digues 11

4.2 Gestion de l'eau sur site 11

4.2.1 Gestion de l'eau pour les haldes 11

4.2.2 Gestion de l'eau pour la zone industrielle 12

4.2.3 Digues et canal de dérivation du lac 001 13

4.3 Traitement de l'eau 13

4.3.1 Traitement de l'eau de contact 13

4.3.2 Production d'eau potable 16

4.3.3 Traitement des eaux usées 18

4.4 Fermeture 19

4.4.1 Objectifs de fermeture 19

4.4.2 Facteurs de sécurité minimaux pour les analyses de stabilité dans des conditions de fermeture 19

4.4.3 Charge hydrotechnique 20

4.4.4 Propriétés géotechniques des matériaux 20

4.4.5 Système de couverture 21

4.4.6 Couverture végétale 21

4.4.7 Critères liés aux changements climatiques 22

5. Gestion de l'eau 23

5.1 Approche globale de gestion de l'eau 23
5.2 Bilan hydrologique du site 24
5.2.1 Description 24
5.2.2 Méthodologie 24
5.2.3 Données d'entrée 25
5.2.4 Résultats 27
5.3 Haldes 001 et 002 31
5.3.1 Description 31
5.3.2 Fossés de collecte des eaux de contact périphériques 32
5.3.3 Bassins de collecte des eaux de contact 34
5.3.4 Déversoirs d'urgence 36
5.3.5 Fossés temporaires de dérivation d'eau sans contact 38
5.4 Haldes de morts-terrains 04 et 05 et empilements organiques 39
5.4.1 Description 39
5.4.2 Approche conceptuelle 39
5.4.3 Résultats 39
5.5 Zone industrielle 40
5.5.1 Description 40
5.5.2 Conception des bassins 40
5.5.3 Déversoirs 43

6. Dérivation du lac 01 vers la mine à ciel ouvert 45

6.1 Description 45
6.2 Fossé de dérivation et digues 45
6.2.1 Crue de conception 46
6.2.2 Conception hydraulique du fossé de dérivation et des digues 46
6.2.3 Considérations relatives à la conception des habitats et des passes à poissons 47
6.3 Stratégie de gestion des sédiments et de l'eau du lac 001 47
6.4 Analyse de stabilité des digues du lac 01 49
6.4.1 Évaluation de la stabilité 49
6.4.2 Analyse des infiltrations 53

7. Traitement de l'eau de contact 55

7.1 Général 55
7.2 Conception de l'usine de traitement des eaux 55
7.2.1 Métaux traces 55
7.2.2 Élimination des MES 56

7.3 Stations de pompage 57

8. Production d'eau potable et traitement des eaux usées 59

8.1 Production d'eau potable 59

8.1.1 Pompes et conduite 59

8.1.2 Traitement 59

8.2 Traitement des eaux usées 60

8.2.1 Traitement 60

8.2.2 Rejet 60

9. Point de rejet final 61

9.1 Généralités 61

9.2 Diffusion de rejet 62

9.3 Diffusion dans la rivière 62

9.3.1 Méthodologie 62

9.3.2 Résultats 63

10. Évaluation hydrogéologique (Halde 002) 64

10.1 Modèle numérique 3D 64

11. Installation de disposition des résidus 65

11.1 Considérations générales relatives à la conception 65

11.2 Production et caractéristiques des résidus 66

11.3 Description du site de disposition des résidus 68

11.4 Description de la disposition des résidus et des infrastructures connexes 68

11.5 Analyse de la stabilité pour le stockage des résidus 69

11.5.1 Géométrie du modèle 69

12. Stockage des stériles et des morts-terrains 75

12.1 Considérations générales relatives à la conception 75

12.2 Production et caractéristiques des stériles et des morts-terrains 76

12.3 Description du site de stockage des stériles et des morts-terrains 79

12.4 Halde de stériles, piles de morts-terrains et infrastructures connexes 79

12.5 Analyses de stabilité des haldes de stériles 80

12.5.1 Évaluation de la stabilité de la halde 001 81

12.5.2 Halde 002 de stériles Stabilité des pentes 86

13. Fermeture 89

13.1 Séquence de fermeture 89

13.2 Fermeture de la zone industrielle et des infrastructures linéaires 90

13.3 Infrastructure minière : fosse, stériles, résidus et installations de stockage des morts-terrains 90
13.3.1 Halde 001 90
13.3.2 Halde 002 91
13.3.3 Dépôt de matières organiques et de morts-terrains 92
13.3.4 Mine à ciel ouvert 92
13.3.5 Voies d'accès 93
13.3.6 Restauration du système de gestion de l'eau 93
13.4 Programmes de surveillance et d'entretien 93
13.4.1 Après l'exploitation 93
13.4.2 Surveillance après la restauration 94
13.4.3 Suivi agronomique 94
13.5 Planification de la réhabilitation et de la fermeture 95
13.6 Station de transbordement 95
14. Surveillance du rendement 96
14.1 Programmes d'inspection 96
14.2 Instrumentation 96
14.3 Surveillance des eaux souterraines et des eaux de surface 97
15. Estimation des coûts 98
16. Conclusions et recommandations 99
16.1 Gestion de l'eau 99
16.2 Hydrogéologie 101
16.3 Gestion des déchets 102
16.4 Fermeture 103
17. Références 105

Liste des tableaux

Tableau 4-1 Facteurs de sécurité minimaux pour les haldes 10
Tableau 4-2 Exigences minimales en matière de facteur de sécurité pour les digues de dérivation 11
Tableau 4-3 Débits de conception et contaminants prévus utilisés pour le dimensionnement des usines de traitement de l'eau 14
Tableau 4-4 Critères finaux de qualité des effluents 15
Tableau 4-5 Critères de conception pour l'usine de production de l'eau potable 16
Tableau 4-6 Qualité des eaux de surface dans les plans d'eau voisins 17
Tableau 4-7 Critères de conception pour le traitement des eaux usées domestiques 18
Tableau 4-8 Qualité de l'eau des eaux usées domestiques 18

Tableau 4-9 Facteurs de sécurité minimaux visés pour les analyses de stabilité dans des conditions de fermeture 20
Tableau 5-1 Température, précipitations et évaporation mensuelles (AtkinsRéalis, 2025) 25
Tableau 5-2 Coefficients de ruissellement utilisés dans le modèle 26
Tableau 5-3 Débit de pompage et zone de captage des différentes infrastructures 26
Tableau 5-4 Taux de drainage de la mine à ciel ouvert et de la mine souterraine (Mailloux, 2024) 27
Tableau 5-5 Bilan hydrique mensuel pour les principales infrastructures de la mine dans des conditions moyennes 29
Tableau 5-6 Bilan hydrique mensuel pour les principales infrastructures de la mine en conditions sèches 30
Tableau 5-7 Bilan hydrique mensuel pour les principales infrastructures de la mine en conditions humides 31
Tableau 5-8 Configuration des fossés de collecte d'eau de contact dans la halde 01 34
Tableau 5-9 Configuration des fossés de collecte d'eau dans la halde 02 34
Tableau 5-10 Paramètres de conception des bassins de collecte d'eau de contact 35
Tableau 5-11 Configuration de la section de contrôle des déversoirs d'urgence 37
Tableau 5-12 Configuration des chutes des déversoirs d'urgence 38
Tableau 5-13 Bassins de la zone industrielle 42
Tableau 5-14 Scénarios pris en compte pour le calcul du débit pour chaque condition hydrologique 43
Tableau 5-15 Débit source vers le bassin de sédimentation et le bassin de polissage dans les conditions hydrologiques prévues 43
Tableau 5-16 Caractéristiques des déversoirs et des débits associés dans les bassins de sédimentation et le bassin de polissage 44
Tableau 6-1 Configuration hydrotechnique du fossé de dérivation et des digues 47
Tableau 6-2 Configuration de la conception des bermes de contrôle des sédiments 48
Tableau 6-3 Propriétés mécaniques pour les analyses de stabilité des pentes 51
Tableau 6-4 Résultats de l'analyse de la stabilité des pentes, barrages de dérivation 53
Tableau 6-5 Propriétés hydrauliques et mécaniques pour les analyses de percolation 53
Tableau 6-6 Résultats de l'analyse des infiltrations 54
Tableau 7-1 Liste des stations de pompage d'eau de contact 58
Tableau 8-1 Spécifications de la pompe à eau potable et du système de conduite 59
Tableau 8-2 Station de pompage utilisée dans le projet pour évacuer les eaux usées domestiques traitées 60
Tableau 9-1 Concentration en contaminants dans l'effluent final ainsi que dans le milieu naturel 61
Tableau 9-2 Conditions limites pour le débit et la qualité de l'eau 62
Tableau 11-1 Production de résidus – disposés et remblayés 67
Tableau 11-2 Facteurs de sécurité minimaux pour les haldes de résidus (MRNF, 2024 ; BCMWRPRC, 1991a et Hawley et Cunning, 2017) 71
Tableau 11-3 Paramètres géotechniques des matériaux des haldes à stériles 72
Tableau 11-4 Coefficients de sécurité pour la stabilité des pentes des haldes 74
Tableau 12-1 Zones de production et de stockage des stériles et des morts-terrains 78
Tableau 12-2 Facteurs de sécurité minimaux pour la halde 001 et la halde 002 (MRNF, 2024 ; BCMWRPRC, 1991a et Hawley et Cunning, 2017) 82
Tableau 12-3 Paramètres géotechniques des matériaux – Haldes 001 et 002 83
Tableau 12-4 Coefficient de sécurité de l'analyse de la stabilité des pentes de la halde 001 85

Tableau 12-5 Facteur de sécurité de l'analyse de la stabilité des pentes du PGA dans la halde 002 87
Tableau 13-1 Nombre minimum de parcelles d'échantillonnage (PE) à inventorier en fonction de la superficie considérée pour le suivi agronomique 95

Liste des figures

Figure 11-1 Stockage typique sur fond muni de revêtement 002 68
Figure 13-1 Configuration de fermeture de la halde 001 91
Figure 13-2 Configuration de fermeture de la halde 002 92

Annexes

Annexe A : Critères de conception
Annexe B : Dessins
Annexe C : Chiffres relatifs au traitement de l'eau
Annexe D : Rapport d'analyse de stabilité
Annexe E : Quantités de matériaux

1. Introduction

AtkinsRéalis a été mandatée par Innova, une filiale québécoise entièrement détenue par Patriot Battery Metals Inc., pour réaliser une étude de faisabilité sur la gestion des déchets et de l'eau pour le projet minier Shaakichiuwaanaan. Le site est situé dans la région d'Eeyou Istchee Baie-James, dans la province de Québec, au Canada, aux coordonnées 53°32'00" N, 73°55'00" O. Il se trouve à environ 220 km à l'est de Radisson et à environ 240 km au nord-nord-est de Nemaska. La propriété comprend 463 claims miniers, couvrant environ 23 710 hectares répartis en deux groupes principaux. Le plus grand de ces groupes s'étend de manière presque continue sur environ 51 km dans une direction est-ouest.

Le projet permettra d'extraire du spodumène d'un gisement de pegmatite à l'aide d'une méthode hybride combinant l'exploitation à ciel ouvert et l'exploitation souterraine. Au cours de la phase initiale (2029-2034), le taux de production annuel estimé sera de 400 ktpa avec une teneur de 5,5 % en concentré d'oxyde de lithium (Li_2O). Ce taux passera à 800 ktpa pendant la phase d'expansion (2031-2051). La durée d'exploitation du projet est actuellement estimée à 23 ans.

2. Informations sur le site et le projet

Le projet devrait générer environ 155,7 millions de tonnes (Mt) de stériles, 14,0 Mt de morts-terrains et 71,1 Mt de résidus à disposer. Deux types de stériles seront produits : des stériles lixiviables ou potentiellement générateurs d'acide (estimés à 81,0 Mt) et des stériles non lixiviables « à faible risque » (73,1 Mt).

Le développement de la mine à ciel ouvert est prévu en deux phases. La fosse ouest sera exploitée de 2029 à 2034, tandis que l'expansion vers l'est, appelée fosse Est, est prévue de 2034 à 2045. Les opérations minières souterraines se dérouleront de 2031 à 2051. Avant le début de l'exploitation de la fosse ouest, une digue (phase 1) sera construite dans le lac 001, ainsi qu'un fossé de dérivation. Cela permettra l'exploitation de la fosse dans la partie ouest du lac 001 et le maintien du déversement du lac 001 vers le lac 007, autour de la mine à ciel ouvert. Une seconde digue et un second fossé, situés à l'est, seront nécessaires pour l'aménagement de la fosse est. La digue et le fossé de dérivation maintiendront le niveau d'eau du lac 001 à son élévation actuelle d'environ 373 mètres au-dessus du niveau de la mer (m.a.s.l.) et détourneront l'eau autour du périmètre nord de la fosse.

La figure 2 présente un plan général du site. Les composantes et activités du projet sur le site comprendront la construction, l'exploitation, puis éventuellement le déclassement et la fermeture des éléments clés suivants :

- Les fosses à ciel ouvert ouest et est ;
- La mine souterraine ;
- Les infrastructures de traitement des minéraux et les bâtiments du site ;
- La halde 001, contenant des stériles à faible risque, ainsi que les fossés et le bassin de stockage associés ;
- La halde 002, contenant des stériles à faible risque, des résidus filtrés et des stériles potentiellement générateurs d'acide, ainsi que les fossés et bassins associés ;
- Les haldes 004 et 005 contenant des morts-terrains ;
- Deux haldes de disposition de matières organiques et de terre végétale ;
- Des haldes de disposition de minerai à faible teneur ;
- Un bassin de polissage ;
- Deux bassins de sédimentation ;
- Une station de traitement d'eau ;
- Des routes d'accès ;
- Lignes électriques/de transport d'électricité ;
- Un camp minier ; et
- D'autres infrastructures et équipements auxiliaires.

3. Études complémentaires

3.1 Études et rapports antérieurs

Les études et rapports antérieurs relatifs à la gestion des résidus et de l'eau sont répertoriés ci-dessous :

- Patriot Battery Metals : *Site selection study for waste disposal* (terminée mais non examinée par AtkinsRéalis) ;
- Études géotechniques et rapports :
  - BBA, 2024. *Technical Report Geotechnical Campaign for Phase 1 Diversion Dams*, 7535009-000000-4G-ERA-0001-RAA;
  - BBA, 2024. *Technical Report Geotechnical Campaign for Phase 2* (factual), 7535009-020001-4G-ERA-0003-RAA, and;
  - BBA, 2024. *Technical Report Factual Report of 2024 Geotechnical Diamond Drill Investigation*, CV5 Site, 75350179-000000-4M-ERA-0003-R00.

Les études géotechniques et le rapport factuel comprennent 22 forages dans les emplacements proposés pour les haldes 001 et 002, ainsi que 6 forages dans la zone de l'usine de traitement. On compte également, 11 forages dans le lac 001 et à l'emplacement proposé prévu du fossé de dérivation, ainsi qu'un forage à l'emplacement des aires temporaires de stockage du mort-terrain.. Des essais en laboratoire ont aussi été réalisés (analyse granulométrique, teneur en eau, limites d'Atterberg, densité relative, résistance à la compression simple de la roche en place).

Des études géochimiques, de gestion de l'eau et d'hydrogéologie ont également été réalisées et examinées dans le cadre de l'étude de faisabilité. Les principales références sont les suivantes :

- *Analysis and* Interpretation of the CV5 Static and Kinetic Geochemistry Characterization Results – Technical Report submitted by BBA on May 23, 2024. Reference 7535001-000500-4E-ERA-0001 R00;
- Geochemical Modelling of Arsenic Leaching Risk for CV5 Waste Rock Stockpiles – Technical Report submitted by BBA on July 3rd, 2024. Reference 7535001-003200-4E-ERA-0001-R00;
- Geochemical Characterization of Mine Waste Materials & Modelling of Waste Rock Stockpiles for the Shaakichiuwaanaan Project (CV5 Pegmatite): Feasibility Study Update. Preliminary report submitted by Vision Geochemistry, 27 September 2025. Ref. 2405007-TR1;
- Water Management Plan and Water Diversion – Technical Report submitted by BBA on September 11, 2024. Reference 7535006-014000-41-ERA-0002-R00;
- Hydrogeological Baseline Study – Future Open Pit CV5, Corvette Lithium property – Technical report submitted by BBA on September 23, 2024, reference 7535001-001900-41-ERA-0002-R00;
- Hydrogeological Characterisation – CV5 mining site Shaakichiuwaanaan Lithium Property submitted by BBA on July 4, 2025. Reference 753019-000000-41-ERA-0002-R00;
- Packer Testing Factual Report – Technical report submitted by BBA on July 9, 2025. Reference 7535019-000000-41-ERA-0001-R00;
- Hydrogeological characterisation – Water supply well, Shaakichiuwaanaan Lithium Property submitted by BBA on July 9, Reference 20257535019-000000-41-ERA-0003-R00.

En outre, d'autres informations ont été fournies et examinées :

- Le levé aérien du site avec une précision de +/- 0,5 m ;
- Le plan général de l'infrastructure du site fourni par G-Mining (révision du 5 mai 2025) ;
- L'enveloppe de la fosse à ciel ouvert et la mine souterraine ont été fournies par G Mining le 5 mai 2025 ;
- Les données LiDAR, la bathymétrie et le modèle numérique d'élévation (MNE) du Canada (RNCan, 2011) La bathymétrie des lacs 001 et le lac 027 ;
- Les cartes de géologie de surface fournies par le ministère des Ressources naturelles et des Forêts (https://www.donneesquebec.ca/recherche/fr/dataset/carte-des-depots-de-surface-du-nord-quebecois) ;
- Le modèle géologique fourni par PB Metals le 6 novembre 2024 ;
- La géologie structurale (failles, joints et autres structures) a été fournie dans le modèle géologique de PB Metals en date du 25 janvier 2025. La nature hydrogéologique des failles et des joints a été déterminée à l'aide du RDQ et de la description géologique ;
- Les données sismiques provenant du Code national du bâtiment du Canada (CNBC) ;
- La prise d'eau douce située au lac 317, au nord-est de l'usine de traitement ;
- Les critères de conception du procédé (Primero, 2024) ;
- Les données de base disponibles, telles que les contraintes environnementales, les écosystèmes sensibles et uniques, les plans d'eau de surface, les limites de propriété, les ressources minérales et les claims miniers. Toutes ces informations ont été intégrées dans un système d'information géographique, et
- Le rapport PEA: Highlights Shaakichiuwaanaan Project as a Potential North American Lithium Raw Materials Supply Base. Patriots Battery Metals Inc. August 2024.

3.2 Météorologie

Dans la région de Shaakichiuwaanaan, la température annuelle moyenne est d'environ -3,1 °C. Les précipitations annuelles moyennes sont de 772 mm, dont 518 mm de pluie et 254 cm de neige. L'évaporation annuelle moyenne du lac est de 421 mm, et l'évapotranspiration maximale dans des conditions moyennes est de 390 mm. Des informations plus détaillées sont disponibles dans le rapport d'hydrologie de base (AtkinsRéalis, 2025c).

Les données climatiques, incluant les précipitations, les chutes de neige, les pluies et les températures, ont été obtenues à partir des données disponibles pour quatre stations météorologiques d'Environnement Canada (EC) :

- Station La Grande IV (ID de la station : 7093GJ5) ;
- Station La Grande IV A (ID de la station : 7093GJ3) ;
- Station La Grande 4 A (ID de la station : 7093714) et
- Station Nitchequon (ID de station: 7095480).

Ces informations ont été recueillies et traitées afin d'établir l'hydrologie de base du projet (AtkinsRéalis, 2025c).

3.3 Géologie

La propriété Shaakichiuwaanaan, située dans la province archéenne du Supérieur constituant le Bouclier canadien, se trouve dans la sous-province de La Grande, près de la sous-province d'Opinaca, et est réputée pour son fort potentiel d'exploration de matières premières, notamment les métaux de base, les métaux précieux et le lithium (PEA, 2024). La sous-province de La Grande, véritable merveille géologique présente une structure volcanique plutonique alignée avec le corridor Wemindji-Caniapiscau. Elle comprend deux domaines principaux, la ceinture de la rivière Eastmain et la ceinture de la rivière La Grande, chacun présentant des caractéristiques géologiques uniques (PEA, 2024).

La propriété est située dans la ceinture de la rivière La Grande, caractérisée par des roches volcaniques et sédimentaires, dont deux anciennes séquences volcaniques et des métasédiments interstratifiés (PEA, 2024). La sous-province de La Grande est limitée au nord par la sous-province plutonique de Bienville et au sud par la sous-province métasédimentaire et plutonique d'Opinaca (Lucas & St-Onge, 1998 ; Houle, 2004 ; Percival, 2007). Les sous-provinces de La Grande et d'Opinaca contiennent de nombreux gisements connus de pegmatite à spodumène au Québec (PEA, 2024).

Le métamorphisme dans la région varie du faciès schiste vert dans le centre au faciès amphibolite aux marges (Card, 1986 ; Houle, 2004). Les tendances structurelles passent d'est-ouest dans le sud-ouest à nord-est-sud-ouest dans le nord, principalement formées entre 2700 et 2680 Ma (Percival et al., 2012). La région n'offre pas seulement un potentiel de minéralisation, elle a déjà donné lieu à des découvertes importantes. Elle contient d'importants gisements de nickel-cuivre associés à des coulées komatiitiques, des intrusions ultramafiques et des gisements notables de pegmatite à spodumène (PEA, 2024). *Regional Bedrock Geology*.

3.4 Géotechnique

Une étude géotechnique du site et un rapport factuel ont été réalisés en 2023 et 2024 (BBA, 2025). L'étude a porté sur les deux sites des haldes à stériles, la zone industrielle et le lac 001. Des forages de condamnation ont été réalisés dans les superficies des haldes 001 et 002. L'étude pour la halde 001 comprenait 19 forages, des échantillonnages et des analyses en laboratoire. Le profil du sol pour la halde 001 est résumé ci-dessous :

- Des matières organiques sont présentes sur l'ensemble de l'emprise, avec une épaisseur allant de 0,1 à 0,9 m (0,4 m en moyenne), la plus grande profondeur se trouvant au centre de l'emprise. Les matières organiques reposent directement sur le roc à l'extrémité est de l'emprise.
- Le ML (horizon de sol composé de limon/limon sableux/limon avec gravier) n'est présent qu'à l'extrémité ouest de la superficie, à des profondeurs allant de 0,8 à 1,4 m sous le niveau du sol, recouvrant le GM et les galets/gravier ;
- Le SM (horizon de sol composé de sable limoneux/sable limoneux avec gravier est présent uniquement dans les parties nord et sud de l'emprise (absent au centre), reposant sur des galets/graviers ou le roc. Cet horizon se rencontre à des profondeurs variant de 0,9 à 3,1 m sous la surface, la plus grande profondeur se situant dans le coin nord-est de l'emprise ;
- Le GM se trouve dans certaines zones à l'extrémité ouest et au centre de l'emprise (généralement sur une épaisseur de 1 m). Il est surmonté par ML à l'ouest et par des organiques au centre, et repose sur des galets/graviers ;

- Les galets/graviers sont généralement présents sur l'ensemble de l'emprise, à l'exception de la limite est, où ils reposent directement sur le roc;
- La profondeur du roc varie entre 0,6 et 5,7 m sous la surface ; l'élévation du roc varie entre 360 et 392 m au-dessus du niveau de la mer. Il présente une pente générale vers le nord-ouest ; la plus grande profondeur se trouve à l'ouest et la plus faible à l'est ;
- Les niveaux d'eau souterraine varient de 0,13 à 0,51 m sous la surface. En fonction des variations topographiques, les élévations de la nappe varient de 365 à 389 m (NGV).

L'étude réalisée pour la halde 002 comprenait 12 forages, des prélèvements d'échantillons et des essais en laboratoire. Les conditions du sol rencontrées dans l'emprise de la halde 002 sont variables et se décrivent comme suit :

- Des matières organiques sont présentes sur l'ensemble de l'emprise, avec une épaisseur variant entre 0,1 et 1,5 m (moyenne de 0,4 m). La profondeur varie avec une dépression localisée dans le coin sud-ouest, à l'emplacement du bassin de collecte 04 ;
- Le ML (horizon de sol composé de limon/limon sableux/limon avec gravier) a été rencontré uniquement dans la partie nord-est de l'emprise, jusqu'à une profondeur de 1,8 m sous la surface, recouvrant du SM, du GM et des galets/gravier ;
- Le SM (horizon de sol composé de sable limoneux/sable limoneux avec gravier) a été rencontré sur l'ensemble de l'emprise, reposant sur GM, et/ou des galets/graviers, et le roc. Cet horizon se rencontre à des profondeurs variant de 0,5 à 13,4 m sous la surface, en fonction de la topographie du socle, la plus grande profondeur se situant au centre de l'emprise de la halde ;
- Le GM (horizon de sol composé de gravier limoneux avec du sable/gravier avec du limon et du sable) a été rencontré dans certaines zones près du centre de l'emprise et à sa bordure est. Il est surmonté par SM et repose sur des galets/graviers et le roc. La profondeur et l'épaisseur de cet horizon varient selon l'emprise ; Des galets/gravilers ont été rencontrés dans certaines zones près du centre et à son extrémité est.
- La profondeur du roc dans la halde varie entre 0,3 et 18,8 m sous la surface du sol; l'élévation de la surface du roc varie entre 374 et 440 m au-dessus du niveau de la mer. Le roc atteint son altitude maximale au centre de la partie est de l'emprise et son altitude minimale au centre de la partie ouest.
- Les niveaux d'eau souterraine varient de 2,08 à 3,07 m sous la surface. En fonction des variations topographiques, les élévations e la nappe varient de 393 à 418 m (NGV)

La zone industrielle comprend l'usine de traitement, l'usine de pâte à remblai, le camp permanent, le poste électrique et l'usine de traitement des eaux. L'étude réalisée pour cette zone a inclus 9 forages, des prélèvements d'échantillons et des essais en laboratoire. Les profils de sol sous-jacents aux emprises prévues pour l'usine de traitement et les infrastructures associées indiquent que l'unité de sol principale influençant les considérations de fondation est un sable non cohésif graveleux, compact à dense (symbole USCS : SM), rencontré à faible profondeur. Le roc se trouve généralement à faible profondeur, mais présente une dépression à la limite sud-est de l'emprise de l'usine de traitement.

Il n'existe aucune information sur le profil du sol ou sur les caractéristiques géotechniques à l'emplacement de l'usine de traitement des eaux proposée. Selon les données des forages géotechniques situés à proximité (moins de 250 m), il est prévu que l'unité de sol principale influençant les considérations de fondation soit la même que dans le reste de la zone industrielle. Le roc pourrait être rencontré à environ 5 m sous la surface. Pour les phases ultérieures de la conception, il est recommandé de réaliser des forages géotechniques dans l'emprise couvrant l'usine de traitement des eaux.

3.5 Géochimie

Une étude géochimique a été menée (Vision, 2025) sur les matériaux générés par les activités minières, principalement les résidus provenant du traitement du minerai ainsi que les stériles. Les essais ont été conçus pour évaluer les échantillons conformément aux directives du MELCCFP, notamment le *Guide de caractérisation des résidus miniers et du minerai* (MELCC, 2020), désormais sous la responsabilité du MELCCFP (*Ministère de l'Environnement, de la Lutte contre les changements climatiques, de la Faune et des Parcs).*

Selon les résultats, les contaminants anticipés ainsi que leurs concentrations dans les effluents provenant des différents amas de minerai, des résidus et des stériles ont été rapportés (Vision, 2025). Ces concentrations sont présentées dans les sections portant sur le traitement des eaux. De plus, le communiqué conforme au NI 43-101 (PMET, 2025a) fournit une classification des résidus et des stériles.

Les résidus ont été classés comme non potentiellement générateurs d'acide (Non-PGA), mais susceptibles de présenter un risque de lixiviation des métaux (LM) conformément aux lignes directrices du MELCCFP.

Au total, 26,7 % des échantillons de stériles ont été classés comme potentiellement générateurs d'acide (PGA). En conséquence, un protocole de ségrégation a été recommandé afin d'atténuer les risques associés aux matériaux PAG. Deux catégories de stériles ont été identifiées : l'une classée comme PGA et LM, et l'autre comme Non-PGA et Non-LM.

La halde 001 et le dépôt dans la fosse contiendront des stériles non potentiellement générateurs d'acide et non lixiviables (NON-PGA et NON-LM). La halde 002 stockera les stériles potentiellement générateurs d'acide/lixiviables (PGA et LM) et les résidus non PGA et LM.

3.6 Hydrogéologie

L'hydrogéologie de base a été élaborée à partir d'informations accessibles au public et d'études de terrain réalisées en 2023 et 2024. L'ensemble des données a été compilé afin de déterminer les différentes unités hydrostratigraphiques, d'évaluer leurs propriétés hydrauliques globales, ainsi que le régime d'écoulement et la qualité des eaux souterraines.

Le site est entouré de plans d'eau tels que des lacs et des zones marécageuses, et la topographie est généralement plane, avec de petites collines telles que des drumlins et des affleurements rocheux.

Deux unités hydrogéologiques sont présentes sur le site : l'unité des morts-terrains et l'unité du roc. L'unité de morts-terrains est discontinue dans la zone d'étude et son épaisseur varie de 0 m à 58 m, mais elle se situe généralement autour de 8 m lorsqu'elle est présente. Elle est constituée d'une mince couche de matière organique surmontant un till non différencié ou des drumlins. Le till est principalement composé de sable silto-argileux, de limon ou de sable, avec parfois du gravier et des traces d'argile, devenant plus graveleux en profondeur. Les morts-terrains sont aquifères, mais en raison de leur caractère discontinu, ils ne sont pas considérés comme un aquifère à grande échelle. L'unité de roc est généralement constituée d'amphibolite grise et verte en alternance, de wacke et d'intrusions pegmatitiques. Le RQD indique que la roche est généralement de bonne qualité et faiblement fracturée. Le roc affleure à plusieurs endroits dans la zone d'étude.

En 2024, le niveau des eaux souterraines dans les morts-terrains se situait généralement entre 0,1 et 2,7 m sous la surface du sol (bgs). Les niveaux des eaux souterraines dans le roc varient entre 0,1 et 3,1 m sous le niveau du sol, avec deux endroits atteignant plus de 7 m sous le niveau du sol. L'écoulement des eaux souterraines dans les morts-terrains et le roc peu profond suit la topographie, les eaux souterraines s'écoulant généralement des points élevés, qui agissent comme des zones de recharge, vers les lacs et les zones humides. En général, les eaux souterraines s'écoulent vers les lacs 001 et 027. Le gradient hydraulique vertical entre les deux unités est descendant dans les points élevés de la topographie, où se trouvent les eaux souterraines, et ascendant dans les autres zones et sous le lac 001. Une variation saisonnière préliminaire a été évaluée dans trois forages, montrant que le niveau le plus élevé des eaux souterraines était généralement atteint en mai et juin, pendant la crue printanière.

La conductivité hydraulique des morts-terrains a été évaluée à l'aide de diverses méthodes d'essai hydraulique, telles que l'essai d'infiltration dans la zone vadose et les essais de charge croissante et décroissante dans la zone saturée. La conductivité hydraulique de la zone vadose varie entre 1,6 x 10^{-6} et 4,1 x 10^{-5} m/s, tandis que celle dans les morts-terrains saturés variait entre 2,9 x 10^{-8} 3,9 x 10^{-6} m/s, avec une moyenne géométrique de 1,1 x 10^{6} m/s

La conductivité hydraulique du roc a été évaluée à l'aide d'essais de Lugeon, où des intervalles spécifiques ont été testés, ainsi que d'essais de charge et de décharge et d'essais de pompage. La conductivité hydraulique géométrique du roc est de 5,8 x 10^{-8} m/s, avec un maximum de 2,0 x 10^{-6} m/s et un minimum de 8,6 x 10^{-10} m/s. Aucune corrélation n'a pu être établie entre l'indice RQD et la conductivité hydraulique, ce qui suggère que l'écoulement dans le roc est dominé par des caractéristiques discrètes qui ne sont pas captées par les mesures du l'indice RQD. Les résultats des essais Slug et Packer suggèrent que la conductivité hydraulique dans le roc diminue avec la profondeur.

Deux campagnes d'échantillonnage des eaux souterraines ont été menées dans six puits d'observation dans la fosse CV5 proposée et dans 15 puits d'observation dans l'emprise des haldes proposées. Les eaux souterraines sont de type bicarbonate de magnésium et dépassent les critères de potabilité pour les métaux suivants : arsenic (eaux souterraines du roc uniquement), manganèse, molybdène et antimoine, ainsi que les critères de ruissellement dans les eaux de surface pour le cuivre. Plusieurs dépassements des critères applicables à l'eau potable ont été également constatés pour l'azote ammoniacal et les sulfures.

4. Critères de conception

Les critères de conception pour la gestion de l'eau et des résidus sont présentés en détail dans le rapport d'AtkinsRéalis (AtkinsRéalis, 2025c) (voir **Annexe A**). Les critères le plus pertinents sont présentés dans les sections suivantes.

4.1 Gestion des résidus et des stériles

4.1.1 Données d'exploitation

Les données d'exploitation sont nécessaires pour dimensionner les installations de résidus et de stériles et modéliser les flux (bilan hydrique). Les données clés fournies par Patriot Battery Metals et les essais en laboratoire effectués sont présentées ci-dessous :

- Durée d'exploitation de la mine est de 22 ans ;
- Capacité de l'usine : augmentation de 2,5 Mtpa pour la phase1 (usine DMS) à 5,0 Mtpa pour la phase 2 (usine DMS à double circuit);
- Tonnage total des résidus produits est de 71,1 millions de tonnes (Mt) ;
- Lieu de disposition des résidus : de la 1re année à la 22e année dans la halde 002, et de la 3e année à la 22e année en remblai en pâte pour la mine souterraine;
- Tonnage total des résidus vers la halde 002 est de 54 Mt ;
- Densité spécifique des résidus est de 2,68 ;
- Granulométrie des résidus: P_{80} est de 7,68 mm, non plastiques ;
- Teneur en solides des résidus est de 88 % (Ws/Wt) ;
- Tonnage total des stériles : 155,2 Mt, dont 7 4,2 Mt à faible risque et 81,0 potentiellement générateurs d'acide/lixiviables ;
- Tonnage total des morts-terrains : 14 Mt;
- Lieu de disposition des stériles : stériles à faible risque vers la halde 001 de l'année 1 à 9, puis dans la fosse ; et stériles potentiellement générateurs d'acide vers la halde 002 de l'année 1 à 22.

4.1.2 Classement des risques

La halde 001 est utilisée exclusivement pour la disposition des stériles. La halde 002 est utilisée à la fois pour la disposition des stériles et des résidus filtrés. Les résidus et les stériles seront placés dans la halde 002. Les haldes de disposition seront des structures qui ne retiennent pas l'eau et sont conçues pour évacuer les eaux de surface vers les fossés périphériques au pied de la halde.

La directive 19 sur l'industrie minière (MELCCFP, 2025) considère un empilement à sec comme une zone de retenue sans rétention d'eau. Elle définit les critères de conception du système de drainage et de résistance aux séismes. La directive 019 réfère au guide du Québec (MRNF, 2024) pour les facteurs de sécurité minimaux applicables aux haldes à stériles et de morts-terrains, lesquels constituent les critères de conception retenus pour cette étude.

Selon la norme industrielle mondiale sur la gestion des stériles (GISTM, 2020), les nouvelles installations de disposition des résidus (y compris les haldes à stériles) doivent répondre aux critères de conception correspondant à la classification « Conséquence extrême » pour les conditions post-fermeture. Cette classification a été utilisée pour déterminer l'intervalle de récurrence de l'événement sismique pris en compte dans l'analyse de stabilité. Le bulletin technique de l'Association canadienne des barrages (ACB, 2019) précise qu'une installation de résidus sans eau libre/stagnante, comme un empilement (parc) à sec, peut être conçue selon les lignes directrices applicables aux haldes et aux morts-terrains, à condition que les matériaux ne soient ni liquéfiables ni susceptibles de se liquéfier.

Les haldes 001 et 002, ainsi que les haldes de morts-terrains 004 et 005, ont été classées selon le système de classification de Hawley et Cunning (2017) pour les haldes. Les haldes 001 et 002 sont classées comme présentant un risque modéré (WHC III). Les haldes de morts-terrains 004 et 005 sont classées comme présentant un faible risque (WHC II).

Les bassins de rétention des haldes de disposition ont été classés comme « significatifs » selon les lignes directrices de l'ACB (ACB, 2013).

Les digues situées dans le lac 001 pour la dérivation doivent être classées conformément à la Loi sur la sécurité des barrages du Québec, car elles seront construites dans un cours d'eau existant. Ces digues sont classées «classe B».

4.1.3 Sismicité

Les valeurs d'accélération maximale du sol (PGA) ont été obtenues et extrapolées à partir du NBCC (2020) comme suit :

- 0,0642 g pour un événement survenant une fois tous les 2 475 ans, et
- 0,2 g pour un événement survenant une fois tous les 10 000 ans.

4.1.4 Stabilité des haldes

Les facteurs de sécurité minimaux pour les haldes sont basés sur BCMWRPRC (1991a) et Hawley et Cunning (2017) et sont présentés dans le tableau ci-dessous.

Tableau 4-1 Facteurs de sécurité minimaux pour les haldes

Condition de chargement	Facteur de sécurité minimal
Halde/surface du sol (court terme)	1,0
Halde/surface du sol (long terme)	1,2
Stabilité globale à court terme (statique), après construction	1,3 à 1,5
Stabilité globale à long terme (statique)	1,5
Analyse pseudo-statique ou dynamique pour le chargement sismique	1,1 à 1,3

4.1.5 Stabilité des digues

Les facteurs de sécurité minimaux pour les barrages du lac 001 sont basés sur le MDDEP (2012) et sont indiqués dans le tableau ci-dessous.

Tableau 4-2 Exigences minimales en matière de facteur de sécurité pour les digues de dérivation

Zone	Condition de chargement	Facteur de sécurité minimal (MDDEP, 2012 ; MRNF, 2024)
Amont et aval	Stabilité des pentes à la fin de chaque phase de construction (court terme)	1,3 à 1,5
Amont et aval	Stabilité des pentes en situation d'inondation prévue dans le cadre du projet (court terme)	1,3
Amont et aval	Stabilité des pentes dans des conditions stationnaires (long terme)	1,5
Amont	Drainage rapide	1,3
Amont et aval	Analyse pseudo-statique ou dynamique pour les chargements sismiques, avec bassin rempli et à propriétés réduites en cas de possibilité de liquéfaction	1,1
Amont et aval	Valeur post-sismique	1,3

4.2 Gestion de l'eau sur site

4.2.1 Gestion de l'eau pour les haldes

Le système de gestion de l'eau pour les haldes 001 et 002 est conçu pour contrôler et traiter efficacement les eaux de contact générées par le ruissellement de surface. Des fossés de collecte des eaux de contact sont disposés stratégiquement afin d'intercepter le ruissellement et de l'acheminer vers des bassins de collecte dédiés, qui fonctionnent comme des ouvrages de retenue temporaire. L'eau collectée est stockée temporairement avant d'être pompée vers la zone industrielle pour un traitement complémentaire. Les principaux critères de conception hydrotechnique sont résumés ci-dessous :

Fossés de collecte des eaux de contact :

- La pluie de projet utilisée pour le dimensionnement des fossés correspond à un événement de 1 fois en 100 ans, d'une durée de 24 heures en été;
- Une revanche minimale de 0,6 m est maintenue pour les fossés;
- Les fossés sont de forme trapézoïdale et comprennent un enrochement pour protéger contre l'érosion;
- Les fossés autour de la halde 001 ne sont pas revêtus, tandis que ceux autour de la halde 002 sont munis de revêtement.

Bassins de collecte des eaux de contact :

- Tous les bassins sont classés comme des digues à risque « significatif » ;
- Les bassins associés à la halde 001 ne sont pas revêtus, tandis que ceux associés à la halde 002 sont revêtus d'une géomembrane;
- La crue de conception environnementale (CCE) pour les bassins de la halde 001 correspond à une fonte nivale centennale (1 fois en 100 ans) sur 13 jours, suivie d'un événement pluvieux printanier centennal. Cette CCE a été retenue puisque la halde 001 contient des matériaux non générateurs potentiels d'acide (NGA) et non lixiviables en métaux;
- La CCE pour les bassins de la halde 002 correspond à une fonte nivale centennale sur 13 jours, suivie d'un événement pluvieux millénaire (1 fois en 2 000 ans). Cette CCE plus conservatrice reflète la présence de matériaux potentiellement générateurs d'acide (PAG) et lixiviables en métaux (LM), conformément aux exigences de la Directive 019 (MELCCFP, 2025) ;
- En conditions CCE, les bassins associés à la halde 001 sont conçus avec une revanche minimale de 1,0 m, tandis que ceux associés à la halde 002 maintiennent une revanche minimale de 1,5 m;
- La crue de conception pour les déversoirs d'urgence (CCA) est la crue maximale probable (PMF), utilisée pour le dimensionnement des déversoirs d'urgence de tous les bassins ;
- Une revanche minimale de 0,6 m est maintenue pour tous les bassins dans des conditions CCA.

4.2.2 Gestion de l'eau pour la zone industrielle

La zone industrielle, située au nord-est de la fosse proposée, accueillera toutes les infrastructures liées au traitement de l'eau et aux opérations de procédé. Les infrastructures de gestion de l'eau dans le cadre de ce projet comprennent deux bassins d'eau de contact, deux bassins de sédimentation, un bassin de polissage, une usine de traitement des eaux pour les matières en suspension (MES) (prévue à titre de contingence) et une station de traitement pour les eaux contaminées par des métaux. Les principaux critères de conception hydrotechnique pour la conception des bassins de sédimentation, du bassin de polissage et des bassins d'eau de contact sont résumés ci-dessous :

Bassins de sédimentation et de polissage

- La classification des conséquences en cas de rupture de digue est « importante » ;
- La caractérisation de l'eau est considérée comme présentant un faible risque, et les deux bassins sont munis d'une étanchéité afin de prévenir les infiltrations.
- La CCE pour tous les bassins correspond à un événement pluvieux millénaire (1 fois en 1 000 ans);
- La CCA correspond à la crue maximale probable (CMP), utilisée pour dimensionner les déversoirs d'urgence, et
- une revanche minimale de 1,0 et 0,6 m est maintenue au-dessus des niveaux d'eau maximaux de la CCE et de l'CCA, respectivement.

Bassins de collecte des eaux de contact :

- Les bassins sont entièrement excavés et ne comportent pas de digue en remblai ;
- La caractérisation de l'eau est considérée à faible risque, et les deux bassins sont revêtus pour prévenir les infiltrations;
- L'événement de crue de conception environnementale (CCE) pour les deux bassins correspond à une fonte des neiges d'occurrence 1 fois en 100 ans sur une période de 13 jours, suivie d'un événement pluvieux d'occurrence 1 fois en 1 000 ans.
- Une revanche minimale de 1,0 m doit être maintenue au-dessus du niveau d'eau maximal associé à la CCE.

Les critères de conception pour les usines de traitement d'eau ont été présentés à la **Section 4.3**.

4.2.3 Digues et canal de dérivation du lac 001

Il est proposé de construire une série de digues étanches ainsi qu'un système de fossés de dérivation afin de détourner en toute sécurité les écoulements provenant du lac 001 autour de la fosse. Ce système est conçu pour isoler la fosse des apports du lac en amont, tout en maintenant la continuité du drainage naturel pendant toute la durée de vie de la mine.

Les principaux critères de conception hydrotechnique sont les suivants :

- La classification des risques des digues de retenue est « Conséquence extrême ».
- Le débit de conception des apports (CCA) correspond à la Crue Maximale Probable (CMP).
- Une revanche minimale de 1,5 m est maintenue pour les digues d'étanchéité dans des conditions correspondant à la CCA.
- Le fossé de dérivation est de forme trapézoïdale et comporte une protection contre l'érosion par enrochement lorsque cela est nécessaire, en particulier dans les sections de recouvrement, et
- Une revanche minimale de 0,6 m est maintenue pour le fossé de dérivation.

4.3 Traitement de l'eau

4.3.1 Traitement de l'eau de contact

4.3.1.1 Débit de conception et qualité de l'eau brute

Le **Tableau 4-3** présente les débits potentiels ainsi que les contaminants d'intérêt pour chaque source d'eau de contact à gérer sur le site. Vision Geochemistry a caractérisé la qualité de l'eau pour chaque source au moyen d'essais statiques et dynamiques afin d'identifier les contaminants d'intérêt (Vision, 2025).

Les débits sont déterminés en fonction des hypothèses suivantes :

- Le débit normal est basé sur 40 % de la capacité maximale de pompage;
- Le débit minimal correspond à une condition sèche, où seul le débit de dénoyage doit être géré ;
- La CCE définit le débit maximal.
- La stratégie de gestion des crues consiste à emmagasiner le ruissellement tout en pompant activement la fonte des neiges durant la crue printanière. Le débit maximal correspond donc au débit de pompage de pointe requis pour gérer l'eau dans le bassin de collecte.

Tableau 4-3 Débits de conception et contaminants prévus utilisés pour le dimensionnement des usines de traitement de l'eau

Point d'eau	Unité	Min	Condition normale	Max	Contaminants d'interet	Référence
Halde 001	m^3 /h	0	236	592	MES	Valeurs calculées à partir du bilan hydrique du site par AtkinsRéalis Référence du document 2405007-TR1 (Vision, 2025)
Halde 001a (drainage dans le bassin 01a)		0	144	3	MES	
Halde 002 (drainage vers le bassin 02)		0	346	86	MES et As, Al, Cd, Cu, Ni, U, Sb et Li pH de 4,2	
Halde 002 (drainage vers le bassin 03)		0	735	1 837	MES et As, Al, Cd, Cu, Ni, U, Sb et Li pH de 4,2	
Zone industrielle		0	880	2 200	MES	
Ruissellement provenant de la mine à ciel ouvert		0	347	867	MES	Chiffre fourni par G-Mining (courriel daté du 9 juin 2025)
Dénoyage du bassin versant externe de la fosse		0	810	810	MES	Sur la base de la capacité de pompage fournie par G-Mining (courriel daté du 6 juin 2025) Pas de VFD sur ces pompes. Conditions normales = conditions maximales)
Dénoyage de la fosse		133	133	133	MES	Débits estimés fournis par Mailloux Hydrogeologie (courriel daté du 7 mai 2025)
Dénoyage souterrain		204	204	204	MES	
Eau générée par les activités souterraines		22	22	22	MES	Débits préliminaires fournis par G-Mining (courriel daté du 7 février 2025)
Eau domestique traitée		-	5,8	8,7	MES	Calculé sur la base de 550 chambres (AtkinsRéalis, 2025c)
Eau purgée de l'usine de traitement		13	266	26	MES, As	Débit fourni par Primero (courriel daté du 8 mai 2025) Référence du document 2405007-TR1 (Vision, 2025)

4.3.1.2 Critères de rejet des effluents finaux

Le **Tableau 4-4** résume les critères de rejet pour chaque réglementation. Les chiffres en gras indiquent les valeurs les plus restrictives utilisées dans la conception de l'usine de traitement des eaux (UTE).

L'UTE a été conçue de manière à ce que l'effluent final réponde aux critères de rejet énoncés dans la directive 019 du *Ministère du Développement durable, de l'Environnement, de la Faune et des Parcs* (MDDEFP). De plus, le système a été conçu pour produire un effluent traité qui tend à respecter les normes de qualité des eaux de surface nécessaires à la protection de la vie aquatique, conformément aux meilleures technologies disponibles économiquement réalisables (MTDER). Il convient de noter qu'aucun critère de rejet spécifique au projet n'avait été établi au moment de la rédaction du rapport.

Tableau 4-4 Critères finaux de qualité des effluents

Paramètres	Critères de qualité pour le point de rejet des effluents finaux			
	Unités	Conformément à la directive 019 (D019)(1)	Conformément au règlement sur les effluents des mines de métaux et de diamants (REMMD)(2)	Critères de qualité des eaux de surface (protection de la vie aquatique)(3)
pH	pH	**6-9,5**	6-9,5	6-9,5
Matières en suspension (SS)	mg/L	**15**	15	25
Fluorure (F)	mg/L	-	-	0,2
Aluminium (Al)	mg/L	-	**1**	0,018 – 0,32
Arsenic (As)	mg/L	**0,1**	0,1	0,15
Cuivre (Cu)	mg/L	**0,1**	0,1	0,0013(4)
Fer (Fe)	mg/L	**3**	-	1,3
Nickel (Ni)	mg/L	**0,25**	0,25	0,007(4)
Plomb (Pb)	mg/L	**0,08**	0,08	0,00017(4)
Zinc (Zn)	mg/L	**0,4**	0,4	0,017(4)
Ammoniac non ionisé	mg/L	-	**0,50**	0,30
Lithium (Li)	mg/L	-	-	0,44
Manganèse (Mn)	mg/L	-	-	0,26
Mercure (Hg)	mg/L	-	-	0,0091
Uranium (U)	mg/L	-	-	0,014

(1) Directive 019 sur l'industrie minière (mars 2025).
(2) Règlement sur les effluents provenant des mines de métaux et des mines de diamants, DORS/2002-222.
(3) Critères de qualité des eaux de surface.
(4) Critères de qualité des eaux pour les métaux dont la toxicité varie en fonction de la dureté, fournis à l'annexe 12 des Critères de qualité des eaux de surface.

4.3.1.3 Lixiviation du lithium provenant de la halde 002

Du lithium a été détecté dans les eaux de lixiviation lors de la caractérisation géochimique, avec des concentrations dépassant les critères de qualité des rejets dans les eaux de surface, principalement dans les eaux de ruissellement provenant des résidus. Cependant, comme le lithium n'est actuellement réglementé ni par le REMMD ni par la directive 019, et qu'aucun objectif spécifique de rejet n'a été fixé pour ce projet à ce jour, aucun traitement spécifique n'a été conçu pour ce contaminant.

Le lithium n'est généralement pas associé à une toxicité élevée. De plus, sa présence dans les résidus suggère des possibilités d'améliorer les taux de récupération du lithium à partir du spodumène pendant le processus de concentration. Des études supplémentaires sont nécessaires pour mieux comprendre la relation entre la caractérisation géochimique, la concentration de lithium dans le traitement du Li_2O et les futurs objectifs de rejet. Ces études permettront de déterminer s'il convient de mettre au point un processus de traitement spécifique pour le lithium.

4.3.2 Production d'eau potable

4.3.2.1 Débit de conception

Le débit de conception pour l'usine de production d'eau potable (UPEP) est déterminé à l'aide du Guide de conception du MDDEFP (MDDEFP, 2023), en tenant compte d'un camp de 550 chambres. Bien que la capacité du camp devrait augmenter légèrement au cours des premières années, une usine de production d'eau potable à pleine capacité sera opérationnelle dès la première année.

La consommation d'eau dans les camps éloignés fluctue souvent de manière significative. L'expérience acquise dans le cadre de projets similaires a montré que la consommation peut dépasser le débit de conception calculé selon le guide du MDDEFP pendant les rotations des équipes. Pour faire face à ces variations, un réservoir de stockage d'eau potable garantit un approvisionnement en eau suffisant pendant les périodes de pointe. Le tableau ci-dessous résume les débits pris en compte pour ce projet.

Tableau 4-5 Critères de conception pour l'usine de production de l'eau potable

Description	Unité	Base de conception
Capacité du camp	Pièce	550
Volume par chambre	L/chambre/jour	340
Eau consommée à l'usine	%	15
Eau utilisée pour contre-lavagedes filtres de l'usine	%	10
Débit moyen	m^3 /j	158
Débit maximal	m^3 /j	237 (facteur de pointe de 1,5)
Débit nominal PWPP	m^3 /j	240
Réservoir d'eau potable	m^3	7

4.3.2.2 Source d'eau potable

Les résultats de l'étude hydrogéologique de base montrent que la capacité des eaux souterraines est insuffisante pour répondre aux besoins en eau potable du camp. Par conséquent, il est prévu d'utiliser l'eau de surface d'un lac voisin comme principale source d'eau pour l'UPEP. Le lac 308, situé à proximité de la halde 002, a été confirmé comme une source viable d'eau douce pour la production d'eau potable. Le dessin CASN-A-001-GE-DWG-0001-B montre l'emplacement de la prise d'eau douce.

4.3.2.3 Qualité de l'eau

Le lac 308 n'a pas fait l'objet d'échantillonnage lors des études de terrain précédentes. Afin d'estimer la qualité de l'eau, les données disponibles sur les lacs environnants ont été interpolées pour fournir un aperçu général de la qualité des eaux de surface dans la région. Cette approche de caractérisation ne répond pas aux exigences réglementaires pour définir correctement une nouvelle source d'approvisionnement en eau, comme l'exige le Guide (MDDEFP, 2019). Étant donné que la qualité des eaux de surface peut fluctuer selon les saisons et d'une année à l'autre, une approche prudente a été adoptée en se basant sur les hypothèses suivantes.

- La concentration du contaminant trouvé au 90e centile est utilisée pour concevoir l'usine de traitement.
- L'eau est considérée comme une eau de surface de bonne qualité, telle que décrite dans le Guide (MDDEFP, 2019). Par conséquent, les objectifs de désinfection sont les suivants :
  - Virus: 4 logs.
  - Giardia: 3 logs, et
  - Cryptosporidium: 3 logs.

Le tableau ci-dessous résume les principaux contaminants préoccupants identifiés dans la compilation des données sur la qualité des eaux de surface prélevées autour du site, sur la base des critères du RQEP (MDDEFP, 2024). Les principaux contaminants identifiés sont le NO_2 /NO_3 et la turbidité.

Tableau 4-6 Qualité des eaux de surface dans les plans d'eau voisins

Paramètre	Unité	Min	Max	Moyenne	90e centile	Critères
Arsenic	µg/L	0,4	1,0	0,6	1,0	10
MES	mg/L	<2	2	<2	<2	-
NO_2 /NO_3		0,1	24,0	14,0	22,8	1
COT		6,4	8,8	7,0	8,0	-
Turbidité	NTU	0,4	0,8	0,5	0,7	0,3
pH	-	7,0	7,9	7,3	7,7	6,5 – 8,5

4.3.3 Traitement des eaux usées

4.3.3.1 Débit de conception

Le débit de conception est déterminé à l'aide du guide du MDDEFP (MDDEFP, 2023) et de la demande estimée en eau potable pour ce projet. On suppose que le réseau d'égouts utilisera un système de canalisations séparées.

Tableau 4-7 Critères de conception pour le traitement des eaux usées domestiques

Description	Unité	Base de conception	Référence
Capacité du camp	Chambre	550	Nombre fourni par G-Mining (AtkinsRéalis, 2025c)
Débit moyen	m^3 /j	13	Calculé par AtkinsRéalis
Débit maximal	m^3 /j	209 (facteur de pointe de 1,5)	Calculé par AtkinsRéalis Guide pour l'étude des technologies conventionnelles de traitement des eaux usées d'origine domestique (MDDEFP, 2023)

4.3.3.2 Qualité de l'eau

Les eaux usées du réseau d'égouts sont exclusivement domestiques. Les concentrations types en demande biologique en oxygène (DBO_5), azote total Kjeldahl (ATK) et phosphore sont appliquées dans un rapport de 100:20:5 (MDDEFP, 2023). Le tableau suivant présente les critères de rejet pour ce projet, conformément à la réglementation québécoise (MDDEFP, 2020). Aucun traitement spécifique de l'ammoniac n'est prévu pour ce projet.

Tableau 4-8 Qualité de l'eau des eaux usées domestiques

Paramètre	Unité	Concentration Débit entrant	Critères de rejet
DBO	mg/L	400	≤ 15
MES		400	≤ 15
ATK		80	≤ 1
Pt		20	≤ 200

4.4 Fermeture

4.4.1 Objectifs de fermeture

Les activités de fermeture visent à remettre le site dans un état satisfaisant, tel que défini à la **Section 4-1** du Guide du MRNF (MERN, 2024). Les principaux objectifs des activités de fermeture et de remise en état seront les suivants :

- Éliminer les risques inacceptables pour la santé et assurer la sécurité publique.
- Limiter la production et la propagation de contaminants susceptibles d'affecter l'environnement récepteur et, à long terme, viser à éliminer toute forme d'entretien et de surveillance.
- Assurer la stabilité géotechnique et géochimique à long terme.
- Permettre une restauration progressive.
- Assurer l'acceptabilité sociale.
- Ramener le site à un état qui soit, dans la mesure du possible, conforme à l'écosystème initial ou environnant et visuellement acceptable.
- Ramener les zones d'infrastructure à un état compatible avec leur utilisation future.

4.4.2 Facteurs de sécurité minimaux pour les analyses de stabilité dans des conditions de fermeture

Les cas de chargement à analyser et les critères de stabilité sont présentés dans le tableau ci-dessous. Les facteurs de sécurité (FS) recommandés pour évaluer la stabilité des installations de disposition des stériles sont ceux spécifiés par la directive D019 sur l'industrie minière (MELCCFP, 2025), par l'Association canadienne des barrages (ACB, 2019) et par le Guide de préparation des plans de réhabilitation et de restauration des sites miniers au Québec (MRNF, 2024). Les valeurs minimales des FS adoptées pour évaluer la stabilité des installations de stockage des stériles dans des conditions de fermeture y sont également présentées.

Tableau 4-9 Facteurs de sécurité minimaux visés pour les analyses de stabilité dans des conditions de fermeture

Condition de chargement		Facteurs de sécurité minimaux (FS)			
		D019 (MELCCFP, 2025)	**ACB (2019)**	**MRNF (2024)**	**F S minimal proposé pour ce projet (fermeture)**
Statique	Fin de la construction (court terme)	1,3 à 1,5	> 1,3	1,3 à 1,5	1,5
	Long terme	1,5	1,5	1,5	1,5
	Crue de conception	1,3	-	1,3 à 1,5	1,3
Pseudo-statique		1,1	1,0	1,1	1.1
Post-sismique		1,3	1.2	1.3	1.3
Glissement horizontal (statique)		1,5	-	1,5	1,5
Glissement horizontal (post-liquéfaction)		1,3	-	1,3	1,3
***Remarque** : cette condition sera incluse dans l'analyse de stabilité (surfaces de glissement composites).*					

4.4.3 Charge hydrotechnique

Le document du MELCCFP (2025) recommande une crue de conception à une période de retour minimale de 100 ans pour les systèmes de drainage avec des structures sans accumulation d'eau, sur les sites miniers et autour de ceux-ci. Par conséquent, les critères de conception suivants ont été adoptés dans la présente étude :

- Le débit de crue de conception des fossés ou des ponceaux est généré par des précipitations estivales et automnales avec une période de retour de 100 ans. Cette période de retour doit également être utilisée dans le programme d'entretien du site.
- La transformation des précipitations en ruissellement est basée sur un coefficient de ruissellement conservateur de 1,0 (comme recommandé par la méthodologie du MTQ).
-

4.4.4 Propriétés géotechniques des matériaux

En ce qui concerne le choix des matériaux de restauration, les critères sont les suivants :

- Le concept de fermeture doit donner la priorité aux matériaux disponibles sur le site ou à proximité, y compris ceux provenant de carrières ou de matériaux miniers réutilisables;
- Les matériaux utilisés, ou tout mélange de ceux-ci doivent être non acidifiants et non lixiviables.

4.4.5 Système de couverture

Le système de couverture sera sélectionné en fonction de la classification géochimique des stériles et de la disponibilité des matériaux.

Les critères de fermeture pour la couverture de la zone d'accumulation des stériles et des résidus sont basés sur les objectifs de restauration énumérés à la **Section 4.4.1** :

- Nécessite un entretien minimal;
- Ne libère pas de contaminants au-delà des limites acceptables définies par la directive D019;
- Est physiquement stable (c'est-à-dire que la couverture répond aux critères géotechniques décrits à la **Section 4.4.2**) ;
- S'intègre au paysage environnant;
- Limite l'infiltration d'eau dans les stériles et les résidus ;
- Permet de détourner l'eau de pluie vers les infrastructures de gestion de l'eau afin de réduire l'érosion ;
- Est résilient au changement climatique.

4.4.6 Couverture végétale

Toutes les haldes à stériles doivent être revégétalisées afin de contrôler l'érosion et de restaurer un aspect naturel en harmonie avec l'environnement avoisinant (MRNF, 2024).

Les critères agronomiques suivants doivent être pris en compte et intégrés dans la couverture de restauration choisie :

- La végétation doit atteindre un état satisfaisant, ce qui signifie qu'une fois en place, les plantes doivent être robustes, viables à long terme et ne nécessiter aucune modification ni entretien pour garantir de la durabilité.
- Le type de végétation sélectionné ne doit pas compromettre les performances du concept de fermeture.
- L'introduction et la propagation d'espèces exotiques envahissantes (EEE) doivent être limitées, notamment en s'assurant que les sols utilisés ne contiennent aucune graine d'EEE.
- La croissance de la végétation ne doit pas entraîner le blocage des fossés du site.

Les zones revégétalisées doivent faire l'objet d'un suivi agronomique par un spécialiste de la revégétalisation des sites miniers ou par un agronome membre de l'Ordre professionnel des agronomes du Québec. Ce professionnel confirmera que les conditions en place sont adéquates pour assurer la durabilité à long terme de la végétation.

4.4.7 Critères liés aux changements climatiques

Les critères de fermeture des haldes à stériles doivent tenir compte des effets des changements climatiques dans leur conception. Les changements climatiques devraient se manifester principalement par une augmentation de la fréquence et de l'intensité des précipitations extrêmes dans toutes les régions minières du Québec, ainsi que par une augmentation des précipitations annuelles moyennes (URSTM, 2017 ; GIEC, 2018).

Les effets prévus du changement climatique pour les régions minières du Québec (URSTM, 2017) pourraient inclure :

- Une augmentation de la fréquence et de la gravité des phénomènes météorologiques extrêmes.
- Des changements dans les régimes de précipitations, avec une forte tendance à des précipitations plus abondantes et une tendance plus faible à des périodes de sécheresse plus longues.
- Risque accru d'instabilité dans les infrastructures de gestion de l'eau et des stériles/résidus.

La fermeture des haldes à stériles doit intégrer une approche d'adaptation pour faire face à ces impacts. Les éléments clés d'une approche d'adaptation au changement climatique applicable au secteur minier comprennent :

- Définir les impacts des conditions climatiques actuelles et évaluer les impacts climatiques futurs, en tenant compte de divers scénarios climatiques en relation avec le concept de fermeture.
- Comprendre la vulnérabilité des infrastructures minières au changement climatique et identifier les risques associés.
- Identifier les solutions d'adaptation appropriées et les appliquer lors de la conception des structures.

Afin de garantir l'efficacité du système de couverture et la capacité du système de drainage à évacuer efficacement l'eau, des mesures seront intégrées dans la conception finale des structures. Ces mesures permettront de mieux préparer le site aux impacts à moyen et long terme du changement climatique, notamment en tenant compte de l'augmentation des précipitations annuelles moyennes et de la fréquence et de l'intensité accrues des événements extrêmes dans les calculs hydrologiques utilisés pour concevoir les infrastructures de rétention des résidus et des stériles.

5. Gestion de l'eau

5.1 Approche globale de gestion de l'eau

Le plan de gestion de l'eau visait à séparer efficacement les eaux de contact des eaux sans contact, conformément aux exigences de la directive 019 sur l'industrie minière (MELCCFP, 2025). Les eaux de contact seront collectées par des systèmes de collecte composés de fossés et de bassins de rétention. Les eaux de contact provenant de diverses infrastructures du site, notamment les haldes 001 et 002, les installations industrielles et le drainage des mines (à ciel ouvert et souterraines), seront acheminées vers des infrastructures de traitement des eaux (c'est-à-dire des bassins de sédimentation et de polissage) via des stations de pompage. À partir de là, les eaux seront traitées de manière appropriée avant d'être rejetées dans l'environnement ou réutilisées dans l'usine de traitement.

Le dessin CAN-A-001-GE-DWG-0001 illustre l'infrastructure de gestion de l'eau sur le site minier, qui comprend cinq éléments principaux :

- Fossés de dérivation des eaux sans contact : il s'agit de structures temporaires conçues pour détourner les eaux sans contact de l'empreinte de la halde 002 pendant les quatre premières années de l'exploitation minière;
- Fossés d'eau de contact : ces fossés sont conçus pour collecter les eaux de ruissellement provenant des haldes 01 et 02 et les acheminer vers les bassins de collecte d'eau de contact désignés ;
- Bassins de collecte des eaux de contact : ces bassins servent d'installations de stockage pour recueillir les eaux de ruissellement provenant des haldes 001 et 002 et de la zone industrielle. Une fois les eaux de contact collectées dans ces bassins, elles sont transférées, par des systèmes de pompage, vers les infrastructures de traitement pour y être traitées ;
- Stations de pompage : stratégiquement réparties sur le site, ces stations servent à transférer l'eau de contact entre le système de collecte et les installations de traitement. Un système de pompage a également été conçu pour fournir un soutien opérationnel à l'approvisionnement en eau pour diverses activités minières.
- Infrastructure de traitement de la zone industrielle : ce système constitue la dernière étape du processus de gestion de l'eau. Il comprend une station de traitement de l'eau, des bassins de sédimentation et un bassin de polissage qui sert d'étape finale de traitement avant le rejet dans l'environnement ou la réutilisation dans l'usine de traitement.

Le surplus d'eau traitée sera rejeté dans la rivière CE15 (fossé naturel entre le lac 001 et le lac 027) à partir du bassin de polissage, garantissant ainsi le respect des normes réglementaires et le maintien d'un point de rejet unique et contrôlé. De plus, des déversoirs d'urgence sont intégrés à la conception des digues de tous les bassins afin de faire face en toute sécurité aux événements extrêmes.

5.2 Bilan hydrologique du site

5.2.1 Description

Un modèle de bilan hydrique à l'échelle du site est un élément essentiel dans l'élaboration et la conception d'un plan de gestion de l'eau pour la mine. Ce modèle a été développé pour soutenir les différentes phases du cycle de vie de la mine, y compris la mise en service et l'exploitation. Il fournit un cadre quantitatif pour estimer les volumes d'eau, leurs mouvements et leurs stockages dans les infrastructures du site, conformément au principe de conservation de la masse. Le modèle tient compte de tous les apports, retraits et transferts internes d'eau, et facilite la prise de décision en matière d'utilisation opérationnelle de l'eau, de rejets dans l'environnement et de dimensionnement des infrastructures.

Le modèle englobe tous les principaux composants du site, y compris la mine à ciel ouvert, la mine souterraine, les haldes, l'usine de traitement, l'usine de pâte, les installations domestiques et les infrastructures de gestion de l'eau, telles que les bassins de sédimentation et le bassin de polissage.

Les principaux objectifs du modèle de bilan hydrique étaient les suivants :

- S'assurer que les niveaux d'eau dans les bassins de la mine se situaient dans des fourchettes opérationnelles acceptables ;
- Évaluer la disponibilité de l'eau pour les besoins opérationnels dans des conditions climatiques variables ; et
- Estimer les volumes de rejets environnementaux provenant du bassin de polissage pendant la durée de vie de la mine.

La figure 702381-5100-4H-Sketch dans l'**Annexe C** présente un schéma de la logique de gestion des flux d'eau du site. Cette figure a été incluse dans la note sur le bilan hydrique CASN-A-320-WM-MEM-0001.

5.2.2 Méthodologie

Le bilan hydrique à l'échelle du site a été élaboré à l'aide de GoldSim™, un logiciel de simulation dynamique développé par GoldSim Technology Group. La structure du modèle comprend des composants modulaires pour chaque bassin versant et chaque élément d'infrastructure, les voies d'écoulement étant représentées sous forme d'écoulements gravitaires, de transferts par pompage et de conduites de refoulement. Le modèle a été exécuté de manière déterministe sur toute la durée de vie de la mine, simulant les débits d'eau quotidiens et les volumes de stockage dans quatre conditions climatiques, à savoir des scénarios moyens, secs, humides et extrêmes.

Le scénario extrême consiste en une année au cours de laquelle un événement hydrologique extrême se produit. Plus précisément, le scénario comprend la fonte d'un manteau neigeux associée à une période de 1 à 100 ans sur 13 jours, suivie d'un événement pluvieux printanier de 24 heures, avec une période de retour de 1 sur 2 000 ans. Cette combinaison a été choisie sur la base de la crue de conception environnementale (CCE) la plus critique utilisée dans la conception des infrastructures pour les composants sensibles au comportement potentiellement générateur d'acide (PGA), y compris la halde 002 (Vision, 2025) . Cet événement a été sélectionné à des fins de simulation afin d'évaluer les performances du système dans des conditions très conservatrices et ne reflète pas la base de conception de toutes les infrastructures.

Tous les scénarios climatiques ont été définis sur la base de l'étude hydrologique de référence (AtkinsRéalis, 2025d), comme résumé dans la section suivante.

5.2.3 Données d'entrée

5.2.3.1 Données climatiques

Les données climatiques ont été obtenues à partir de quatre stations d'Environnement et Changement climatique Canada (ECCC), comme indiqué dans le rapport hydrologique de base (AtkinsRéalis, 2025d). Les précipitations mensuelles estimées pour des conditions climatiques moyennes, sèches (1 fois en 100 ans) et humides (1 fois en 100 ans) sont présentées dans le **Tableau 5-1**. Afin de représenter ces scénarios dans le modèle de bilan hydrique, des données climatiques historiques quotidiennes ont été sélectionnées à partir d'années dont les régimes de précipitations correspondaient étroitement aux valeurs mensuelles cibles. Ces années représentatives ont été utilisées pour simuler une variabilité quotidienne réaliste dans chaque scénario, en veillant à la cohérence avec les conditions climatiques à long terme définies dans l'étude hydrologique de base (AtkinsRéalis, 2025d).

De plus, les taux d'évaporation ont été estimés à l'aide de la méthode Thornthwaite, sur la base des données mensuelles de température (**Tableau 5-1**). Les considérations relatives au changement climatique ont été intégrées à l'étude, comme indiqué dans le rapport hydrologique de base (AtkinsRéalis, 2025d), en appliquant :

- Une augmentation de 8 % des précipitations annuelles,
- Une augmentation de 18 % des précipitations extrêmes ; et
- Une augmentation de 5 % de la couverture neigeuse sur 100 ans.

Tableau 5-1 Température, précipitations et évaporation mensuelles (AtkinsRéalis, 2025)

Mois	Température	Précipitations totales (sécheresse centenaire)	Précipitations totales (moyenne)	Précipitations totales (100 ans humides)	Évaporation
	[°C]	[mm]	[mm]	[mm]	[mm]
Janvier	-24,8	37,5	35,7	36,1	0,0
Février	-21,4	10,8	35,8	39,7	0
Mars	-15,6	12,9	28,1	102,7	0
Avril	-5,6	11,0	37,8	68,7	0
Mai	4,0	10,0	56,4	44,9	38,2
Juin	13,8	18,6	59,9	204,5	97,1
Juillet	16,1	22,7	137,5	106,8	120,5
Août	13,2	107,2	121,8	147,7	98,3
Septembre	8,4	86,0	83,2	156,9	55,2
Octobre	1,5	57,8	82,7	74,1	13,0
Novembre	-7,0	20,0	93,5	54,1	0
Décembre	-20,7	15,1	58,1	62,4	0
Année	-3,2	409,7	830,6	1098,7	422,2

5.2.3.2 Génération des précipitations et du ruissellement

Le ruissellement provenant de divers bassins versants a été estimé à l'aide de la méthode rationnelle, avec des coefficients de ruissellement ajustés selon les saisons en fonction des types de la nature de sols (**Tableau 5-2**). La délimitation des bassins versants a été effectuée sur la base de la topographie et de la disposition des infrastructures.

Tableau 5-2 Coefficients de ruissellement utilisés dans le modèle

Description	Coefficient de ruissellement hivernal	Coefficient de ruissellement estival
Surface de l'eau	1,00	1,00
Forêt	1,00	0,19
À ciel ouvert	1,00	0,80
Sédiments	1,00	1,00
Haldes 001	1,00	0,50
Haldes 002	1,00	0,75
Bassin versant externe	1,00	0,55

5.2.3.3 Zones de drainage et débits de pompage

Les zones de drainage contribuant aux bassins d'eau en contact avec la mine ont été identifiées et résumées dans le **Tableau 5-3**, ainsi que les systèmes de pompage associés. On suppose qu'avant 2032, la mine à ciel ouvert sera partiellement développée et que seule une partie de la superficie des haldes contribuera au système d'équilibre hydrique de l'ensemble du site. Après 2032, la mine à ciel ouvert est considérée comme entièrement développée et l'ensemble de la superficie des haldes est supposé contribuer au ruissellement et à la production d'eau de contact dans le modèle.

Tableau 5-3 Débit de pompage et zone de captage des différentes infrastructures

Zone de drainage/bassin	Bassin versant [m^2]	Débit de pompage [m^3/h]	Volume maximal du bassin [m^3]
Zone industrielle/Bassin de contact n° 1	435 193	1 550	10 000
Zone industrielle/Bassin d'eau de contact n° 2	229 987	800	6 000
Halde 01/Bassin 001	539 763	590	86 000
Halde 01/Bassin 001a	329 252 (0)[1]	360	52 000
Halde 02/Bassin 002	895 856 (0)[1]	870	137 000
Halde 02/Bassin 003	1 699 221 (1 274 416)[1]	2 750	293 000
Empreinte de la mine à ciel ouvert/-	1 329 600 (617 000)[1]	1 000	-
Mine à ciel ouvert (externe)/-	770 000 (352 000)[1]	-	-
-/Bassin de sédimentation 1	15 500	-	42 000
-/Bassin de sédimentation 2	15 500	-	42 000
-/Bassin de polissage	32 000	-	140 000

Remarques :
1 Le chiffre entre parenthèses indique la superficie contributive avant l'année 2032.

5.2.3.4 Apports d'eau souterraine

Les apports d'eau souterraine vers la mine à ciel ouvert et les travaux souterrains sont dirigés vers le bassin de sédimentation. Les taux moyens de drainage sur la durée de vie de la mine sont présentés dans le **Tableau 5-4**.

Tableau 5-4 Taux de drainage de la mine à ciel ouvert et de la mine souterraine (Mailloux, 2024)

Description	Mine à ciel ouvert (m^3 /j)	Mine souterraine (m^3 /j)
2028-2032	1 200	2 600
2032-2036	1 800	3 200
2036-2040	2 600	4 300
2040-2044	2 900	4 600
2044-2049	3 200	4 900

5.2.3.5 Eaux usées domestiques

Les eaux usées domestiques traitées provenant du camp permanent et de l'usine de traitement sont rejetées dans le bassin de polissage à un débit de 8,7 m^3 /h. Le débit maximal a été utilisé dans le modèle.

5.2.3.6 Données de traitement

Les entrées et sorties d'eau de traitement ont été fournies par Primero (Primero, 2025) et sont illustrées à la figure W2. Avant 2032, une seule chaîne de traitement sera en service. Après 2032, deux chaînes seront pleinement opérationnelles.

5.2.4 Résultats

Les principales conclusions de l'analyse du bilan hydrique à l'échelle du site sont résumées ci-dessous :

- L'approvisionnement mensuel en eau douce nécessaire à la production d'eau potable varie entre 4 424 m^3/mois et 4 898 m^3/ mois, selon le mois. Une station de pompage dédiée située au lac 308 assure cet approvisionnement.
- Dans des conditions sèches, le bilan hydrique mensuel net du bassin de polissage, défini comme la différence entre les entrées et les sorties, est positif pendant la majeure partie de l'année, à différents stades du développement de la mine. Toutefois, en juin, le bilan devrait devenir temporairement négatif, avec un déficit compris entre environ 1 000 et 5 000 m^3 selon le stade d'exploitation de la mine. Ce bilan négatif peut être compensé par l'approvisionnement à partir du volume de réserve du bassin de polissage, ce qui garantit la fiabilité opérationnelle continue.
- Ce bilan globalement positif est principalement dû aux taux de drainage élevés des travaux à ciel ouvert et souterrains.
- Dans des conditions normales, lorsque la mine est pleinement exploitée, le volume d'eau excédentaire rejeté dans l'environnement varie de 286 000 m^3/mois en hiver à 989 000 m^3/mois au printemps, principalement en raison de la fonte des neiges et des précipitations . Ces volumes ont été estimés comme étant toujours égaux ou inférieurs à 30 % du débit dans le cours d'eau récepteur (CE 15 river).

- Sur une base annuelle, les volumes de rejet estimés dans l'environnement sont les suivants :
  - Année sèche: 4 950 000 m³.
  - Année moyenne: 7 030 000 m³.
  - Année humide: 8 410 000 m³.
- Les bassins de collecte des eaux de ruissellement situés en aval des haldes ont été évalués dans le cadre du scénario extrême et jugés suffisamment dimensionnés pour gérer les volumes de ruissellement sans débordement. Ces bassins ont été conçus pour capter les eaux de contact et les acheminer vers des bassins de sédimentation ou le bassin de polissage pour traitement.
- Les stations de pompage ont été conçues pour gérer l'événement de fonte des neiges prévu par la directive 019 (c'est-à-dire la fonte de la couverture neigeuse centenaire en 13 jours), garantissant ainsi un transfert efficace vers les infrastructures de traitement de l'eau. La simulation du bilan hydrique dans le scénario climatique extrême indique que la capacité du système de pompage est suffisante pendant la crue printanière extrême.
- Dans des conditions de fonctionnement normales, les systèmes de pompage n'utilisent que 40 % de leur capacité installée, ce qui offre une redondance suffisante pour les pics de débit.
- Dans des conditions normales, tous les bassins fonctionnent entre leur niveau d'eau de fonctionnement bas (NEFB) et leur niveau d'eau de fonctionnement maximal (NEFM). Aucun dépassement du NEFB n'a été observé dans des conditions moyennes ou sèches. Dans des conditions humides, des niveaux d'eau temporairement élevés ont été observés, mais ils sont restés dans les limites prévues . Ce phénomène peut être atténué par un pompage optimisé pendant le fonctionnement.
- Le temps de rétention hydraulique (TRH) dans les bassins de sédimentation et de polissage reste constamment supérieur à 24 heures en fonctionnement normal et proche de 18 heures lors d'épisodes de précipitations extrêmes, ce qui est considéré comme suffisant pour une décantation efficace des particules et une amélioration préliminaire de la qualité de l'eau.

Le **Tableau 5-5**, le **Tableau 5-6** et le **Tableau 5-7** présentent les résultats mensuels du bilan hydrique pour les années moyennes, sèches et humides lorsque la mine est pleinement opérationnelle.

Tableau 5-5 Bilan hydrique mensuel pour les principales infrastructures de la mine dans des conditions moyennes

Mois	Bassin 001 vers bassin de polissage	Bassin 001a vers bassin de polissage	Bassin 002 vers bassin 003	Bassin 003 vers UTE	Dénoyage de la fosse vers sédimentation	Dénoyage de la mine souterraine vers séd.	Zone industrielle vers sédimenttion	Effluent final	Prise d'eau douce (lac 308)
	Débit (m^3/mois)								
Octobre	45 894	16 346	61 689	223 514	220 350	168 268	45 284	483 679	4 898
Novembre	41 384	25 583	66 640	236 996	237 139	162 840	45 515	754 321	4 740
Décembre	6 730	4 106	10 567	55 531	121 985	168 268	7 242	325 000	4 898
Janvier	6 559	4 105	10 566	55 529	121 985	168 268	7 243	320 000	4 898
Février	6 272	3 709	9 841	51 718	110 180	151 984	6 541	286 000	4 424
Mars	6 382	4 106	10 264	53 945	121 985	168 268	7 243	322 000	4 898
Avril	8 036	4 999	12 430	60 828	122 376	163 104	8 550	317 000	4 740
Mai	49 968	36 614	119 007	415 939	339 000	168 000	86 708	989 000	4 898
Juin	23 391	17 680	57 113	211 000	210 000	163 000	43 921	704 000	4 740
Juillet	42 106	26 535	101 636	359 000	297 000	168 000	74 842	951 000	4 898
Août	39 479	25 064	94 323	334 000	286 000	168 000	71 275	978 000	4 898
Septembre	20 072	13 153	49 415	185 000	194 000	163 000	37 833	600 000	4 740
TOTAL	**296 273**	**182 000**	**603 491**	**2 243 000**	**2 382 000**	**1 981 000**	**442 197**	**7 030 000**	**57 670**

Tableau 5-6 Bilan hydrique mensuel pour les principales infrastructures de la mine en conditions sèches

Mois	Bassin 001 vers bassin de polissage	Bassin 001a vers bassin de polissage	Bassin 002 vers bassin 003	Bassin 003 vers UTE	Dénoyage de la fosse vers sédimentation	Dénoyage de la mine souterraine vers séd.	Zone industrielle vers sédimenttion	Effluent final	Prise d'eau douce (lac 308)
	Débit (m^3/mois)								
Octobre	16 757	10 819	38 299	142 902	179 283	168 268	30 625	387 880	4 898
Novembre	9 636	6 008	14 496	67 735	128 548	162 840	10 905	355 790	4 740
Décembre	6 741	4 106	10 148	53 012	121 985	168 268	7 243	338 330	4 898
Janvier	6 742	4 106	10 148	53 013	121 985	168 268	7 242	307 000	4 898
Février	6 089	3 708	9 166	47 867	110 180	151 984	6 542	274 000	4 424
Mars	6 741	4 106	10 148	53 024	121 985	168 268	7 242	321 000	4 898
Avril	6 535	4 168	9 822	51 295	118 050	163 104	7 044	312 000	4 740
Mai	13 656	13 220	30 678	119 130	162 984	168 000	23 584	491 000	4 898
Juin	5 713	5 807	12 946	61 977	123 000	163 000	12 156	348 000	4 740
Juillet	6 091	3 896	13 936	62 370	129 000	168 000	14 182	340 000	4 898
Août	24 135	15 484	55 168	198 770	214 000	168 000	45 142	718 000	4 898
Septembre	28 385	18 212	64 882	227 905	232 000	163 000	51 539	759 000	4 740
TOTAL	**137 221**	**93 640**	**279 837**	**1 139 000**	**1 763 000**	**1 981 000**	**223 446**	**4 952 000**	**57 670**

Tableau 5-7 Bilan hydrique mensuel pour les principales infrastructures de la mine en conditions humides

Mois	Bassin 001 vers bassin de polissage	Bassin 001a vers bassin de polissage	Bassin 002 vers bassin 003	Bassin 003 vers UTE	Dénoyage de la fosse vers sédimentation	Dénoyage de la mine souterraine vers séd.	Zone industrielle vers sédimenttion	Effluent final	Prise d'eau douce (lac 308)
	Débit (m^3/mois)								
Octobre	21 804	14 001	49 605	180 796	202 930	168 268	38 978	464 044	4 898
Novembre	10 844	6 744	16 313	71 395	132 623	162 840	12 345	399 870	4 740
Décembre	6 741	4 106	10 148	53 013	121 985	168 268	7 242	318 086	4 898
Janvier	6 742	4 106	10 148	53 012	121 985	168 268	7 243	315 000	4 898
Février	6 089	3 708	9 166	47 881	110 180	151 984	6 541	281 000	4 424
Mars	6 741	4 106	10 148	53 013	121 985	168 268	7 243	315 000	4 898
Avril	6 649	4 249	9 995	52 148	118 439	163 104	7 167	303 000	4 740
Mai	49 676	36 055	112 833	377 937	334 873	168 000	85 581	975 000	4 898
Juin	120 033	77 911	268 467	873 805	658 000	163 000	204 956	2 147 000	4 740
Juillet	32 686	20 963	74 685	259 000	255 000	168 000	59 924	884 000	4 898
Août	46 195	29 622	105 523	357 000	320 000	168 000	82 899	1 041 000	4 898
Septembre	45 123	28 922	103 034	345 000	311 000	163 000	80 351	967 000	4 740
TOTAL	**359 323**	**234 493**	**780 065**	**2 724 000**	**2 809 000**	**1 981 000**	**600 470**	**8 410 000**	**57 670**

5.3 Haldes 001 et 002

5.3.1 Description

La halde 001 est exclusivement destinée au stockage des stériles à faible risque, tandis que la halde 02 est destinée au stockage des stériles et des résidus potentiellement générateurs d'acide (PGA) et lixiviables en métaux (LM). Des systèmes de gestion de l'eau dédiés ont été mis en place pour les deux stocks afin de séparer et de gérer efficacement les eaux de contact, conformément à la directive 019 (MELCCFP, 2025). Ces systèmes comprennent principalement des fossés de collecte périphériques, des bassins de rétention des eaux de contact avec des déversoirs d'urgence intégrés et des infrastructures de pompage pour assurer le transport et la collecte efficaces des eaux de contact.

Les principaux éléments des systèmes de gestion de l'eau sont les suivants :

- Fossés de collecte des eaux de contact périphériques : chaque zone de stockage est entièrement entourée de quatre fossés périphériques conçus pour intercepter les eaux de ruissellement générées par les précipitations et l'écoulement de surface. Ces fossés acheminent les eaux de contact vers les bassins de rétention désignés ;
- Bassins de collecte des eaux de contact : il est proposé que les eaux de ruissellement collectées dans les fossés soient acheminées vers deux bassins de rétention adjacents, également proposés pour chaque halde. Ces bassins servent de structures de confinement primaires, assurant la décantation initiale des solides en suspension et le stockage temporaire lors d'événements de débit élevé. Chaque bassin est équipé d'un déversoir d'urgence afin de gérer en toute sécurité les débordements lors d'événements de précipitations extrêmes et d'empêcher le débordement.
- Systèmes de pompage : l'excès d'eau des bassins de rétention est activement pompé vers un bassin de sédimentation situé dans la zone industrielle. Cela facilite le respect des normes environnementales en matière de rejet et favorise la réutilisation de l'eau traitée dans l'usine de traitement.

De plus, il est proposé d'installer des fossés de dérivation d'eau sans contact dans la halde 002 afin de détourner les eaux de ruissellement de la superficie du site pendant les quatre premières années d'exploitation de la mine.

L'ensemble des infrastructures de gestion de l'eau associées aux haldes 001 et 002 est respectivement illustré dans les dessins CASN-A-370-GT-DWG-0001 et CASN-A-370-GT-DWG-0002. Les spécifications détaillées de conception de chaque composant sont fournies dans les sections suivantes.

5.3.2 Fossés de collecte des eaux de contact périphériques

5.3.2.1 Approche de conception

Un ensemble de fossés de collecte a été conçu pour recueillir les eaux de ruissellement produites dans chaque zone de stockage. Pour la halde 01, les fossés 01-01, 01-02, 01A-01 et 01A-02 recueillent les eaux de ruissellement de surface et les acheminent vers les bassins 01 et 01A. De même, pour la halde 02, les fossés 02-01, 02-02, 03-01 et 03-02 dirigent les eaux de ruissellement vers les bassins 02 et 03. En raison de la présence de stériles générateurs d'acide et de résidus dans la halde 02, les fossés seront revêtus d'une géomembrane en polyéthylène linéaire à basse densité (LLDPE) de 1,5 mm. Tous les fossés sont conçus pour supporter un débit de pointe produit par des précipitations estivales centennales, avec une hauteur libre minimale de 0,6 m. Le débit de conception a été estimé à l'aide de la méthode rationnelle :

$$Q_p = 0.28 \times C \times i \times A \quad (1)$$

Où :

- Q_P: estimation du débit de pointe (m^3 /s) ;
- A: La superficie du bassin versant contributeur (km^2) ;
- i: l'intensité d'averse type (mm/h), égale à 91,2 mm/h en 15 min (AtkinsRéalis, 2025c), et
- C: le coefficient de ruissellement. Une valeur de 0,25 a été choisie pour refléter les conditions de haute perméabilité des stériles miniers de NAG.

De plus, la profondeur des fossés fournis par les remblais est conçue pour empêcher le débordement lors d'événements extrêmes pouvant atteindre le débit maximal probable (DMP). Cette approche conservatrice garantit l'intégrité des remblais et minimise le risque de déversement incontrôlé lors de conditions météorologiques très extrêmes.

Les caractéristiques hydrauliques correspondant au débit de conception ont été obtenues à l'aide de la formule de Manning :

$$Q = \left(\frac{1}{n}\right) * A * R^{\frac{2}{3}} * S_0^{\frac{1}{2}} \quad (2)$$

Où :

- Q: le débit (m^3 /s);
- n: le coefficient de rugosité de Manning (une valeur de 0,035 a été prise en compte);
- A: la section d'écoulement (m˟);
- R: le rayon hydraulique (m), et
- S_0: la pente du canal (%).

Afin de protéger contre l'érosion causée par les écoulements à grande vitesse, un géotextile de séparation et un revêtement en enrochement ont été incorporés le long des fossés. La taille et l'épaisseur minimales requises pour l'enrochement ont été déterminées en fonction des vitesses d'écoulement, conformément aux directives fournies dans le MTQ (2024).

5.3.2.2 Résultats

Les spécifications détaillées des fossés de collecte périphériques conçus autour des haldes 01 et 02 sont présentées respectivement dans le **Tableau 5-8** et **Tableau 5-9**.

Tableau 5-8 Configuration des fossés de collecte d'eau de contact dans la halde 01

Paramètres	Unité	Fossé 01-01	Fossé 01-02	Fossé 01A-01	Fossé 01A-02
Emplacement de la sortie	[-]	Étang 01	Étang 01	Étang 01A	Étang 01A
Géométrie	[m]	Trapézoïdale	Trapézoïdale	Trapézoïdale	Trapézoïdale
Largeur inférieure	[m]	1,5 à 2,0	1,5	2,0	1,5
Pente latérale	[H:V]	2:1	2:1	2:1	2:1
Longueur approximative du fossé	[m]	1 500	800	1 000	900
Pente longitudinale	[%]	0,5 à 11,9	0,5 à 8,0	0,5 à 4,9	0,9 à 6,1
Profondeur minimale	[m]	1,0 à 1,2	1,0	1,0	1,0
Taille des enrochements (D50)	[mm]	200 à 300	200	200	200
Épaisseur de la couche d'enrochement	[m]	0,3 à 0,45	0,3	0,3	0,3

Tableau 5-9 Configuration des fossés de collecte d'eau dans la halde 02

Paramètres	Unité	Fossé 02-01	Fossé 02-02	Fossé 03-01	Fossé 03-02
Emplacement de la sortie	[-]	Étang 02	Étang 02	Étang 03	Étang 03
Géométrie	[m]	Trapézoïdale	Trapézoïdale	Trapézoïdale	Trapézoïdale
Largeur inférieure	[m]	2,5	1,5 à 3,0	2,0 à 5,0	1,0
Pente latérale	[H:V]	3:1	3:1	3:1	3:1
Longueur approximative du fossé	[m]	1 000	1 600	4 200	400
Pente longitudinale	[%]	0,5 à 9,0	0,7 à 5,9	0,5 à 6,0	0,5 à 5,6
Profondeur minimale	[m]	1,5	1,1 à 1,3	1,2 à 2,2	1,0
Taille des enrochements (D50)	[mm]	200 à 300	200	200 à 300	200
Épaisseur de la couche d'enrochement	[m]	0,3 à 0,45	0,3	0,3 à 0,45	0,3

5.3.3 Bassins de collecte des eaux de contact

5.3.3.1 Approche de conception

Comme décrit dans la **Section 5.1**, les bassins de collecte des eaux de contact font partie intégrante du système de gestion de l'eau du site. Ils sont conçus pour collecter et transférer les eaux de contact vers l'installation de traitement de la zone industrielle afin qu'elles y soient traitées avant d'être rejetées dans l'environnement ou réutilisées dans l'usine de traitement.

Les eaux de ruissellement provenant de la halde 001 doivent être collectées par un ensemble de fossés périphériques et acheminées vers les bassins 01 et 01A. Ces bassins sont conçus pour offrir un temps de rétention adéquat et sont équipés de conduites d'aspiration stratégiquement placées afin d'optimiser l'élimination des matières en suspension totales (MES). L'eau traitée est ensuite pompée vers le bassin de polissage situé dans la zone industrielle, où un polissage final des MES est effectué afin d'améliorer encore la qualité de l'eau.

Pour la halde 002, qui contient des déchets rocheux et des stériles potentiellement générateurs d'acide (PGA) et de lixiviation des métaux (LM), les eaux de ruissellement sont également collectées via des fossés périphériques et dirigées vers les bassins 02 et 03. Ces bassins servent de première étape de confinement et de traitement avant que l'eau ne soit transférée vers la zone industrielle pour le traitement des métaux. Après traitement, l'eau peut être rejetée dans l'environnement ou réutilisée dans l'usine de traitement.

La conception de tous les bassins d'eau de contact est conforme à la directive 019 (MELCCFP, 2025), qui exige que les bassins soient capables de gérer les volumes d'eau de contact, y compris le volume d'inondation associé à la crue de conception environnementale (CCE). Les critères de CCE pour chaque composante de l'infrastructure sont les suivants :

- Halde 001 (bassins 01 et 01A) : précipitations sur 24 heures survenant une fois tous les 100 ans, combinées à une fonte des neiges survenant une fois tous les 100 ans sur 13 jours .
- Réserve 002 (bassins 02 et 03) : précipitations sur 24 heures survenant une fois tous les 2 000 ans, combinées à une fonte des neiges survenant une fois tous les 100 ans et s'étalant sur 13 jours.

Pour gérer la CCE, les bassins sont équipés de systèmes de pompage actifs, et un pompage d'urgence équivalent à deux jours de panne de pompe a également été pris en compte. La capacité de pompage a été déterminée pour correspondre au taux moyen de fonte des neiges sur 100 ans.

Les niveaux d'eau opérationnels dans les bassins ont été définis afin de garantir un fonctionnement fiable des pompes. Le niveau d'eau opérationnel bas est fixé de manière à maintenir une immersion suffisante pour le fonctionnement des pompes (par exemple, 0,3 m minimum), et le niveau d'eau opérationnel maximal inclut le ruissellement provenant d'un événement pluvieux estival de 24 heures survenant une fois tous les deux ans.

5.3.3.2 Résultats

Le **Tableau 5-10** résume les principaux paramètres de conception de tous les bassins. De plus, les courbes d'élévation-stockage des bassins sont également illustrées dans les figures W3 à W6 (voir l'**Annexe C**).

Tableau 5-10 Paramètres de conception des bassins de collecte d'eau de contact

Paramètres	Unité	Bassin 01	Bassin 01A	Bassin 02	Bassin 03
Halde associée	[-]	Halde01	Halde01	Halde02	Halde02
Zone de captage	[m2]	621 300	378 400	935 300	1 933 200
Altitude minimale	[m]	368,0	373,8	382,0	381,0
Niveau d'eau de fonctionnement bas (LOWL)	[m]	368,3	374,1	382,5	381,5
Niveau d'eau maximal d'exploitation (MOWL)	[m]	370,0	374,8	388,2	386,1
Niveau d'eau maximal CCE	[m]	371,5	376,5	391,4	389,7
Capacité de stockage en dessous du niveau maximal CCE	[m3]	80 142	52 201	137 300	293 200
Capacité de pompage maximale requise	[m3/h]	592	361	866	1 837

5.3.4 Déversoirs d'urgence

5.3.4.1 Approche conceptuelle

Afin d'assurer un fonctionnement sûr lors d'événements extrêmes, des déversoirs d'urgence sont intégrés à la conception de tous les bassins, y compris les bassins 01 et 01A (halde 01) et les bassins 02 et 03 (halde 02). Les déversoirs ont été conçus pour évacuer en toute sécurité les crues supérieures à la CCE, empêchant ainsi tout débordement et tout déversement incontrôlé.

Conformément à la directive 019 (MELCCFP, 2025), tous les déversoirs d'urgence sont conçus sur la base du débit de crue de référence (CCA), qui correspond à la crue maximale probable (PMF). L'hydrogramme CCA a été élaboré à partir de l'hydrogramme d'un événement de précipitations maximales probables (PMP) sur 72 heures et simulé à l'aide d'un modèle hydrologique construit dans le système de modélisation hydrologique (HEC-HMS) version 4.11, développé par le Corps des ingénieurs de l'armée américaine (USACE).

L'élévation du seuil des déversoirs d'urgence a été établie de manière à garantir que chaque bassin puisse contenir entièrement le volume de la CCE sans déclencher le déversoir. De plus, des revanches de 1 m (pour les bassins de la halde 01) et de 1,5 m (pour les bassins de la halde 02) ont été intégrées afin de tenir compte des incertitudes spécifiquement associées à l'estimation du niveau d'eau maximal de la CCE.

La section de contrôle de chaque déversoir d'urgence a été conçue sous forme trapézoïdale intégrant un déversoir à crête large. Les capacités de déversement ont été estimées à l'aide de l'équation standard du déversoir à crête large :

$$Q = C_w \cdot L \cdot H^{\frac{3}{2}} + 2 \cdot \left(\frac{2}{5} \cdot Z \cdot C_{ws} \cdot H^{\frac{5}{2}}\right) \quad (3)$$

Où :

- Q: Débit (m³/s) ;
- L: longueur effective du déversoir (m) ;
- H: hauteur d'eau au-dessus de la crête du déversoir (m) ;
- Z: Pente latérale de la section de contrôle du déversoir (H:1V) ;
- C_W: Coefficient de débit pour la section rectangulaire (centrale) du déversoir (égal à 1,7, valeur raisonnable pour les déversoirs à crête large) ;
- C_{WS}: Coefficient de débit pour la section latérale (en pente) du déversoir (égal à 1,7, valeur raisonnable pour les déversoirs à crête large).

Le dimensionnement a été réalisé à l'aide d'un processus itératif basé sur le routage des hydrogrammes CCA dans le réservoir, tout en garantissant le respect des exigences en matière de revanche dans les conditions CCA et CCE. Plus précisément, les sections de contrôle du déversoir ont été conçues pour maintenir une revanche minimale de 0,6 m au-dessus du niveau d'eau maximal CCA.

Compte tenu des contraintes topographiques du site, les chutes du déversoir ont été conçues pour évacuer en toute sécurité le débit de pointe associé à l'CCA. La géométrie des chutes et du déversoir (sections de contrôle) est similaire, de sorte que l'ensemble de la structure du déversoir conservera une section transversale homogène sur toute sa longueur. Les caractéristiques d'écoulement dans les chutes du déversoir ont été estimées à l'aide de l'équation de Manning (équation 2). La revanche minimale requise dans la chute du déversoir a été déterminée comme suit (USBR, 2022) :

$$Freeboard\ in\ chute\ (ft) = 2.0 + 0.025v\sqrt[3]{d} \quad (4)$$

Où :

- v: la vitesse moyenne (ft/s) ;
- d: la profondeur de l'eau dans la chute (ft).

Une protection en enrochement est intégrée à la conception des crêtes et des chutes du déversoir afin d'atténuer l'érosion causée par les écoulements à grande vitesse lors d'événements extrêmes. La taille et l'épaisseur minimales requises pour l'enrochement au niveau des sections de contrôle du déversoir ont été déterminées sur la base des directives fournies par le MTQ (2024). Pour les chutes du déversoir, le dimensionnement de l'enrochement a été effectué à l'aide de la méthodologie recommandée par la FEMA (2014). L'épaisseur minimale requise de la couche d'enrochement dans les chutes a été fixée à deux fois le diamètre médian des pierres (2 × D_{50}) afin d'assurer une stabilité adéquate.

5.3.4.2 Résultats

Les caractéristiques détaillées des sections de contrôle des déversoirs, l'élévation minimale de la crête du remblai et la protection par enrochement sont résumées dans le **Tableau 5-11** De plus, le **Tableau 5-16** résume les caractéristiques d'écoulement et les configurations conçues pour les chutes des déversoirs.

Tableau 5-11 Configuration de la section de contrôle des déversoirs d'urgence

Paramètres	Unité	Déversoir 01	Déversoir 01A	Déversoir 02	Déversoir 03
Halde associée	[-]	Halde 01	Halde 01	Halde 02	Halde 02
Bassin associé	[-]	Bassin 01	Bassin 01A	Bassin 02	Bassin 03
Déversoir Crête Géométrie de la crête	[-]	**Trapézoïdal**	**Trapézoïdal**	**Trapézoïdal**	**Trapézoïdal**
Longueur de la crête du déversoir	[m]	10	8	13	20
Pente latérale de la crête du déversoir	[H:V]	3:1	3:1	3:1	3:1
Hauteur du seuil du déversoir	[m]	371,65	376,65	391,55	389,85
Débit maximal CCA	[m^3 /s]	33,2	21,5	29,7	61,5
Débit maximal CCA	[m^3 /s]	11,7	9,9	18,6	22,8
Niveau d'eau maximal CCA	[m]	372,4	377,4	392,4	390,6
Altitude de la crête du barrage	[m]	373,0	378,0	393,0	391,2
Revanche CCA	[m]	0,6	0,6	0,6	0,6
Taille des enrochements (D50)	[mm]	200	200	200	200
Épaisseur de la couche d'enrochement	[m]	0,3	0,3	0,3	0,3

Tableau 5-12 Configuration des chutes des déversoirs d'urgence

Paramètres	Unité	Déversoir 01	Déversoir 01A	Déversoir 02	Déversoir 03
Halde associée	[-]	Halde 01	Halde 01	Halde 02	Halde 02
Géométrie de la goulotte	[-]	Trapézoïdale	Trapézoïdale	Trapézoïdale	Trapézoïdale
Largeur du fond de la goulotte	[m]	10	8	13	20
Pente latérale de la goulotte	[H:V]	3:1	3:1	3:1	3:1
Pente longitudinale de la goulotte	[%]	~14	~6	~8	~6
Profondeur minimale de la goulotte	[m]	1,1	1,1	1,2	1,1
Profondeur du flux de conception	[m]	0,3	0,4	0,4	0,7
Vitesse de débit nominale	[m/s]	3,3	2,6	3,1	2,7
Taille des enrochements (D50)	[mm]	300	300	300	300
Épaisseur de la couche d'enrochement	[m]	0,6	0,6	0,6	0,6

5.3.5 Fossés temporaires de dérivation d'eau sans contact

5.3.5.1 Approche de conception

Afin de séparer les eaux sans contact et les eaux de contact et de réduire le volume d'eau de contact nécessitant un traitement, des fossés temporaires de dérivation des eaux sans contact seront construits autour de la superficie de la halde 02 pendant les quatre premières années d'exploitation de la mine. Ces fossés ont été conçus pour intercepter les eaux de ruissellement propres et les détourner de la zone perturbée. Les eaux de ruissellement détournées seront acheminées vers le système de drainage naturel, ce qui minimisera la charge hydraulique sur l'infrastructure de gestion des eaux de contact et favorisera le respect des objectifs de protection de l'environnement.

Conformément à la règle empirique en vigueur dans l'industrie, les fossés de dérivation hors contact sont conçus en utilisant comme critère de conception un événement pluvieux survenant une fois tous les 25 ans. Le débit de conception a été estimé à l'aide de la méthode rationnelle (équation 1), en tenant compte des coefficients de ruissellement de 0,6 et 1,0, respectivement, pour les événements estivaux et printaniers. Les caractéristiques hydrauliques correspondant au débit de conception ont été déterminées à l'aide de l'équation de Manning, telle que présentée dans l'équation 2. Une revanche minimale de 0,3 m a été intégrée afin d'assurer un transport sûr et d'éviter tout débordement dans des conditions de tempête de conception. Afin de protéger contre l'érosion et de maintenir l'intégrité structurelle, un revêtement en enrochement est recommandé lorsque cela est nécessaire, la taille et l'emplacement étant déterminés sur la base des directives du MTQ (2024).

5.3.5.2 Résultats

Trois fossés de collecte périphériques temporaires ont été conçus avec une largeur de base de 2 m et des pentes latérales de 2:1 H:V. Chaque fossé est revêtu d'un géotextile de séparation et d'enrochement pour assurer la protection contre l'érosion. Ces fossés seront mis hors service à mesure que l'empreinte du stock s'agrandira.

5.4 Haldes de morts-terrains 04 et 05 et empilements organiques

5.4.1 Description

Les matériaux de recouvrement seront empilés dans quatre zones désignées :

- La halde à morts-terrains 004 situé au sud de la fosse, d'une superficie de 23 ha ;
- La halde à morts-terrains 005 situé au sud-est de la fosse, d'une superficie de 27 ha, et
- Deux haldes pour matériaux organiques situés au sud de la halde 01 et au nord de la zone industrielle, d'une superficie totale d'environ 11 hectares.

La gestion de l'eau de ces haldes repose sur le concept de bassins de rétention, où les eaux de ruissellement sont temporairement stockées pour permettre la décantation des sédiments avant d'être progressivement rejetées dans l'environnement.

5.4.2 Approche conceptuelle

Comme indiqué dans la section précédente, un système de bassins de rétention a été mis en place pour gérer les eaux de ruissellement provenant des halde à mort-terrains. Ce système consiste en des bassins de stockage temporaires formés par des digues construites à partir de remblais rocheux perméables à faible risque, stratégiquement placés autour des haldes afin d'intercepter les eaux de ruissellement chargées de sédiments. Les digues sont conçues pour contenir temporairement les eaux de ruissellement provenant de précipitations dont la période de retour est de 10 ans. Le volume de stockage prévu a été estimé à l'aide de la méthode rationnelle (équation 2), en appliquant un coefficient de ruissellement de 0,75. L'eau stockée se dissipe par la suite par infiltration ou évaporation.

5.4.3 Résultats

Une coupe transversale type des bassins de rétention est présentée dans le dessin CASN-A-370-GT-DWG-0005-B (**Annexe B**). Chaque bassin mesure environ 15 m de long et est entouré d'une digue d'une hauteur de 0,8 m. Ces caractéristiques offrent ensemble une capacité de confinement suffisante et permettent d'atteindre les performances hydrotechniques prévues.

5.5 Zone industrielle

5.5.1 Description

La zone industrielle sera située juste au nord-est de la fosse proposée, comme indiqué sur le dessin CASN-A-001-GE-DWG-0001-B (**Annexe B**). Dans ce secteur, toutes les infrastructures liées aux processus et au traitement seront développées, y compris le campement. Voici un aperçu des infrastructures de gestion de l'eau qui entrent dans le cadre de ce projet :

- Un bassin de polissage;
- Deux bassins de sédimentation;
- Deux bassins de contact, le bassin 1 et le bassin 2 ;
- Une usine de traitement des eaux (UTE décrite à la **Section 7.2**, et
- Une UTE pour les eaux de contact contaminées aux métaux, décrite à la **Section 7.2**.

Il convient de noter que les fossés de dérivation et les systèmes de drainage routier ne font pas partie du champ d'application du présent mandat.

5.5.2 Conception des bassins

5.5.2.1 Approche de conception

Dans le cadre de la stratégie de gestion de l'eau du site, un système de bassins interconnectés a été conçu pour gérer et traiter l'eau provenant de diverses sources. Le système comprend :

- Deux bassins de sédimentation pour le traitement primaire ;
- Deux bassins de collecte (BC1 et BC2) pour la capture des eaux de ruissellement, et
- Un bassin de polissage pour le traitement final et le stockage.

5.5.2.1.1 Critères généraux de conception des bassins de polissage et de sédimentation :

Les bassins de sédimentation et de polissage sont classés comme des ouvrages à conséquences significatives, conçus pour gérer les eaux de contact à faible risque et dotés de fonds étanchéisés afin d'empêcher les infiltrations. Leur dimensionnement permet d'accommoder un événement pluvieux d'une période de retour de 1 fois sur 1 000 ans (CCE) et comprend des déversoirs d'urgence conçus pour la crue maximale probable (PMP/PMF). Afin de garantir un fonctionnement sûr et sécuritaire, une revanche minimale de 1,0 m est maintenue au-dessus du niveau maximal de la CCE et de 0,6 m au-dessus du niveau maximal de la CCA.

5.5.2.1.2 Bassins de sédimentation

Deux bassins de sédimentation sont prévus dans le cadre de ce projet afin d'éliminer les solides en suspension de l'eau collectée dans divers secteurs, qui sera transférée à l'aide de systèmes de pompage. Les bassins de sédimentation se déverseront par gravité dans le bassin de polissage.

Les principaux apports par pompage vers les bassins de sédimentation sont les suivants :

- Assèchement de la mine à ciel ouvert ;
- Assèchement de la mine souterraine, et
- Ruissellement provenant de la zone industrielle (initialement collecté dans les bassins BC1 et BC2).

5.5.2.1.3 Bassins de collecte (BC)

Comme mentionné dans la **Section 4.2.2** , les critères de conception des bassins de collecte sont les suivants :

- Les bassins sont entièrement excavés et ne comportent aucun remblai de barrage ;
- La caractérisation de l'eau est considérée comme présentant un faible risque, et les deux bassins sont revêtus afin d'empêcher les infiltrations ;
- Le débit de référence pour les deux bassins est une fonte des neiges sur 13 jours avec une probabilité de 1 sur 100, suivie d'un événement pluvieux avec une probabilité de 1 sur 1 000 ; et
- une revanche minimale de 1,0 m est maintenue au-dessus du niveau d'eau maximal de la CCE.

Pendant les mois d'hiver, les bassins de collecte (BC1 et BC2) peuvent être vidés dans le bassin de polissage à l'aide d'une pompe diesel. Cette opération permet d'éliminer complètement les sédiments accumulés dans ces installations. Une approche similaire peut être appliquée à l'un des deux bassins de sédimentation. Étant donné l'absence d'apports en provenance des BC1 et BC2 pendant l'hiver, un seul bassin de sédimentation est nécessaire pour traiter les eaux de déshydratation. Ainsi, chaque hiver, l'un des bassins de sédimentation peut être vidé dans le bassin de polissage, ce qui permet d'éliminer les sédiments du fond et d'effectuer l'entretien courant.

5.5.2.1.4 Bassin de polissage

Comme indiqué, le bassin de polissage constitue la dernière étape du processus de traitement et remplit trois fonctions clés :

- Il regroupe tous les apports liés à l'exploitation minière, offrant ainsi un point de rejet unique ;
- Il assure le traitement final de l'eau avant son rejet, et
- Il sert de réserve d'eau douce pour l'usine de traitement et l'usine de pâte.

Les critères de conception pour le dimensionnement des bassins dans le cadre de l'étude de faisabilité étaient basés sur le temps de rétention hydraulique (HRT). Afin d'assurer une gestion adéquate de l'eau pendant l'inondation de conception environnementale (CCE), les bassins doivent fournir un HRT minimum de 16 heures dans les conditions de la CCE. Pour les bassins de sédimentation, le HRT a été augmenté à 18 heures afin d'améliorer les performances pendant la CCE.

5.5.2.2 Résultats

Le **Tableau 5-13** résume les résultats de la conception des bassins de sédimentation et du bassin de polissage.

Tableau 5-13 Bassins de la zone industrielle

Bassin	Apports	Pente des parois latérales	Superficie	Volume	Temps de rétention hydraulique (en fonctionnement normal)	Temps de rétention hydraulique (pendant CCE)
		(H:V)	(m2)	(m3)	(Hr)	(Hr)
Bassin de sédimentation 01	Assèchement de la fosse à ciel ouvert Assèchement de la mine souterraine	4:1	15 500	42 000	>37	>18
Bassin de sédimentation 02	Zone industrielle (BC1) Zone industrielle (BC2)	4:1	15 500	42 000	>44	>18
Bassin de polissage	Tout	1:1	32 000	140 000	>36	>16

Les principales caractéristiques des bassins sont décrites ci-dessous :

Les remblais des bassins seront principalement constitués de stériles, avec une couche de transition en pierre et une couche de sable en amont. Une largeur de crête de 10 m a été prévue avec une pente amont de 3H:1V et une pente aval de 2H:1V. Les pentes des digues amont et le bassin de rétention seront recouverts d'une géomembrane LLDPE texturée de 1,5 mm. La base des bassins est recouverte d'une couche de poids de 0,3 m d'épaisseur sur un géotextile de protection, tandis que les pentes recouvertes seront exposées. L'élévation des remblais des bassins est déterminée en appliquant des critères de revanche qui satisfont à la fois aux conditions CCE et CCA au-dessus des volumes de stockage requis prévus dans le **Tableau 5-13**. Plus précisément, la revanche requise est la plus grande des deux valeurs suivantes : 1,0 m au-dessus du niveau d'eau maximal CCE ou 0,6 m au-dessus du niveau d'eau maximal CCA. Le **Tableau 5-13** les résultats de la conception des bassins de sédimentation et du bassin de polissage.

- Chaque bassin de sédimentation comprend une rampe d'accès pour faciliter l'enlèvement périodique des sédiments accumulés.
- Chaque bassin de sédimentation est équipé d'un déversoir rectangulaire en béton pour acheminer les flux CCE et CCA vers le bassin de polissage afin d'éviter le débordement des bassins de sédimentation.
- Le bassin de polissage a été conçu pour évacuer les débits normaux via trois ponceaux de 36 pouces de diamètre à travers le barrage. Un déversoir de secours est également prévu dans la conception pour évacuer en toute sécurité les débits entrants dépassant la CCE. Le déversoir de secours a une configuration trapézoïdale avec un seuil en béton de 10 m de large dans le barrage. Le canal de décharge du déversoir nécessite une plate-forme pour fournir une pente de 18 %. Le canal de décharge comprend un géotextile de séparation avec un enrochement fourni comme protection contre l'érosion.

5.5.3 Déversoirs

5.5.3.1 Approche de conception

Pour la conception des déversoirs, la procédure décrite dans la **Section 5.5.2** a été prise en considération. La conception des bassins a été réalisée pour trois conditions : une dans des conditions hydrologiques normales ou de fonctionnement normal du système, et deux dans des conditions d'inondation, l'inondation de conception environnementale (CCE) et l'inondation de conception d'entrée (CCA). Pour estimer le débit sortant des bassins de sédimentation et de polissage, les résultats du bilan hydrique ont été utilisés, en supposant que l'effluent représente au maximum 30 % du débit de la source (rivière CE 15).

Comme le montre le **Tableau 5-14**, les structures des bassins de sédimentation et de polissage reçoivent des apports provenant de deux sources : le débit des pompes et les précipitations directes provenant de leurs surfaces de drainage. Dans des conditions hydrologiques normales, on suppose que les pompes fonctionnent à 40 % de leur capacité maximale (comme décrit à la **Section 7.3**). Pour les scénarios CCE et CCA, on a supposé une capacité maximale des pompes (efficacité de 100 %).

Pour les précipitations directes, un événement pluvieux d'une fréquence de 1 fois tous les 2 ans a été utilisé comme critère conservateur pour les conditions normales. Pour le scénario CCE, un événement pluvieux d'une fréquence de 1 fois tous les 1 000 ans a été pris en compte, tandis que, pour le scénario CCA, la précipitation maximale probable (PMP) a été utilisée. Ces bases sont également résumées dans le **Tableau 5-14**.

Tableau 5-14 Scénarios pris en compte pour le calcul du débit pour chaque condition hydrologique

Scénario/Source	Conditions normales	CCE	CCA
Capacité de pompage	40 % de l'efficacité maximale	100 % de l'efficacité maximale	100 % de l'efficacité maximale
Précipitations directes sur les étangs	1 précipitation de période de retour de 2 ans	1 précipitation de période de retour de 1 000 ans	PMP (5 min)

Le déversoir fonctionnera comme une structure unique, à la fois opérationnelle et d'urgence. Il permettra donc le passage de tous les débits de crue vers le PMF. Le **Tableau 5-15** résume le débit sortant pour chaque scénario hydrologique pour les bassins de sédimentation et de polissage.

Tableau 5-15 Débit source vers le bassin de sédimentation et le bassin de polissage dans les conditions hydrologiques prévues

	Conditions normales (m^3 /s)	CCE (m^3 /s)	CCA (m^3 /s)
Bassin de sédimentation 1	0, 6	1,4	5,1
Bassin de sédimentation 2	0,5	1,5	5, 3
Bassin de polissage	1, 9	5,7	20. 9

Pour la conception des déversoirs, une simulation de l'écoulement des crues à travers les structures a été utilisée. Pour cela, le type de déversoir à crête large a été appliqué aux bassins de sédimentation et de polissage. Pour le bassin de sédimentation, la section rectangulaire est conçue, et pour le bassin de polissage, la section trapézoïdale est envisagée. La formule à crête large est présentée et décrite dans la **Section 5.3.4 .**

La conception a intégré des critères de revanche afin d'éviter tout débordement. Plus précisément, une revanche minimale de 1,0 m a été établie pour le scénario CCE, tandis qu'un minimum de 0,6 m a été fixé pour le scénario CCA, mesuré à partir de la crête du déversoir. Ces critères ont été mis en œuvre afin de garantir une conception optimale et robuste.

5.5.3.2 Résultats

Le **Tableau 5-16** résume les résultats de la conception des déversoirs. Il convient de noter que la même conception de déversoir a été appliquée aux deux bassins de sédimentation, car la différence entre les débits sources des deux bassins est négligeable (par exemple, le débit total de l'CCA vers le bassin de sédimentation 1 est de 5,1 m3/s, tandis que la valeur correspondante pour le bassin de sédimentation 2 est de 5,3 m^3/s).

Tableau 5-16 Caractéristiques des déversoirs et des débits associés dans les bassins de sédimentation et le bassin de polissage

		Bassins de sédimentation	Bassin de polissage
	Seuil du déversoir (m)	381,8	381,4
	Hauteur de crête suggérée	383	382,4
	Largeur du fond (m)	5	10
	Pente latérale	0H:1V (rectangulaire)	3H:1V (trapézoïdale)
	Élévation de la crête (m)	383	382,4
CCE	Niveau d'eau maximal (m)	382	Utilisation de 3 ponceaux, passage normal et CCE[1]
	Profondeur maximale de l'eau (m)	0,2	
	Débit de pointe (m^3/s)	0,8	
	Revanche (m)	1	
CCA	Niveau d'eau maximal (m)	382,2	381,8
	Profondeur maximale de l'eau (m)	0,4	0,4
	Débit maximal (m^3/s)	1,8	5,7
	Revanche (m)	0,8	0,6

Remarques :

(1) Trois ponceaux circulaires adjacents avec une élévation de fond en amont de 380,5 et un diamètre de 0,9 m.

6. Dérivation du lac 01 vers la mine à ciel ouvert

6.1 Description

La mine à ciel ouvert proposée sera développée à l'extrémité ouest du lac 01. Un fossé de dérivation et des barrages seront inclus dans la conception afin de détourner en toute sécurité les écoulements du lac pendant le développement et l'exploitation de la mine. Ce système isolera la mine de la partie est du lac et permettra de gérer les sédiments et les eaux de ruissellement pendant les deux phases d'expansion, à savoir les phases ouest et est de la mine. La conception est conforme aux réglementations environnementales et minimise les risques opérationnels.

Le système comprend les éléments clés suivants :

- Un fossé de dérivation, construit en une seule phase (année 2), pour détourner les écoulements du lac 001 autour de la mine à ciel ouvert et maintenir la continuité du drainage naturel pendant toute la durée de vie de la mine ;
- Une série de digues, construite en deux étapes (initialement pour la phase de la fosse ouest, puis étendues pour la phase de la fosse est) afin d'isoler la fosse des apports d'eau en amont du lac, et
- des zones de gestion des sédiments et de l'eau dans le lit asséché du lac, conçues pour contrôler le ruissellement et le transport des sédiments à l'aide de bermes, de systèmes de pompage et de stratégies de confinement localisées.

Ensemble, ces éléments forment une stratégie intégrée de gestion de l'eau qui favorise la sécurité des opérations de la fosse, protège la qualité de l'eau en aval et facilite le développement progressif de l'exploitation minière. La disposition du système de gestion de l'eau du lac 001 est illustrée dans le dessin CASN-A-327-GE-DWG-0001.

Les sections suivantes fournissent des détails supplémentaires sur la conception hydrotechnique de chaque composante de l'infrastructure.

6.2 Fossé de dérivation et digues

Le fossé de dérivation est conçu pour acheminer de manière sécuritaire les débits normaux et de crue, y compris la crue maximale probable (CMP), conformément à la directive 019 (MELCCFP, 2025). Il aura une longueur totale d'environ 870 m, une base d'une largeur de 5 m et une pente moyenne d'environ 0,3 % (dessin CASN-A-327-WM-DWG-0003 à l'**Annexe B**). La majeure partie du fossé sera creusée à l'explosif dans le roc, ce qui explique que les pentes latérales soient à 1:1 H:V. L'alignement du canal a été sélectionné de manière à maintenir un décalage minimum de 45 m par rapport à la fosse, de 60 m par rapport aux lacs 02 et 03, et de 10 m par rapport au lac 04.

Les digues sont construites en deux étapes, d'abord pour la phase de la fosse ouest, puis étendues pour la phase de la fosse est, afin d'isoler progressivement la fosse des apports en amont du lac à mesure que la mine se développe (voir le dessin CASN-A-327-WM-DWG-0001 à l'**Annexe B**). Ces digues sont conçues pour retenir l'eau dans des conditions normales et extrêmes, y compris lors du PMF, en maintenant une revanche minimale de 1,5 m afin d'assurer un confinement sûr lors d'inondations extrêmes sans débordement.

6.2.1 Crue de conception

Comme indiqué dans la **Section 4.2.3**, la crue maximale probable (CMP) est la crue de conception adoptée pour le dimensionnement du fossé de dérivation et des digues. Une modélisation hydrologique conceptuelle a été réalisée pour estimer les apports du CMP au lac 001. Le modèle a été mis en place et développé dans le système de modélisation hydrologique (HEC-HMS) version 4.11, développé par le Corps des ingénieurs de l'armée américaine (USACE)[1]. Les outils SIG du HEC-HMS ont été utilisés pour délimiter le bassin versant contributeur, qui a une superficie d'environ 106 km² (figure W7). Cette délimitation a été effectuée à partir d'un modèle numérique d'élévation (MNE) de la Shuttle Radar Topography Mission (SRTM) d'une résolution de 30 m. Le modèle a utilisé les précipitations maximales probables (PMP) estivales sur 72 heures, soit 386,6 mm (AtkinsRéalis, 2025c). L'hydrogramme CMP simulé est illustré à la figure W9. Les résultats montrent que le débit maximal vers le lac est d'environ 536 m³/s. Cet hydrogramme sert de base à la conception hydraulique du canal de dérivation et à l'établissement des hauteurs minimales de crête des digues.

6.2.2 Conception hydraulique du fossé de dérivation et des digues

La conception de la géométrie du fossé de dérivation et l'établissement de l'élévation minimale requise pour la crête des digues de coupure ont été réalisés à l'aide d'un processus itératif de transit de réservoir, utilisant l'apport de la CMP décrit à la **Section 6.2.1**. L'analyse de transit a été réalisée à l'aide de la courbe de stockage en fonction de l'élévation du lac 001 en amont du fossé de dérivation (figure W8), ainsi que de la courbe de calibration canal de dérivation proposé et développée l'aide du logiciel HEC-RAS (**Tableau 6-1**). L'hydrogramme de la CMP a été acheminé à travers le lac afin de déterminer le niveau d'eau maximal et le débit de pointe pendant l'événement de conception.

Les résultats de l'analyse de transit du réservoir, basée sur les configurations conçues du fossé de dérivation, sont présentés dans la figure W9. L'élévation d'inversion du fossé de dérivation a été fixée à 373,0 m au-dessus du niveau de la mer, ce qui correspond à la sortie actuelle du lac. La géométrie du fossé a été optimisée par des ajustements itératifs afin de s'adapter au débit acheminé tout en maintenant une revanche minimale de 1,5 m par rapport au niveau d'eau maximal obtenu lors de l'exercice d'acheminement. Cela permet d'établir les crêtes des digues de séparation. La configuration finale du canal de dérivation et les élévations minimales correspondantes des crêtes des digues sont résumées dans le **Tableau 6-1**. La profondeur du fossé a été déterminée de manière à respecter la revanche requise de 0,6 m pendant le pic de débit le long du fossé. Les détails des profils et des sections du fossé de dérivation sont présentés dans le dessin CASN-A-327-WM-DWG-0003-A (**Annexe B**).

[1] *Le numéro de courbe du Soil Conservation Service (SCS) et les méthodes hydrographiques Clark Unit ont été utilisés pour simuler le processus de ruissellement des eaux pluviales.*

Tableau 6-1 Configuration hydrotechnique du fossé de dérivation et des digues

Paramètres	Unité	Valeur
Largeur de base du fossé de dérivation	[m]	5
Pente latérale de la crête du fossé de dérivation	[H:V]	1:1
Hauteur de fond du fossé de dérivation	[m]	373,0
Pente longitudinale du fossé de dérivation	[%]	0,3
Débit de pointe CCA	[m^3 /s]	94,9
Niveau d'eau maximal de l'CCA	[m]	377,0
Élévation minimale de la crête des digues de coupure	[m]	378,5

6.2.3 Considérations relatives à la conception des habitats et des passes à poissons

Le fossé de dérivation remplacera le cours d'eau naturel existant qui draine du lac 001 vers la rivière CE 15. La conception du fossé doit donc reproduire les conditions hydrauliques du cours d'eau naturel afin de maintenir l'habitat du poisson et d'assurer le passage des poissons (PMET, 2025b). Pour ce faire, une série de seuils et de bassins sera aménagée le long du lit du fossé afin de créer des écoulements rapides et des profondeurs d'eau adéquates, tant en amont qu'en aval des seuils... Il est recommandé d'installer des blocs rocheux entre les sections du fossé où les vitesses sont élevées afin d'offrir un abri aux poissons pendant leur migration ascendante. La figure W11 présente une représentation schématique du fossé de passage à poissons proposé. La comparaison entre les résultats de la modélisation hydraulique et les mesures sur le terrain a montré que les vitesses aux profondeurs du fossé de dérivation se situent dans une fourchette de valeurs similaire à celles mesurées dans le cours d'eau naturel.

6.3 Stratégie de gestion des sédiments et de l'eau du lac 001

L'assèchement du lac 001, réalisé dans le cadre du développement progressif de la fosse, a nécessité une stratégie progressive de gestion des sédiments et de l'eau afin d'atténuer les risques environnementaux et de maintenir l'efficacité opérationnelle. Des stratégies distinctes ont été élaborées pour les phases ouest et est de la fosse, en fonction de l'évolution de l'empreinte de la fosse et des changements associés dans les schémas de drainage, la topographie et la bathymétrie à l'intérieur des limites d'origine du lac.

La phase de la fosse ouest consiste à assécher la partie ouest du lac 001 après la construction des digues de la fosse ouest. La zone asséchée est divisée en deux zones, ouest et est, par une berme (barrage de contrôle des sédiments 1) construite à un endroit étroit et peu profond de l'ancien lit du lac (figure W12).

- Dans la zone est : les sédiments doivent être retirés afin d'empêcher leur mobilisation dans la fosse. Le ruissellement provenant de cette zone s'écoulera directement dans la fosse et sera transféré vers les bassins de la zone industrielle pour traitement des matières en suspension.

- Dans la zone ouest : il est proposé de laisser les sédiments en place. Pour empêcher le ruissellement chargé en sédiments d'atteindre la fosse, une berme perméable et un système de pompage seront installés. Ce système est conçu pour gérer les volumes de ruissellement associés à une crue de période de retour de 10 ans, l'eau étant pompée vers le bassin de sédimentation de la zone industrielle avant rejet environnemental.

La phase Est de la fosse prolonge la fosse à ciel ouvert d'environ 1,4 km vers l'est, ce qui nécessite la construction de trois digues de coupure supplémentaires et la mise en place de mesures supplémentaires de gestion des sédiments et de l'eau dans trois zones : Nord, Centre et Sud (figure W12).

- Dans les zones nord et centrale : les sédiments seront retirés afin d'éliminer les risques de mobilisation. Le ruissellement sera dirigé vers la fosse, puis pompé vers la zone industrielle pour y être traité.
- Dans la zone sud : les sédiments resteront en place. Une berme (digue de contrôle des sédiments 2) sera construite à un endroit étroit et peu profond afin d'isoler la zone et d'empêcher le transport des sédiments vers la fosse. Cette berme est conçue pour contenir les eaux de ruissellement provenant d'événements dont la période de retour est de 10 ans. Un système de pompage gérera les eaux de ruissellement en les dirigeant vers le bassin de sédimentation pour le contrôle des MES avant leur rejet dans l'environnement.

Les deux digues de contrôle des sédiments sont conçues pour empêcher les eaux de ruissellement chargées de sédiments d'accéder à la fosse et pour gérer les eaux de surface lors d'événements pluvieux. Les bermes, construites principalement à partir de stériles perméables, sont conçues pour contenir temporairement les eaux de ruissellement provenant d'événements pluvieux d'une période de retour de 10 ans et pour résister au débordement lors d'événements extrêmes moins fréquents. Les principaux paramètres de conception des bermes de contrôle des sédiments et les capacités de pompage requises sont résumés dans le **Tableau 6-2**.

Tableau 6-2 Configuration de la conception des bermes de contrôle des sédiments

Paramètres	Unité	Barrage de contrôle des sédiments 1 (ouest)	Barrage de contrôle des sédiments 1 (sud)
Bassin versant	[km^2]	0,35	0,34
Niveau d'eau maximal (tempête de 24 heures sur 10 ans)	[H:V]	372,4	372,5
Hauteur de la crête	[m]	372,5	372,5
Largeur de la crête	[m]	5,0	5,0
Pente côté aval	[H:V]	1,5	1,5
Pente côté amont	[H:V]	1,5	1,5
Capacité de pompage	[m^3 /h]	230	580

6.4 Analyse de stabilité des digues du lac 01

La construction des digues de séparation sera réalisée en deux phases, parallèlement au développement de la fosse. Pour la phase de la fosse ouest, un seul barrage est nécessaire dans le lac 001. Une partie de ce barrage s'étendra sur les terres sèches adjacentes au lac 001 afin d'empêcher les eaux de crue de contourner la structure. Dans le cadre de la phase de la fosse est, quatre barrages supplémentaires seront nécessaires dans le lac 001, situé à l'est du barrage West Pit. La construction des barrages nécessite l'enlèvement des sédiments lacustres des fondations.

AtkinsRéalis a réalisé des analyses de stabilité et d'infiltration afin d'évaluer la faisabilité de la digue, comme détaillé dans la sous-section suivante.

6.4.1 Évaluation de la stabilité

La digue de séparation du lac 001 est conçue avec deux sections transversales principales : l'une correspondant à la section traversant le plan d'eau (la section critique) et l'autre à la section située en terrain sec. Des analyses de stabilité des pentes ont été réalisées sur la section critique (phase de la fosse est), comme illustrées dans le dessin n° CASN-A-327-WM-DWG-0001-A (**Annexe B**), où l'on dispose d'une quantité relativement plus importante d'informations sur les forages (BH). Dans cette section, une couche de gravier sert de recouvrement sur le roc, et la profondeur de l'eau est de 4,4 mètres.

Les analyses ont été réalisées à l'aide du logiciel SLOPE/W version 2023.1.2, un logiciel d'équilibre limite bidimensionnel développé par Geo-Slope International Limited. La méthode Morgenstern-Price a été utilisée pour identifier les surfaces de rupture potentielles dans les pentes des haldes et leurs fondations sous-jacentes. Ces analyses visaient à déterminer les surfaces de rupture les plus critiques donnant le facteur de sécurité (FS) le plus conservateur. Le FS est le rapport entre la résistance moyenne au cisaillement (force de résistance) et la contrainte de cisaillement moyenne mobilisée (force motrice) le long d'une surface de rupture spécifique.

Les sous-sections suivantes fournissent des informations détaillées sur la géométrie de la digue, les propriétés des matériaux, les scénarios de chargement et la surface phréatique utilisés dans le modèle, ainsi qu'une discussion des résultats de l'analyse de stabilité.

6.4.1.1 Géométrie du modèle

La géométrie de l'une des sections critiques est illustrée dans le dessin n° CASN-A-327-WM-DWG-0001-A. Comme le montre le dessin, la largeur de la crête de la digue est conçue pour être de 6,0 mètres. Les pentes amont et aval des digues auront une inclinaison de 3 horizontaux pour 1 vertical (3H:1V). Les deux bermes de pied, qui mesurent 6 mètres de largeur tant en amont qu'en aval, auront une pente de 2,5 horizontal pour 1 vertical (2,5H:1V). La partie supérieure de la paroi en palplanches sera nivelée à une altitude de 378,1 mètres au-dessus du niveau de la mer (m.a.s.l.). Une couche supplémentaire de 0,3 mètre de matériau de revêtement routier sera placée au sommet, ce qui donnera une altitude finale de la crête du barrage de 378,4 m.a.s.l.

Une fois achevées, ces digues seront percées ou leur hauteur sera réduite pour permettre l'écoulement dans la fosse à ciel ouvert.

6.4.1.2 Facteur de sécurité minimal

AtkinsRéalis a classé les digues conformément aux lignes directrices de l'ACB en matière de sécurité des barrages et à la Loi sur la sécurité des barrages du Québec. La classification de l'ACB est principalement basée sur la « population à risque » située en aval. Dans des conditions d'exploitation normales, le site comptera entre 50 et 500 travailleurs, ce qui se traduit par une classification de danger « extrême » pour le barrage. La Loi sur la sécurité des barrages du Québec le classe dans la « classe C », avec une valeur P de 58.

Cette classification détermine la période de retour des événements sismiques et CCA utilisé dans la conception du barrage. Pour un barrage classé « extrême », les lignes directrices de la CDA de 2019 et du MELCCFP 2025 exigent une période de retour de 1 sur 10 000 ou le séisme maximal crédible. La CCA est définie comme le débit de CMP qui tient compte des précipitations maximales probables (PMP). Une revanche minimale de 1,5 m a été prise en compte pour la conception de la CCA, conformément à la Loi sur la sécurité des barrages du Québec.

Plusieurs conditions de charge ont été testées afin d'établir les configurations stables nécessaires à la digue.

Le tableau ci-dessous résume les facteurs de sécurité minimaux requis dans différentes conditions de charge. Vous trouverez plus de détails dans le mémorandum sur les critères de conception (CASN-A-370-GT-DCR-0001).

6.4.1.3 Piézomètre et conditions de charge

6.4.1.3.1 Fin de la construction (FC)

La digue de séparation sera construite sous l'eau, et l'élévation du niveau phréatique à la fin des travaux a été modélisée au niveau normal de l'eau (NNE) du lac existant adjacent, tant en amont qu'en aval. Un facteur de sécurité (FS) cible minimum de 1,3 a été établi pour les conditions statiques à court terme, comme indiqué dans le **Tableau 6-4**.

6.4.1.3.2 Crue prévue (à court terme)

Lors d'un événement de crue projeté, il est supposé, par approche conservatrice, que la surface phréatique de la digue s'aligne sur le niveau de la CCA du lac, tant du côté amont que du côté aval de la digue. Un facteur de sécurité (FS) minimal ciblé de 1,3 a été établi pour les conditions statiques à court terme, comme illustré dans le **Tableau 6-4**.

6.4.1.3.3 Pendant l'opération (à long terme)

Dans les conditions opérationnelles, la surface phréatique en amont de la digue est supposée correspondre au niveau d'eau normal (NWL) du lac situé en amont. La surface phréatique en aval a été modélisée à la surface du sol et, de manière plus conservatrice, à un niveau plus élevé à l'intérieur de la digue. Un facteur de sécurité (FS) minimal ciblé de 1,5 a été établi pour les conditions statiques à long terme, comme indiqué dans le **Tableau 6-4**.

6.4.1.3.4 Rabattement

Les scénarios de rabattement rapide n'ont pas été analysés pour la digue de séparation, car si l'abaissement du niveau d'eau se produit rapidement du côté aval, la pression interstitielle a peu de chances de demeurer à l'intérieur de la digue. Cela s'explique par le fait que les matériaux de remblai se drainent rapidement, en supposant un facteur de temps sans dimension (T) supérieur à 3. Une valeur de T ($=\frac{C_v t}{D^2}$) supérieure à 3 ne nécessite pas d'analyse de rabattement rapide, où Cv représente le coefficient de consolidation, le temps associé au rabattement et D la distance de drainage.

6.4.1.3.5 Analyse pseudo-statique

Une analyse pseudo-statique a été réalisée pour évaluer la stabilité dynamique de la digue. Le site est classé dans la catégorie D selon le Manuel canadien des fondations, avec un coefficient d'accélération sismique horizontale (K_h) de 0,1 g (50% du PGA, extrapolé à partir du CNB (2020) pour un événement survenant une fois tous les 10 000 ans) (HPC : extrême) utilisé dans les analyses pseudo-statiques. Un facteur de sécurité (FOS) minimal de 1,1 a été établi pour les conditions pseudo-statiques, comme indiqué dans le **Tableau 6-4**.

6.4.1.3.6 Post-sismique

On suppose que les matériaux sableux limoneux et limoneux sableux meubles présents dans les fondations du barrage seront complètement éliminés pendant la construction, garantissant ainsi que les fondations ne sont pas susceptibles de se liquéfier dans des conditions statiques et sismiques. Par conséquent, aucune analyse post-liquéfaction n'a été effectuée.

6.4.1.4 Propriétés des matériaux

Les paramètres de densité et de résistance des matériaux utilisés dans les analyses de stabilité ont été établis par AtkinsRéalis à partir des investigations géotechniques réalisées par BBA (BBA, 2024) dans le lac 001. Lorsque les données issues des essais de terrain ou de laboratoire n'étaient pas disponibles, des hypothèses ont été formulées en s'appuyant sur l'expérience d'AtkinsRéalis avec des matériaux similaires. Le **Tableau 6-3** résume les paramètres et les modèles des matériaux utilisés dans cette étude. Une description détaillée des propriétés de ces matériaux est fournie dans les sous-sections suivantes.

Tableau 6-3 Propriétés mécaniques pour les analyses de stabilité des pentes

Description du matériau	γ (kN/m^3)	C' (kPa)	Φ' (˚)	Type de modèle
Stérile (-450 mm)	20	0	38	Mohr Coulomb
Pierre concassée (-75 mm)	19	0	32	Mohr Coulomb
Granulaire B de type II	19	0	32	Mohr Coulomb
Roc	Impenetrable			Mohr Coulomb
Gravier (GW)	19	0	3	Mohr Coulomb
Gravier sableux (GP-GM)	19	0	35	Mohr Coulomb
Sable limoneux (SM)	17,8	0	3	Mohr Coulomb
Sable limoneux (ML)	16,5	0	29	Mohr Coulomb

6.4.1.4.1 Fondations

BBA Engineering Ltd. a mené une étude géotechnique afin d'évaluer les conditions du sous-sol sur le site (BBA, 2024). Au total, soixante et un (61) forages ont été réalisés pour des essais sur le terrain, notamment des essais de pénétration standard (SPT) et des analyses en laboratoire. Parmi ces forages, six (6) ont été réalisés dans le lac 001. L'objectif principal de ces forages était de déterminer la stratigraphie et d'évaluer les propriétés du sol de fondation.

Les échantillons de sol sélectionnés ont été analysés au laboratoire d'Englobe à Montréal, où des essais ont été effectués pour évaluer la granulométrie, la teneur en eau, la densité et la résistance à la compression uniaxiale (RCU). Des évaluations supplémentaires ont été menées afin de déterminer le module d'élasticité et le coefficient de Poisson. AtkinsRéalis a analysé les rapports de forage réalisés par BBA, ainsi que les données des essais en

laboratoire issus de l'étude, afin d'élaborer des profils de sol pour le site conformément au système unifié de classification des sols (USCS) et aux normes ASTM D2487-17 (AtkinsRéalis, 2025a). AtkinsRéalis a interprété les « valeurs N » obtenues à partir du SPT de BBA afin de fournir des recommandations concernant les propriétés matérielles des unités de sol classées.

D'après les interprétations d'AtkinsRéalis, les fondations sous l'empreinte de la digue de séparation sont constituées de silt/limon sableux silt/silt avec gravier (ML). Sous la couche ML, une unité de sable limoneux/sable limoneux avec gravier (SM) a été identifiée. Sous cette couche SM se trouve une unité de gravier limoneux avec sable/gravier avec limon et sable (GM), suivie d'une unité de gravier (y compris des galets) (GW), qui est située au-dessus du roc. Les angles de frottement estimés à 29º, 31º, 35º et 36º, ainsi que les poids unitaires de 16,5, 17,8, 19 et 19 kN/m³, ont été dérivés de l'analyse des « valeurs N » SPT pour ML, SM, GM et GW, respectivement, et ont été utilisés dans le modèle.

6.4.1.4.2 Matériaux de remblayage

La construction de la digue nécessite différents matériaux de remblayage. La zone centrale, appelée zone 1, est constituée de roches concassées qui facilitent l'installation des palplanches. Les matériaux de remblayage de la zone 1 ont une taille maximale de particules de 75 mm. La structure principale des barrages est construite avec des enrochements chimiquement inertes (NPGA), appelés zone 2. Les matériaux de la zone 2 ont une taille maximale de particules de 450 mm. Ces enrochements de la Zone 2 assurent la stabilité nécessaire au barrage. De plus, une couche d'usure (matériau granulaire de type II, appelé Zone 4) sera placée au sommet de la crête du barrage afin de garantir l'accès des véhicules pour les inspections.

À l'heure actuelle, aucune donnée de laboratoire n'est disponible pour les matériaux de remplissage. Pour le modèle, des angles de frottement effectifs de 38°, 32° et 32° ont été attribués, ainsi que des poids unitaires de 20, 19 et 19 kN/m³ pour les stériles (taille de -450 mm), les pierres concassées (taille de -75 mm) et le granulaire B de type II, respectivement. Ces valeurs sont basées sur l'expérience antérieure d'AtkinsRéalis avec des matériaux similaires et ont été attribuées de manière prudente.

6.4.1.4.3 Roc

Les surfaces de rupture de la pente ne sont pas supposées traverser le roc. Par conséquent, celle-ci est modélisée comme impénétrable et aucun paramètre de modèle n'a été attribué.

6.4.1.5 Résultats de l'analyse de stabilité

Le **Tableau 6-4** résume les résultats des analyses de stabilité, qui ont été réalisées à l'aide de la méthode des blocs et de la méthode d'entrée-sortie. La méthode d'entrée-sortie (non circulaire) a donné un coefficient de sécurité (FS) plus faible, c'est pourquoi les conclusions sont basées sur cette méthode. Les résultats détaillés sont présentés dans l'**Annexe D** des figures S1 à S8.

Dans le cas des niveaux d'eau à la fin de la construction (FC) et de la CCA, le FS est identique pour les côtés amont et aval du barrage. Cela s'explique par la symétrie de la structure et les niveaux d'eau similaires des deux côtés du barrage. Cependant, dans le cas de conditions à long terme et pseudo-statiques, le FS pour la phase amont est inférieur à celui pour la phase aval. Cette différence est attribuée au niveau d'eau de 373 m dans le lac 001 du côté amont, où la surface phréatique se trouve généralement au niveau ou près de la surface du sol du côté aval.

Comme prévu, la condition CCA a entraîné un FS inférieur à celui de la phase opérationnelle, en raison de la surface phréatique plus élevée pendant l'CCA (à 376,9 m) par rapport au niveau d'eau normal (NWL) à 373 m.

Le FS le plus bas se produit dans des conditions pseudo-statiques (FS = 1,67), en raison des conditions de charge dynamique.

Comme indiqué dans le **Tableau 6-4**, le barrage répond aux facteurs de sécurité requis dans toutes les conditions. Des études géotechniques supplémentaires dans le lac devraient être prévues pour la prochaine phase des travaux, et la géométrie du barrage peut être optimisée davantage.

Tableau 6-4 Résultats de l'analyse de la stabilité des pentes, barrages de dérivation

Zone	Condition de charge	FoS	Référence[2]	FoS minimum (MDDEP, 2012 MRNF, 2024)
En amont	Fin de chaque phase de construction (court terme)	2,45	Figure S1	1,3 à 1,5
En amont	En présence de l'inondation prévue par le projet (court terme)	2,31	Figure S2	1,3
En amont	Conditions stationnaires (long terme)	2,39	Figure S3	1,5
En amont	Pseudo-statique	1,67	Figure S4	1,1
En aval	Fin de chaque phase de construction (court terme)	2,43	Figure S5	1,3 à 1,5
En aval	En présence de l'inondation prévue par le projet (court terme)	2,34	Figure S6	1,3
En aval	Conditions stationnaires (long terme)	2,63	Figure S7	1,5
En aval	Pseudo-statique	1,99	Figure S8	1,1

6.4.2 Analyse des infiltrations

Des analyses d'infiltration bidimensionnelles en régime permanent ont été réalisées afin d'évaluer le débit d'infiltration. Les analyses ont été effectuées à l'aide du logiciel SEEP/W 2023, version 2023.1.2, développé par GEO-SLOPE International Ltd.

6.4.2.1 Propriétés des matériaux

Les paramètres de conductivité hydraulique des matériaux utilisés dans les analyses d'infiltration ont été déterminés à partir de l'expérience d'Atkins Realis avec des matériaux similaires. Le **Tableau 6-4** résume les paramètres adoptés pour la présente étude.

Tableau 6-5 Propriétés hydrauliques et mécaniques pour les analyses de percolation

Description du matériau	k_{sat} (m/s)	Type de modèle
Résidus (-450 mm)	5×10^{-4}	Saturé / non saturé
Pierre concassée (-75 mm)	5×10^{-5}	Saturé / non saturé
Granulaire B type II	2×10^{-5}	Saturé / non saturé
Roc	7×10^{-7}	Saturé
Gravier (GW)	5×10^{-4}	Saturé
Gravier sableux (GP-GM)	5×10^{-5}	Saturé
Sable limoneux (SM)	1×10^{-6}	Saturé
Sable limoneux (ML)	1×10^{-7}	Saturé

[2] Les résultats de l'analyse de stabilité (figures) sont présentés dans **l'Annexe D**

6.4.2.2 Conditions piézométriques et limites hydrauliques

La surface phréatique en amont et la limite hydraulique du barrage sont supposées se trouver au niveau normal des eaux (NWL) du lac 001. Le modèle s'étend jusqu'au bord de la fosse à ciel ouvert, la condition limite en aval étant définie comme la surface d'examen afin de simuler l'infiltration dans la fosse à ciel ouvert.

L'infiltration est déterminée en fonction des apports du lac 001, tandis que l'infiltration due aux précipitations n'est pas prise en compte.

6.4.2.3 Résultats de l'analyse des infiltrations

Le **Tableau 6-6** résume les résultats de l'analyse des infiltrations. Ces résultats ont été utilisés pour planifier le drainage de la fosse à ciel ouvert. L'analyse des infiltrations a estimé que le débit dans la fosse à ciel ouvert varierait de 360 m^3 /jour pour la phase I à 1 000 m^3 /jour pour la phase II.

Tableau 6-6 Résultats de l'analyse des infiltrations

Description	Débit (m^3/s/m)	Longueur du barrage (sous l'eau), m	Débit (m3/j)	Direction du débit
Infiltration à travers la phase aval du barrage (la fosse à ciel ouvert n'est pas prise en compte) - Fosse ouest	7,00E-06	90	50	Du lac 001 à l'aval du barrage
Infiltration à travers la phase aval du barrage (la fosse à ciel ouvert n'est pas prise en compte) - Fosse est	7,00E-06	3	190	Du lac 001 à l'aval du barrage
Infiltration vers la fosse à ciel ouvert (fosse ouest) (profondeur de la fosse à ciel ouvert : 225 m)	4,80E-05	90	36	Du lac 001 à la fosse à ciel ouvert
Infiltration vers la fosse à ciel ouvert (fosse Est) (profondeur de la fosse à ciel ouvert : 185 m)	3,80E-05	300	1	Du lac 001 à la mine à ciel ouvert

7. Traitement de l'eau de contact

7.1 Général

Ce projet prévoit deux qualités d'eau distinctes : l'une contaminée uniquement par des matières en suspension (MES) et l'autre contenant des métaux traces.

L'eau contaminée uniquement par des MES provient du pompage de dénoyage de la fosse et de la mine souterraine, ainsi que du ruissellement des haldes à stériles non générateurs d'acide (NGA) et de la zone industrielle. Ces flux sont traités à l'aide de bassins de sédimentation, comme décrit à la **Section 5.5**.

L'eau contenant des métaux traces provient des stériles potentiellement générateurs d'acide (PGA), des résidus et des eaux usées de l'usine de traitement. Cette eau est traitée à l'aide d'un procédé physico-chimique afin de garantir le respect des limites de rejet. Le procédé de traitement comprend l'ajustement du pH, l'utilisation d'agents chélatants, de coagulants, de floculants et de la clarification. L'effluent traité est ensuite dirigé vers un bassin de polissage. Les boues générées par le processus de traitement sont déshydratées à l'aide de sacs de filtration, et le filtrat obtenu est pompé dans le circuit de traitement pour un traitement supplémentaire.

Selon les études hydrologiques, l'usine de traitement est conçue pour une capacité initiale de 2 000 m³/h, portée à 2 800 m³/h après deux ans afin de tenir compte du développement complet du dépôt de stériles 002. Lors d'événements extrêmes, tels que définis par la Directive 019, le système de traitement fonctionne à un débit plus élevé, car les concentrations en métaux et en particules sont plus faibles en raison du volume d'eau accru,
étant donné que seuls des bassins de sédimentation sont prévus pour l'élimination des MES, un système de traitement physico-chimique d'urgence est également conçu et inclus dans les plans du projet. Ce système utilise un processus physico-chimique impliquant la coagulation, la floculation et la clarification. Les boues générées par ce processus sont gérées à l'aide de sacs de filtration.

Afin de maximiser la réutilisation de l'eau, l'eau de procédé est prélevée à partir du bassin de polissage

7.2 Conception de l'usine de traitement des eaux

7.2.1 Métaux traces

Les eaux de contact provenant des stériles, des résidus et des eaux usées de l'usine de traitement doivent être traitées afin d'éliminer les métaux traces conformément aux critères de rejet définis dans la directive 019 (D019) et le règlement sur les effluents des mines de métaux et de diamants (REMMD). La conception préliminaire de l'usine de traitement des eaux contenant des métaux traces (UTEMT) comprend les éléments suivants :

- Conteneurs préfabriqués et chauffés
  - Facilement déployables sur site pour une installation modulaire et flexible.
- Conteneur de traitement
  - Ajustement du pH à l'aide d'une solution d'hydroxyde de sodium (NaOH) ;
  - Précipitation des métaux traces sous forme d'hydroxydes et/ou de sulfures métalliques à l'aide d'un agent chélatant ;

- Coagulation pour coprécipiter les solides colloïdaux en suspension et les précipités métalliques en les liant à l'hydroxyde ferrique, et
- Floculation pour favoriser la formation de flocs plus gros et décantables.

- Clarificateur conteneurisé avec ballast à micro-sable
  - Un système conteneurisé comprend un réservoir de mélange rapide, un réservoir réacteur de floculation et un clarificateur à lamelles ;
  - Le micro-sable est utilisé pour améliorer l'efficacité de décantation des flocs, et
  - un hydrocyclone sépare le micro-sable des boues pour le réutiliser.
- Boîte de répartition
  - Permet la recirculation des boues en amont dans le processus de traitement afin d'ensemencer et d'améliorer la formation de particules.
- Sacs de filtration pour la déshydratation des boues
  - Trois baies de filtration sont prévues pour les premières étapes de l'exploitation minière ;
  - Une quatrième baie est ajoutée une fois que la mine atteint son plein développement ;
  - Lorsqu'un sac de filtration est plein, il est mis hors service pour permettre la consolidation des boues, et
  - le filtrat est collecté dans un fossé et renvoyé vers le système de traitement via une pompe de puisard.

Il est important de noter que le processus de traitement décrit ci-dessus sera affiné et optimisé au cours de la prochaine phase d'ingénierie. Des ajustements seront apportés à mesure que des données supplémentaires seront disponibles, notamment en ce qui concerne la qualité prévue de l'eau à traiter et à gérer. Cela comprend la caractérisation géochimique actualisée des stériles, des résidus et des effluents de traitement, ainsi que les conclusions de l'étude d'impact environnemental du projet.

Les dessins CASN-A-361-IN-PID-0001 à 0010 et CASN-A-362-PR-0001 et 0002 montrent le schéma P&ID et le schéma PFD du système.

7.2.2 Élimination des MES

Les eaux de contact provenant des stériles NGA (halde 001), de la zone industrielle et de dénoyage de la fosse et de la mine souterraine contiendront des MES. Un traitement par décantation naturelle dans des bassins de sédimentation est nécessaire, comme décrit à la **Section 5.5.2.1**. Cependant, certaines eaux de contact, en particulier celles provenant de l'ancien lac 001 après dénoyage, peuvent contenir des niveaux élevés de MES. Pour y remédier, un second système actif de traitement de l'eau est conçu comme mesure de contingence, et n'est déployé que si les niveaux de MES s'avèrent trop élevés pour être gérés adéquatement.
La conception préliminaire de l'unité de traitement des matières en suspension (UTMES) comprend les éléments suivants :

- Conteneurs préfabriqués et chauffés
  - Facilement déployables sur site pour une installation modulaire et flexible.
- Clarificateur conteneurisé avec ballast à micro-sable
  - Le système conteneurisé comprend un réservoir de mélange rapide, un réservoir de floculation et un clarificateur à lamelles.
  - Le microsable est utilisé pour améliorer l'efficacité de décantation des flocs.
  - Un hydrocyclone sépare le microsable des boues pour le réutiliser.

- Sacs de filtration pour la déshydratation des boues
  - Trois baies de filtration sont prévues pour les premières phases de l'exploitation minière.
  - Une quatrième baie sera ajoutée une fois que la mine aura atteint son plein développement.
  - Lorsqu'un sac de filtration est plein, il est mis hors service pour permettre la consolidation des boues.
  - Le filtrat est collecté dans un fossé et transféré vers le bassin de polissage à l'aide d'une pompe de puisard.

Les dessins CASN-A-361-IN-PID-0001 à 0006 et CASN-A-362-PR-0001 montrent le schéma P&ID et le schéma PFD du système.

7.3 Stations de pompage

Des stations de pompage sont nécessaires pour transférer l'eau de contact à travers le site et pour alimenter en eau les activités minières. Les objectifs des stations de pompage sont les suivants :

- Pomper l'eau de contact des bassins de ruissellement vers des systèmes de traitement de l'eau actifs ou passifs. Comme mentionné à la **Section 5.1**, cela comprend le pompage actif de la fonte des neiges centenaire lors d'inondations environnementales.
- Pomper l'eau traitée du bassin de polissage vers l'usine de traitement, l'usine de pâte et la mine souterraine.

En fonction de la profondeur du bassin de collecte (supérieure ou inférieure à 6 m), des pompes centrifuges ou verticales sont utilisées pour transférer l'eau de contact. Des systèmes de purge sont conçus pour chaque pipeline : soit à l'aide de casse-vide et de vannes de vidange pour les conduites transportant de l'eau sans contact, soit à l'aide de systèmes de raclage avec compresseurs pour l'eau de contact.

Chaque station de pompage comprend une pompe de secours pour assurer la redondance. Un stock suffisant de pièces de rechange est maintenu pour permettre des réparations rapides en cas de panne. Toutes les pompes sont équipées de variateurs de fréquence (VDF) pour ajuster les débits en fonction des conditions météorologiques. Les tuyaux sont dimensionnés en fonction de la hauteur manométrique totale et sont en PEHD afin de minimiser les pertes de charge. Une canalisation dédiée dessert chaque station de pompage. Toutes les canalisations sont installées au-dessus du sol sur des supports le long de la route. La canalisation transportant l'eau traitée vers les installations de traitement est entièrement isolée et chauffée afin d'éviter le gel.

La figure W13 présente la configuration type d'une station équipée de pompes à turbine verticales.

Le **Tableau 7-1** résume les spécifications des pompes utilisées pour la gestion de l'eau dans les stations de pompage sur site. Dans des conditions normales, les pompes fonctionnent à 40 % de leur capacité nominale. Les schémas P&ID et PFD des stations de pompage figurent dans les dessins CASN-A-360-IN-PID-0001 à 0002 et CASN-A-360-PR-PFD-0001 à 0008.

Tableau 7-1 Liste des stations de pompage d'eau de contact

Station de pompage	Bassin 1 vers bassin de polissage	Bassin 1a vers bassin de polissage	Bassin 2 vers traitement	Bassin 3 vers traitement	Bassin d'eau de contact n° 1 vers bassin de sédimentation	Bassin de contact n° 2 vers bassin de sédimentation	Bassin de polissage vers l'usine de traitement	Traitement vers bassin de polissage
identification d'équipement	P1-PMP-00X	P1a-PMP-00X	P2-PMP-00X	P3-PMP-00X	BC1-PMP-00X	BC2-PMP-00X	PP-PMP-00X	CWT-PMP-00X
Débit de conception(m^3/h)	592	362	706	2060	1450	750	379	2800
Conception TDH (m)	57	11	25	37	17	3,5	21	5
Type de pompe	Pompe centrifuge horizontale	Pompe centrifuge horizontale	Pompes à turbine verticales	Pompes à turbine verticales	Pompe centrifuge horizontale	Pompe centrifuge horizontale	Pompes à turbine verticales	Pompe d'aspiration
Nombre de pompes	1 + 1	1 + 1	1 + 1	2 + 1	2 + 1	1 + 1	1 + 1	3
Diamètre de la conduite(mm)	350	350	400	600	500	350	300	650
Matériau de la conduite	PEHD	PEHD	PEHD	PEHD	PEHD	PEHD	PEHD	PEHD

8. Production d'eau potable et traitement des eaux usées

8.1 Production d'eau potable

8.1.1 Pompes et conduite

Une barge flottante équipée d'une pompe est installée sur le lac 308 afin d'alimenter en eau douce la production d'eau potable. Une conduite de recirculation permet à l'eau de circuler autour de la barge afin d'éviter qu'elle ne gèle. La conduite est isolée et tracée afin d'assurer une protection contre le gel. Le **Tableau 8-1** présente les spécifications de la pompe et de la conduite.

Tableau 8-1 Spécifications de la pompe à eau potable et du système de conduite

Station de pompage	Lac 308 à l'usine de production d'eau potable
Identification d'équipement	FW-PMP-00X
Débit de conception (m^3/h)	10 + 15 (recirculation)
TDH nominal (m)	62
Type de pompe	Pompes submersibles sur barge
Nombre de pompes	1 + 1
Diamètre de la conduite (mm)	75
Matériau de la canalisation	PEHD
Protection contre le gel	Isolation 3 pouces + traçage thermique

8.1.2 Traitement

Les eaux de surface du lac 308 sont traitées toute l'année par ultrafiltration et nanofiltration afin d'éliminer les matières en suspension totales (MES) et le carbone organique total (COT). Le système de traitement est situé à côté du camp.

La conception préliminaire de l'usine de production d'eau potable comprend les éléments suivants :

- Conteneurs préfabriqués et chauffés pour un déploiement modulaire et flexible sur site ;
- Unités d'ultrafiltration;
- Unités de nanofiltration;
- Système de désinfection par UV;
- Système d'injection de chlore;
- Réservoirs de stockage d'eau potable et;
- NSP (nettoyage sur place) pour le nettoyage des membranes.

L'eau résiduelle issue du processus NSP est neutralisée avant d'être acheminée vers le système de traitement des eaux usées, afin de ne pas interférer avec les processus de traitement biologique. Les schémas détaillés du digramme de flux et les schémas de tuyauterie et d'instrumentation (P&ID) sont fournis dans les dessins CASN-A-341-IN-DWG-0001 et 0002.

8.2 Traitement des eaux usées

8.2.1 Traitement

Toutes les eaux usées domestiques provenant du camp et des installations de la zone industrielle sont collectées et acheminées vers un système central de traitement des eaux usées. Le dessin CASN-A-370-GT-DWG-0001 montre l'emplacement préliminaire du traitement.

La conception préliminaire du système de traitement des eaux usées comprend les éléments suivants :

- Conteneurs préfabriqués et chauffés
  - Facilement déployables sur site pour une installation modulaire et flexible.
    - Un bac à graisse situé sur la ligne provenant de la cuisine.
    - Un réservoir d'égalisation pour amortir les pics de débit générés lors des rotations d'équipes.
  - Un réacteur biologique – réacteur à lit biologique mobile (RLBM) pour l'élimination de la DBO et du COT.
    - Une élimination du phosphore par coagulation au sulfate ferrique
  - Une clarification par flottation à air dissous (FAD)
    - Une étape de désinfection des effluents traités à l'aide de lampes UV.
  - La gestion des boues consiste en un filtre-presse pour déshydrater les boues. Les boues sèches sont éliminées avec les autres déchets (matières non dangereuses).

De plus, un séparateur de graisses est prévu pour les effluents de la cuisine. Un réservoir d'égalisation doit être mis en place pour amortir les pics de débit générés lors des rotations d'équipes.

8.2.2 Rejet

Les eaux traitées sont accumulées dans une station de pompage pour être transférées vers le bassin de polissage. Un brise-vide est inclus au point haut de la conduite afin d'assurer le drainage par gravité de la conduite après chaque pompage. Le **Tableau 8-2** présente les caractéristiques de la station de pompage.

Tableau 8-2 Station de pompage utilisée dans le projet pour évacuer les eaux usées domestiques traitées

Identification de l'équipement	SWT-PMP-00X
Débit de conception (m3/h)	6
TDH nominal (m)	15,5
Type de pompe	Centrifuge
Nombre de pompes	1 + 1
Diamètre de la conduite (mm)	75
Matériau de la conduite	PEHD
Protection contre le gel	Disjoncteur à vide pour vidanger la conduite par gravité

9. Point de rejet final

9.1 Généralités

Il n'y aura qu'un seul point de rejet pour l'ensemble du site minier. Le bassin de polissage recueille tous les effluents traités produits par les différentes stations de traitement des eaux, afin d'assurer un traitement final ainsi qu'une homogénéisation. Compte tenu de la proximité entre le bassin de polissage et la rivière CE015, les effluents finaux traités sont rejetés par gravité .

Le système de traitement de l'eau est conçu pour répondre aux critères de rejet établis dans la Directive 019 et le REMM (MDMER) (présentés au Tableau 4-4). Cependant, puisque l'ensemble des effluents miniers est dirigé vers l'étang de polissage, une atténuation supplémentaire des concentrations de contaminants est attendue avant le rejet final.

Les concentrations finales au point de rejet ont été calculées à partir des éléments suivants :

- La qualité de l'eau à la sortie du système de traitement;
- La qualité de l'eau provenant du Stockpile 001 (Vision Geochemistry, 2025);
- La qualité de l'eau de dénoyage issue de l'étude hydrogéologique de base.

Le tableau suivant présente les concentrations maximales calculées sur une période d'un an sous des conditions normales de précipitations. Les concentrations mesurées dans les eaux de surface, provenant de la ligne de base hydrogéologique réalisée par BBA, sont également présentées.

Tableau 9-1 Concentration en contaminants dans l'effluent final ainsi que dans le milieu naturel

	Aluminium	Antimoine	Arsenic	Cadnium	Cuivre	Lithium	Nickel	Uranium
				mg/L				
Effluent final	**0,040**	**0,019**	**0,063**	**0,005**	**0,001**	**0,012**	**0,012**	**0,005**
Eau de surface	**0,139**	**0,005**	**0,001**	**31,03**	**0,001**	**Inconnu**	**0,184**	**0,001**

Une étude de modélisation de la dispersion a été réalisée afin d'évaluer la manière dont les contaminants se dispersent dans la rivière puis dans le lac. L'objectif principal était de s'assurer que les contaminants ne s'accumulent pas dans l'eau et qu'ils se dispersent uniformément dans l'environnement. Dans le **Tableau 9-1** , seul l'arsenic est réglementé par la Directive 019 (ou le REMM/MDMER) et dépasse les critères applicables. Par conséquent, l'arsenic est le seul paramètre qui sera modélisé.

9.2 Diffusion de rejet

Afin d'assurer un mélange adéquat de l'effluent final traité dans l'environnement récepteur, un système de diffuseur de rejet souterrain est nécessaire. Le rejet du bassin de polissage se compose de trois (3) tuyaux de 36 pouces de diamètre, qui se réduisent progressivement à 24 pouces, 16 pouces et 6 pouces de diamètre dans la rivière. Cette réduction du diamètre assure une vitesse adéquate dans le système de diffuseur.

Chaque tuyau immergé mesure 90 mètres de long et est équipé de 14 diffuseurs de 6 pouces de diamètre. Chaque diffuseur est équipé d'un clapet anti-retour pour empêcher le refoulement. Afin de maintenir les lignes de diffusion immergées, même lorsqu'elles sont vides, des blocs de lest en béton pesant 610 livres chacun sont utilisés.

La figure W14 illustre la configuration détaillée du système de diffusion.

9.3 Diffusion dans la rivière

9.3.1 Méthodologie

Afin d'évaluer la manière dont les contaminants à l'état de traces présents dans les effluents finaux de la mine se dispersent dans l'environnement, un modèle utilisant le logiciel HEC-RAS (v. 6.7) a été développé pour la rivière. Le modèle simule les processus d'advection-dispersion sur un tronçon de 4,3 km de la rivière (de l'entrée du canal de dérivation à l'entrée du lac 027), en intégrant les conditions d'écoulement du modèle hydraulique 1D et les caractéristiques des effluents (concentration). La simulation suit la concentration du contaminant (arsenic) le long du tronçon, identifiant le point où la concentration se stabilise et se mélange uniformément avec le débit de la rivière.

Pour les conditions aux limites, l'effluent est introduit au km 2,5, avec une concentration constante en arsenic de 0,06 mg/l, conformément aux critères de conception. D'après les mesures de la BBA (2024), les conditions initiales de l'arsenic dans la rivière (km) sont de 0,001 mg/l. Les mesures ont été effectuées au km 2,8 de la rivière, soit environ 0,3 km en aval du point de rejet des effluents. (Figure W15). Elles peuvent donc représenter l'état initial du contaminant dans la rivière.

Pour la simulation hydraulique, on suppose que la rivière se trouve dans des conditions de débit moyen avec une valeur de débit de 3,1 m^3/s à l'entrée du canal de dérivation. De plus, comme mentionné dans les sections précédentes, la base de conception pour le débit à partir du point de rejet des effluents est de 30 % du débit du canal de dérivation (au ratio maximal). Par conséquent, une valeur de débit de rejet de 0,93 m^3/s a été appliquée comme condition limite de débit. Le **Tableau 9-2** résume les conditions d'écoulement et les paramètres de qualité dans la rivière.

Tableau 9-2 Conditions limites pour le débit et la qualité de l'eau

	Débit d'écoulement - m^3 /s	Concentration de contaminants (arsenic) – mg/l
En amont (canal de dérivation)	3,1	0,001
Point de rejet des effluents	0,93	0,06

9.3.2 Résultats

Le domaine est initialisé avec C = 0,001 mg/l pour l'arsenic. Les conditions aux limites pour les valeurs de débit sélectionnées sont ensuite appliquées. Les résultats du profil longitudinal simulé de la concentration en arsenic dans la rivière sont présentés dans la figure W16. La concentration en arsenic dans la rivière après équilibre est de 0,02327 mg/l (ou 23,3 µg/l). En amont du point de rejet des effluents, la concentration reste constante à sa valeur initiale de C = 0,001 mg/l. Au niveau du point de rejet, la concentration simulée atteint une valeur maximale de C = 0,02344 mg/l, et en aval (à l'entrée du lac 027), elle est réduite à C = 0,02327 mg/l.

Selon la Directive 019 (MELCCFP, 2025), la concentration maximale en arsenic doit être de 0,1 mg/Litre. D'après les résultats, la concentration simulée est inférieure à la valeur recommandée dans la Directive 019 (2025) d'environ 0,077 mg/Litre. Ainsi, l'augmentation de la concentration d'arsenic dans la rivière attribuable au rejet d'effluent demeure conforme aux limites acceptables établies par les lignes directrices.

Selon les lignes directrices de la Directive 019 (MELCCFP, 2025), la concentration maximale d'arsenic permise est de 0,1 mg/L. D'après les résultats obtenus, la concentration simulée est d'environ 0,085 mg/L, soit sous la valeur exigée par la Directive 019 (2025). Ainsi, l'augmentation de la concentration d'arsenic dans la rivière attribuable au rejet des effluents demeure conforme aux exigences réglementaires.

La figure W16 montre également que la zone de mélange longitudinale, définie comme la région où la concentration passe de la valeur initiale de 0,001 mg/l à la valeur finale de 0,02327 mg/l, s'étend sur environ 200 mètres en aval du point de rejet des effluents. Cela indique qu'au moment où le traceur atteint 200 mètres en aval du point de rejet, la concentration en arsenic est complètement mélangée. Par conséquent, le fluide est complètement mélangé avant d'atteindre le lac 027. La figure W17 présente la variation de la concentration en arsenic en aval, à l'entrée du lac 027 (à environ 4,3 km de l'entrée du canal de dérivation). D'après cette figure, le fluide mélangé atteint le lac environ 2 heures après le début, et la concentration atteint sa valeur maximale (0,02327 mg/l) après 4 heures.

10. Évaluation hydrogéologique (Halde 002)

La halde 002 se composera à la fois des stériles PGA/LM et des résidus non PGA/LM. La disposition de ces matériaux nécessite un niveau de protection A conformément à la directive 019 (MELCCFP, 2025). Le niveau de protection A exige que les conditions hydrogéologiques en dessous et autour de l'installation de disposition, ou les mesures d'atténuation mises en place, soient suffisantes pour empêcher de manière toute dégradation significative de la qualité des eaux souterraines due à une éventuelle infiltration provenant de l'installation de stockage. La directive 019 exige qu'une étude de modélisation hydrogéologique soit réalisée afin d'estimer les taux de percolation verticale et la simulation numérique du transport des contaminants générés par les matériaux stockés dans la halde de disposition.

Un modèle numérique hydrogéologique en 3D a été développé pour évaluer l'efficacité des mesures de contrôle des infiltrations proposées, en l'occurrence une géomembrane sous la halde 002 pendant l'exploitation de la mine, suivie de l'installation d'une couverture imperméable après la fermeture de la mine, au niveau de la halde 002, afin d'empêcher le lessivage de l'arsenic et d'étayer la prise de décision pour la conception de la halde. Le développement du modèle et les résultats sont détaillés dans le rapport CASN-A-370-HY-REP-0002 d'AtkinsRéalis et un résumé est fourni ci-dessous.

10.1 Modèle numérique 3D

Le modèle a été développé en trois phases. Le modèle pré-exploitation tenait compte des conditions actuelles du site, avant le développement de la mine, et a été utilisé pour calibrer le modèle à l'aide de données de terrain. Le modèle des opérations minières supposait une halde 002 entièrement développée et une fosse minière pleine à partir de la première année jusqu'à la fin de l'exploitation, et la phase post-fermeture, à partir de la fin de l'exploitation pendant 180 ans, supposait une fosse réinondée et une halde 002 recouverte.

Les résultats du modèle d'écoulement des eaux souterraines suggèrent que l'installation de la géomembrane sous la halde 002 modifiera les directions d'écoulement des eaux souterraines vers le sud et le sud-ouest, respectivement vers le lac L01 et la fosse minière. L'écoulement modifié des eaux souterraines persiste pendant la phase de fermeture.

Le modèle de transport des solutés simule la percolation des solutés provenant de la halde 002, à travers les géomembranes (au-dessus et en dessous), dans l'environnement environnant. Les résultats du modèle de transport des solutés suggèrent que le lac L02 est le récepteur le plus exposé au risque d'infiltration provenant de la halde 002, mais que le système d'atténuation est efficace, les concentrations de solutés atteignant les récepteurs environnementaux étant inférieures aux critères applicables après 200 ans. Par conséquent, le modèle indique que les mesures proposées sont adéquates pour prévenir toute dégradation significative de la qualité des eaux souterraines due à une éventuelle infiltration provenant de l'installation de stockage.

11. Installation de disposition des résidus

Les résidus générés pendant les opérations de traitement sortiront de l'usine sous forme d'un seul flux unique. Ils seront soit disposés en surface, soit utilisés comme remblai en pâte pour la mine souterraine. Les résidus destinés à être disposés en surface seront déshydratés par séparation en milieu dense (SMD) ou à l'aide d'un filtre-presse à bandes jusqu'à atteindre une teneur en solides d'environ 88 % (Ws/Wt) à l'usine de traitement. Les résidus secs seront transportés vers la halde 002, puis déposés par l'équipement de transport, étalés à l'aide d'un bulldozer et compactés à l'aide d'un compacteur de sol vibrant. La production totale prévue de résidus pendant les 22 ans de durée de vie de la mine est estimée à 71,1 Mt, dont environ 54,0 Mt seront éliminées en surface, et les 17,1 Mt restants seront utilisées pour le remblayage en pâte.

Un processus de sélection de site a été réalisé pour l'étude d'évaluation économique préliminaire (EEP). Deux sites ont été identifiés pour la disposition des résidus et du stérile minier.
La halde 001, située au nord-ouest du site de l'usine, sera utilisée exclusivement pour la disposition des stériles en raison de sa proximité avec la mine à ciel ouvert. La halde 002 située au nord-est de l'usine, sera utilisée à la fois pour le stockage des stériles et des résidus. La conception du volet gestion des résidus comprend la zone de stockage des résidus dans la halde 002 et les infrastructures connexes de gestion de l'eau.

11.1 Considérations générales relatives à la conception

La conception de l'installation de disposition des résidus repose sur les considérations suivantes :

- La directive 19 sur l'industrie minière (MELCCFP, 2025) considère qu'un parc à résidus sec est une zone de retenue sans rétention d'eau. Cela définit les critères de conception du système de drainage et la résistance aux séismes ;
- Les résidus produits à l'usine sont conditionnés à un état suffisamment sec pour permettre leur transport, leur mise en place, leur étalement et leur compaction à l'aide d'équipements de terrassement conventionnels;
- Les résidus seront transportés de l'usine vers la halde 002 à l'aide de camions miniers. Les résidus destinés au remblayage seront pompés vers l'usine de remblayage en pâte ;
- La halde de résidus sera construite selon une méthodologie ascendante ;
- Une berme de démarrage sera prévue au pied de l'installation de stériles;
- Les résidus considérés comme non acidifiants, mais ont été pris en compte comme source de lixiviation des métaux aux fins de la présente étude ;
- La base de la portion réservée aux résidus de la halde 002 sera recouverte d'une géomembrane LLDPE double texture de 1,5 mm ;
- Les eaux de ruissellement provenant de l'empreinte de la halde de disposition sont gérées par des fossés périphériques revêtus et des bassins de collecte ;
- L'excès d'eau des bassins de collecte sera pompé vers la zone industrielle pour y être traité, tant au niveau des matières en suspension totales (MES) que des métaux traces, avant d'être rejeté dans l'environnement ou réutilisé.
- Les pentes externes de l'installation de résidus seront reprofilées en vue de la fermeture
- Dans le cadre des opérations normales. À la fermeture, les surfaces de disposition des résidus seront recouvertes d'une géomembrane, de morts-terrains et de terre végétale avant hydroensemencement.

11.2 Production et caractéristiques des résidus

La production de résidus augmente de 1,9 Mt à l'Année 1 à 5,2 Mt à l'Année 3. De l'Année 4 à l'Année 16, la production se situe entre 4,1 et 4,3 Mt par année. La production diminue à 2,9 Mt à l'Année 17, puis à 1,6 Mt à l'Année 18, et cesse à l'Année 19 avec 1,25 Mt.
. Les informations suivantes ont été utilisées pour l'analyse volumétrique de l'installation :

- La production totale de résidus pour la durée de vie de la mine est de 71,1 Mt.
  - 17,1 Mt de résidus seront utilisés comme remblai, et
  - Les 54,0 Mt restantes seront éliminées dans la halde 002.
- Les essais en laboratoire sur l'échantillon de stériles ont indiqué une densité sèche maximale standard Proctor = 1 958 kg/m3 (ASTM, D698) et une teneur en humidité optimale de 11,7 % (Ww/Ws selon la mécanique des sols) ;
- La densité sèche moyenne *in situ* des stériles SMD compactés dans l'installation pour le calcul volumétrique est supposée être de 90 % de la densité sèche Proctor standard maximale. Cette valeur est d'environ 1,7 t/m^3 et le volume de stockage requis dans la halde 002 est donc de 31,0 Mm^3, et
- les résidus destinés à la disposition en surface seront constitués d'un mélange comprenant les matériaux grossiers primaires SMD (flottés) et degrit, les matériaux grossiers secondaires SMD (degrit), les matériaux fins et ultrafins SMD (flottés et degrit), les matériaux SMD recassés-retamisés (flottés), les fractions magnétiques SMD ainsi que le gâteau de filtre-presse. La fraction dominante est représentée par les matériaux grossiers primaires SMD, qui comptent pour environ 38 % du total, tandis que le gâteau de filtre-presse représente environ 20 % du flux global.

Les informations supplémentaires fournies par les analyses des résidus sont les suivantes :

- Les résidus contiennent environ 3 % de particules fines (limon et/ou argile), environ 57 % de sable et environ 40 % de gravier. La distribution granulométrique est la suivante :
  - D_{80} = 7,68 mm, et
  - Particules fines inférieures à 75 microns = 2,9 %.
- L'échantillon de stériles présente un comportement non plastique et a une densité de 2,68 (ASTM D854), et
- La conductivité hydraulique moyenne des résidus à 1200 kPa est de 9,46E-04 cm/s, ce qui se situe dans la plage de perméabilité des matériaux sableux tels que le sable bien calibré (SW).

Les résultats des essais sont inclus dans le rapport CASN-A-370-GT-REP-0003 d'AtkinsRéalis.

Le **Tableau 11-1** présente la production annuelle prévue pour les flux de résidus, le remblayage souterrain prévu et les résidus destinés à être éliminés en surface à la halde 002.

Tableau 11-1 Production de résidus – disposés et remblayés

Période	Résidus produits	Résidus annuels destinés à l'usine de remblayage par pâte pour les travaux souterrains	Résidus annuels de la halde 002	Tonnage cumulé des résidus destinés à la halde 002
(année)	(Mt)	(Mt)	(Mt)	(Mt)
Y-1	0,28		0,28	0,28
Y1	1,86	0,03	1,83	2,11
Y2	2,32	0,38	1,94	4,05
Y3	5,20	1,12	4,08	8,13
Y4	4,30	0,97	3,33	11,46
Y5	4,30	0,98	3,32	14,78
Y6	4,30	0,93	3,37	18,15
Y7	4,30	0,97	3,33	21,48
Y8	4,30	0,98	3,32	24,8
Y9	4,30	0,99	3,31	28,11
Y10	4,31	0,99	3,32	31,43
Y11	4,28	0,99	3,29	34,72
Y12	4,31	0,99	3,32	38,04
Y13	4,29	1,00	3,29	41,33
Y14	4,30	1,01	3,29	44,62
Y15	4,30	1,01	3,29	47,91
Y16	4,10	0,99	3,11	51,02
Y17	2,85	0,98	1,87	52,89
Y18	1,64	1,02	0,62	53,51
Y19	1,25	0,77	0,48	53,99
Y20	0			
Y21	0			
Y22	0			
Y23	0			
Total	**71,10**	**17,11**	**53,99**	**53,99**

11.3 Description du site de disposition des résidus

La superficie totale du site de la halde 002 est de 218 ha. Le site de disposition a été reculé d'au moins 60 m par rapport aux cours d'eau naturels, aux lacs ou aux habitats piscicoles présumés. La topographie du site varie entre une altitude de 386 m et une altitude de 444 m. La topographie permet le drainage par gravité vers les fossés périphériques. La superficie de la halde 002 est entièrement munie d'un revêtement étanche

La halde 002 contiendra également des stériles PGA. Les résidus seront disposés séparément de la halde de stériles. La superficie de la partie réservée aux résidus de la halde 002 est d'environ 92 ha (42 %). Les forages de condamnation ont été réalisés dans la place occupée par la halde 002. Une étude géotechnique du site et un rapport factuel ont été réalisés pour la halde 002 (BBA, 2024), qui comprenait 12 forages, des échantillonnages et des essais en laboratoire. Les conditions du sol rencontrées dans la superficie de la halde 002 sont décrites dans **la Section 3.4** .

11.4 Description de la disposition des résidus et des infrastructures connexes

La superficie de la halde nécessitera l'abattage des arbres, ainsi que le retrait de la terre végétale et des matières organiques. Les matériaux décapés seront entreposés en vue de leur réutilisation lors de la fermeture. Les morts-terrains présents dans l'emprise et identifiés comme meubles ou saturés seront également excavés, suivant l'inspection d'un ingénieur géotechnicien, puis stockés dans les piles de morts-terrains 004/005. Un reprofilage minimal de l'emprise est prévu, bien que le remblayage de certaines dépressions soit nécessaire. La topographie naturelle de l'emprise permet généralement un drainage gravitaire vers le pourtour de la pile. La cuvette sera ensuite munie d'une géomembrane en LLDPE texturée double face de 1,5 mm d'épaisseur. Un géotextile de protection sera installé au-dessus de la géomembrane, et les résidus pourront être déposés directement sur le géotextile, pourvu que la circulation d'équipement sur le bassin revêtu soit évitée (voir **Figure 11-1**).

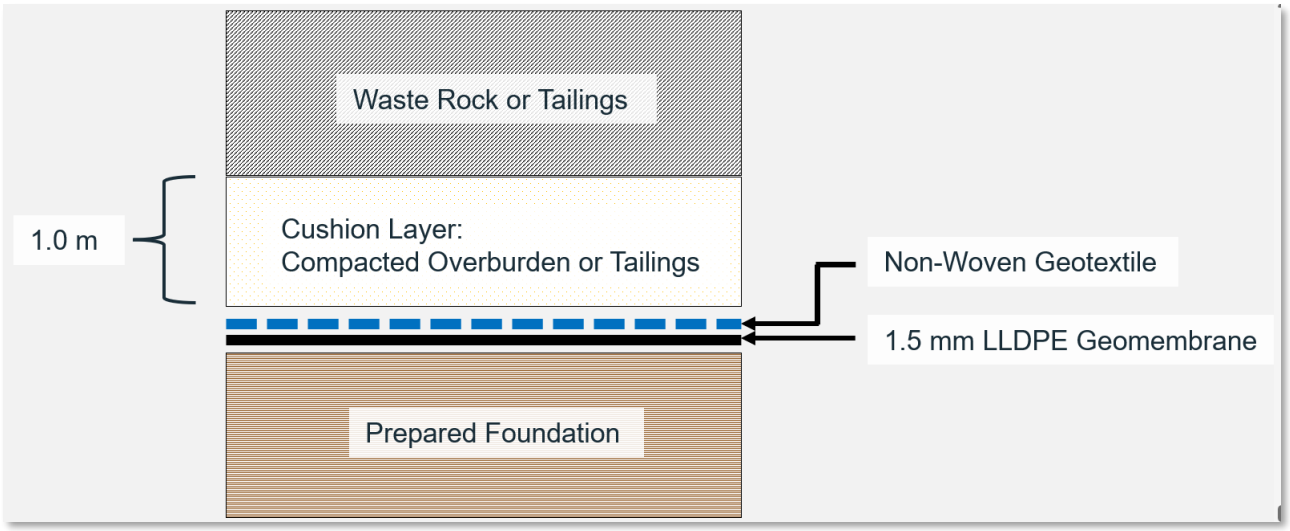


Figure 11-1 profil d'étanchéité de la halde 002

Un remblai de départ sera aménagé au pied aval de la mise en place de stériles. Ce remblai assurera la stabilité du pied de talus et permettra l'accès des véhicules pour faciliter les inspections. Il sera construit à partir de stériles classés « faible risque » et aura une hauteur de 3 m, une largeur de couronne de 5 m et des pentes latérales de 3H:1V. Une couche de sable filtrant/mise en assise de 300 mm d'épaisseur sera installée sous la digue. Sur la pente amont, une couche de transition en sable et gravier de 300 mm sera mise en place, recouverte d'une couche supplémentaire de 300 mm de sable filtrant/mise en assise, assurant une protection adéquate entre la digue en stériles et le géotextile de protection. Le parc à résidus sera construit de manière à faciliter la fermeture, avec une pente externe générale de 3,25 H:1V et des banquettes intermédiaires de 7,5 m de largeur tous les 30 m d'élévation (voir dessin CASN-A-370-GT-DWG-003).

La gestion de l'eau pour la halde 002 comprend une série de fossés périphériques qui drainent par gravité vers deux bassins de collecte. Les eaux de ruissellement provenant de la zone des résidus seront évacuées via les fossés 02-01 et 02-02 vers le bassin 02 et via les fossés 03-01 et 03-02 vers le bassin 03. Les fossés et les bassins seront recouverts d'une géomembrane en polyéthylène linéaire à basse densité (PLDD) de 1,5 mm, recouverte d'un géotextile de rembourrage et d'une couche d'enrochement. Une route d'accès est prévue parallèlement aux fossés et à l'extérieur de ceux-ci. La route d'accès facilite l'accès des véhicules pour les inspections et les réparations et détourne également les eaux de ruissellement provenant de l'extérieur de la superficie de la halde afin qu'elles ne se déversent pas dans les fossés. L'eau collectée dans le bassin 02 sera pompée vers le bassin 03 et l'eau du bassin 03 sera pompée vers l'usine de traitement des eaux pour y être traitée avant d'être rejetée dans le bassin de polissage. Une description plus détaillée de l'infrastructure de gestion de l'eau est fournie à **la Section 5.3** .

11.5 Analyse de la stabilité pour le stockage des résidus

Une analyse de stabilité a été effectuée pour la section critique (section B1) de la zone de stockage des stériles (voir les dessins CASN-A-370-GT-DWG-0002 pour la vue en plan et CASN-A-370-GT-DWG-0004 pour la vue en coupe). Les sections transversales sélectionnées pour les analyses de stabilité sont basées sur la hauteur maximale et les pentes les plus raides, comme indiqué sur les dessins.

Des analyses de stabilité des pentes ont été réalisées pour la halde de résidus (sur la zone de stockage des résidus de la halde 002) à l'aide du logiciel SLOPE/W version 2023.1.2, un programme d'équilibre limite en deux dimensions développées par Geo-Slope International Limited. La méthode Morgenstern-Price a été utilisée pour identifier les surfaces de rupture potentielles dans les pentes des haldes de disposition et leurs fondations sous-jacentes.

11.5.1 Géométrie du modèle

Sur la durée de vie de 22 années de la mine, la production prévue de stériles est estimée à 71,1 Mt. Environ 54,0 Mt de ces résidus seront déposés en surface, tandis que les 17,1 Mt restants seront utilisés pour le remblayage en pâte. Les résidus déposés dans la halde 002 sont destinés à stocker 54,0 Mt. Une description détaillée des modèles géométriques de la halde de résidus (pouvant accueillir 54 Mt de stériles) est fournie dans les sous-sections suivantes.

11.5.1.1.1 Exploitation

La géométrie de la section critique B1 pour la phase opérationnelle de la halde à stériles est illustrée dans le dessin n° CASN-A-370-GT-DWG-0004. La halde à stériles présente une pente externe globale de 3,25 horizontal sur 1 vertical (3,25H:1V) et comprend des banquettes intermédiaires de 7,5 m de largeur espacées tous les 30 m d'élévation.
Comme décrit à la **Section 11.4** , le bassin de la halde sera recouvert d'une géomembrane, sur laquelle sera placé un géotextile de rembourrage. L'interface entre le géotextile et la géomembrane est essentielle pour la stabilité de la pente. L'analyse a révélé que la combinaison d'une géomembrane PLDD double texture de 1,5 mm (60 mil) et d'un géotextile non tissé fournissait le FS requis, et cette combinaison a été sélectionnée pour la conception.

De plus, la digue de départ a été intégrée au modèle afin de permettre l'accès des véhicules au pied du parc à résidus pour fins d'inspection. Cette digue de départ, construite à partir de stériles de faible risque, aura une hauteur de 3 m et une largeur de couronne de 5 m, tel qu'illustré au dessin no CASN-A-370-GT-DWG-0004.

11.5.1.1.2 Fermeture

La géométrie de la section critique B1 pour la phase de fermeture de la halde est illustrée dans le dessin n° CASN-A-370-GT-DWG- 0004 . Contrairement au modèle de fermeture appliqué au stérile de la pile 002, celui prévu pour les résidus ne nécessite pas de couche de 30 cm de pierre concassée sur les pentes. À la place, le modèle de fermeture intègre directement une géomembrane en PEHD texturé double face de 1,5 mm, installée immédiatement au-dessus des résidus. Une géogrille est ensuite posée sur la géomembrane pour agir comme couche de drainage. De plus, une couche de 20 cm de matériaux granulaires est ajoutée au-dessus de la géogrille, puis recouverte d'une couche supplémentaire de 20 cm de terre végétale afin de permettre l'hydro-ensemencement. Cette configuration reflète fidèlement la structure de fermeture prévue dans le modèle.

11.5.1.2 Scénarios de chargement et FS minimum

Des analyses de stabilité ont été effectuées dans des conditions statiques et pseudo-statiques. Il est important de noter que le coefficient de sécurité (FS) pour les haldes de disposition classée comme non liquéfiables n'est pas abordé par l'ACB (2019). Toutefois, l'ACB (2019) indique que, si les stériles sont non liquéfiables et ne peuvent s'écouler, l'installation peut être considérée comme une zone d'élimination des déchets similaire à une zone d'élimination des morts-terrains. Il existe des directives de conception pour les décharges et les zones d'élimination des morts-terrains, qui seraient applicables dans ce cas.

Sur la base de ces directives de l'ACB (2019), les valeurs du FS ont été déterminées conformément à la réglementation du Québec (MRNF, 2024) pour les décharges et les haldes de disposition de morts-terrains. Il convient de noter que les directives du MRNF (2024) sont similaires à celles suggérées par le BCMWRPRC (1991a) et Hawley et Cunning (2017). Le FoS minimum requis pour les haldes de disposition des stériles est présenté dans le **Tableau 11-2** les raisons qui ont motivé le choix des conditions de chargement sont expliquées dans les sous-sections suivantes.

Tableau 11-2 Facteurs de sécurité minimaux pour les haldes de résidus (MRNF, 2024 ; BCMWRPRC, 1991a et Hawley et Cunning, 2017)

Condition	Facteurs de sécurité minimaux (MRNF, 2024)	
Classification des conséquences (CDA, 2019)	**Faible à importante**	**Élevé à extrême**
Stabilité locale (chaque banc)		
Statique (condition non drainée)	1,0	1,1
Statique (condition drainée)	1,2	
Stabilité globale (ensemble de la halde de disposition)		
Statique (à l'état non drainé)	1.3	1,5
Statique à long terme	1,5	
Pseudo-statique	1,1	1,3

11.5.1.2.1 Drainé

La condition de chargement drainée reflète la stabilité à long terme et utilise les résistances au cisaillement sous contrainte effective pour tous les matériaux dans le modèle de stabilité des pentes. Un FS minimal cible de 1,5 a été adopté pour les conditions statiques à long terme.

11.5.1.2.2 Non drainé

Les matériaux stériles analysés en laboratoire sont à grains grossiers (AtkinsRéalis, 2025b), ce qui signifie qu'ils peuvent être classés comme drainants. Par conséquent, les conditions de chargement non drainées n'ont pas été prises en compte pour les stériles. On suppose que tous les matériaux organiques, la terre végétale et l'argile susceptibles de générer une pression interstitielle en cas de chargement rapide seront retirés de la superficie de la halde de disposition. Par conséquent, les conditions de chargement non drainées n'ont pas non plus été prises en compte pour les fondations.

11.5.1.3 Sismicité

Cette étude n'a pas inclus d'analyses post-séisme, qui évaluent généralement les résistances résiduelles au cisaillement des matériaux de fondation susceptibles de s'être liquéfiés. Cette décision a été prise sur la base d'études de forages indiquant que les matériaux de fondation ne devraient pas subir de liquéfaction. De plus, les stériles seront compactés à 95 % de la densité sèche maximale standard Proctor, ce qui les rendra non liquéfiables. Par conséquent, la résistance résiduelle n'a pas été incluse dans cette étude. La ABC (2019) précise également qu'une installation de résidus sans eau retenue, telle qu'un empilement à sec, peut être conçue sur la base des lignes directrices relatives aux décharges et aux haldes de disposition de morts-terrains, à condition que les matériaux empilés à sec ne soient pas liquéfiables et ne puissent pas s'écouler. Par conséquent, aucune analyse post-séisme n'a été effectuée pour la halde à stériles.

Au lieu de cela, une analyse pseudo-statique a été réalisée pour évaluer la stabilité dynamique. Une analyse pseudo-statique a été réalisée pour évaluer la stabilité dynamique des haldes de disposition de résidus. Tout terril sec conçu selon la norme GISTM doit répondre aux critères de conception correspondant à la classification des conséquences extrêmes pour les conditions post-fermeture. Le site est classé dans la catégorie D, avec un coefficient d'accélération sismique horizontal (K_h) de 0,1 g (50% du PGA pour un événement survenant une fois tous les 10 000 ans (extrême), extrapolée à partir de NBCC (2020)) utilisée dans l'analyse pseudo-statique. Toutefois, une évaluation des risques sismiques spécifiques au site est recommandée dans la prochaine phase de l'étude. De plus, pendant la phase de conception détaillée, des études géotechniques supplémentaires seront nécessaires pour déterminer si des couches épaisses et faibles sous la superficie des haldes de disposition pourraient présenter un risque de liquéfaction.

11.5.1.4 Propriétés des matériaux

Le **Tableau 11-3** fournit un résumé des paramètres des matériaux et du modèle de matériaux utilisés pour cette étude. Les résidus destinés à être disposés en surface sont constitués d'un mélange comprenant les matériaux grossiers primaires SMD (flottés) et degrit, les matériaux grossiers secondaires SMD (degrit), les matériaux fins et ultrafins SMD (flottés et degrit), les matériaux SMD recassés-retamisés (flottés), les fractions magnétiques SMD ainsi que le gâteau de filtre-presse.

.

Les essais en laboratoire ont permis de déterminer une densité sèche maximale Proctor standard de 1 958 kg/m³ et une teneur en eau optimale de 11,7 % (Ww/Ws). Par conséquent, une masse volumique correspondant à 95 % de la densité Proctor standard, soit 1 860 kg/m³ (18,2 kN/m³), a été retenue dans le modèle. Un angle de frottement effectif de 42° a été estimé à partir des essais triaxiaux CIU (ASTM D4767) en conditions drainées ; toutefois, considérant que ces essais ont été réalisés en laboratoire dans des conditions contrôlées difficilement reproductibles sur le terrain, une valeur conservatrice de **37°** a été adoptée pour l'analyse de stabilité.

La géomembrane PLDD à double texture a été modélisée comme en conditions drainées, avec un angle de frottement effectif de 30,1 degrés et une masse volumique de 9 kN/m³. Parallèlement, le géotextile non tissé a également été modélisé, avec une masse volumique de 1 kN/m³ pour chaque condition de chargement. Ces paramètres de modélisation ont été repris de la base de données AtkinsRéalis et sont basés sur les spécifications de différents fournisseurs.

Les paramètres de densité et de résistance des matériaux de fondation proviennent de l'étude réalisée par BBA (2024). Selon l'interprétation d'AtkinsRéalis, la fondation sous les emprises des haldes 001 et 002 est composée d'une couche d'organique surmontant une unité de sols classés limon/limon sableux/limon avec gravier (ML), elle-même reposant sur une unité de sable limoneux/sable limoneux avec gravier (SM). Sous cette couche se trouve une unité de gravier limoneux avec sable/gravier avec limon et sable (GM), suivie d'une unité de gravier (incluant des cailloux) (GW) située au-dessus du roc. Les valeurs de résistance des matériaux ont été dérivées de l'analyse des valeurs SPT « N » réalisées par BBA, menant aux angles de frottement estimés à 31°, 34°, 38° et 39° et aux masses volumiques de 18,5, 19,0, 20,0 et 20,5 kN/m³, pour les unités ML, SM, GM et GW respectivement, et intégrées dans le modèle.

Tableau 11-3 Paramètres géotechniques des matériaux des haldes à stériles

Description	γ (kN/m³)	C' (kPa)	Φ' (˚)	Modèle de stabilité des pentes
Matières organiques	14	0	18	Mohr-Coulomb
ML - Limon/Limon sableux/Limon avec gravier	18,5	0	31	Mohr-Coulomb
SM - Sable limoneux/Sable limoneux avec gravier	19,0	0	34	Mohr-Coulomb
GM - Gravier limoneux avec sable/gravier avec limon et sable	20,0	0	38	Mohr-Coulomb
GW - Gravier	20,5	0	39	Mohr-Coulomb
Résidus	18	0	37	Mohr-Coulomb
Stériles	20	0	38	Mohr-Coulomb
Géomembrane PLDD double texture de 1,5 mm (couche de base)	9	3,15	30,1	Mohr-Coulomb
Géotextile non tissé (couche de base)	1	3,15	30,1	Mohr-Coulomb
Géomembrane PEHD de 1,5 mm (couverture)	9	0,65	17,8	Mohr-Coulomb

Description	γ (kN/m^3)	C' (kPa)	Φ' (˚)	Modèle de stabilité des pentes
Géogrille (couverture)	9	0,65	17,8	Mohr-Coulomb
Couche protectrice en géomembrane/géotextile	19	0	34	Mohr-Coulomb
Roc	Impenétrable			

11.5.1.5 Hypothèse relative à la surface phréatique

Le modèle a adopté une surface phréatique conservatrice basée sur un modèle en régime permanent, dans lequel la nappe phréatique s'abaisse jusqu'au niveau des drains périphériques situés sous le terrain naturel.

11.5.1.6 Résultats de l'analyse de stabilité

Les résultats sommaires de l'analyse de stabilité des pentes sont présentés dans **Tableau 11-4**. Les résultats détaillés sont présentés dans l'**Annexe D**, rapport AtkinsRéalis CASN-A-370-GT-REP-0002, , figures S9 à S20. L'évaluation s'est concentrée sur les conditions de chargement drainées et pseudo-statiques pour la section critique (section B1 dans le dessin n° CASN-A-370-GT-DWG-0002) de la halde à stériles. Les conditions de chargement non drainées n'ont pas été analysées, car on a supposé que l'eau pouvait s'écouler rapidement du sol. L'étude a pris en compte les défaillances globales et locales, en mettant particulièrement l'accent sur la surface de rupture critique aux interfaces entre la géomembrane et les matériaux géotextiles. Il a été constaté que l'interface entre la géomembrane PLDD à double texture et le géotextile non tissé n'était pas une surface de rupture critique. L'analyse a évalué les mécanismes de rupture circulaires et non circulaires, le mécanisme de rupture non circulaire étant identifié comme le mécanisme prédominant, entraînant le coefficient de sécurité (FS) le plus faible. Par conséquent, les conclusions présentées dans cette note sont basées sur une rupture non circulaire. La phase opérationnelle et la phase de fermeture ont toutes deux été évaluées, mais les résultats n'ont pas différé entre les deux phases.

Le FS le plus bas se produit dans des conditions pseudo-statiques (FS = 1,60), en raison des conditions de chargement dynamique. Comme le **Tableau 11-3**, les configurations et optimisations proposées démontrent que le FS pour les haldes répond aux exigences minimales établies par le Règlement du Québec (MRNF, 2024) dans tous les scénarios de chargement, y compris les défaillances globales et locales.

Tableau 11-4 Coefficients de sécurité pour la stabilité des pentes des haldes

Phase	Section	Conditions de chargement	Exigence minimale de FoS[1]	FoS	Références[3]	Type de défaillance[2]
Opérationnel	B1-B1	Statique (drainé)	1,5	2,13	Figure S9	Global
Opérationnel	B1-B1	Pseudo-statique	1,3	1,60	Figure S10	Global
Fermeture	B1-B1	Statique (drainé)	1,5	2,13	Figure S11	Global
Fermeture	B1-B1	Pseudo-statique	1,3	1,60	Figure S12	Global
Opérationnel	B1-B1	Statique (drainé)	1,2	2,36	Figure S13	Local (banc 1)
Opérationnel	B1-B1	Statique (drainé)	1,2	2,28	Figure S14	Local (banc 2)
Opérationnel	B1-B1	Statique (drainé)	1,2	2,28	Figure S15	Local (banc 3)
Opérationnel	B1-B1	Statique (drainé)	1,2	1,84	Figure S16	Local (banc 4)
Fermeture	B1-B1	Statique (drainé)	1,2	2,3	Figure S17	Local (banc 1)
Fermeture	B1-B1	Statique (drainé)	1,2	2,36	Figure S18	Local (banc 2)
Fermeture	B1-B1	Statique (drainé)	1,2	2,29	Figure S19	Local (banc 3)
Fermeture	B1-B1	Statique (drainé)	1,2	1,90	Figure S20	Local (banc 4)

[1] MRNF, 2024 ; BCMWRPRC, 1991a et Hawley et Cunning, 2017

[2] Le premier banc est celui du haut, les bancs suivants étant disposés chronologiquement vers le bas, en direction de la surface du sol.

[3] Les résultats de l'analyse de stabilité (figures) sont présentés à **l'Annexe D**

12. Stockage des stériles et des morts-terrains

Parmi l'ensemble des sous-produits générés par les opérations minières, les stériles et les morts-terrains seront produits tout au long de la durée de vie de la mine. Deux piles de stériles, deux piles de morts-terrains et deux piles de matières organiques ont été définies conceptuellement. La construction de ces piles se poursuivra de manière continue durant toute la vie de la mine. Les matériaux entreposés dans les piles de morts-terrains et de matières organiques seront réutilisés lors de la phase de fermeture.

La production prévue de matériaux sur les 22 ans de la durée de vie de la mine est évaluée comme suit :

- Stériles: 155,2 Mt.;
  - Stériles non lixiviables (à faible risque) : 74,2 Mt ;
  - Stériles PAG/ML: 81,0 Mt;
- Morts-terrains: 14,0 Mt.
- Matières organiques: 3,2 Mt.

Une partie des stériles non lixiviables sera stockée et disposée dans la halde 001 (45,2 Mt), le reste sera déversé dans la fosse à ciel ouvert (29,0 Mt). Tous les stériles PGA/LM produits seront disposés à la halde 002 et tous les morts-terrains et matières organiques seront stockés dans leurs haldes respectifs.

12.1 Considérations générales relatives à la conception

Les principales références pour la conception des installations de gestion des stériles et des morts-terrains sont les suivantes :

- Technical note – Environmental, social, and hydrological surveys (NIIGAAN, 2022);
- Geochemical characterization of tailings and waste rock (Vision, 2025).
- *GMining Mine Plan*, "CASN-Final_Mining_Mass_Balance".
- Données de référence disponibles telles que les contraintes environnementales, les écosystèmes sensibles et uniques, les plans d'eau de surface, les limites de propriété, les ressources minérales et les concessions minières. Ces informations ont été intégrées dans un système d'information géographique ;
- Données LiDAR fournies par Patriot et extraites des sites web gouvernementaux.

12.2 Production et caractéristiques des stériles et des morts-terrains

La conception des stériles et des morts-terrains repose sur les éléments suivants :

- Les morts-terrains et les stériles extraits lors des différentes phases d'exploitation sont considérés comme des matériaux secs ; par conséquent, les matériaux auront le temps de s'égoutter entre l'excavation et le placement dans la halde de disposition. L'équipement minier transportera le matériau de la fosse vers la zone d'élimination finale ;
- Les haldes de disposition seront constituées par levées successives en élévation, et des hauteurs et largeurs de banquettes adéquates seront maintenues afin d'atteindre l'inclinaison globale de conception ;
- Les eaux de ruissellement provenant des stériles à faible risque de la halde de disposition 001 seront gérées à l'aide de fossés périphériques (fossé 01-01, fossé 01-02, fossé 01A-01 et fossé 01A-2) et de bassins de collecte 01 et 01A. L'eau collectée dans les bassins 01 et 01A sera pompée vers les bassins de sédimentation de la zone industrielle pour la gestion des MES avant d'être rejetée dans l'environnement ou réutilisée dans l'usine de traitement ;
- Les eaux de ruissellement provenant des stériles PGA dans la halde de disposition 002 seront gérées à l'aide de fossés revêtus (fossé 02-02 et fossé 03-01) et de bassins de collecte 02 et 03, tous deux munis de revêtement. Cette eau sera pompée vers la zone industrielle pour y être traitée avant d'être rejetée dans l'environnement ou réutilisée dans l'usine de traitement ;
- Les eaux de ruissellement provenant de la halde de disposition de morts-terrains seront gérées à l'aide d'une série de bassins de rétention situés au pied de la halde ;
- La fermeture des surfaces de stériles à faible risque dans la halde de disposition 001 nécessitera le nivellement des pentes externes à une inclinaison de 3H:1V, la mise en place d'une couche de morts-terrains et de terre végétale et de l'ensemencement hydraulique ;
- La fermeture des surfaces de stériles PGA dans la halde de disposition 002 nécessitera le nivellement des pentes externes à une inclinaison de 3H:1V, la mise en place d'une couche de rembourrage, l'installation d'une membrane géomembrane, le recouvrement de la géomembrane d'une couche de morts-terrains et de terre végétale et de l'ensemencement hydraulique ;
- Les matériaux stockés dans les haldes de disposition de morts-terrains 004 et 005 et les tas de matières organiques seront utilisés pendant la phase de fermeture comme matériaux de remblayage/recouvrement propres ;
- Les matériaux stockés dans les tas de matières organiques seront utilisés pendant la phase de fermeture.
- Production et caractéristiques des matériaux : Le plan d'exploitation minière prévoit une période de montée en puissance de la première à la deuxième année, une baisse au cours des troisième et quatrième année, puis une nouvelle période de montée en puissance au cours de la cinquième année, après quoi la production restera relativement stable jusqu'à la dixième année, où elle commencera à diminuer jusqu'à la dix-neuvième année. Les morts-terrains ne sont attendus qu'aux premières étapes du projet, avec un pic de 3,9 Mt en année -1 et année 1 ; le tonnage total prévu est d'environ 14,0 Mt ;

L'analyse volumétrique des installations de stockage des stériles et des morts-terrains est basée sur les éléments suivants :

- Les haldes de disposition de stériles auront une pente extérieure globale de 3,25H:1V ;
- La granulométrie des stériles devrait être comprise entre 0 et 1 000 mm. Le matériau est considéré comme autodrainant et ne présente pas de teneur en humidité importante ;
- La densité sèche estimée sur place est de 2,0 t/m³. La capacité de stockage requise qui en résulte est donc de 77,2 Mm³ ;
- Les stériles seront stockés dans les haldes de disposition 001 et 002, les stériles à faible risque étant stockés dans la halde de disposition 001 et les stériles PGA dans la halde de disposition 002 ;
- Les stériles à faible risque seront stockés dans la mine à ciel ouvert une fois que la capacité de la halde de disposition 001 aura été atteinte au cours de l'année 9 ;
- Pour les tas de morts-terrains, la densité sèche *in situ* estimée est de 1,75 t/m³. La capacité requise qui en résulte est de 8,01 Mm³, et
- Pour le tas de matières organiques, la densité sèche in situ estimée est de 1,43 t/m³. La capacité requise qui en résulte est de 2,2 Mm³.

Le **Tableau 12-1** présente la production annuelle à stocker dans les haldes de disposition et les tas de morts-terrains, ainsi que le nombre cumulé de tonnes produites et le lieu de dépôt des stériles et des morts-terrains.

Tableau 12-1 Zones de production et de stockage des stériles et des morts-terrains

Année	Production annuelle de stériles à faible risque (Mt)	Cumul des stériles à faible risque dans la halde de disposition 001 (Mt)	Cumul des stériles à faible risque dans la mine à ciel ouvert (Mt)	Production annuelle de stériles PAG (Mt)	Roches stériles PAG cumulées dans la halde de disposition 002 (Mt)	Production annuelle de morts-terrains (Mt)	Matières en excédent cumulées vers le dépôt 004 (Mt)	Stériles cumulés vers le dépôt 005 (Mt)	Production annuelle de matières organiques (Mt)	Matières organiques cumulées dans le dépôt (Mt)
Y-2				0,10	0,10	0,89	0,89			
Y-1	0,77	0,77		1,59	1,69	3,92	4,81			
Y1	1,76	2,53	-	3,83	5,52	3,91	7,00	1,72	0,89	0,89
Y2	6,27	8,79	-	7,08	12,60	0,89		2,61	0,89	1,77
Y3	4,63	13,42	-	5,00	17,60	1,04		3,65	1,39	3,16
Y4	4,37	17,80	-	3,83	21,43	1,07		4,72	-	-
Y5	9,03	26,82	-	7,15	28,60	2,08	-	6,80	-	-
Y6	10,88	37,71	-	8,33	36,91	0,23	-	7,03	-	-
Y7	7,48	45,18	-	6,37	43,27		-		-	-
Y8	8,21		8,21	7,24	50,52		-		-	-
Y9	5,76		13,97	9,59	60,11		-		-	-
Y10	4,35		18,32	8,20	68,32	-	-	-	-	-
Y11	2,40	-	20,72	4,08	72,40	-	-	-	-	-
Y12	3,42	-	24,14	4,66	77,06	-	-	-	-	-
Y13	1,83	-	25,97	1,37	78,43	-	-	-	-	-
Y14	1,65	-	27,62	1,21	79,65	-	-	-	-	-
Y15	1,03	-	28,65	0,55	80,20	-	-	-	-	-
Y16	0,3	-	28,95	0,49	80,69	-	-	-	-	-
Y17	0,03	-	28,98	0,23	80,92	-	-	-	-	-
Y18		-		0,06	80,98	-	-	-	-	-
Y19		-		0,03	81,01	-	-	-	-	-
Y20		-				-	-	-	-	-
Y21		-	-			-	-	-	-	-
Y22	-	-	-			-	-	-	-	-
Y23	-	-	-			-	-	-	-	-
Total	**74,17**	**45,18**	**28,98**	**81,01**	**81,01**	**14,03**	**7,00**	**7,03**	**3,16**	**3,16**

12.3 Description du site de stockage des stériles et des morts-terrains

La halde de disposition 001 est située au nord-ouest du site de l'usine et sera utilisée exclusivement pour l'élimination des stériles à faible risque. La halde de disposition 002 est située au nord-est de l'usine et sera utilisée pour le stockage des stériles et des résidus PGA. La superficie totale de la halde 001 est de 80 ha. La superficie totale de la halde 002 est de 218 ha. La partie de la halde 002 destinée au stockage des stériles PGA est de 126 ha (58 %). Les superficies des haldes ont été décalées d'au moins 60 m par rapport aux cours d'eau naturels, aux lacs ou aux habitats piscicoles présumés. La topographie du site de la halde 001 varie entre 374 m et 400 m d'altitude. La topographie du site de la halde 002 varie entre 386 m et 444 m d'altitude. La topographie des deux haldes permet le drainage des eaux de ruissellement par gravité vers les fossés périphériques.

Les forages de condamnation ont été réalisés dans les superficies des haldes 001 et 002. Une étude géotechnique du site et un rapport factuel ont été réalisés pour les deux haldes (BBA 2024), comprenant 19 forages, des prélèvements d'échantillons et des essais en laboratoire. Les conditions du sol rencontrées dans les superficies des haldes 001 et 002 sont variables et sont résumées dans Les conditions du sol rencontrées dans la superficie de la halde 002 sont décrites dans la **Section** « **11.3** » ci-dessus.

Les haldes de disposition de morts-terrains identifiées dans le plan général sont les suivantes :

- Tas de déblais 004 : zone située au sud-ouest de la limite de la fosse – années -1 à 4 ;
- Tas de morts-terrains 005 : zone située au sud-est de la limite de la phase 2 de la fosse – années 5 à 8 ; et
- Tas de matières organiques : zone située au sud de la halde 001 et au nord de la zone industrielle – années 1 à 3.

12.4 Halde de stériles, piles de morts-terrains et infrastructures connexes

La superficie de la halde 001 couvre 80 ha et sa hauteur maximale est d'environ 95 m. La partie rocheuse PGA de la halde 002 est d'environ 126 ha (58 %) avec une hauteur maximale d'environ 120 m. Les superficies des deux haldes nécessiteront le déboisement et le retrait de la couche arable/des matières organiques. La couche arable et les matières organiques retirées seront stockées dans le tas de matières organiques pour être utilisées lors de la fermeture. Les morts-terrains jugés meubles/saturés dans la superficie seront également retirés, après inspection par un ingénieur géotechnique, et stockés dans les haldes de morts-terrains 004/005. Le bassin de la partie rocheuse PGA/LM de la halde 002 sera recouvert d'une géomembrane LPDD double texture de 1,5 mm. La préparation pour l'installation de la géomembrane comprendra le remblayage des points bas, le compactage de la surface et la mise en place d'une couche de sable servant de coussin aux endroits où la géomembrane pourrait être endommagée par les fondations, par exemple les affleurements de stériles. Un géotextile servant de coussin sera posé sur la géomembrane et une couche de coussin de 1 m d'épaisseur sera posée sur le géotextile avant la mise en place des stériles. La couche de rembourrage pour le développement initial de la superficie sera constituée de morts-terrains extraits de l'exploitation de la fosse ou provenant de carrières locales. Une fois que l'usine de traitement sera opérationnelle et que les résidus seront produits, ceux-ci pourront être utilisés comme couche de rembourrage pour le reste de la superficie (voir le détail 1 sur le dessin CASN-A-370-GT-DWG-004).

Les stériles seront placés en couches de 10 m de hauteur avec des pentes locales d'environ 1,5H:1V. Une marche de 15 m de large est prévue pour chaque banc. Un banc sur trois aura une marche de 22,5 m. Les bancs seront nivelés au bulldozer afin d'obtenir une pente locale de 3H:1V à la fermeture. Le banc le plus large sera en partie conservé lorsque les bancs intermédiaires seront aplatis. Cela facilitera la gestion de l'eau à la fermeture. Cette géométrie offre une pente externe globale de 3,25H:1V (voir les dessins CASN-A-370-GT-DWG-003 et CASN-A-370-GT-DWG-004).

La gestion de l'eau pour les deux haldes de disposition consiste à entourer les superficies des haldes de fossés périphériques et à acheminer l'eau vers des bassins de rétention. L'excès d'eau est pompé des bassins de rétention vers les bassins de sédimentation ou vers l'usine de traitement de la zone industrielle pour y être traité avant d'être rejeté dans l'environnement ou réutilisé dans l'usine. Des routes d'accès sont prévues à côté et parallèlement aux fossés de drainage. Les conduites de pompage de l'eau sont indiquées dans le dessin 001-GE-DWG-0001-C de la CASN-A-001-GE-DWG-0001-C. Le traitement de l'eau est décrit à la **Section 18.3**. Le dessin 001-GE-DWG-001 présente la disposition des infrastructures de gestion de l'eau pour la halde 001 et la halde 002. Une description plus détaillée des infrastructures de gestion de l'eau est fournie à la **Section 5.3**.

Les morts-terrains seront stockés dans quatre zones distinctes (voir les dessins CASN-A-370-GT-DWG-001 et CASN-A-370-GT-DWG-005) :

- La pile de morts-terrains 004, située au sud de la fosse, a une superficie de 23 ha. La préparation de cette zone devrait commencer dès le début des travaux. La gestion de l'eau correspondante consiste en une série de bassins de rétention situés autour du périmètre de la halde. Les bassins de rétention seront construits avec un remblai rocheux à faible risque. Ils stockeront temporairement les eaux de ruissellement, permettront aux sédiments de se déposer, puis s'infiltreront dans l'environnement ou s'évaporeront.
- La pile de morts-terrains 005 est située au sud-est de la fosse ouest et occupe une superficie de 27 hectares. La préparation de cette zone doit être effectuée avant l'aménagement de la fosse est. Quant à la pile 004, la gestion de l'eau consiste en une série de bassins de rétention situés autour du périmètre du tas. Ces bassins stockeront temporairement les eaux de ruissellement, permettront aux sédiments de se déposer, puis s'infiltreront dans l'environnement ou s'évaporeront.
- Deux piles de matières organiques sont situées au sud de la halde 001 et au nord de la zone industrielle. Ils couvrent une superficie d'environ 11 hectares. La préparation de cette zone devrait commencer dès le début des travaux. La gestion de l'eau correspondante consiste en une série de bassins de rétention situés autour du périmètre de la halde de disposition. Ces bassins stockeront temporairement les eaux de ruissellement, permettront aux sédiments de se déposer, puis s'infiltreront dans l'environnement ou s'évaporeront.

12.5 Analyses de stabilité des haldes de stériles

Comme indiqué sur le plan n° CASN-A-001-GO-DWG-0001, la halde 001, située au nord-ouest du site de l'usine, sera exclusivement dédiée au stockage des stériles NGA en raison de sa proximité avec la mine à ciel ouvert. En revanche, la halde 002, située au nord-est de l'usine, est destinée au stockage des stériles PGA et des résidus. Des analyses de stabilité ont été réalisées pour les deux haldes proposées, 001 et 002.

Les analyses de stabilité des pentes ont été réalisées à l'aide du logiciel SLOPE/W version 2023.1.2, un logiciel d'équilibre limite bidimensionnel développé par Geo-Slope International Limited. La méthode Morgenstern-Price a été utilisée pour identifier les surfaces de rupture potentielles dans les pentes des haldes et leurs fondations sous-jacentes. L'objectif principal de ces analyses était de déterminer les surfaces de rupture les plus critiques qui produiraient le facteur de sécurité (FS) le plus conservateur. Le FS est le rapport entre la résistance moyenne

au cisaillement disponible (force de résistance) et la contrainte de cisaillement moyenne mobilisée (force motrice) le long d'une surface de rupture spécifique.

Les sous-sections suivantes résument les détails de ces analyses de stabilité, y compris leurs résultats.

12.5.1 Évaluation de la stabilité de la halde 001

Des analyses de stabilité des pentes ont été effectuées sur une (1) section critique de la halde non génératrice d'acide (NAG) (section A1 pour la halde 001), comme indiqué sur les dessins CASN-A-370-GT-DWG-0001 (plan) et CASN-A-370-GT-DWG-0003 (vue en coupe), où la pile atteint sa hauteur maximale et présente la pente la plus raide.

Les sous-sections suivantes fournissent des détails sur la géométrie de la halde, les propriétés des matériaux, les scénarios de chargement et la surface phréatique utilisés dans le modèle, ainsi qu'une discussion des résultats de l'analyse de stabilité.

12.5.1.1 Géométrie du modèle de la halde 001

La halde 001 a une superficie de 80 hectares (ha) et une hauteur maximale d'environ 90 m. Deux configurations ont été conçues pour la halde 001, tant pour la phase d'exploitation que pour la phase de fermeture. Le profil des fondations a été intégré dans la géométrie du modèle sur la base des informations disponibles sur les forages.

Une description détaillée des modèles géométriques de la halde 001 est fournie dans les sous-sections suivantes.

12.5.1.1.1 Phase opérationnelle

La section critique (section A1) de la géométrie pour les phases opérationnelles de la halde 001 est illustrée dans le plan numéro CASN-A-370-GT-DWG-0003. Pendant la phase opérationnelle, les haldes de stériles sont conçues en couches de 10 mètres de haut, avec des pentes locales d'environ 1,5 horizontal (H) pour 1 vertical (V). Chaque banc a une largeur de 15 mètres, et un banc sur trois à une largeur de 22,5 mètres. Cette conception permet d'obtenir une pente extérieure globale de 3,25 H :1V.

12.5.1.1.2 Fermeture

La section critique (section A1) de la géométrie pour les phases de fermeture de la halde 001 est illustrée dans le plan numéro CASN-A-370-GT-DWG-0003. Pendant la phase de fermeture, les bancs sont conçus avec une pente locale de 3:1 (horizontale à verticale) afin de favoriser une gestion efficace de l'eau. Chaque banc mesure 7,5 mètres de large.

Pour la halde 001, la conception de la fermeture consiste en une couche de 30 cm d'épaisseur de pierre concassée, recouverte d'une couche de 20 cm de terre végétale pour permettre l'ensemencement hydraulique.

12.5.1.2 Scénarios de chargement et valeurs minimales de FS

Les valeurs de FS ont été déterminées conformément à la réglementation québécoise (MRNF, 2024) pour les terrils et les haldes de morts-terrains. Il convient de noter que les directives du MRNF (2024) sont similaires à celles suggérées par le BCMWRPRC (1991a) et Hawley et Cunning (2017). Le FoS minimum requis pour les haldes de stériles est présenté dans le **Tableau 12-2**. Les raisons qui ont motivé le choix des conditions de chargement sont expliquées dans les sous-sections suivantes.

AtkinsRéalis - Sensitive / Sensible [FR]

Tableau 12-2 Facteurs de sécurité minimaux pour la halde 001 et la halde 002 (MRNF, 2024 ; BCMWRPRC, 1991a et Hawley et Cunning, 2017)

Condition	Facteurs de sécurité minimaux (MRNF, 2024)	
Classification des conséquences (CDA, 2019)	**Faible à importante**	**Élevé à extrême**
Stabilité locale (chaque banc)		
Statique (condition non drainée)	1,0	1,1
Statique (condition drainée)	1,2	
Stabilité globale (ensemble de la halde)		
Statique (à l'état non drainé)	1.3	1,5
Statique à long terme	1,5	
Pseudo-statique	1,1	1,3

12.5.1.2.1 Drainé

La condition de chargement drainée reflète la stabilité à long terme et utilise les résistances au cisaillement sous contrainte effective pour tous les matériaux dans le modèle de stabilité des pentes. Un FS minimal cible de 1,5 a été adopté pour les conditions statiques à long terme.

12.5.1.2.2 Non drainé

Le chargement non drainé se caractérise généralement par un chargement rapide et à court terme. Contrairement aux conditions de chargement drainé, le chargement non drainé peut entraîner des pressions interstitielles positives, en particulier dans les sols contractifs. Le FS minimal visé pour les analyses de stabilité à l'équilibre limite non drainé est de 1,3 pour les risques faibles à importants et de 1,5 pour les risques élevés à extrêmes. Toutefois, les haldes de stériles sont drainantes. On suppose que toutes les matières organiques, la couche arable et l'argile susceptibles de générer une pression interstitielle due à un chargement rapide seront retirées de la superficie de la halde. Par conséquent, les conditions de chargement non drainé n'ont pas été prises en compte dans cette étude.

12.5.1.3 Sismicité

Cette étude n'a pas inclus d'analyses post-séisme, qui évaluent généralement les résistances au cisaillement résiduel des matériaux de fondation susceptibles de s'être liquéfiés. Cette décision a été prise sur la base d'études de forages indiquant que les matériaux de fondation ne devraient pas subir de liquéfaction. Cependant, pendant la phase de conception détaillée, des études géotechniques supplémentaires seront nécessaires pour déterminer si des couches épaisses et faibles sous la superficie des haldes de disposition pourraient présenter un risque de liquéfaction.

Une analyse pseudo-statique a été réalisée pour évaluer la stabilité dynamique de la halde 001. Le site est classé dans la catégorie D, avec un coefficient d'accélération sismique horizontal (K_h) de 0,1 g (50% du PGA pour un événement survenant une fois tous les 10 000 ans (extrême), extrapolée à partir de NBCC (2020)) utilisée dans l'analyse pseudo-statique. Cette valeur est supérieure aux exigences applicables aux installations de stockage des stériles, mais elle a été choisie par mesure de prudence et pour assurer la cohérence avec la halde 002. Toutefois, une évaluation des risques sismiques spécifiques au site est recommandée dans la prochaine phase de l'étude.

12.5.1.4 Propriétés des matériaux

Les paramètres de densité et de résistance des matériaux utilisés dans les analyses de stabilité ont été déterminés par AtkinsRéalis, sur la base des études géotechniques menées par BBA (BBA, 2024). Lorsque les données issues des essais sur le terrain ou en laboratoire n'étaient pas disponibles, des hypothèses ont été formulées sur la base de l'expérience d'AtkinsRéalis avec des matériaux similaires. Le **Tableau 12-3** résume les paramètres et les modèles des matériaux utilisés dans cette étude. Une description détaillée des propriétés de ces matériaux est fournie dans les sous-sections suivantes.

Tableau 12-3 Paramètres géotechniques des matériaux – Haldes 001 et 002

Description	γ (kN/m^3)	C' (kPa)	Φ' (˚)	Modèle de stabilité des pentes
Matières organiques/couche arables	14	0	18	Mohr-Coulomb
ML - Limon/limon sableux/limon avec gravier	18,5	0	31	Mohr-Coulomb
SM - Sable limoneux/Sable limoneux avec gravier	19,0	0	34	Mohr-Coulomb
GM - Gravier limoneux avec sable/gravier avec limon et sable	20,0	0	38	Mohr-Coulomb
GW - Gravier	20,5	0	39	Mohr-Coulomb
Stériles	18	0	37	Mohr-Coulomb
Roche stérile	20	0	38	Mohr-Coulomb
Géomembrane LPDD double texture de 1,5 mm (couche de base)	9	3,15	30,1	Mohr-Coulomb
Géotextile non tissé (couche de base)	1	3,15	30,1	Mohr-Coulomb
Géomembrane PEHD de 1,5 mm (couverture)	9	0,65	17,8	Mohr-Coulomb
Géogrille (couverture)	9	0,65	17,8	Mohr-Coulomb
Couche protectrice en géomembrane/géotextile	19	0	34	Mohr-Coulomb
Pierre concassée (à la fermeture)	19	0	38	Mohr-Coulomb
Roc	Impenetrable			

12.5.1.4.1 Fondation

BBA Engineering Ltd. (BBA) a mené une étude géotechnique afin d'évaluer les conditions du sous-sol aux emplacements proposés pour les haldes (BBA, 2024). BBA (2024) a réalisé au total soixante et un (61) forages pour des essais sur le terrain (essais SPT) et des analyses en laboratoire sur l'ensemble du site. Parmi ces forages, onze (11) sont situés dans la halde 001 et huit (8) dans la halde 002. Ces forages ont pour but de déterminer la stratigraphie et d'évaluer les propriétés du sol de fondation. Les échantillons de sol sélectionnés ont été analysés au laboratoire Englobe à Montréal, où des essais ont été effectués pour évaluer la distribution granulométrique, la teneur en eau, la densité et la résistance à la compression uniaxiale (UCS). De plus, des évaluations du module d'élasticité et du coefficient de Poisson ont été réalisées. AtkinsRéalis a analysé les journaux de forage réalisés par BBA, ainsi que les données des essais en laboratoire issus de cette étude, afin d'élaborer des profils de sol pour le site conformément aux normes USCS (Unified Soil Classification System) et ASTM D2487-17 (AtkinsRéalis, 2025a). AtkinsRéalis a interprété les « valeurs N » obtenues à partir du test de pénétration standard (SPT) de BBA afin de formuler des recommandations sur les propriétés matérielles des unités de sol classées.

Sur la base des interprétations d'AtkinsRéalis, les fondations sous la superficie des haldes 001 et 002 sont constituées de matériaux organiques, suivis d'une unité de sol classée SILT/Sandy SILT/SILT avec Gravier (ML). Sous la couche ML, une unité de SABLE limoneux/SABLE limoneux avec gravier (SM) a été identifiée. Sous cette couche SM se trouve une unité de GRAVIER limoneux avec sable/GRAVIER avec limon et sable (GM), suivie d'une unité de gravier (y compris des galets) (GW), qui est située au-dessus de la roc. Les angles de frottement estimés à 31º, 34º, 38º et 39º, ainsi que les poids unitaires de 18,5, 19,0, 20,0 et 20,5 kN/m³, ont été dérivés de l'analyse des « valeurs N » SPT pour ML, SM, GM et GW, respectivement, et ont été utilisés dans le modèle.

12.5.1.4.2 Stérile

Il n'existe aucune donnée de laboratoire disponible pour les stériles. Un angle de frottement effectif de 38° et un poids unitaire de 20 kN/m³ ont été attribués au modèle sur la base de l'expérience antérieure d'AtkinsRéalis avec des matériaux similaires, en adoptant une approche prudente.

12.5.1.4.3 Roc

On suppose que les surfaces de rupture de pente ne traversent pas le roc. Par conséquent, le roc est modélisé comme impénétrable et aucun paramètre de modèle n'a été attribué.

12.5.1.5 Hypothèse relative à la surface phréatique

Le modèle a attribué une surface phréatique prudente sur la base d'un modèle en régime permanent où la nappe phréatique s'abaisse jusqu'au niveau des drains périphériques situés sous le terrain naturel.

12.5.1.6 s des résultats de l'analyse de stabilité pour le stock 001

Les résultats sommaires de l'analyse de stabilité des pentes pour la halde 001 sont présentés dans le **Tableau 12-4**.Les résultats détaillés sont présentés dans l'**Annexe D**, AtkinsRéalis rapport CASN-A-370-GT-REP-0002 figures S21 à S36. Les conditions de chargement drainées et pseudo-statiques ont été évaluées pour la halde 001. Les conditions de chargement non drainées n'ont pas été évaluées, car on a supposé que l'eau pouvait s'écouler rapidement du sol. Les défaillances globales et locales ont été étudiées. Les mécanismes de défaillance circulaires et non circulaires ont été évalués. Le mécanisme de défaillance prédominant, qui a donné lieu au FS le plus faible, a été identifié comme non circulaire. Par conséquent, les résultats présentés dans cette note sont basés sur une défaillance non circulaire.

Il existe une légère différence géométrique entre les phases d'exploitation et de fermeture du projet. Par exemple, le nombre de bancs dans la halde de stériles 001 est plus élevé pendant la phase d'exploitation que pendant la phase de fermeture. Bien que cette différence puisse avoir un impact mineur sur le facteur de sécurité (FS), celui-ci demeure non significatif. Dans l'ensemble, le FS pendant la phase d'exploitation est légèrement supérieur à celui observé en phase de fermeture.

Des variations mineures du FS sont observées entre les défaillances locales sur les différents bancs, attribuées à l'orientation variable des lignes d'entrée-sortie et au positionnement de ces derniers. En général, les bancs situés à des altitudes plus élevées présentent un FS plus élevé que ceux situés à des altitudes plus basses.

Comme le montre le **Tableau 12-4**, les configurations et optimisations proposées démontrent que le FS de la halde 001 répond aux exigences minimales établies par la réglementation québécoise (MRNF, 2024) dans tous les scénarios de chargement, y compris les défaillances globales et locales.

Tableau 12-4 Coefficient de sécurité de l'analyse de la stabilité des pentes de la halde 001

Halde de disposition	Phase	Section	Conditions de chargement	Exigence minimale de FoS	FoS1	Référence4	Type de défaillance
001	Opérationnel	A1-A1	Statique (drainé)	1,5	2,53	Figure S21	Global
001	Opérationnel	A1-A1	Pseudo-statique	1,3	1,91	Figure S22	Global
001	Fermeture	A1-A1	Statique (drainé)	1,5	2,41	Figure S23	Global
001	Fermeture	A1-A1	Pseudo-statique	1,3	1,84	Figure S24	Global
001	Opérationnel	A1-A1	Statique (drainé)	1,2	1,80	Figure S25	Local (banc 1)
001	Opérationnel	A1-A1	Statique (drainé)	1,2	1,30	Figure S26	Local (banc 2)
001	Opérationnel	A1-A1	Statique (drainé)	1,2	1,22	Figure S27	Local (banc 3)
001	Opérationnel	A1-A1	Statique (drainé)	1,2	1,27	Figure S28	Local (banc 4)
001	Opérationnel	A1-A1	Statique (drainé)	1,2	1,26	Figure S29	Local (banc 5)
001	Opérationnel	A1-A1	Statique (drainé)	1,2	1,2	Figure S30	Local (banc 6)
001	Opérationnel	A1-A1	Statique (drainé)	1,2	1,2	Figure S31	Local (banc 7)
001	*Opérationnel*	*A1-A1*	*Statique (drainé)*	*1,2*	*1,38*	*Figure S32*	*Local (banc 8)*
001	Opérationnel	A1-A1	Statique (drainé)	1,2	1,24	Figure S33	Local (banc 9)
001	Fermeture	A1-A1	Statique (drainé)	1,2	2,41	Figure S34	Local (banc 1)
001	Fermeture	A1-A1	Statique (drainé)	1,2	2,33	Figure S35	Local (banc 2)
001	Fermeture	A1-A1	Statique (drainé)	1,2	2,21	Figure S36	Local (banc 3)

[4] Les résultats de l'analyse de stabilité (figures) sont présentés à **l'annexe D**

12.5.2 Halde 002 de stériles Stabilité des pentes

Une analyse de stabilité a été effectuée pour les stériles PAG/ML dans la halde 002 pour la section critique (section H1) (voir les dessins CASN-A-370-GT-DWG-0002 pour la vue en plan et CASN-A-370-GT-DWG-0004 pour la vue en coupe). Dans la section H1, le tas atteint sa hauteur maximale et présente la pente la plus raide.

Les scénarios de chargement, le facteur de sécurité minimal (FoS), les propriétés des matériaux (géotechniques) et les hypothèses relatives à la surface phréatique pour la halde 002 sont identiques à ceux de la halde 001, comme décrit dans Géométrie modèle des stériles dans la halde 002.

La halde 002, qui contient des roches PGA/LM, couvre environ 126 ha (58 % de la superficie totale de la halde 002), avec une hauteur maximale d'environ 120 m. Deux configurations ont été conçues pour la halde 002, couvrant à la fois les phases d'exploitation et de fermeture. Le profil des fondations a été intégré dans la géométrie du modèle sur la base des informations disponibles sur les forages.

Une description détaillée des modèles géométriques de la halde 002 est fournie dans les sous-sections suivantes.

12.5.2.1.1 Phase opérationnelle

La géométrie de la section critique H1 pour la phase opérationnelle de la halde 002 est illustrée dans le dessin n° CASN-A-370-GT-DWG-0004. Pendant la phase opérationnelle, les haldes de stériles sont conçues en couches de 10 mètres de haut, avec des pentes locales d'environ 1,5 horizontal (H) pour 1 vertical (V). Chaque banc a une largeur de 15 mètres, et un banc sur trois à une largeur de 22,5 mètres. Cette conception permet d'obtenir une pente externe globale de 3,25 horizontale (H) pour 1 vertical (V).

Le bassin de la halde 002 est recouvert d'une géomembrane LPDD double texture de 1,5 mm. Un géotextile de rembourrage est placé sur cette géomembrane, suivi d'une couche de rembourrage protectrice d'une épaisseur de 1 mètre.

12.5.2.1.2 Fermeture

La géométrie de la section critique H1 pour la phase de fermeture de la halde 002 est illustrée dans le dessin n° CASN-A-370-GT-DWG-0004. Pendant la phase de fermeture, les bancs sont conçus avec une pente locale de 3:1 (horizontale/verticale) afin de favoriser une gestion efficace de l'eau. Chaque banc mesure 7,5 mètres de large.

Le modèle de fermeture de la halde 002 (PGA/LM) consiste en une couche de 30 cm d'épaisseur de pierre concassée sur la pente, suivie d'une couche de sable de 15 cm d'épaisseur (empruntée à la couverture) pour soutenir la géomembrane. Au-dessus de cette couche, une géomembrane en PEHD double texture de 1,5 mm est incorporée. Une géogrille est ensuite placée au-dessus de la géomembrane, servant de couche de drainage. De plus, une couche de sable de 20 cm d'épaisseur, empruntée à la couverture, est appliquée sur la géogrille, qui est recouverte d'une couche de 20 cm de terre végétale pour faciliter l'ensemencement hydraulique (voir le dessin n° CASN-A-370-GT-DWG-0004). Cette conception garantit une reproduction fidèle de la structure de fermeture prévue.

12.5.2.2 Résultats de l'analyse de stabilité des stériles dans la halde 002 (

Les résultats sommaires de l'analyse de la stabilité des pentes pour les stériles de la halde 002 à la section H1 sont présentés dans le **Tableau 12-5**. Pour les résultats détaillés, se reporter à l'**Annexe D** et plus précisément aux figures S37 à S55. Les conditions de chargement drainé et celles pseudo-statiques ont été évaluées pour la halde 002 ; cependant, les conditions de chargement non drainé n'ont pas été évaluées, car on a supposé que

l'eau pouvait s'écouler rapidement du sol. L'analyse a pris en compte la surface de rupture critique aux interfaces entre la géomembrane et les matériaux géotextiles. Il a été déterminé que l'interface entre la géomembrane LPDD à double texture et le géotextile non tissé n'était pas une surface de rupture critique.

L'analyse a porté à la fois sur les ruptures globales et locales, en tenant compte des mécanismes de rupture circulaire et non circulaire. Le mécanisme de rupture prédominant, qui a donné le FS le plus faible, a été identifié comme non circulaire. Par conséquent, les résultats présentés dans ce rapport sont basés sur une rupture non circulaire.

Dans l'ensemble, le FS pour la halde 002 est inférieur à celui de la halde 001. Cette différence s'explique principalement par la hauteur plus importante de la halde 002 (120 m) par rapport à la halde 001 (90 m).

Il existe des différences géométriques mineures entre les phases d'exploitation et de fermeture. Par exemple, le nombre de bancs dans la halde de stériles 001 est plus élevé pendant la phase d'exploitation que pendant la phase de fermeture. Néanmoins, le FS global pour ces deux phases est assez similaire, malgré les légers changements géométriques.

Les légères variations du FS entre les défaillances locales sur les différents bancs peuvent être attribuées à l'orientation variable des lignes d'entrée-sortie. Cependant, aucune tendance spécifique n'est observée dans le FS en fonction de l'emplacement des bancs.

Comme le montre le tableau 12-5, les configurations et optimisations proposées indiquent que le FS pour la halde 002 répond aux exigences minimales établies par la réglementation québécoise (MRNF, 2024) dans tous les scénarios de chargement, y compris les défaillances globales et locales.

- Il existe certaines incertitudes concernant la résistance des fondations sous la superficie des haldes 001 et 002. Au cours de la phase de conception détaillée, des études géotechniques supplémentaires seront nécessaires pour déterminer si des couches épaisses et faibles sous la superficie des haldes pourraient présenter un risque de liquéfaction. La conception devra être ajustée en conséquence en fonction de ces résultats.

Tableau 12-5 Facteur de sécurité de l'analyse de la stabilité des pentes du PGA dans la halde 002

Halde de disposition	Phase	Section	Conditions de chargement	Exigence minimale de FS	FS	Référence[5]	Type de défaillance
002	Opérationnel	H-H	Statique (drainé)	1,5	2,31	Figure S37	Global
002	Opérationnel	H-H	Pseudo-statique	1,3	1,76	Figure S38	Global
002	Fermeture	H-H	Statique (drainé)	1,5	2,32	Figure S39	Global
002	Fermeture	H-H	Pseudo-statique	1,3	1,75	Figure S40	Global
002	Opérationnel	H-H	Statique (drainé)	1,2	1,63	Figure S41	Local (banc 1)
002	Opérationnel	H-H	Statique (drainé)	1,2	1,49	Figure S42	Local (banc 2)
002	Opérationnel	H-H	Statique (drainé)	1,2	1,31	Figure S43	Local (banc 3)
002	Opérationnel	H-H	Statique (drainé)	1,2	1,37	Figure S44	Local (banc 4)

[5] Les résultats de l'analyse de stabilité (figures) sont présentés à **l'annexe D.**

Halde de disposition	Phase	Section	Conditions de chargement	Exigence minimale de FS	FS	Référence[5]	Type de défaillance
002	Opérationnel	H-H	Statique (drainé)	1,2	1,36	Figure S45	Local (banc 5)
002	Opérationnel	H-H	Statique (drainé)	1,2	1,42	Figure S46	Local (banc 6)
002	Opérationnel	H-H	Statique (drainé)	1,2	1,37	Figure S47	Local (banc 7)
002	Opérationnel	H-H	Statique (drainé)	1,2	1,42	Figure S48	Local (banc 8)
002	Opérationnel	H-H	Statique (drainé)	1,2	1,46	Figure S49	Local (banc 9)
002	Opérationnel	H-H	Statique (drainé)	1,2	1,37	Figure S50	Local (banc 10)
002	Opérationnel	H-H	Statique (drainé)	1,2	1,35	Figure S51	Local (banc 11)
002	Fermeture	H-H	Statique (drainé)	1,2	2,43	Figure S52	Local (banc 1)
002	Fermeture	H-H	Statique (drainé)	1,2	2,37	Figure S53	Local (banc 2)
002	Fermeture	H-H	Statique (drainé)	1,2	2,44	Figure S54	Local (banc 3)
002	Fermeture	H-H	Statique (drainé)	1.2	2,21	Figure S55	Local (banc 4)

13. Fermeture

La phase de fermeture du projet est conçue pour assurer une transition responsable entre l'exploitation active et l'utilisation post-minière des terres, en collaboration avec les communautés des Premières Nations et en conformité avec les réglementations du ministère des Ressources naturelles et des Forêts (MRNF) et du ministère de l'Environnement, de la Lutte contre les changements climatiques, de la Faune et des Parcs (MELCCFP) du Québec. Les principaux objectifs des activités de fermeture et de réhabilitation seront les suivants :

- Éliminer les risques inacceptables pour la santé et assurer la sécurité publique.
- Limiter la production et la propagation de contaminants susceptibles d'affecter l'environnement récepteur et, à long terme, viser à éliminer toute forme d'entretien et de surveillance.
- Assurer la stabilité géotechnique et géochimique à long terme.
- Permettre une restauration progressive.
- Assurer l'acceptabilité sociale.
- Ramener le site à un état qui soit, dans la mesure du possible, conforme à l'écosystème initial ou environnant et visuellement acceptable.
- Rétablir les zones d'infrastructure dans un état compatible avec leur utilisation future.

Le plan de fermeture du site est élaboré conformément au guide provincial (guide de préparation du plan de réaménagement et de restauration des sites miniers au Québec [MRNF, 2024]).
À des fins de planification, des stratégies de fermeture et de remise en état ont été élaborées pour chaque composante de la mine. Une fois l'exploitation minière terminée, la mine sera fermée, remise en état et surveillée conformément à ses autorisations, réglementations et plans.

13.1 Séquence de fermeture

La séquence de fermeture sera planifiée en trois (3) étapes, à commencer par :

- Des travaux de restauration progressifs seront effectués pendant les opérations minières dans les zones devenues actives afin de vérifier le succès des mesures à grande échelle qui seront mises en œuvre pendant la phase de fermeture de la mine.
- Une fois les opérations terminées, la phase post-exploitation débutera, elle comprend le démantèlement des installations industrielles et l'exécution des travaux de fermeture.
- Après le démantèlement des infrastructures de fermeture et des installations de traitement des eaux, la phase de post-fermeture sera amorcée, comprenant l'entretien et la surveillance du site.

Les infrastructures à restaurer sont présentées dans les sections suivantes.

13.2 Fermeture de la zone industrielle et des infrastructures linéaires

Toutes les usines de traitement, les installations électriques, tous les bâtiments administratifs ainsi que les autres structures, infrastructures et équipements industriels seront démantelés et retirés du site pour être éliminés dans un lieu d'enfouissement autorisé. Les matériaux générés pendant le processus de démantèlement seront gérés selon les principes de réduction, de réutilisation, de recyclage et de remise en état. Les dalles et fondations en béton seront brisées ou fissurées pour faciliter le drainage, puis recouvertes de 15 cm de matériau semblable à de la terre végétale avant d'être revégétalisées par ensemencement hydraulique. Les routes d'accès et les anciennes zones de stockage ou de dépôt sur le site minier seront scarifiées afin de rétablir le drainage et de favoriser la revégétalisation.

Il est à noter que la route d'accès toutes saisons de 20 km à partir de la route Trans-Taiga est considérée comme une route multi-usage et restera ouverte au public et aux membres de la communauté crie pendant toute la durée de l'exploitation et après la fermeture de la mine.

Le site de transbordement de Matagami sera détenu et exploité par la ville de Matagami. Par conséquent, la fermeture de ces installations relèvera de leur compétence et celles-ci pourront être maintenues en place pour d'autres utilisateurs à l'avenir. Aucun coût n'a été inclus pour la fermeture.

Des discussions sont en cours avec les actionnaires et les communautés locales afin de déterminer l'avenir du centre culturel des Premières Nations prévu sur le site, ainsi que celui de la ligne électrique. Le client prévoit transférer la propriété à la communauté ; par conséquent, les coûts liés au démantèlement de la ligne électrique et au centre culturel ne sont pas inclus.

13.3 Infrastructure minière : fosse, stériles, résidus et installations de stockage des morts-terrains

Les stratégies de fermeture et de réhabilitation élaborées à ce jour sont les suivantes : des séances d'analyse comparative des scénarios de fermeture des infrastructures (pour la fosse, les haldes 001 et 002) ont été menées dans le cadre de la préparation du plan de fermeture du site afin de déterminer les meilleurs concepts pour chacune de ces infrastructures. Divers concepts de fermeture ont été retenus. Les activités de fermeture pour chacune de ces infrastructures sont présentées ci-dessous :

13.3.1 Halde 001

La halde 001 sera constituée d'une portion de stériles « à faible risque » (Vision géochimie, 2025), tandis que le reste de ces stériles sera disposées dans la fosse à ciel ouvert. Les activités de fermeture prévues pour la halde 001 comprennent les éléments suivants :

- L'emprise de la halde 001 sera reprofilée afin de permettre un drainage efficace vers les fossés de collecte des eaux.
- Une couche de 30 cm de morts-terrains sera placée sur les stériles après le reprofilage afin d'empêcher que la terre végétale ne s'infiltre à travers les vides des stériles.
- Une couche de 20 cm de terre végétale sera ajoutée sur les matériaux granulaires. Ensuite, la surface de la halde 001 sera végétalisée afin de créer un paysage fermé et d'atténuer l'érosion.

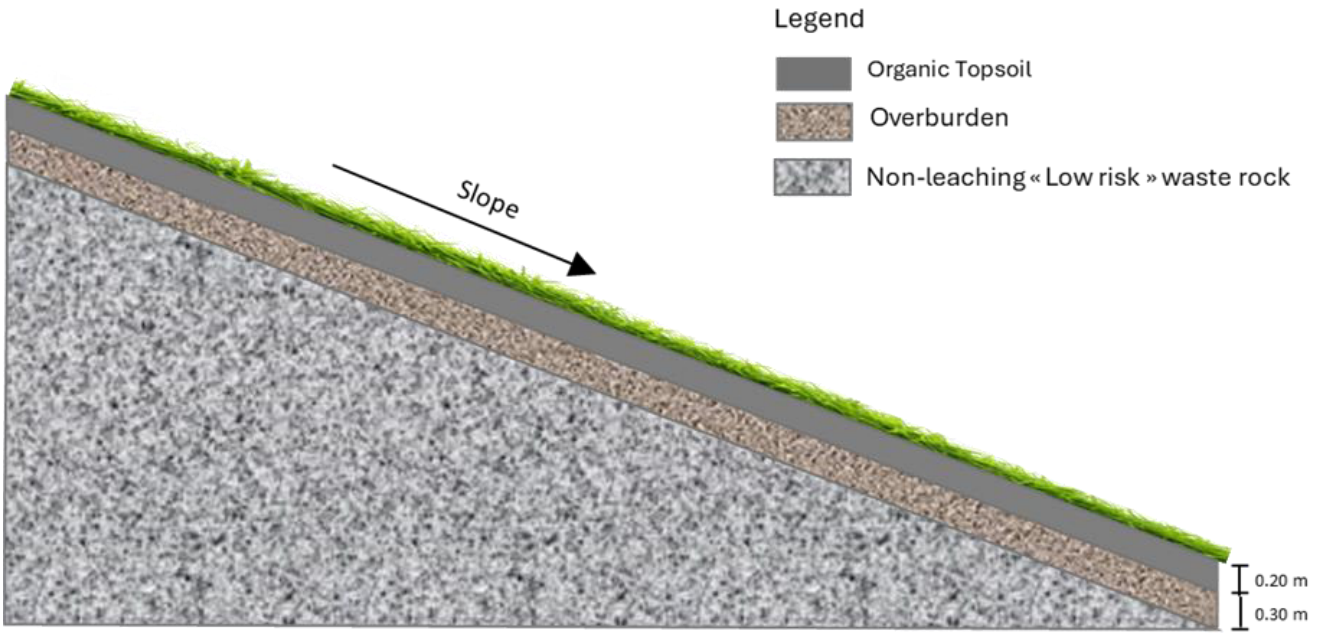


Figure 13-1 Configuration de fermeture de la halde 001

13.3.2 Halde 002

La halde 002 recevra tous les stériles et résidus potentiellement lixiviables (LM), à haut risque ou PGA. En raison de la nature des roches qui seront stockées dans la halde 002, le concept de fermeture retenu pour celle-ci est une couverture d'argile. Ce concept consiste à installer une barrière contre l'infiltration d'eau sur les stériles et résidus à l'aide de matériaux naturels. Le rôle de cette couche imperméable, composée d'argile d'une épaisseur de 1,5 m, est de limiter l'infiltration d'eau et la diffusion d'oxygène vers les matériaux sous-jacents (stériles PGA ou PLM) afin d'éviter la génération de contaminants. En effet, cette couche, qui offre une faible conductivité hydraulique, agit comme une couche de rétention d'eau et limite la diffusion d'oxygène vers les matériaux sous-jacents. Aucune étude n'a été réalisée pour identifier les sources potentielles d'argile. Toutefois, on suppose donc qu'une étude de site d'emprunt sera menée lors des prochaines phases du projet. Dans le cas contraire, un autre concept devra être élaboré.

La surface de la halde 002 sera reprofilée afin de permettre la mise en place du système de couverture et un drainage efficace vers les fossés de collecte d'eau. La configuration générale de ce concept comprend, de bas en haut :

- Une couche de 30 cm de matériau granulaire (mort-terrain) sera placée sur les stériles après le reprofilage.
- Une couverture en argile (1,5 m d'épaisseur) sera ensuite mise en place.
- Une couche de 20 cm de terre végétale servant de support à la végétation sera placée sur la couverture d'argile. Ensuite, la surface de la halde 002 sera végétalisée afin de créer un paysage fermé et d'atténuer l'érosion.
- Un système de drainage permettra d'évacuer les eaux d'infiltration à travers les couches de matériaux de couverture naturels vers des réseaux de fossés périphériques.

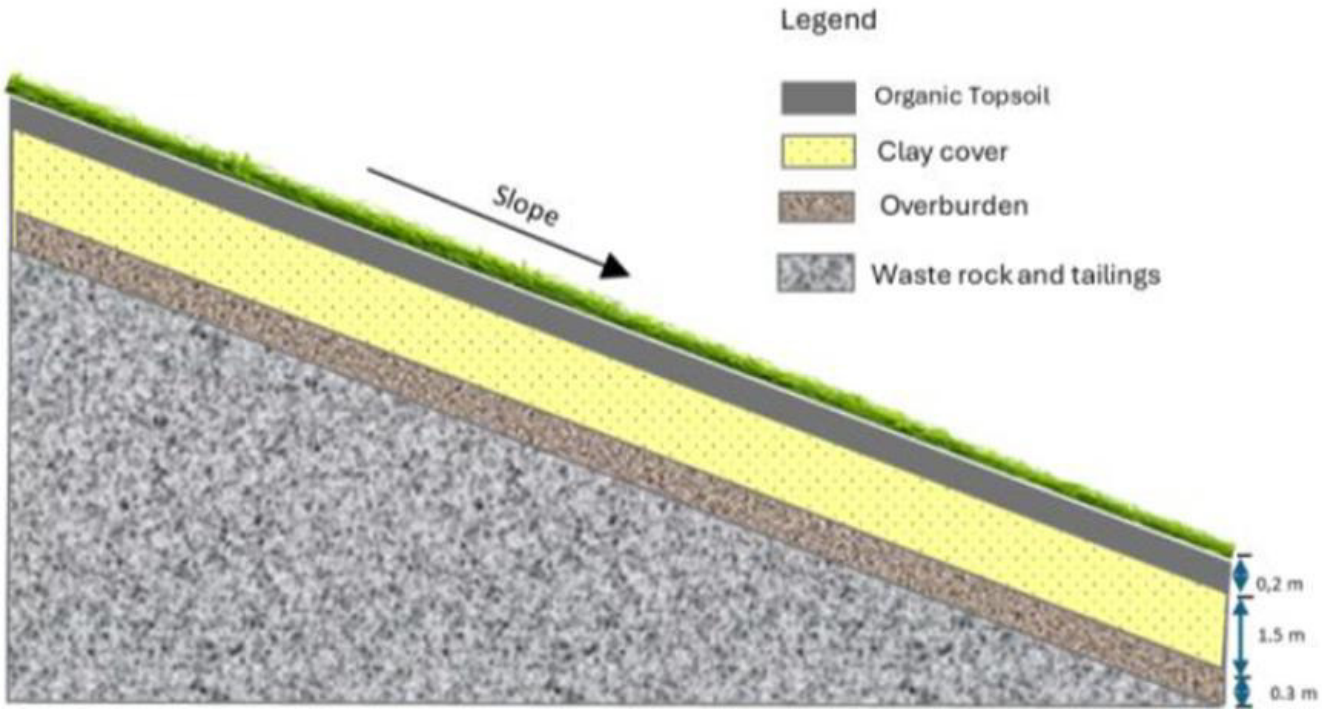


Figure 13-2 Configuration de fermeture de la halde 002

13.3.3 Dépôt de matières organiques et de morts-terrains

Les empilements de terre végétale et de morts-terrains (001, 002, 004 et 005, respectivement) seront utilisés pour les activités de fermeture. Une fois les matériaux utilisés, la superficie restante de ces haldes sera scarifiée afin de briser les surfaces compactées et de favoriser le drainage naturel. Ces zones seront ensuite revégétalisées à l'aide d'un ensemencement hydraulique, qui facilite l'établissement rapide de la végétation et le contrôle de l'érosion.

13.3.4 Mine à ciel ouvert

13.3.4.1 Inondation et sécurisation du site :

Dans le cadre de cette stratégie de fermeture, la mine à ciel ouvert sera laissée à l'inondation naturelle, ce qui entraînera la formation d'un lac de fosse stable qui s'intégrera au système hydrogéologique local. Les activités de fermeture de la mine sont les suivantes :

- Inondation passive de la fosse : laisser le ruissellement naturel et les apports d'eau souterraine inonder la fosse jusqu'au niveau actuel du lac 01 (élévation de 373 m).
- Sécurisation de la fosse par la construction d'une berme de sécurité autour de celle-ci afin d'empêcher les animaux et les personnes non autorisées d'accéder à la fosse inondée.
- Démanteler la petite berme de rétention d'eau.
- Le lac de mine sera relié au canal naturel existant qui se déverse vers le nord.
- Promouvoir la création d'un habitat aquatique grâce à des éléments tels que les chenaux à faible débit.

13.3.5 Voies d'accès

Les stratégies de fermeture et de réhabilitation élaborées sont les suivantes :

- Mise hors service et enlèvement : Toutes les routes d'accès seront entièrement mises hors service, y compris :
  - Retrait des ponceaux et des structures de drainage.
  - Restauration du débit hydrologique naturel.
- Mesures de réhabilitation :
  - Rétablissement de la chaussée pour l'adapter à la topographie environnante.
  - Revégétalisation avec des espèces végétales indigènes afin de prévenir l'érosion.

13.3.6 Restauration du système de gestion de l'eau

Une fois le site restauré et la qualité de l'eau confirmée, les quatre (4) bassins situés dans la zone de traitement des eaux, ainsi que les deux (2) bassins de la zone industrielle, seront remblayés. Les zones seront reprofilées et revégétalisées à l'aide d'ensemencement hydraulique. Avant le début des travaux de terrassement, les sédiments accumulés au fond des bassins seront caractérisés, excavés et soit stockés dans la halde 002, soit transportés vers un site d'élimination autorisé. La géomembrane sera retirée pour permettre le drainage.

Quant aux quatre (4) bassins collectant l'eau des haldes 001 et 002, une brèche sera creusée dans chacune des digues afin d'éviter toute accumulation d'eau au pied des haldes. Les sédiments accumulés au fond de ces bassins seront également retirés et gérés de manière appropriée.

13.4 Programmes de surveillance et d'entretien

Les considérations à long terme comprennent des programmes de surveillance visant à évaluer la stabilité géochimique et les risques de tassement, afin de s'assurer que les zones restaurées ne posent pas de problèmes de contamination ou d'affaissement à long terme. La mise en œuvre d'un programme de surveillance environnementale permettra de démontrer que les travaux de restauration ont atteint leurs objectifs. Sur la base de l'édition 2025 de la directive 019 du MELCCFP, voici un résumé des exigences en matière de surveillance environnementale après l'exploitation et après la fermeture :

13.4.1 Après l'exploitation

13.4.1.1 Exigences en matière de surveillance des effluents :

- Les effluents finaux doivent être surveillés chaque semaine pendant la phase de restauration.
- La surveillance comprend:
  - L'échantillonnage de la qualité de l'eau au point de rejet.
  - Mesures du débit et du pH, de préférence à l'aide d'un équipement de surveillance continue.
  - La transmission des données au MELCCFP selon les formats et la fréquence prescrits.

13.4.1.2 Gestion des eaux souterraines et des eaux de ruissellement

- Les eaux souterraines doivent être échantillonnées deux fois par an pendant les phases de restauration et de post-restauration.
- Les eaux de ruissellement provenant des haldes de disposition doivent être collectées et traitées dans l'installation de traitement des eaux jusqu'à ce que les objectifs de qualité de l'eau soient atteints.
-

13.4.2 Surveillance après la restauration

- Une fois le site restauré et la qualité de l'eau confirmée :
  - Des brèches seront créées dans les bassins de collecte des haldes à stériles.
  - Il en résultera quatre (4) effluents à surveiller.
- Une surveillance mensuelle (pendant la saison des eaux libres) de ces effluents est requise pendant 20 ans après la restauration.
- La surveillance des eaux souterraines se poursuivra deux fois par an pendant cette période.
- La surveillance des eaux minières et des effluents finaux se poursuivra huit (8) fois par an pendant cette période.
- L'efficacité de la revégétalisation sera surveillée.

13.4.3 Suivi agronomique

La mise en place de la végétation sur les haldes de stériles commencera dès le démantèlement des installations et la restauration des haldes. Le suivi du succès de la revégétalisation dans les zones restaurées et végétalisées du site et l'entretien des plantes seront effectués sur une période de cinq (5) ans au moyen d'inspections annuelles.

L'objectif général du suivi de la végétation est de suivre l'évolution des zones restaurées et végétalisées, notamment la croissance des plantes, le taux de couverture et la diversification des espèces, ainsi que les performances et l'autosuffisance des espèces végétales qui ont colonisé les zones restaurées. Il vise également à s'assurer qu'aucune espèce exotique envahissante (EEE) n'est présente sur le site. En outre, il consiste à évaluer les besoins d'entretien et de correction si nécessaire (par exemple, application d'engrais). Des activités de revégétalisation seront menées dans les zones où le succès est jugé insatisfaisant.

Un programme de suivi agronomique plus détaillé sera présenté dans le plan de végétalisation et se poursuivra tout au long de la phase post-restauration. Le suivi sera effectué sur une période de cinq (5) ans selon le calendrier suivant :

- Année 1 : Suivi de la croissance des espèces végétales (juin et août) dans les zones nouvellement restaurées et végétalisées.
- Années 2 à 5 : surveillance annuelle pendant le pic de la saison de croissance des plantes, entre la mi-juillet et la mi-août.

Les zones végétalisées soumises au suivi agronomique seront délimitées à l'aide de placettes d'échantillonnage permanentes. Les placettes d'échantillonnage (PE) couvriront une superficie de 1 m² (1 m x 1 m) et seront réparties sur toutes les zones végétalisées. Le nombre de PE à inventorier variera en fonction de la taille des zones végétalisées (**Tableau 13-1**). Le type d'inspection et les indicateurs mesurés lors de la surveillance agronomique sont présentés ci-dessous :

- Croissance : inspection visuelle ;
- Taux de couverture : inspection visuelle et méthode d'interception ponctuelle à l'aide d'une grille de 1 m² ;
- Indice de surface foliaire : mesure ;
- Pourcentage de plantes vivantes et mortes et répartition spatiale : inspection visuelle ;
- Profondeur des racines : mesure ;
- Paramètres racinaires (RLD, RVD, etc.) : mesure.

Un rapport de suivi annuel sera soumis au MRNF et au MELCCFP.

Tableau 13-1 Nombre minimum de parcelles d'échantillonnage (PE) à inventorier en fonction de la superficie considérée pour le suivi agronomique

Superficie végétalisée (ha)	Nombre minimal de parcelles de surveillance
1 ha ou moins	4
2 à 4	6
4 à 6	8
6 à 10	10
10 ou plus	10 + 1 par tranche supplémentaire de 5 ha

13.5 Planification de la réhabilitation et de la fermeture

Un plan de fermeture, conforme au Guide de préparation des plans de réhabilitation et de restauration des sites miniers au Québec (MRNF, 2024), est en cours d'élaboration par GCM Consulting et comprendra un calendrier détaillé des travaux de fermeture. Le plan de fermeture de la mine décrit les mesures que PMET prendra pour mettre hors service la mine en toute sécurité une fois les opérations terminées, en veillant à ce que tous les impacts environnementaux soient atténués et que le site soit remis dans un état sûr et stable.

13.6 Station de transbordement

Sur le site de transbordement de Matagami, les installations (rails, gares de triage et bâtiments de stockage) dédiées au projet seront détenues et exploitées par la ville de Matagami. La fermeture de ces installations relèvera donc de leur compétence et elles pourront rester en place pour d'autres utilisateurs à l'avenir. Aucun coût n'a été inclus pour la fermeture.

14. Surveillance du rendement

Pendant l'exploitation, la mise en œuvre d'un programme systématique de surveillance du rendement est essentielle pour maintenir l'intégrité physique des haldes à stériles, des tas de résidus et des structures auxiliaires. Un tel programme devrait inclure une surveillance environnementale ainsi que des inspections visuelles régulières de l'ensemble de l'installation, la surveillance des niveaux piézométriques dans le tas de résidus filtrés et des digues du bassin de confinement, et des repères de tassement dans les haldes à stériles et les tas de résidus filtrés. Le programme sera documenté dans un manuel d'exploitation, d'entretien et de surveillance qui sera élaboré pendant la phase de conception détaillée et de construction du projet et il sera révisé régulièrement afin de tenir compte de tout changement dans le rendement ou le fonctionnement des haldes de stériles et du tas de résidus filtrés.

14.1 Programmes d'inspection

Les différents composants des tas de résidus filtrés et des haldes à stériles doivent être inspectés régulièrement par un personnel compétent connaissant bien leur conception et leurs exigences opérationnelles. Les résultats du programme de surveillance doivent servir de base pour déterminer les mesures d'entretien et d'assainissement qui peuvent être nécessaires de temps à autre. Les documents de conception et de construction des différents composants des tas de résidus filtrés et des haldes à stériles sont essentiels pour évaluer le rendement de l'installation et doivent être correctement archivés sur le site et accessibles pour examen au besoin.

Il est courant de mettre en œuvre de tels programmes à trois niveaux : observations de routine (quotidiennes), inspections détaillées (trimestrielles et annuelles) et examens formels de la sécurité des barrages (tous les cinq à sept ans, selon la classification des risques liés aux barrages). En outre, des inspections détaillées doivent être effectuées après le ruissellement du printemps et après tout événement inhabituel, tel que de fortes pluies, des tempêtes de vent ou des événements sismiques. Les niveaux d'eau dans les bassins de stockage doivent être enregistrés quotidiennement et une étude détaillée de la surface des stériles doit être réalisée chaque année afin de faciliter la planification du dépôt des résidus et le calendrier de construction.

14.2 Instrumentation

La performance du tas de résidus filtrés peut être déduite, en partie, grâce aux instruments placés dans les fondations. Un plan d'instrumentation basé sur les conditions rencontrées et les observations faites pendant la construction devra être élaboré et mis en œuvre dès que possible après la construction. Les facteurs à prendre en compte dans l'élaboration du plan d'instrumentation comprennent les conditions et les difficultés rencontrées pendant la construction, ainsi que les résultats du suivi de la construction des matériaux de remblayage et de leur mise en place.

Au minimum, il est prévu que des instruments soient nécessaires pour surveiller les niveaux piézométriques à l'intérieur du tas de résidus filtrés et des sols de fondation de chacun des bassins de confinement. Des plaques de tassement, installées à une profondeur qui pénètre la profondeur maximale prévue du gel, doivent être installées sur la crête des barrages avec les piézomètres afin de surveiller le tassement. Des inclinomètres peuvent également être installés pour surveiller les déformations latérales à l'intérieur du barrage. Pour les haldes à stériles, des plaques de tassement et des inclinomètres doivent être installés au fur et à mesure de leur développement.

Au départ, les mesures du niveau d'eau dans les piézomètres devraient être effectuées toutes les deux semaines. Une fois stabilisée, la fréquence de surveillance sera probablement réduite à des relevés mensuels, à condition qu'aucune condition anormale n'ait été observée pendant la période de surveillance initiale. Des instruments supplémentaires et/ou une surveillance plus fréquente pourraient être nécessaires si la surveillance initiale ou les observations enregistrées lors des inspections des installations révèlent des conditions inhabituelles.

14.3 Surveillance des eaux souterraines et des eaux de surface

Il faut s'attendre à des infiltrations à travers et sous les haldes et les bassins. Un réseau de puits de surveillance des eaux souterraines doit être installé en aval des haldes et des bassins afin de surveiller tout changement dans la qualité des eaux souterraines. Un puits de surveillance doit être installé en amont afin de servir d'indicateur de la qualité des eaux souterraines. L'emplacement et le nombre de puits de surveillance des eaux souterraines à installer devront respecter les exigences réglementaires et seront détaillés dans l'EIES.

En plus de la surveillance des eaux souterraines, il est également suggéré de surveiller la qualité des eaux de surface dans les ruisseaux en aval et autour des haldes à stériles.

15. Estimation des coûts

Les estimations des coûts du projet ont été élaborées par GMining. AtkinsRéalis a fourni les relevés des quantités de matériaux (RQMs) pour les différents aspects du projet. Les RQMs sont inclus dans **l'Annexe E.**

16. Conclusions et recommandations

16.1 Gestion de l'eau

Les systèmes de gestion et de traitement de l'eau proposés pour le projet lithium Shaakichiuwaanaan ont été développés afin de répondre aux exigences réglementaires et d'assurer la fiabilité et la protection de l'environnement tout au long du cycle de vie de la mine. La stratégie de gestion de l'eau à l'échelle du site sépare efficacement les eaux de contact et les eaux sans contact, regroupe les eaux traitées en un seul point de rejet et assure le transport sécuritaire des eaux de ruissellement par des fossés, des bassins et des systèmes de pompage spécialement conçus.

Les principales conclusions sont les suivantes :

- Gestion des eaux de contact : Toutes les eaux de contact générées par les infrastructures de la mine, y compris les haldes à stériles, les zones industrielles et les activités de drainage, seront collectées par un réseau de fossés et de bassins. Ces flux seront transférés via des stations de pompage vers des installations de traitement désignées. Au total, quatre (4) bassins ont été conçus pour gérer les eaux de ruissellement provenant des haldes 001 et 002, tandis que deux bassins supplémentaires desserviront la zone industrielle. Des stations de pompage seront installées à chaque bassin afin de faciliter le transfert de l'eau vers les installations de traitement désignées. De plus, les flux de drainage provenant des opérations à ciel ouvert et souterraines seront pompés directement vers les systèmes de traitement.
- Traitement de l'eau :
  - Deux (2) types distincts d'eau de contact sont prévus dans le cadre de ce projet :
    - Eau contaminée par des matières en suspension totales (MES) :
    - Cette catégorie comprend les eaux contaminées par les stériles inertes, les zones industrielles et les activités de drainage des mines. Elles seront d'abord traitées dans des bassins de sédimentation, puis dans un bassin de polissage pour une clarification finale. En cas de concentrations élevées de MES, provenant notamment du drainage des mines ou des anciens lacs, un espace désigné au sein de la zone industrielle a été réservé pour accueillir un traitement physico-chimique supplémentaire, notamment des systèmes de clarification à haut débit.
    - Eau contaminée par la lixiviation des métaux et les matières génératrices d'acide :
    - Ce type d'eau contient principalement des contaminants, tels que l'arsenic, associés à des stériles et des stériles PGA et de LM. Le traitement comprendra un processus physico-chimique comprenant l'ajustement du pH, l'utilisation d'agents chélateurs, la coagulation et la floculation. L'eau traitée sera ensuite dirigée vers le bassin de polissage pour un polissage final avant d'être rejetée.
  - Bien que du lithium ait été détecté dans les eaux de ruissellement provenant de la section des stériles de la halde 002, aucun traitement spécifique n'est actuellement mis en œuvre, car le lithium n'est pas réglementé par la directive 019 ou le MDMER. Cependant, l'optimisation du processus de concentration devrait améliorer la récupération du lithium et réduire sa concentration dans les résidus.
  - Deux (2) chaînes de traitement ont été conçues afin de réduire les dépenses d'investissement initiales et de suivre l'augmentation de la superficie de la halde à stériles et le développement de la mine. Un espace a été réservé à proximité des systèmes de traitement de l'eau afin de permettre une expansion future si nécessaire .

- Rejet final : L'objectif global est de regrouper toutes les eaux traitées en un seul point de rejet pour l'ensemble du site. Toutes les eaux traitées seront rejetées dans la rivière CE15 via un système de diffusion souterrain conçu pour assurer un mélange efficace et minimiser l'impact environnemental. La modélisation hydraulique confirme que les effluents seront entièrement mélangés à moins de 200 mètres en aval du point de rejet.
- Bilan hydrique et résilience climatique : Un modèle de bilan hydrique à l'échelle du site a été développé à l'aide de GoldSim, simulant les débits quotidiens dans des scénarios climatiques moyens, secs, humides et extrêmes. Le modèle confirme que le système peut gérer les débits de pointe, maintenir les revanches et garantir la fiabilité opérationnelle même dans des conditions de crue conservatrice.
- Infrastructure de dérivation : Le développement du projet nécessite la mise en œuvre d'un système de dérivation du lac afin de rediriger les écoulements du lac 001. Ce système se compose d'un fossé de dérivation et d'une série de barrages échelonnés. Il est conçu pour acheminer en toute sécurité le PMF et maintenir la continuité de l'habitat des poissons en intégrant des chutes, des bassins et des placements de rochers. Le fossé, d'une longueur d'environ 870 mètres, sera construit au cours de la deuxième année et traversera le roc avec des pentes latérales de 1H:1V. Il redirigera le débit du lac 001 vers le lac 05, affectant environ 1,9 km² du bassin versant du lac.
- Gestion de l'eau des morts-terrains et des piles organiques : Les eaux de ruissellement provenant de ces piles seront gérées à l'aide de systèmes de bassins qui favorisent l'infiltration et l'évaporation, réduisant ainsi le volume d'eau à traiter.

Afin de soutenir la prochaine phase de développement du projet et de garantir le maintien de la conformité et des performances, les recommandations suivantes sont formulées :

- Gestion de l'eau et infrastructures
  - Analyse des risques de rupture de barrage et d'inondation : réaliser des évaluations détaillées des risques de rupture des barrages et des bassins d'eau de contact, en particulier ceux qui gèrent les eaux de ruissellement provenant des matériaux PGA, afin d'évaluer les risques en aval et les protocoles d'intervention d'urgence.
  - Évaluation de l'élévation de la crête des barrages et de la configuration du vent : surveiller les fluctuations saisonnières du niveau d'eau dans le lac 001 et effectuer une analyse de la configuration du vent afin de valider l'adéquation de la revanche dans des conditions extrêmes. Ces évaluations permettront de confirmer ou d'ajuster l'élévation proposée de la crête des barrages et d'assurer un confinement sûr en cas de vents violents et d'événements hydrologiques.
  - Optimisation de la conception des déversoirs : Réaliser la conception hydraulique complète de tous les déversoirs de secours, y compris la géométrie des chutes, les bassins de dissipation, la protection contre l'érosion et la confirmation de l'emplacement des déversoirs par rapport aux digues des bassins et aux récepteurs en aval.
  - Mesures de contrôle de l'érosion du canal de dérivation : affiner l'évaluation des risques d'érosion à l'aide d'une modélisation hydraulique en 2D afin d'identifier les zones à fort potentiel d'érosion le long du canal de dérivation, en particulier à proximité des rapides, des chutes et des rétrécissements. Ces zones doivent être prioritaires pour la mise en place de mesures de protection ciblées.
  - Conception de la passe à poissons du canal de dérivation : Les recommandations pour la passe à poissons incluent l'intégration de chutes et de bassins dans le lit du canal afin de varier le débit. Une évaluation hydraulique affinée est recommandée afin d'évaluer les conditions d'écoulement dans l'ensemble du canal et de garantir la connectivité écologique et la fonction d'habitat à long terme.
  - Validation des bassins de rétention : confirmer le dimensionnement et la performance des systèmes de bassin autour des morts-terrains et des piles organiques grâce à une modélisation hydrologique et une validation sur le terrain. Les besoins en contrôle de l'érosion à long terme et en entretien doivent également être évalués.

- Affinement du modèle de bilan hydrique : Mettre à jour le modèle de bilan hydrique à l'échelle du site à l'aide de données climatiques récentes et de mesures sur le terrain. Il est recommandé de recourir à des simulations probabilistes pour évaluer l'incertitude et faciliter la prise de décisions opérationnelles.

- Traitement de l'eau :
  - Le système de traitement de l'eau a été conçu sur la base des données les plus récentes issues des modèles de bilan hydrique et géochimique. Il est recommandé de mettre à jour la base de conception lors de la prochaine phase du projet afin de refléter les dernières découvertes géochimiques.
  - Le système a été développé pour répondre aux critères de la directive 019 et aux exigences de la réglementation MDMER. Le projet devrait recevoir les objectifs de rejet environnemental du MDDEFP, lesquels tiendront compte de la capacité de l'environnement récepteur à accepter les effluents. Des modifications du système de traitement pourraient être nécessaires une fois ces objectifs reçus.
  - Certains paramètres, tels que le lithium, ne sont pas pris en compte dans la conception actuelle du traitement de l'eau. Une surveillance continue des effluents entrants et sortants est nécessaire, et le système de traitement devrait être mis à jour si nécessaire en fonction des résultats de la surveillance.
  - Un espace a été réservé à proximité de l'infrastructure de traitement de l'eau pour accueillir une éventuelle unité de traitement future. Cette mesure a été prise afin de garantir la conformité aux exigences réglementaires en matière de MES ou d'ammonium, si un traitement supplémentaire s'avérait nécessaire.
  - Un seul point de rejet est actuellement prévu pour ce projet, situé dans la rivière CE15. Une étude plus approfondie devrait être menée pour confirmer la faisabilité de cette conception et valider la capacité de la rivière à recevoir les effluents tout au long de l'année.
- Eau potable
  - Le système de production d'eau potable a été conçu en fonction de la population prévue de travailleurs dans le camp permanent. Si la capacité doit être ajustée, la conception du système de traitement devra être mise à jour en conséquence.
  - Il est nécessaire de prélever des échantillons d'eau douce du lac 308 conformément aux lignes directrices énoncées dans le document du MELSCC.
  - La disponibilité de l'eau dans le lac 308 a été évaluée à un niveau élevé afin de confirmer la disponibilité générale de la ressource. Cependant, une étude hydrologique détaillée est nécessaire pour garantir la disponibilité à long terme de l'eau douce pour la production d'eau potable, y compris en cas de sécheresse.
- Traitement des eaux usées
  - Le système de traitement des eaux usées a été conçu en fonction de la population prévue de travailleurs dans le camp permanent. Si la capacité doit être ajustée, la conception du système de traitement doit être mise à jour en conséquence.

16.2 Hydrogéologie

Un modèle tridimensionnel des eaux souterraines a été développé pour évaluer l'efficacité des mesures de contrôle des infiltrations proposées pour prévenir toute dégradation significative de la qualité des eaux souterraines due à d'éventuelles infiltrations provenant de la halde 002, car celle-ci stockera à la fois des stériles PGA/LM et des résidus non PGA/LM (Vision Geochemistry 2025).

Les mesures d'atténuation évaluées dans le cadre de cette étude consistaient en l'installation d'une géomembrane sous la halde 002 pendant l'exploitation de la mine, suivie de l'installation d'une couverture imperméable après la fermeture de la mine. Les résultats du modèle de transport des solutés suggèrent que le système d'atténuation est efficace, les concentrations de solutés atteignant les récepteurs environnementaux demeurent inférieures aux critères applicables après 200 ans.

Sur la base des résultats, des conditions du site, de la nature des matériaux stockés et des mesures d'atténuation proposées, et afin de garantir la conformité et la performance continues, les recommandations suivantes peuvent être formulées :

- Un contrôle et une assurance qualité efficaces doivent être mis en œuvre pendant l'installation de la géomembrane afin de minimiser le nombre de défauts et donc de réduire le taux de percolation à travers la géomembrane.
- Mettre en œuvre un programme de surveillance des eaux souterraines afin de contrôler la qualité des eaux souterraines autour de la halde 002, avec une surveillance périodique des eaux souterraines et un seuil de déclenchement approprié fixé pour atteindre les objectifs de protection de la qualité des eaux souterraines.
- Les projections obtenues à partir de l'étude de modélisation hydrogéologique doivent être comparées aux résultats de la surveillance des eaux souterraines recueillis sur le terrain. L'étude de modélisation hydrogéologique doit être mise à jour et recalibrée au besoin en fonction des données recueillies sur le terrain afin d'affiner les prévisions.

16.3 Gestion des déchets

Les résidus miniers seront triés et éliminés à différents endroits, comme décrits ci-dessous :

- La halde 001 stockera environ 54 Mt de « stériles à faible risque ». L'installation n'est pas munie de revêtement et les eaux de ruissellement sont collectées dans des fossés périphériques qui se déversent dans deux bassins. Cette eau est pompée vers les bassins de sédimentation de la zone industrielle pour la gestion des MES avant d'être réutilisée ou rejetée dans l'environnement. Les 29 Mt restantes de stériles à « faible risque » seront déversées dans la fosse ouest.
- La halde 002 stockera 54 Mt de résidus LM et 81 Mt de PGA/LM de stériles. La base de la halde 002 est recouverte d'une géomembrane. Les eaux de ruissellement provenant de cette halde sont collectées dans des fossés périphériques revêtus qui se déversent dans deux bassins également revêtus. L'eau collectée est pompée vers l'usine de traitement située dans la zone industrielle avant d'être réutilisée ou rejetée dans l'environnement. Les 17 Mt de résidus restants seront utilisées comme remblai en pâte pour la mine souterraine.
- Les 14 Mt de morts-terrains seront disposés dans les haldes 004 et 005 situées au sud de la mine à ciel ouvert. Les eaux de ruissellement provenant de ces piles seront gérées à l'aide d'un système de bassins de rétention.
- Deux haldes de terre végétale seront situées au sud de la halde 001. Ces piles serviront à stocker les matériaux décapés provenant du développement de la superficie.

Les systèmes de gestion des déchets proposés pour le projet lithium Shaakichiuwaanaan ont été développés afin de répondre aux exigences réglementaires et d'assurer la fiabilité et la protection de l'environnement tout au long du cycle de vie de la mine. Sur la base des résultats de l'étude, des conditions du site, de la nature des matériaux à stocker et des mesures d'atténuation proposées, les recommandations suivantes sont formulées pour la prochaine phase de l'étude :

- Des études géotechniques supplémentaires sont nécessaires afin de mieux caractériser les fondations des haldes à stériles et de déterminer la présence éventuelle de couches faibles sous leur superficie susceptible de présenter un risque de liquéfaction.
- Des études géotechniques sont également nécessaires pour mieux définir la profondeur du roc dans le fossé de dérivation proposé pour le lac 001, ainsi que dans les fossés de collecte et les bassins entourant les haldes 001 et 002.
- Il n'existe actuellement aucune information sur le profil du sol ou sur les caractéristiques géotechniques à l'emplacement de la station de traitement des eaux proposée. Pour les phases de conception futures, il est recommandé de mener des études géotechniques dans l'emprise de l'usine de traitement des eaux.
- Les études géotechniques doivent inclure les emplacements proposés pour les barrages des fosses ouest et est dans le lac 001 afin de déterminer l'épaisseur des sédiments lacustres et les caractéristiques du roc sous les barrages proposés.
- Les carrières d'emprunt potentielles doivent être identifiées pour les matériaux granulaires, et ceux-ci doivent être échantillonnés et testés.
- Une évaluation des risques sismiques spécifique au site doit être réalisée afin de déterminer la charge appropriée pour les analyses de stabilité sismique.

16.4 Fermeture

La phase de fermeture de la mine vise à assurer une transition responsable vers une utilisation durable des terres après l'exploitation, conformément aux exigences réglementaires du Québec et en collaboration avec les communautés autochtones. Elle repose sur une approche de planification progressive et structurée, comprenant la restauration progressive des zones inactives, le démantèlement des infrastructures industrielles et la mise en œuvre de stratégies de réhabilitation adaptées à chaque composante du site.

Les installations industrielles seront démantelées selon les principes de réduction, de réutilisation et de recyclage, tandis que les routes d'accès seront soit restaurées, soit entretenues en fonction de leur utilisation par la communauté. Les routes non essentielles seront mises hors service, les ponceaux seront retirés, les cours d'eau naturels seront restaurés et les surfaces seront remodelées et revégétalisées avec des espèces végétales indigènes afin de prévenir l'érosion.

Les haldes de stériles seront gérées en fonction de leur potentiel de génération de contaminants : la halde 001 sera restaurée avec une couverture végétale adaptée aux stériles à faible risque, tandis que la halde 002 sera restaurée à l'aide d'une couverture d'argile imperméable afin de limiter l'infiltration d'eau et d'empêcher la génération de contaminants.

La fosse à ciel ouvert sera naturellement inondée pour former un lac stable, sécurisé par des bermes et intégré au réseau hydrographique local.

Les bassins de gestion de l'eau seront remblayés une fois la qualité de l'eau confirmée, après caractérisation des sédiments et élimination appropriée. Les digues des bassins de collecte d'eau des haldes à stériles seront percées afin d'éviter toute accumulation d'eau à la base des structures.

Enfin, les empilements de morts-terrains et de sols organiques seront utilisés pour la construction de la couverture, puis restaurés par scarification et revégétalisation. Ces mesures visent à assurer la stabilité environnementale du site, à favoriser la réintégration écologique des terres et à répondre aux attentes des parties prenantes, en particulier des communautés locales et autochtones.

Afin de soutenir la prochaine phase de développement du projet et de garantir la conformité et la performance continues, les recommandations suivantes sont formulées :

- Sources potentielles de bancs d'emprunt : Des études doivent être menées afin d'identifier les matériaux argileux appropriés provenant de carrières d'emprunt potentielles pour la construction du système de couverture.
- Propriétés géotechniques requises : La faisabilité technique de la couverture d'argile dépend des propriétés spécifiques du matériau. Selon Benson et al. (1994) et Marcoen et al. (2000), cités dans Bussière et Guittonny (2020), les critères géotechniques recommandés pour l'argile utilisée comme barrière hydraulique sont les suivants :
  - Conductivité hydraulique ≤ 10^{-9} m/s;
  - Teneur en particules fines > 30 %;
  - Fraction argileuse (<2 µm) > 15 %;
  - Indice de plasticité (PI) > 7 %, mais < 20 % si des cycles de gel-dégel et d'humidité-sécheresse sont prévus ;
  - Limite de liquidité > 20 %;
  - Teneur en gravier < 50 %.
- Validation numérique : Il est fortement recommandé d'effectuer une modélisation des écoulements à l'aide du logiciel SEEP/W afin de valider la performance hydraulique de la couverture argileuse et d'intégrer dans le modèle l'effet prévu des changements climatiques.
- Optimisation de la gestion des stériles : Il convient de procéder à un examen de la gestion des stériles afin d'évaluer la possibilité d'une ségrégation supplémentaire pour réduire la quantité de stériles nécessitant un système de couverture imperméable (c'est-à-dire la réduction de la halde 002).
- Essais en laboratoire et sur le terrain : Des essais en laboratoire et sur le terrain doivent être envisagés dès le début du développement de la mine afin d'optimiser et d'évaluer les performances des systèmes de couverture proposés.

17. Références

Atkins Realis, 2025a, *Foundation recommendations for site infrastructure*, document number CASN-A-370-GT-MEM-0002

Atkins Realis, 2025b, *Geotechnical Laboratory Analysis of Tailings*, document number CASN-A-370-GT-MEM-0003

Atkins Realis, 2025c, *Design Basis And Criteria – Waste And Water Management*, document number CASN-A-370-GT-DCR-0001

Atkins Realis, 2025d, *Baseline Hydrology*, document number CASN-A-370-HY-REP-001

BBA, 2024. *Technical Report Geotechnical Campaign for Phase 1 Diversion Dams*, 7535009-000000-4G-ERA-0001-RAA

BBA 2024. *Shaakichiuwaanaan Project, Technical Report, Geotechnical Campaign for Phase 2* (factual), Preliminary, 7535009-020001-4G-ERA-0003-RAA

BCMWRPRC, 1991b. *Operating and Monitoring Manual – Interim Guidelines. Mine Rock and Overburden Piles 2*. Prepared by Klohn Leonoff Ltd, May 1991.

BBA (2024) *Hydrogeological Baseline Study – Future Open Pit / Underground CV5, Shaakichiluwaanaan Lithium Property*. BBA Document No. – Rev. : 7535001-001900-41-ERA-0002-R00, September 23, 2024 Final

CDA, 2019. Technical Bulletin: *Application of Dam Safety Guidelines to Mining Dams*, 2014 (2019 Edition). Canadian Dam Association

Federal Emergency Management Agency (FEMA, 2014), Technical Manual: *Overtopping Protection for Dams*. FEMA P-1015/May 2014.

GlobalTailingsReview.org, 2020. *Global Industry Standard on Tailings Management* (GISTM). https://globaltailingsreview.org/global-industry-standard/.

Gouvernement du Québec (2025). Critères de qualité de l'eau de surface. Critères de qualité de l'eau de surface (Date de consultation : 02 septembre 2025)

Hawley, M. and Cunning, J. (editors), 2017. *Guidelines for Mine Waste Dump and Stockpile Design*. CSIRO Publishing.

Lemmen, D.S., Warren, F.J., Lacroix, J., and Bush, E., editors (2008), *From Impacts to Adaptation: Canada in a Changing Climate 2007*; Government of Canada, Ottawa, ON, 448 p.

Maidment, David R. (1992), *Handbook of Hydrology*, ISBN 0-07-039732-5, McGraw Hill, 1992.

MELCCFP, 2025. Directive 019 sur l'industrie minière, 13 février 2025. Ministère de l'Environnement, de la Lutte contre les changements climatiques, de la Faune et des Parcs, Gouvernement du Québec – 2025. [Consulté en français à l'adresse : https://www.environnement.gouv.qc.ca/milieu_ind/directive019/directive-019-2025.pdf].

Ministère de l'Énergie et des Ressources naturelles (MERN) (2017), Analyse de risques et de vulnérabilités liés aux changements climatiques pour le secteur minier québécois. Québec, Canada.

Ministère des Transports et de la Mobilité durable (MTQMB) (2022), Tome III – Ouvrages d'art, chapitre 2, page 3. Janvier 2022.

MRNF, 2024. Guide de préparation du plan de réaménagement et de restauration des sites miniers au Québec, octobre 2024. Ministère des Ressources naturelles et des Forêts, Gouvernement du Québec – 2024. [Consulté en français à l'adresse : https://www.mern.gouv.qc.ca/wpcontent/uploads/GM_restauration_sites_miniers_MERN.pdf]

MTQ (2024). Ministère des transports du Québec, Manuel de conception des ponceaux, juin 2024.

NBCC (2020). *National Building Code of Canada Seismic Hazard Tool*, 2020 National Building Code of Canada Seismic Hazard Tool

Ouranos (2015), Crues maximales probables et sécurité des barrages dans le climat du 21e siècle. Rapport présenté à la Division des impacts et de l'adaptation liés aux changements climatiques, Ressources naturelles Canada, 39 p.e

PMET (2025a). *PMET Resources Delivers Positive Feasibility Study for its Large-Scale Shaakichiuwaanaan CV5 Lithium-Only Project*. NI-43-101 Press release

PMET (2025b). *Technical Note. Diversion Channel and Fish Habitat Requirements*, Feb 11, 2025

Primero, 2025. Email dated of August 5th, 2025. *Masse balance of the process plant*.

SNC-Lavalin (2004), Estimation des conditions hydrométéorologiques conduisant aux crues maximales probables (CMP) au Québec, pour le Centre d'expertise hydrique du Québec, janvier 2004.

Thornthwaite, C.W. (1948), *An Approach toward a Rational Classification of Climate*. Geographical Review, 38, 55-94.

US Army Corps of Engineers (USACE) (2023), HEC-SSP. *Statistical Software Package User's Manual Version 2.3*

United States Department of the Interior, Bureau of Reclamation (USBR, 2022), *Design Standards No. 14 Appurtenant Structures for Dams (Spillways and Outlet Works) Design Standard*.

Vision, 2025. *Geochemical Characterization of Mine Waste Materials & Modelling of Waste Rock Stockpiles for the Shaakichiuwaanaan Project* (CV5 Pegmatite): Feasibility Study Update. Ref. 2405007-TR1"

Warren, F.J. and Lemmen, D.S., editors (2014), *Canada in a Changing Climate: Sector Perspectives on Impacts and Adaptation*; Government of Canada, Ottawa, ON, 286p.

Annexes

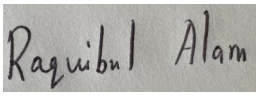
Annexe A Critères de conception

AtkinsRéalis	TECHNICAL NOTE Shaakichiuwaanaan Project – Waste and Water Management		
	Document No.: CASN-A-370-GT-DCR-0001 AtkinsRéalis: 702381-0000-4GEA-0001	**Rev.** C	**Date:** August 19, 2025

Title of document: **DESIGN BASIS AND CRITERIA – WASTE AND WATER MANAGEMENT**

Client: **PATRIOT BATTERY METALS INC.**

Project: **SHAAKICHIUWAANAAN PROJECT – WASTE AND WATER MANAGEMENT**

Prepared by:	Raquibul Alam, P.Eng. Geotechnical Engineer PEO: 100231585=	
Prepared by	Pedram Darbandsari, P.Eng. Hydrotechnical Engineer PEO: 100577369	
Prepared by:	Sandra Pouliot, M.Sc.A., P. Eng. Sr Mining Environment Engineer #OIQ: 121003	
Reviewed by:	Holman Tellez, P.Eng. Sr Hydrotechnical Engineer #OIQ: 6083507	
Reviewed by:	Philip Addis, P. Eng. Principal Tailings Engineer #OIQ: 6076892	
Approved by:	Bruno Morrissette, P.Eng. Project Manager #OIQ: 125157	

Notice to Reader

This report has been prepared and the work referred to in this report has been undertaken by AtkinsRéalis Canada Inc. (AtkinsRéalis), for the exclusive use of Patriot Battery Metals Inc., who has been party to the development of the scope of work and understands its limitations. The methodology, findings, conclusions and recommendations in this report are based solely upon the scope of work and subject to the time and budgetary considerations described in the proposal and/or contract pursuant to which this report was issued. Any use, reliance on, or decision made by a third party based on this report is the sole responsibility of such third party. AtkinsRéalis accepts no liability or responsibility for any damages that may be suffered or incurred by any third party as a result of the use of, reliance on, or any decision made based on this report.

The findings, conclusions and recommendations in this report (i) have been developed in a manner consistent with the level of skill normally exercised by professionals currently practicing under similar conditions in the area, and (ii) reflect AtkinsRéalis' best judgment based on information available at the time of preparation of this report. No other warranties, either expressed or implied, are made with respect to the professional services provided to Patriot Battery Metals Inc. or the findings, conclusions and recommendations contained in this report. The findings and conclusions contained in this report are valid only as of the date of this report and may be based, in part, upon information provided by others. If any of the information is inaccurate, new information is discovered or project parameters change, modifications to this report may be necessary.

This report must be read as a whole, as sections taken out of context may be misleading. If discrepancies occur between the preliminary (draft) and final version of this report, it is the final version that takes precedence. Nothing in this report is intended to constitute or provide a legal opinion.

The contents of this report are confidential and proprietary. Other than by Patriot Battery Metals Inc., copying or distribution of this report or use of or reliance on the information contained herein, in whole or in part, is not permitted without the express written permission of Patriot Battery Metals Inc. and AtkinsRéalis.

List of Revisions

#	Prep.	Rev.	App.	Date	Pages	Remarks
B	RA	PA	BM	2025-01-29	All	Issue for client's comments
B1	HT/AC/PD	PA/TH		2025-05-06		
C	JD	PA	BM	2025-08-19	All	Issued as Final

Table of Contents

1. Introduction 1
2. Scope 2
3. Units 3
4. Site Geology 4
5. Design Criteria and Design Basis 5
5.1 Applicable Legislation, Regulations, and Best Practice Guidelines 6
5.2 Mine Description 8
5.3 Climate Conditions and Meteorology 9
5.4 Tailings Management 10
5.5 Stockpiles 11
5.6 Water Management for Stockpiles 13
5.7 Water Management for Industrial Area 15
5.8 Lake 001 Cut-off Dams 18
5.9 Diversion Channel for Lake 001 19
5.10 Seismic Design Criteria 19
5.11 Geotechnical Design Basis 20
5.12 Geotechnical Parameters 21
5.13 Loading and Seepage Conditions 22
5.14 Geotechnical Design Criteria 22
5.15 Closure 24
6. Supplemental Information 26
7. References 27

List of Figures

Figure 6-1 Wind Rose plots for La Grande 4 A and La Grande IV stations (established based on wind data from 2014 to 2024) (Provided by Client) 26

List of Appendices

Appendix A – Site Location and Layout

1. Introduction

AtkinsRéalis has been retained by Innova, a wholly-owned Québec subsidiary of Patriot Battery Metals Inc., for a feasibility study for waste and water management for the Shaakichiuwaanaan Mining Project. The site is in the Eeyou Istchee James Bay region of Québec, Canada, with coordinates of 53°32'00" N, 73°55'00" W. It is approximately 220 km east of Radisson and about 240 km north-northeast of Nemaska. The Property comprises 463 mineral claims, covering roughly 23,710 hectares across two main claim groups. The largest of these groups extends nearly continuously for about 51 km in an east-west direction.

The project will extract spodumene from a pegmatite deposit using a hybrid method that includes open-pit and underground mining. In the initial phase (2029-2034), the estimated annual production rate will be 400 ktpa at a grade of 5.5% lithium oxide (Li2O) concentrate. This will increase to 800 ktpa in the expansion phase (2031-2051). The operating life of the project is currently estimated to be 22 years.

The project is expected to generate approximately 154.1 million tonnes (Mt) of waste rock, 16.9 Mt of overburden, and 71.1 Mt of tailings. Two types of waste rock will be produced: metal-leaching or potentially acid generating waste rock (estimated at 81.0 Mt) and non-leaching "Low Risk" waste rock (73.0Mt). Stockpile 001, located north of the open pit, will be designated for a portion of the "Low Risk" waste rock, about 43.5 Mt. The remaining "Low Risk" waste rock (29.6 Mt) will be placed in the open pit. Stockpile 002, situated northeast of the pit, will receive the potentially metal-leaching or potentially acid generating waste rock (81.0 Mt), and a portion of the filtered tailings (54.0 Mt). The remaining tailings, estimated as 17.1 Mt, will be disposed as paste backfill once the underground mine is operational. Overburden will be managed in Stockpile 004 and Stockpile 005, located south of the pit.

The development of the open pit is planned in two phases. Phase 1 will be from 2029 to 2034, while Phase 2 is scheduled for 2034 to 2045. Underground mining operations will run from 2031 to 2051. Before the commencement of Phase 1, a cutoff dam (Stage 1) will be constructed in Lake 001 together with a diversion ditch. This will allow for the pit development within the western portion of Lake 001 and continued discharge from Lake 001 to Lake 007, around the open pit. A second series of cutoff dams, located to the east will be required for the Phase 2 pit development. The dyke and diversion ditch will maintain the water level of Lake 001 at the current elevation of approximately 373 meters above sea level (m.a.s.l.) and redirect water around the northern perimeter of the pit. The general site layout is provided in **Appendix A**.

2. Scope

This document forms the design criteria and design basis for tailings management, the stockpiles, the cut-off dyke, and the diversion ditch, geotechnical aspects, water management, and hydrogeology (in the stockpiles area) for the Shaakichiuwaanaan Mining Project.

3. Units

The following units are used (the study is carried out using metric units):

- Distance – meter (m);
- Elevation – metres above mean sea level (m.a.s.l.);
- Volume – cubic meter (m^3);
- Pressure – kilo pascal (kPa);
- Unit Weight – Kilo-Newton (kN)/$m^{3;}$
- Temperature – Celsius (^oC);
- Time – seconds (sec), years (yr);
- Mass (in mining) – million tonnes (Mt);
- Production rate – kilotonnes per annum (ktpa).

4. Site Geology

The Shaakichiuwaanaan Property, located in the Archean Superior Province of the Canadian Shield, lies in the La Grande sub-province, near the Opinaca sub-province, and is renowned for its robust exploration potential for commodities, including base metals, precious metals, and lithium (PEA, 2024). The La Grande sub-province, a geological marvel, showcases a volcano-plutonic structure aligned with the Wemindji-Caniapiscau corridor. It comprises two primary domains, the Eastmain River Belt and the La Grande River Belt, each with its unique geological features (PEA,2024).

The Property is situated within the La Grande River Belt, characterized by volcanic and sedimentary rocks, including two ancient volcanic sequences and interstratified metasediments (PEA, 2024). The La Grande sub-province is bordered to the north by the plutonic Bienville sub-province and to the south by the metasedimentary and plutonic Opinaca sub-province (Lucas & St-Onge, 1998; Houle, 2004; Percival, 2007). The La Grande and Opinaca sub-provinces contain many of Québec's known spodumene pegmatite occurrences (PEA, 2024).

Metamorphism in the region varies from greenschist facies at the centre to amphibolite facies at the edges (Card, 1986; Houle, 2004). Structural trends shift from east-west in the southwest to northeast-southwest in the north, primarily formed between 2700 and 2680 Ma (Percival et al., 2012). The area is not just about potential; it is about significant discoveries that have already been made. It contains significant nickel-copper deposits associated with komatiitic flows, ultramafic intrusions, and notable spodumene pegmatite occurrences (PEA, 2024).

5. Design Criteria and Design Basis

The design criteria and basis summary for the stockpile and the dams are presented on the following page.

5.1 Applicable Legislation, Regulations, and Best Practice Guidelines

Item	Design Criteria and Basis	Reference
Provincial Standards	Ministère de l'Environnement, de la Lutte contre les changements climatiques, de la Faune et des Parcs (MELCCFP) ▪ The Provincial Directive 019 on the Mining Industry ▪ Dam Safety Regulation ▪ Dam Safety Act Ministère des Ressources Naturelles et des Forêts (MRNF) ▪ Guide de préparation du plan de réaménagement et de restauration des sites miniers au Québec -	MELCCFP, 2025 s-3.1.01, r. 1 - Dam Safety Regulation S-3.1.01 - Dam Safety Act MRNF, 2024
Canadian Dam Association Guidelines	Canadian Dam Association (CDA), Dam Safety Guidelines CDA Technical Bulletins ▪ Inundation, Consequences, and Classification for Dam Safety ▪ Surveillance of Dam Facilities ▪ Flow Control Equipment for Dam Safety ▪ Dam Safety Analysis and Assessment ▪ Hydrotechnical Considerations for Dam Safety ▪ Seismic Hazard Considerations for Dam Safety ▪ Geotechnical Considerations for Dam Safety ▪ Dam Safety Reviews ▪ Application of Dam Safety Guidelines to Mining Dams ▪ Tailings Dam Breach Analysis ▪ Environmental Consequence Classification CDA Guidelines ▪ Public Safety Around Dams	CDA, 2013 CDA, 2007a CDA, 2007b CDA, 2007c CDA, 2007d CDA, 2007e CDA, 2007f CDA, 2007g CDA, 2016 CDA, 2019 CDA, 2021 CDA, 2023 CDA, 2011

Item	Design Criteria and Basis	Reference
Others	Federal Metal and Diamond Mines Effluent Regulation	MDMER, 2024
	A Guide to the Management of Tailings Facilities	MAC, 2021a
	USBR Design of Small Dams	USBR, 1987
	USBR Design Standards No. 13: Embankment Dams	USBR, 2021
	USBR Design Standards No. 14: Appurtenant Structures for Dams (Spillways and Outlet Works) Design Standard	USBR, 2022
	USBR Design of Stilling Basins and Energy Dissipators	USBR, 1984
	FEMA Technical Manual: Overtopping Protection for Dams	FEMA, 2014
	USACE Hydraulic Design of Flood Control Channels (EM 1110-2-1601)	USACE, 1994
	NCHRP Report 568, Riprap Design Criteria, Recommended Specifications, and Quality Control, 2006	NCHRP, 2006
	ICOLD Bulletin 157 Small Dams, Design, Surveillance and Rehabilitation	
	Guidelines for Mine Waste Dump and Stockpile Design.	ICOLD, 2016
		Hawley and Cunning, 2017

5.2 Mine Description

Item	Design Criteria and Basis	Reference
Name of Mine	Shaakichiuwaanaan	
Facility location	Category III lands of the Eeyou Istchee Cree Territory, James Bay, Quebec.	See Appendix A
Reserves	Total Ore: 87.2 Mt Average LiO_2% grade:1.26 Tonnes of concentrate @5.5% LiO2: 13.7 Mt	Project Charter (GMining)
Projected Mine Life	22 years	GMining, 2025
Mineralogy of the Main Ore Body	Spodumene ($LiAlSi_2O_6$)	PEA, 2024
Type of Mine	Open pit and underground	PEA, 2024
Process and Reagents	Ferrosilicon 270 (DMS) Magnafloc 10 (Thickening and dewatering)	PEA, 2024
Treatment Processes	Fresh ferrosilicon (“FeSi”) will be added to a mixing hopper, which will then be fed continuously via screw feeders to each DMS’s respective medium header box. Flocculant mixing will be completed in a designated area within the plant with a dedicated sump pump that recycles spillage to the thickener feed tank.	PEA, 2024
Processing Capacity	Stage 1: 2.5 Mtpa DMS Plant Stage 2: 5.0 Mtpa DMS Plant dual train	Project Charter (GMining)
Mine Waste Production	Waste Rock: 154.1 Mt Overburden: 16.9 Mt Tailings: 71.1 Mt	GMining, 2025
Backfill	17.1 Mt of tailings will be used for underground backfill	GMining, 2025
Coordinate Reference System	UTM-NAD83-ZONE18	PROJECTED_CRS for Qb
Topographical Surveys	LiDAR and orthophoto survey in August 2022. A LiDAR and orthophoto survey, and heliborne magnetic and radiometric survey have also been completed in 2024 over the JBN-57 claim block.	NI 43-101 Technical Report, PEA

5.3 Climate Conditions and Meteorology

Item	Design Criteria and Basis	Reference
Climate Classification	Sub-arctic climate, Dfc in terms of the Köppen climate classification	
Weather Station(s)	Environment and Climate Change Canada (ECCC) Stations near site are: ▪ La Grande IV station (7093GJ5) ▪ La Grande IV A station (7093GJ3) ▪ La Grande 4 A station (7093714) ▪ Nitchequon station (7095480)	AtkinsRéalis, 2025
Temperature	Average annual temperature is -3.1 degrees Celsius	AtkinsRéalis, 2025
Precipitation	Average annual precipitation is 772 mm which includes 518 mm of rainfall and 254 cm of snowfall	AtkinsRéalis, 2025
Evapotranspiration	Average annual lake evaporation is 421 mm and maximum evapotranspiration under average conditions is 390 mm	AtkinsRéalis, 2025
Wind	The predominant wind direction is from the southwest (see Figure 6-1 for wind roses)	Weather Spark, 2020
Climate Change Effect	Climate change increase factor of 18% for extreme precipitation Climate change increase factor of 5% for extreme snow cover Climate change increase factor of 8% for annual and monthly precipitation	AtkinsRéalis, 2025

5.4 Tailings Management

Item	**Design Criteria and Basis**	**Reference**
Description	**Tailings**	
Tailings Production	71.1 Mt	GMining, 2025
Particle Size Distribution	P_{80} = 7.7 mm P_{50} = 3.8 mm P_{10} = 0.4 mm	WSP, 2025
Specific Gravity	2.68	WSP, 2025
Filtered tailings moisture content	12-14% (M_{water}/M_{total}) ~ 13.6-16.3% (M_{water}/M_{solids})	Primero e-mail correspondence 5 December 2024
Standard Proctor Max Dry Density	1,958 kg/m^3	WSP, 2025
Standard Proctor Optimum Water Content	11.7% (M_{water}/M_{solids}) ~10.5% (M_{water}/M_{total})	WSP, 2025 Estimated by AtkinsRéalis
Plasticity	Non-plastic	WSP, 2025
Average in-situ dry density (for conversion to volume)	1.70 t/m³ which is approximately 90% of the maximum standard Proctor dry density	Selected by AtkinsRéalis
Consolidation Properties	The average coefficient of consolidation, Cv, (cm²/s) = 0.0532	WSP, 2025
Hydraulic Conductivity	Average Hydraulic Conductivity (cm/s) = 9.46E-04	WSP, 2025
Tailings Deposition	Filtered tailings are transported with mine trucks from the concentrator to the final disposal area or the paste backfill plant with a front-end loader.	PEA, 2024

5.5 Stockpiles

Item	Design Criteria and Basis	Reference
Stockpile 001		
Mine Waste	43.5 Mt (Low-Risk waste rock)	Designed by AtkinsRéalis. The remaining 29.6 Mt of Low-Risk mine waste will be dumped into the open pit
Hazard Classification	Moderate hazard (WHC III)	Preliminary, based on Hawley and Cunning, 2017
Base Lining	Not required	Selected by AtkinsRéalis, based on geochemical characterization of waste rock
Stockpile Geometry	Bench Height: 10 m Intermediate bench width: 15 m Overall slope: 3.25 (Horizontal): 1 (Vertical)	GMining (meeting discussions 14 January 2025) -Selected by AtkinsRéalis
Maximum Height	Approx. 90 m (measured from the max elevation to the downstream toe)	Designed by AtkinsRéalis
Average in-situ dry density	Waste rock: 2 t/m^3	Selected by AtkinsRéalis
Water Management	Runoff collected by perimeter ditches at the toe of the stockpile and directed to the stockpile pond	Selected by AtkinsRéalis
Minimum offset from toe of stockpile to an existing water body	60 m	MELCCFP, 2025
Stockpile 002		
Mine Waste Description	81.0 Mt of waste rock (Potentially Acid Generating) 54.0 Mt of tailings	AtkinsRéalis, the 81 Mt total of potentially leaching in concentration below the D019 table 1 criteria and acid-generating waste rock is based on discussions with Vision and Patriot Battery Metals on 7 January 2025
Hazard Classification	Waste Rock - Moderate hazard (WHC III) Tailings stack - Moderate hazard (WHC III)	Preliminary, based on Hawley and Cunning, 2017

Item	**Design Criteria and Basis**	**Reference**
Base Lining	Single liner: 1.5 mm HDPE Liner Cushion Layer: 1m	MELCCFP, 2025
Stockpile Geometry	Bench Height: 10 m for waste rock and 30 m for tailings Bench width: 7.5m for tailings and 15 m for waste rock Overall slope: 3.25 (Horizontal): 1 (Vertical) for all types (i.e. tailings, and Waste rock)	GMining (meeting discussions 14 January 2025) Selected by AtkinsRéalis
Maximum Height	120 m (measured from the max elevation to the downstream toe)	Designed by AtkinsRéalis
Average in-situ dry density	Waste rock: 2 t/m^3 Tailings: 1.7 t/m^3 (which is approximately 90% of the maximum standard Proctor dry density)	Selected by AtkinsRéalis Selected by AtkinsRéalis
Water Management	Runoff and seepage are directed to ditches at the toe of the stockpile and directed to the stockpile ponds	Selected by AtkinsRéalis
Minimum offset from the toe of the stockpile to an existing water body	60 m	MELCCFP, 2025
Overburden Piles 004 and 005		
Mine Waste Description	Overburden Pile 004: 8.1 Mt of overburden Overburden Pile 005: 8.8 Mt of overburden Organic Stockpile: 1.6 Mt	GMining, 2025 Estimated by AtkinsRéalis
Hazard Classification	Low Hazard (WHC II)	Preliminary, based on Hawley and Cunning, 2017
Base Lining	None	
Pile Geometry	Continuous external slope stockpile 004 and 005: 4H:1V Continuous external slope organic stockpile: 5H:1V	Selected by AtkinsRéalis
Maximum Height	Stockpile 004: 36 m (measured from the max elevation to the downstream toe) Stockpile 005: 39 m Organic Stockpile: 27 m	Designed by AtkinsRéalis
Average in-situ dry density	Overburden: 1.75 t/m^3	Selected by AtkinsRéalis
Water Management	Runoff directed to collection paddocks at the toe of the pile for store and seep	Selected by AtkinsRéalis

5.6 Water Management for Stockpiles

Item	Design Criteria and Basis	Reference
Perimeter Drainage System		
Design Storm	1:100-year 24-hr summer rainfall event	MELCCFP, 2025
Design Flow Calculation Methodology	Rational Method	Selected by AtkinsRéalis
Runoff Coefficient	Considering high moisture conditions	Selected by AtkinsRéalis
Ditch Dimensions	Trapezoidal (Side slope: 2H:1V or flatter)	Selected by AtkinsRéalis
Ditch Lining	Stockpile 001: Unlined Stockpile 002: 1.5 mm LLDPE geomembrane for run-off collection from leaching/PAG rockfill and tailings	based on preliminary results of the geochemical characterization by Vision Geochemistry as provided at meeting on Jan 21st, 2025.
Erosion protection	Stockpile 001: Riprap and non-woven needle punched geotextile Stockpile 002: 1.5 mm LLDPE geomembrane plus riprap and non-woven needle punched geotextile on the base of the ditch.	Selected by AtkinsRéalis
Minimum Freeboard	0.6 m	USACE, 1994 / NCHRP, 2006
Collection Ponds		
Dam Dimensions	Crest Width: 10 m Dam Slopes: 3H:1V upstream (lined), 2H:1V downstream	Selected by AtkinsRéalis
Seepage Control	1.5 mm LLDPE geomembrane on the upstream slope	Selected by AtkinsRéalis
Basin/Pond Lining	Stockpile 001 Ponds: Unlined Stockpile 002 Ponds: 1.5 mm LLDPE geomembrane	based on preliminary results of the geochemical characterization by Vision Geochemistry as provided at the meeting on Jan 21st, 2025.
Dam Hazard Classification	Pond 1 (Stockpile 001): Significant Pond 1A (Stockpile 001): Significant Pond 2 (Stockpile 002): Significant Pond 3 (Stockpile 002): Significant	CDA, 2019
Return Period for Design Seismic Event	1 in 2,475-year event (minimum)	MELCCFP, 2025

Item	Design Criteria and Basis	Reference
Inflow Design Flood (IDF)	Probable Maximum Flood (PMF) based on Probable Maximum Precipitation (PMP). The more critical one of the spring or summer PMFs.	MELCCFP, 2025
Environmental Design Flood (EDF)	Stockpile 001 Ponds 1 and 1A: ▪ 1:100-year snowmelt followed by a 1:100-year 24-hr rainfall event Stockpile 002 Ponds 2 and 3: ▪ 1:100-year snowmelt followed by 1:2,000-year 24-hr rainfall event	MELCCFP, 2025
Freeboard	Minimum Freeboard for EDF: ▪ For Stockpile 001 ponds: 1.0 m ▪ For Stockpile 002 ponds: 1.5 m. Minimum Freeboard for IDF: 0.6 m	MELCCFP, 2025 OMNR, 2011
Spillway Geometry	Trapezoidal (Side slope: 2H:1V or flatter)	Selected by AtkinsRéalis

5.7 Water Management for Industrial Area

Item	Design Criteria and Basis	Reference
Sedimentation Ponds and Polishing Pond		
Dam Dimensions	Crest Width: 10 m Dam Slopes: 3H:1V upstream (lined), 2H:1V downstream	AtkinsRéalis
Seepage Control	1.5 mm LLDPE geomembrane on the upstream slope and pond base with underdrainage collection and pump-back system	AtkinsRéalis
Basin/Pond Lining	1.5 mm LLDPE geomembrane	AtkinsRéalis
Dam Consequence Classification	Significant	CDA, 2019; 2023
Dam Hazard Classification	Not applicable (no watercourse crossings)	Quebec Dam Safety Act
Pond Water Characterization	Sedimentation Ponds: Low risk Polishing Pond: Low risk	Assumed by AtkinsRéalis based on MELCCFP, 2025
Environmental Design Flood (EDF)	Sedimentation Ponds: 1:1,000-year Polishing Pond: 1:1,000-year	Selected by AtkinsRéalis as per MELCCFP, 2025
Inflow Design Flood (IDF)	PMF	Selected by AtkinsRéalis as per MELCCFP, 2025
Minimum Freeboard above EDF	Sedimentation Ponds: 1.0 m Polishing Pond: 1.0 m	Selected by AtkinsRéalis as per MELCCFP, 2025
Minimum Freeboard above IDF	0.6 m	AtkinsRéalis
Pond Inflows	Sedimentation Ponds: ▪ Dewatering water from open-pit and underground mines, dewatering of Lake 001 and run off from industrial area Polishing Pond: ▪ Sedimentation ponds, stockpile 001 collection ponds and treated water from water treatment	AtkinsRéalis

Item	Design Criteria and Basis	Reference
Pond Outflows	Sedimentation Ponds: ▪ Gravity discharge to the polishing pond Polishing Pond: ▪ Pumped to the paste plant and water supply, ▪ Outlet structure for operational discharge to the environment, ▪ Emergency spillway to discharge to the environment during flood conditions.	AtkinsRéalis
Spillway Geometry	Sedimentation Ponds: ▪ Trapezoidal/Rectangular Polishing Pond: ▪ Outlet Structure: HDPE pipes ▪ Emergency spillway: Trapezoidal (3H:1V or flatter) with concrete sill	AtkinsRéalis
Minimum offset from the downstream toe of the pond dam to an existing waterbody	60 m	MELCCFP, 2025
Return Period for Design Seismic Event	1:2,475 years	MELCCFP, 2025
Pond Service Life	To be removed prior to post-restoration period	As per MRNF, 2024
Contact Water Ponds		
Pond Slopes	3H:1V	AtkinsRéalis
Seepage Control	1.5 mm LLDPE geomembrane on pond slopes and pond base with underdrainage collection and pump-back system	AtkinsRéalis
Basin/Pond Lining	1.5 mm LLDPE geomembrane	AtkinsRéalis
Dam Consequence Classification	Not applicable (no dam embankment)	AtkinsRéalis
Dam Hazard Classification	Not applicable (no watercourse crossings)	Quebec Dam Safety Act

Item	**Design Criteria and Basis**	**Reference**
Pond Water Characterization	Low risk	Assumed by AtkinsRéalis based on MELCCFP, 2025
Environmental Design Flood (EDF)	1:100-year rainfall + 1:100-year snowfall	Selected by AtkinsRéalis as per MELCCFP, 2025
Inflow Design Flood (IDF)	Not applicable (no dam embankment)	AtkinsRéalis
Minimum Freeboard above EDF	1.0 m	Selected by AtkinsRéalis as per MELCCFP, 2025
Minimum Freeboard above IDF	Not applicable (no dam embankment)	AtkinsRéalis
Pond Inflows	Contact Water Pond 1 and 2: ▪ Runoff from the industrial area by gravity	AtkinsRéalis
Pond Outflows	Contact Water Pond 1 and 2: ▪ Pumped to Sedimentation Ponds	AtkinsRéalis
Spillway Details and Dimensions	Not applicable (no dam embankment)	AtkinsRéalis
Minimum offset from pond to an existing waterbody	60 m	MELCCFP, 2025
Return Period for Design Seismic Event	Not applicable (no dam embankment)	AtkinsRéalis
Pond Service Life	To be removed prior to the post-restoration period	As per MRNF, 2024
Industrial Area Diteches	**Not applicable (out of the scope of the mandate)**	**Designed by Gmining**

5.8 Lake 001 Cut-off Dams

Item	Design Criteria and Basis	Reference
Dam Dimensions	Crest Width Upstream Berm: 6m Crest Width Downstream Berm: 6m Minimum Dam crest width: 6 m Berm Slopes (upstream and downstream): 2.5H:1V; Central Berm: 3H:1V	Based on the stability analysis
Dam Crest Elevation	378.4m	After providing 1.5m freeboard from IDF water level (~376.9m)
Dam Hazard Classification	Extreme	Preliminary, selected by AtkinsRéalis, based on CDA, 2013
Dam Class	Class C	Quebec Dam Safety Act, chapter S-3.1.01, r. 1
Return Period for Design Seismic Event	1/10,000 or Maximum Credible Earthquake event for “Extreme” Dam Classification	CDA, 2019; MELCCFP, 2025
Inflow Design Flood (IDF)	Probable Maximum Flood (PMF) based on Probable Maximum Precipitation (PMP). The more critical one of the spring or summer PMF	CDA, 2019; MELCCFP, 2025
Minimum Freeboard	Minimum Freeboard for IDF: 1.5 m	S-3.1.01 - Dam Safety Act
Erosion Protection	Dam is constructed primarily with -450 mm rockfill. No additional erosion protection is provided.	Selected by AtkinsRéalis
Seepage management	Sheet piles	Selected by AtkinsRéalis

5.9 Diversion Channel for Lake 001

Design Flow	Probable Maximum Flood (PMF) based on Probable Maximum Precipitation (PMP) The more critical one of the spring or summer PMF	CDA, 2013
Channel Geometry	Trapezoidal	Selected by AtkinsRéalis
Dimensions	Side slope: 1 H: 1 V, steeper in blasted rock sections	Selected by AtkinsRéalis
Erosion Protection	RipRap lining for ditch in overburden	Selected by AtkinsRéalis
Minimum Freeboard	0.6 m	USACE, 1994 / NCHRP, 2006

5.10 Seismic Design Criteria

Site Class	Class D	NBCC, 2020
Peak Ground Acceleration (PGA)	0.0642g for 1 in 2,475-year event (HPC: High) 0.1g for 1 in a 10,000-year event (HPC: Extreme)	NBCC, 2020 Extrapolated by AtkinsRéalis from NBCC, 2020. A site-specific hazard assessment is recommended as per MELCCFP, 2025

5.11 Geotechnical Design Basis

Seismic Liquefaction		
Susceptibility	Saturated and near-saturated (S_r > 80%) sand-like soils/tailings.	Selected by AtkinsRéalis
CRR for Sand-like material	Based on (S) SPT method: Boulanger and Idriss (2014) simplified method	Boulanger and Idriss, 2014
Fines Content Correction	Applied only to foundation soil, not to tailings	James, 2009
Factor of Safety against Liquefaction of Tailings and Sand-Like Soils (FOS_{Liq} = CRR/CSR)	FOS_{liq} < 1.0: Liquefiable FOS_{liq} between 1.0 to 1.3: Potentially liquefiable FOS_{liq} > 1.3: Not liquefiable	Selected by AtkinsRéalis
Cyclic softening		
Susceptibility	Saturated and near-saturated (S_r > 80%) clay-like soils meet the following plasticity index (PI) limits: ▪ Clays: PI < 7 ▪ Silts: PI < 12	Idriss and Boulanger, 2008 Bray and Sancio, 2006
CRR for Clay-like material	Based on the simplified method: Idriss and Boulanger (2008) simplified method.	Idriss and Boulanger, 2008
Factor of Safety against Cyclic Softening of Clay-Like Soils (FOS_{cs} = CRR/CSR)	FOS_{cs} < 1.0: Susceptible to cyclic softening	Selected by AtkinsRéalis

5.12 Geotechnical Parameters

Soil Classification	Soils encountered on site, classified according to ASTM D2487-17, Unified Soil Classification System (USCS) are as follows: ▪ ML – Silt/Sandy Silt ▪ SM – Silty Sand/Silty Sand with Gravel ▪ GM – Silty Gravel with Sand/Gravel with Silt and Sand ▪ GW – Gravel	Determined by AtkinsRéalis based on BBA, 2024

Soil Index Properties	USCS	ML	SM	GM	GW	
	Relative Density	Compact	Compact	Dense	Very Dense	Determined by AtkinsRéalis based on BBA, 2024
	Friction Angle, ϕ (°)	31	34	38	39	
	Unit Weight, Moist, γ_{moist} (kN/m^3)	18.5	19.0	20.0	20.5	
	Unit Weight, Submerged, $\gamma_{sub.}$ (kN/m^3)	9.5	10.5	11.5	12.5	
	Cohesion, c (kPa)	0	0	0	0	
	Void Ratio, e	0.83	0.56	0.42	0.36	

5.13 Loading and Seepage Conditions

Seepage Model Limits / Boundary Conditions (Lake 001 Cut-off Dam)	Upstream Boundary Condition: Lake 007 EL 373m Downstream Boundary Condition: towards Open Pit	Selected by AtkinsRéalis
Seepage Model Material Parameters	To be determined after analyzing laboratory and field investigation data	TBD

5.14 Geotechnical Design Criteria

Limit Equilibrium Analysis – Minimum Factors of Safety (Lake 001 Cut-off Dam)

Zone	Loading Conditions	Minimum Factor of Safety
Upstream and downstream	Slope stability at the end of each construction phase (short-term)	1.3 to 1.5
Upstream and downstream	Slope stability in the presence of the project flood (short-term)	1.3
Upstream and downstream	Slope stability under stationary conditions (long-term)	1.5
Upstream	Quick drain	1.3
Upstream and downstream	Pseudo-static or dynamic analysis for seismic loading, with filled basin and reduced properties if liquefaction possible	1.1
	(post-seismic value)	(1.3)
Central	Horizontal slippage of the dike under static loading	1.5
Central	Horizontal slippage of dike under liquefaction pressures	1.3
Central	Bearing capacity of soil under fill	1.5

MELCCFP, 2025

Limit Equilibrium Analysis – Minimum Factors of Safety (Stockpiles)

Loading Conditions	Minimum Factor of Safety
Dump/Soil Surface (short-term)	1.0
Dump/Soil Surface (long-term)	1.2
Overall global stability short-term (static), post-construction	1.3 to 1.5
Overall global stability long-term (static)	1.5
Pseudo-static or dynamic analysis for seismic loading	1.1 to 1.3

BCMWRPRC, 1991a
Hawley and Cunning, 2017

Piezometric Conditions	▪ Geotechnical analysis for the current condition is based on readings from the existing piezometers/BHs water level ▪ Geotechnical analysis for ultimate/closure condition is based on seepage analysis results.	Selected by AtkinsRéalis

5.15 Closure

Objectives	▪ Eliminate unacceptable health risks and ensure the safety of persons. ▪ Limit the production and spread of contaminants that may affect the receiving environment and, in the long term, aim to eliminate any form of maintenance and follow-up. ▪ Return the site to a visually acceptable condition. ▪ To remediate the infrastructure site (excluding tailings and tailings accumulation areas) in a state compatible with future use	Based on MRNF, 2024

Minimum safety factor targeted for stability analyses under closure conditions

Loading Condition	Minimum Factors of Safety			Minimum Factors of Safety for this Project (Closure)
	MDDEP (2012)	CDA (2019)	MRNF(2024)	
Static – End of construction	1.3 to 1.5	<1.3	1.3 to 1.5	1,5
Static – Long term (with NPS)	1.5	1.5	1.5	1.5
Static – Design Flood	1.3	-	1.3 to 1.5	1.3
Pseudo-static	1.1	1.0	1.1	1.1
Post-seismic	1.3	1.2	1.3	1.3
Horizontal Sliding (static) (1)	1.5	-	1.5	1.5
Horizontal Sliding (post-liquéfaction) (1)	1.3	-	1.3	1.3
Note : This condition will be included in the stability analysis (composite sliding surfaces)				

MELCCFP, 2025
CDA, 2019
MRNF, 2024

Earthquake Loading	The return interval for the earthquake loading for closure design will be either based on the hazard consequence classification as per CDA (2019) for the active and passive closure phases or as prescribed by MELCCFP (2025) which is 1 in 2,475 years for acid-generating residues (the greater loading shall apply).	CDA, 2019
Hydrotechnical Closure Criteria	MELCCFP (2025) recommends a design flood with a minimum return period of 100 years, for drainage systems with structures without water accumulation, on and around mine sites. Therefore, the following design criteria were adopted in the present study: ▪ The ditches or culverts design flood is generated by a summer-fall rainfall with a 1:100-yr return period. This return period should also be used in the Maintenance Program for the site. ▪ The transformation of rainfall into runoff is based on a conservative runoff coefficient of 1.0. (recommended by MTQ methodology)	MELCCFP, 2025
Vegetative Cover	There are generally no formal criteria for the evaluation of the vegetation management. Vegetation success on the different infrastructures and cover systems contribute to their integrity as it protects the top layers against erosion and contribute to the integration of the site to its surroundings. However, the roots should not penetrate so deeply as to affect the cover system, such as a geomembrane liner. Also, vegetation growth should not lead to blocking the ditches of the site.	AtkinsRealis
Cover System	Stockpile 001 – Waste Rock: A layer of overburden and topsoil Stockpile 002 – Waste Rock: A layer of crushed stone, overlain by a layer of overburden, a 1.5 mm HDPE geomembrane, a geonet, a layer of overburden and topsoil. Alternatively, a layer of compacted clay will be placed onto the waste rock and overlain with topsoil Stockpile 002 – Tailings: A 1.5 mm HDPE geomembrane placed directly onto tailings overlain with a geonet, a layer of overburden and topsoil. Alternatively, a layer of compacted clay will be placed onto the tailings and overlain with topsoil	AtkinsRealis

6. Supplemental Information

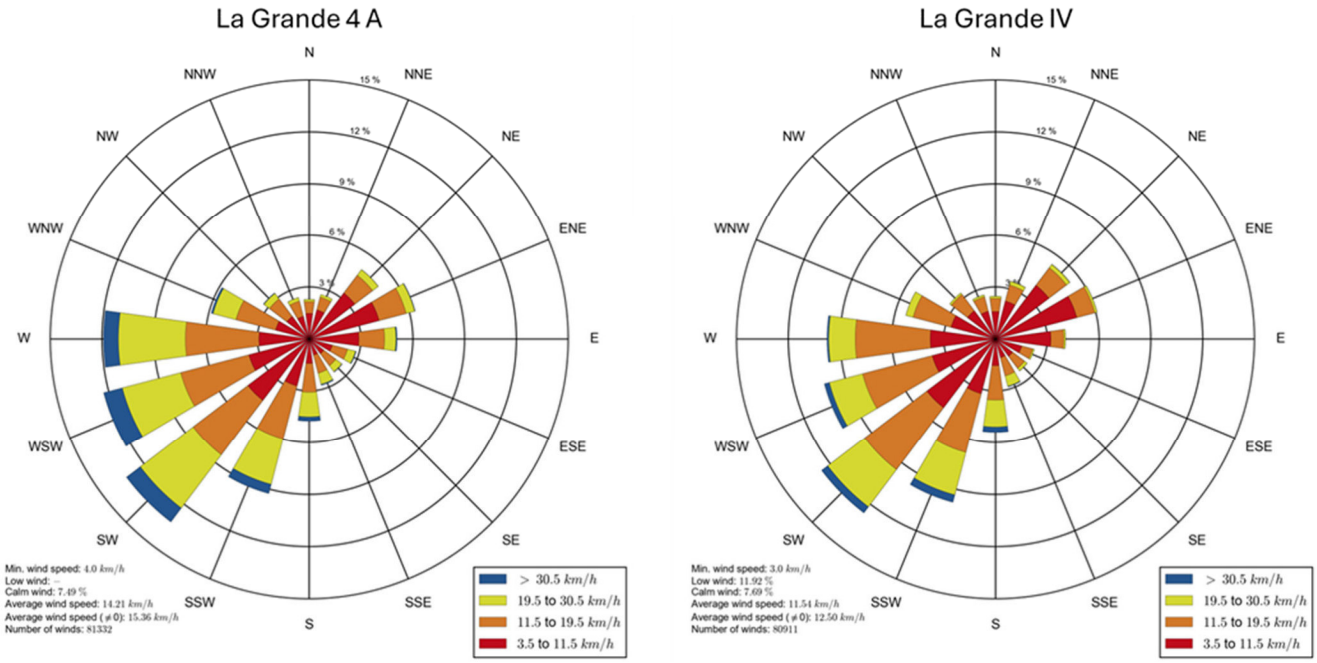


Figure 6-1 Wind Rose plots for La Grande 4 A and La Grande IV stations (established based on wind data from 2014 to 2024) (Provided by Client)

7. References

AtkinsRéalis, 2025, Baseline Hydrology, Document No.: CASN-A-370-HY-REP-001

BBA, 2024a. Technical Report Geotechnical Campaign for Phase 1 Diversion Dams, 7535009-000000-4G-ERA-0001-RAA

BBA, 2024b. Technical Report Geotechnical Campaign for Phase 2 (factual), 7535009-020001-4G-ERA-0003-RAA

BBA, 2024c. Technical Report Factual Report of 2024 Geotechnical Diamond Drill Investigation, CV5 Site, 75350179-000000-4M-ERA-0003-R00

BCMWRPRC ,1991a. Investigation and Design Manual – Interim Guidelines. Mine Rock and Overburden Piles 1. Prepared by Piteau Associates Engineering Ltd, May 1991.

BCMWRPRC, 1991b. Operating and Monitoring Manual – Interim Guidelines. Mine Rock and Overburden Piles 2. Prepared by Klohn Leonoff Ltd, May 1991.

Bray, J.D. and Sancio, R.B., 2006. Assessment of the Liquefaction Susceptibility of Fine-Grained Soils. Journal of Geotechnical and Geoenvironmental Engineering, Volume 132, Issue 9.

Canadian Dam Association (CDA), 2007a. Technical Bulletin: Inundation, Consequences, and Classification for Dam Safety.

Canadian Dam Association (CDA), 2007b. Technical Bulletin: Surveillance of Dam Facilities.

Canadian Dam Association (CDA), 2007c. Technical Bulletin: Flow Control Equipment for Dam Safety.

Canadian Dam Association (CDA), 2007d. Technical Bulletin: Dam Safety Analysis and Assessment.

Canadian Dam Association (CDA), 2007e. Technical Bulletin: Hydrotechnical Considerations for Dam Safety.

Canadian Dam Association (CDA), 2007f. Technical Bulletin: Seismic Hazard Considerations for Dam Safety.

Canadian Dam Association (CDA), 2007g. Technical Bulletin: Geotechnical Considerations for Dam Safety.

Canadian Dam Association (CDA), 2011. Guidelines for Public Safety Around Dams.

Canadian Dam Association (CDA), 2013. Dam Safety Guidelines 2007 (Revised 2013), 2013.

Canadian Dam Association (CDA), 2016. Technical Bulletin: Dam Safety Reviews.

Canadian Dam Association (CDA), 2019. Technical Bulletin: Application of Dam Safety Guidelines to Mining Dams, 2014 (2019 Edition).

Canadian Dam Association (CDA), 2021. Technical Bulletin: Tailings Dam Breach Analysis.

Canadian Dam Association (CDA), 2023. Technical Bulletin: Environmental Consequence Classification.

Card, K. (1986). Geology and Tectonics of the Archean Superior Province, Canadian Shield. Dans Workshop on Early Crustal Genesis: The World's Oldest Rocks (pp. 27-29). LPI Technical Report 86-04.

Dam Safety Act (chapter S-3.1.01), 2024. legisquebec.gouv.qc.ca/en/ShowDoc/cs/S-3.1.01

Dam Safety Regulation (chapter S-3.1.01, r. 1), 2024. legisquebec.gouv.qc.ca/en/ShowDoc/cr/S-3.1.01,20r.201

Federal Emergency Management Agency (FEMA), 2014, Technical Manual: Overtopping Protection for Dams. FEMA P-1015/May 2014

Global Industry Standard on Tailings Management (GISTM), 2020. https://globaltailingsreview.org/global-industry-standard/.

GMining, 2025. Integrated Schedule V2 Mass Balance

Hawley and Cunning, 2017. Guidelines for Mine Waste Dump and Stockpile Design. CSIRO Publishing.

Houle, P., 2004. James Bay Region Central Superior Province (Opatica, Opinaca, Nemiscau, and La Grande Sub Provinces). Dans Report on Mineral Exploration Activities in Quebec 2004 (pp. 9-16).

Idriss, I. M., and Boulanger, R. W., 2008. Soil liquefaction during earthquakes. Monograph MNO-12, Earthquake Engineering Research Institute, Oakland, CA, USA.

Idriss, I. M., and Boulanger, R. W., 2015. 2nd Ishihara Lecture: SPT- and CPT-based relationships for the residual shear strength of liquefied soils. Soil Dynamics and Earthquake Engineering.

James, M., 2009. The use of waste rock inclusions to control the effects of liquefaction in tailings impoundments, Ph.D. Thesis, Université de Montréal, March 2009.

Lucas, S., & St-Onge, M., 1998. Geology of the Precambiran Superior and Grenville Provinces and Precambrian Fossils in North AMerica. Dans Geology of Canada, No. 7, Volume C-1 (Vol. C-1, p. 394). Geological Survey of Canada.

MAC, 2021a. A Guide to the Management of Tailings Facilities, Version 3.2, March 2021, https://mining.ca/wp-content/uploads/dlm_uploads/2021/06/MAC-Tailings-Guide-Version-3-2-March-2021.pdf.

MAC, 2021b. Developing an Operation, Maintenance, and Surveillance Manual for Tailings and Water Management Facilities, Version 2.1, March 2021, https://mining.ca/wp-content/uploads/dlm_uploads/2021/04/MAC-OMS-Guide-March-2021.pdf.

MRNF, 2024. Guide de préparation du plan de réaménagement et de restauration des sites miniers au Québec.

MELCCFP, 2025. Directive 019 sur l'industrie minière, 13 fevrier 2025. Ministère de l'Environnement, de la Lutte contre les changements climatiques, de la Faune et des Parcs, Gouvernement du Québec – 2025. [Accessed in French at: https://www.environnement.gouv.qc.ca/milieu_ind/directive019/directive-019-2025.pdf].

OMNR, 2011, Technical Bulletin for Spillways and Flood Control Structures

Percival, J., 2007. Geology and Metallogeny of the Superior Province, Canada. Dans W. Goodfellow, Mineral Deposits of Canada. A synthesis of major deposit types, district metallogeny, the evolution of geological provinces and exploration methods (pp. 903- 928).

Preliminary Economic Assessment for the Shaakichiuwaanaan Project, PEA 2024. NI 43-101 Technical Report, prepared by BBA, WSP and Primero for Patriot Battery Metals Inc.

U.S. Army Corps of Engineers (USACE), 1994. Engineering and Design Hydraulic Design of Flood Control Channels.

United States Department of the Interior, Bureau of Reclamation (USBR), 1987, Design of Small Dams

United States Department of the Interior, Bureau of Reclamation (USBR), 2021, Design Standards No. 13 Embankment Dams.

United States Department of the Interior, Bureau of Reclamation (USBR), 2022, Design Standards No. 14 Appurtenant Structures for Dams (Spillways and Outlet Works) Design Standard.

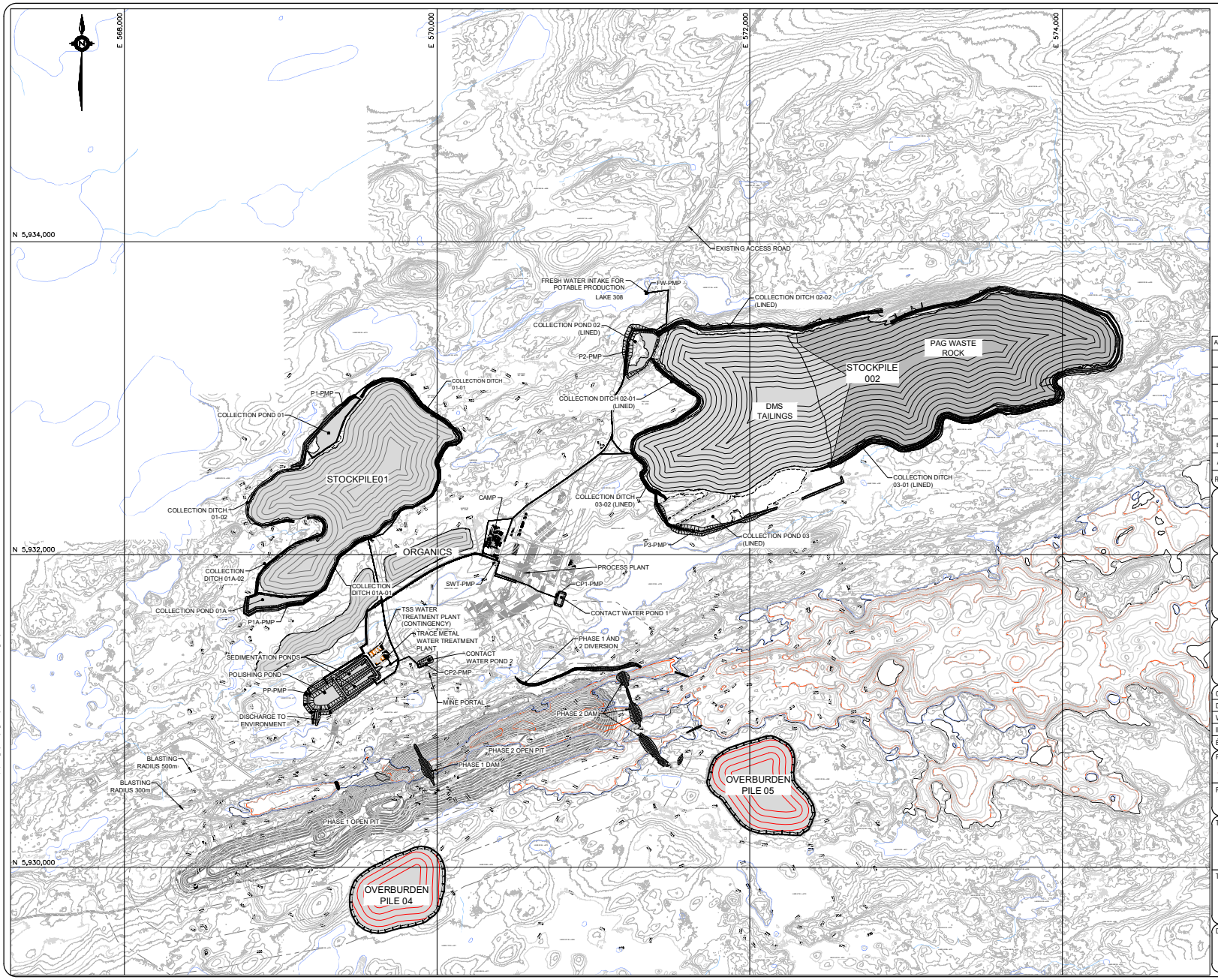
United States Department of the Interior, Bureau of Reclamation (USBR), 1984, Design of Stilling Basins and Energy Dissipators. By A. J. PETERKA. Denver, Colorado.

WSP Canada Inc. 2025. Laboratory Test Results, Test Request # B25-100, Project Number CA0051178.6278

AtkinsRéalis

Appendices

Appendix A Site Location and Layout



ATKINSRÉALIS DOC#: 702381-0000-4GDD01-0001				
B	CLIENT REVIEW / COMMENT	A.C.	B.M.	25/07/28
A	INTERNAL REVIEW	A.C.	B.M.	25/04/12
REV	DESCRIPTION	PAR BY	ING ENG	DATE

CONCEPTEUR/DESIGN: A. COGULET	25-07-28
DESSINATEUR/DRAWN: M. SYKES	25-07-28
VÉRIFIÉ PAR/CHECKED: P. ADDIS	25-07-28
INGÉNIEUR/ENGINEER: B. MORRISSETTE	25-07-28
ÉCHELLE/SCALE: 1:11,000	DATE

PROJET/PROJECT:
SHAAKICHIUWAANAAN

PHASE:
ÉTUDE DE FAISABILITÉ
FEASIBILITY STUDY

TITRE:
-
-
-
-

TITLE
WATER MANAGEMENT
GENERAL ARRANGEMENT
-
-

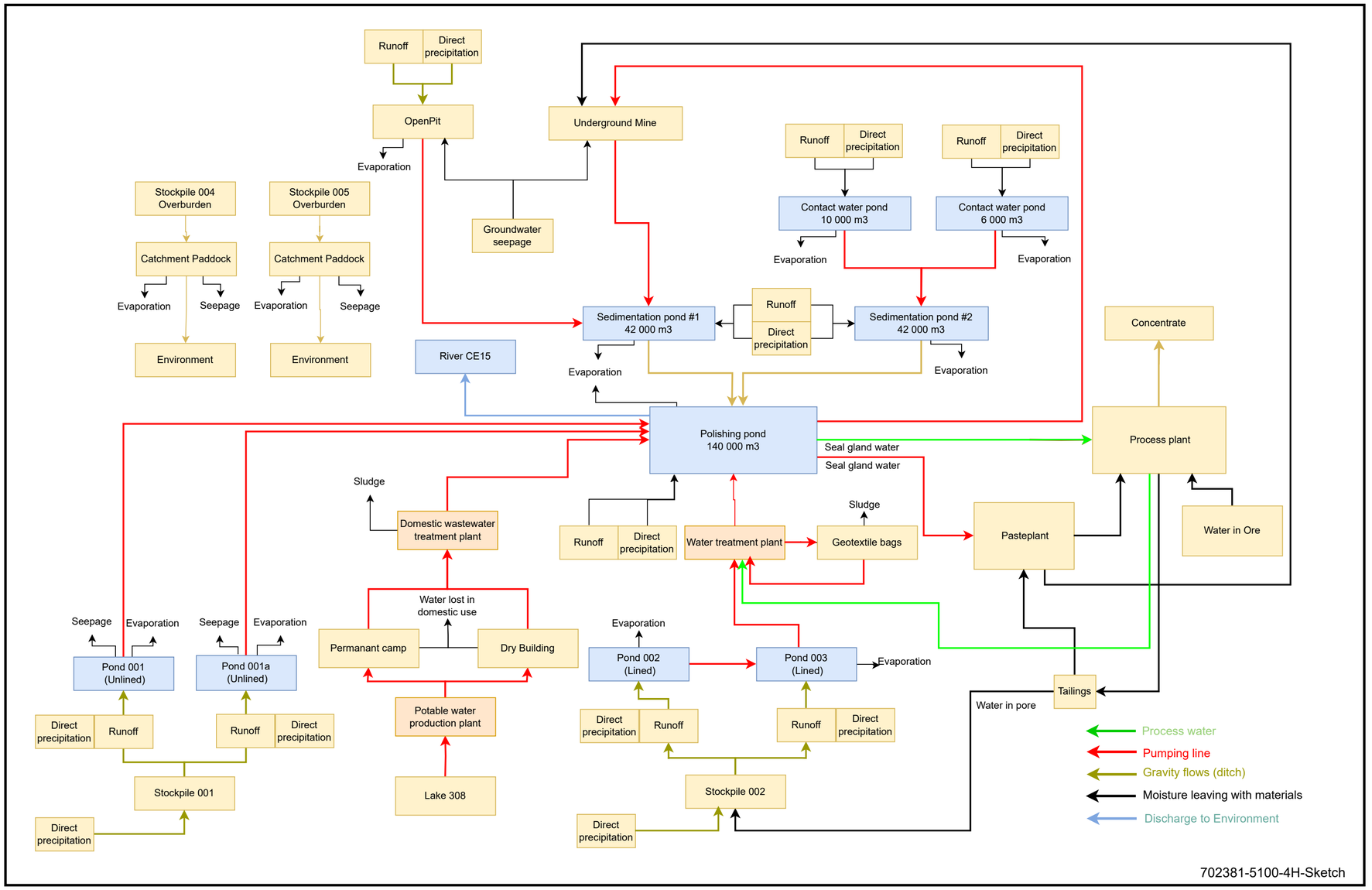
DESSIN NUM./DRAWING NO.: CASN – A

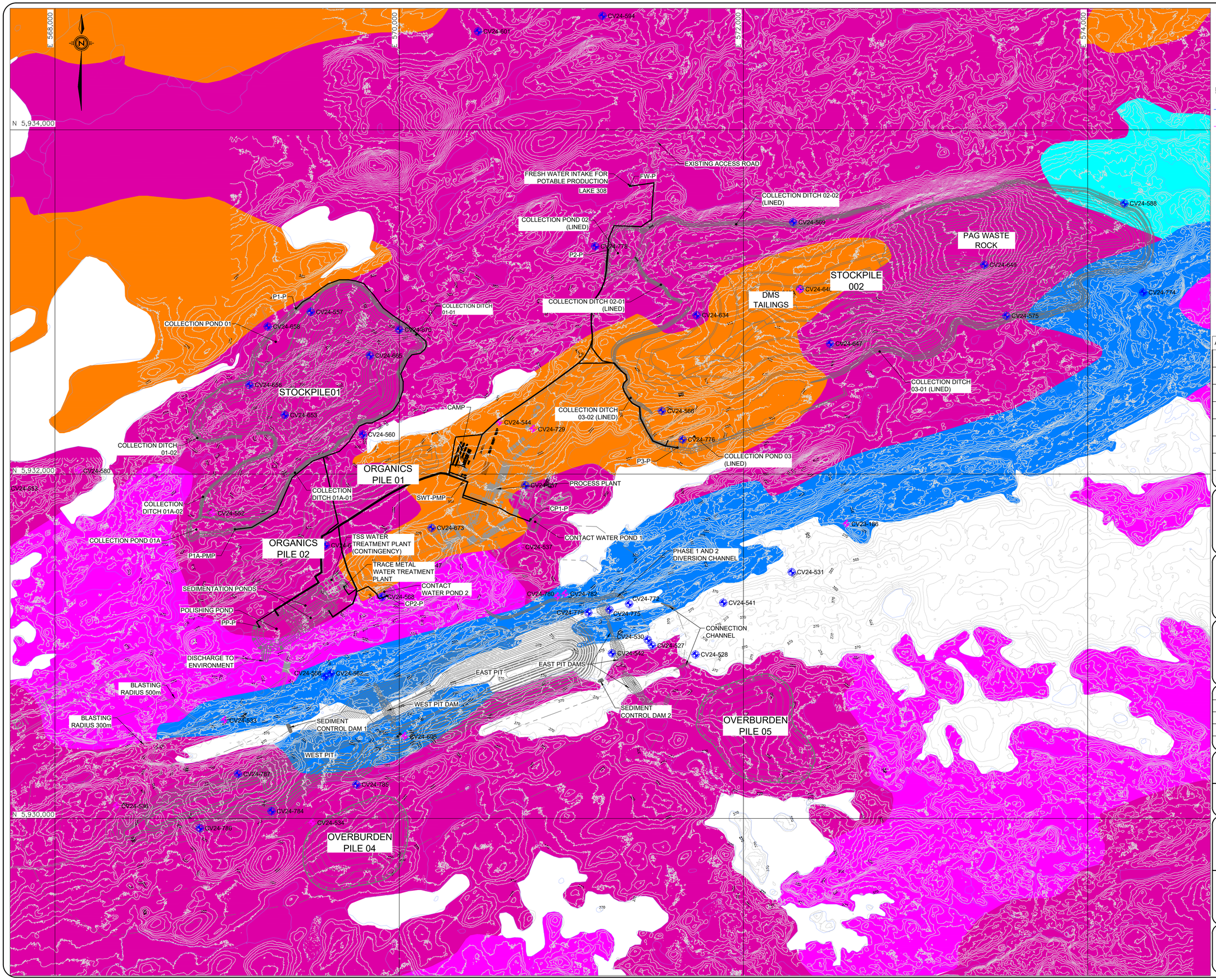
001 – GE – DWG – 0001 – B
AREA DISC. TYPE SEQ. REV.

© AtkinsRéalis unless otherwise stated

ATKINSRÉALIS - Sensitive

Annexe B Dessins


Runoff
Direct precipitation
OpenPit
Evaporation
Underground Mine
Groundwater seepage
Stockpile 004 Overburden
Stockpile 005 Overburden
Catchment Paddock
Catchment Paddock
Evaporation
Seepage
Evaporation
Seepage
Environment
Environment
Runoff
Direct precipitation
Contact water pond 10 000 m3
Runoff
Direct precipitation
Contact water pond 6 000 m3
Evaporation
Evaporation
Sedimentation pond #1 42 000 m3
Runoff
Direct precipitation
Sedimentation pond #2 42 000 m3
Evaporation
Evaporation
River CE15
Concentrate
Polishing pond 140 000 m3
Process plant
Seal gland water
Seal gland water
Sludge
Domestic wastewater treatment plant
Runoff
Direct precipitation
Water treatment plant
Sludge
Geotextile bags
Pasteplant
Water in Ore
Water lost in domestic use
Seepage
Evaporation
Seepage
Evaporation
Permanant camp
Dry Building
Evaporation
Pond 002 (Lined)
Pond 003 (Lined)
Evaporation
Tailings
Water in pore
Pond 001 (Unlined)
Pond 001a (Unlined)
Potable water production plant
Direct precipitation
Runoff
Runoff
Direct precipitation
Direct precipitation
Runoff
Runoff
Direct precipitation
Stockpile 001
Stockpile 002
Lake 308
Direct precipitation
Direct precipitation
Process water
Pumping line
Gravity flows (ditch)
Moisture leaving with materials
Discharge to Environment
702381-5100-4H-Sketch



NOTES

1. THE CO-ORDINATES, DIMENSIONS AND ELEVATIONS ARE IN METERS. ELEVATIONS ARE TIED TO MEAN SEA LEVEL. CO-ORDINATES ARE BASED ON UTM NAD83(CSRS) ZONE 18 METRIC GRID PROJECTION.
2. CONTOURS WERE DERIVED FROM LiDAR SURVEY FROM PATRIOT LiDAR DATED OCT 11, 2022.

LEGEND

CV24 - BOREHOLES FROM 2024 GORTECHNICAL INVESTIGATION

OBSERVATION WELL

SURFACE GEOLOGY LEGEND

- ORGANICS
- DRUMLINS
- STABILIZED AEOLIAN
- FLUVIOGLACIAL
- FLUVIOGLACIAL LANDFORM
- FLUVIOGLACIAL WITH ESKER
- DECAY MORAINE
- ROGEN MORAINE (RIBBED MORAINE)
- ABLATION TILL
- UNDIFFERENTIATED TILL
- ROCK
- BARE ROCK

0 200 400 600m

200 SCALE= 1:10,000

ATKINSRÉALIS DOC#: 702381-0000-4GDD01-0002

REV	DESCRIPTION	PAR BY	ING ENG	DATE
C	ISSUED FOR FEASIBILITY STUDY	A.C.	B.M.	25/09/10
B	CLIENT REVIEW / COMMENT	A.C.	B.M.	25/07/28
A	INTERNAL REVIEW	A.C.	B.M.	25/04/12

PATRIOT BATTERY METALS

AtkinsRéalis

Mining Services

CONCEPTEUR/DESIGN:	A. COGULET	25-09-10
DESSINATEUR/DRAWN:	M. SYKES	25-09-10
VÉRIFIÉ PAR/CHECKED:	P. ADDIS	25-09-10
INGÉNIEUR/ENGINEER:	B. MORRISSETTE	25-09-10
ÉCHELLE/SCALE:	1:10,000	DATE

PROJET/PROJECT:
SHAAKICHIUWAANAAN

PHASE:
ÉTUDE DE FAISABILITÉ
FEASIBILITY STUDY

TITRE:
-
-
-
-

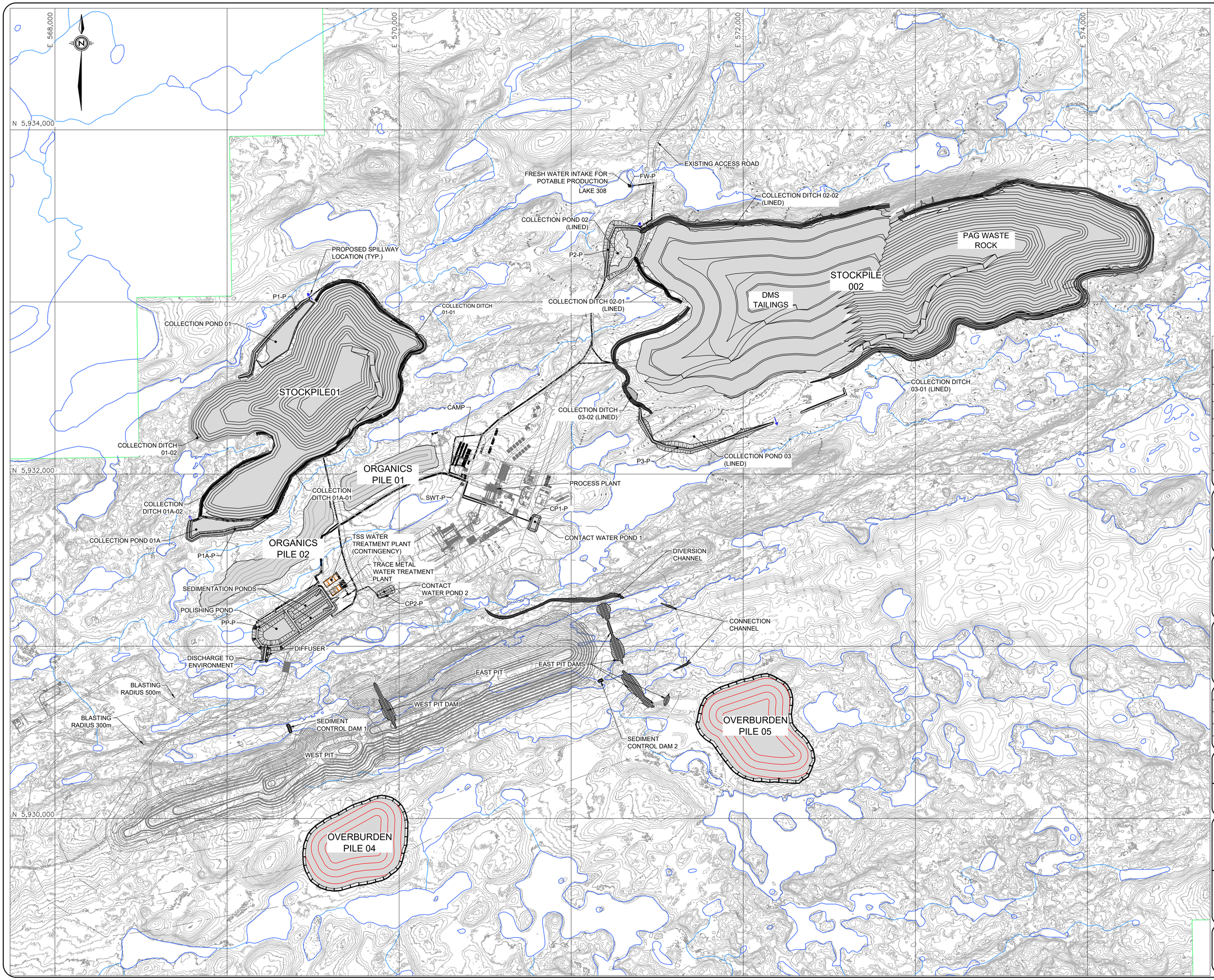
TITLE
WATER MANAGEMENT
SITE GEOLOGY
-
-

DESSIN NUM./DRAWING NO.: CASN - A

001 - GO - DWG - 0001 - C
AREA DISC. TYPE SEQ. REV.

PAPER SIZE FORMAT : A1

SAVED ON: 25-10-07 11:15 AM BY Sykes, Mark
PATH: C:\Users\SYKEM\OneDrive - AtkinsRéalis\Shared Documents - 702381 PB Metals Shaakichiuwaanaan project\40_Engineering\40_Drawings\0000\CASN-A-001-GO-DWG-0001_C.dwg



NOTES

1. THE CO-ORDINATES, DIMENSIONS AND ELEVATIONS ARE IN METERS. ELEVATIONS ARE TIED TO MEAN SEA LEVEL. CO-ORDINATES ARE BASED ON UTM NAD83(CSRS) ZONE 18 METRIC GRID PROJECTION.
2. CONTOURS WERE DERIVED FROM LiDAR SURVEY FROM PATRIOT LiDAR DATED OCT 11, 2022.

200 0 200 400 600m

SCALE= 1:10,000

ATKINSRÉALIS DOC#: 702381-0000-4GDD01-0001

REV	DESCRIPTION	PAR BY	ING ENG	DATE
C	ISSUED FOR FEASIBILITY STUDY	A.C.	B.M.	25/09/10
B	CLIENT REVIEW / COMMENT	A.C.	B.M.	25/07/28
A	INTERNAL REVIEW	A.C.	B.M.	25/04/12

PATRIOT BATTERY METALS

AtkinsRéalis

Mining Services

CONCEPTEUR/DESIGN:	A. COGULET	25-09-10
DESSINATEUR/DRAWN:	M. SYKES	25-09-10
VÉRIFIÉ PAR/CHECKED:	P. ADDIS	25-09-10
INGÉNIEUR/ENGINEER:	B. MORRISSETTE	25-09-10
ÉCHELLE/SCALE:	1:10,000	DATE

PROJET/PROJECT:
SHAAKICHIUWAANAAN

PHASE:
ÉTUDE DE FAISABILITÉ
FEASIBILITY STUDY

TITRE:
-
-
-
-

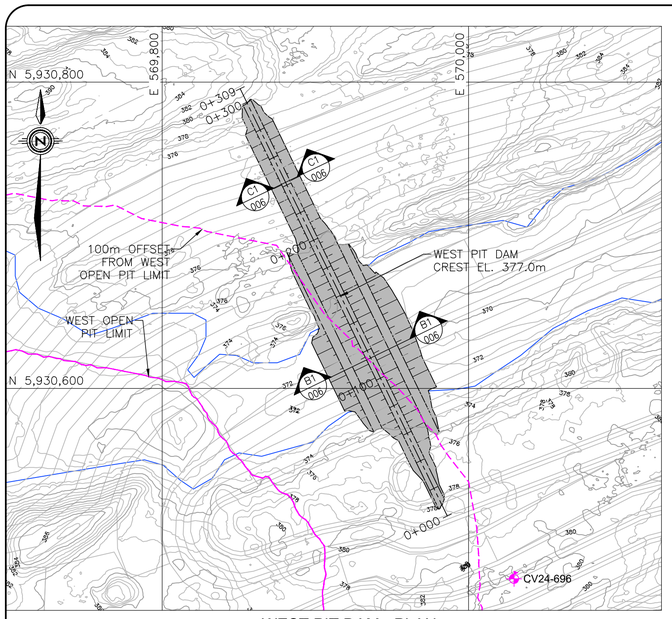
TITLE
WATER MANAGEMENT
GENERAL ARRANGEMENT
-
-

DESSIN NUM./DRAWING NO.: CASN - A

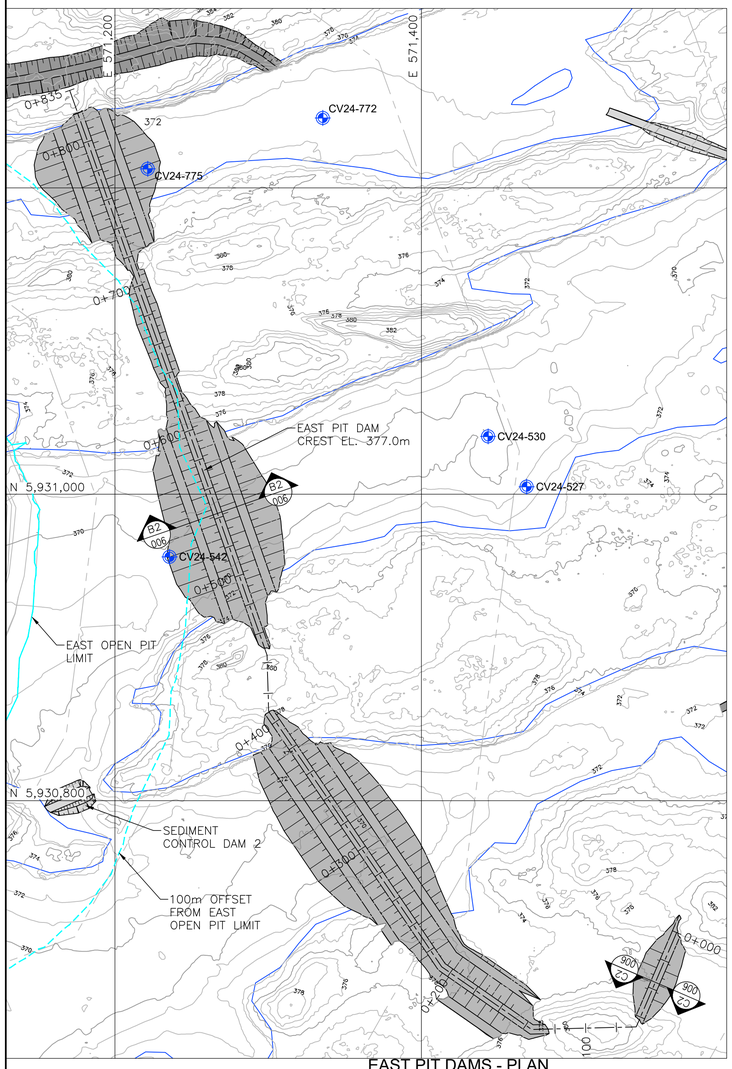
001 - GE - DWG - 0001 - C
AREA DISC. TYPE SEQ. REV.

PAPER SIZE FORMAT : A1

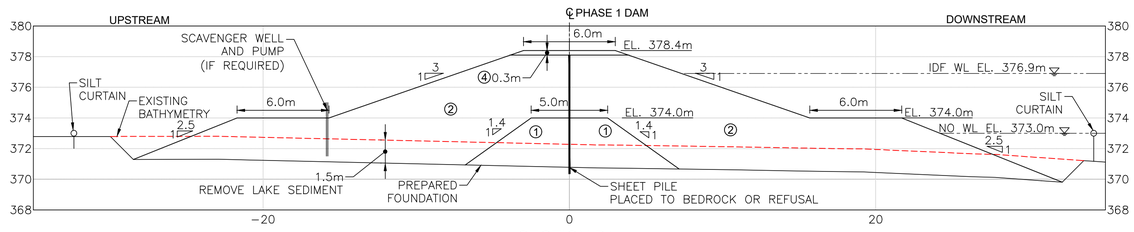
SAVED ON: 25-10-02 12:52 PM BY Sykes, Mark
PATH: C:\Users\SYKEM\OneDrive - AtkinsRéalis\Shared Documents - 702381 PB Metals Shaakichiuwaanaan project\40_Engineering\40_Drawings\0000\CASN-A-001-GE-DWG-0001_C.dwg



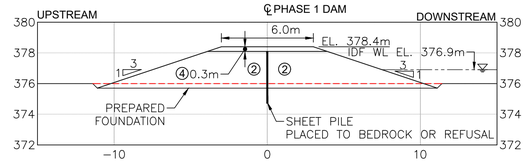
WEST PIT DAM - PLAN
SCALE=1:2000



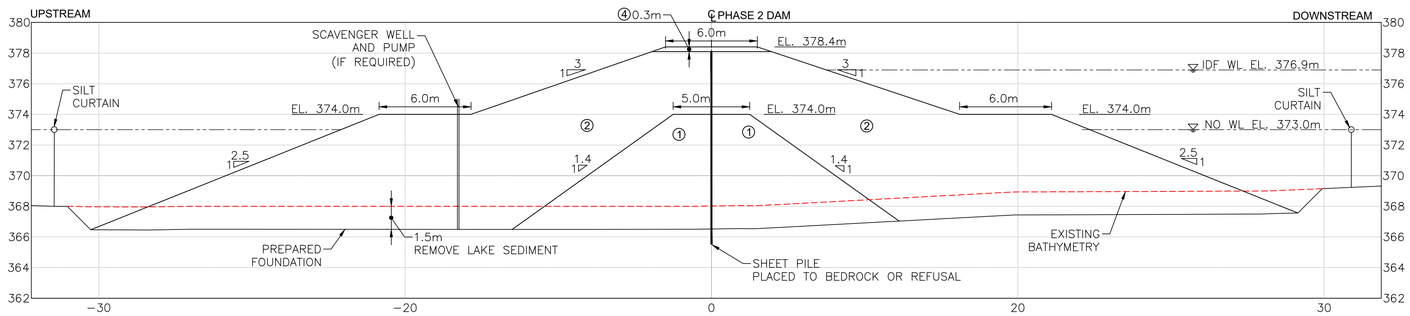
EAST PIT DAMS - PLAN
SCALE=1:2000



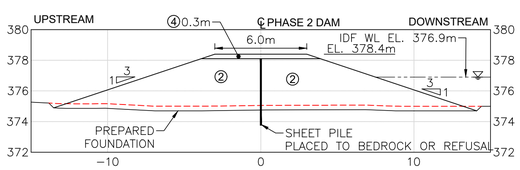
SECTION B1
WEST PIT DAM
SCALE=1:200



SECTION C1
WEST PIT DAM
SCALE=1:200



SECTION B2
EAST PIT DAM
SCALE=1:200



SECTION C2
EAST PIT DAM
SCALE=1:200

0 40 80 120m
40 SCALE= 1:2000

0 4 8 12m
4 SCALE= 1:200

NOTES

1. THE CO-ORDINATES, DIMENSIONS AND ELEVATIONS ARE IN METERS. ELEVATIONS ARE TIED TO MEAN SEA LEVEL. CO-ORDINATES ARE BASED ON UTM NAD83(CSRS) ZONE 18 METRIC GRID PROJECTION.
2. CONTOURS WERE DERIVED FROM LiDAR SURVEY FROM PATRIOT LiDAR DATED OCT 11, 2022.

LEGEND

CV24 - BOREHOLES FROM 2024 GORTECHNICAL INVESTIGATION

OBSERVATION WELL

MATERIALS

(1) CRUSHED STONE (-75mm)
(2) WASTE ROCK (-450mm)
(3) TILL / SAND BENTONITE CEMENT FILL
(4) GRANULAR B TYPE II
(5) FILTER / BEDDING SAND (-4.75mm)
(6) TRANSITION SAND AND GRAVEL (-26.5mm)
(7) RIP-RAP EROSION PROTECTION
(8) SAND / SILT (OVERBURDEN)
(9) CLEAR STONE (-19mm)
(G1) NON-WOVEN GEOTEXTILE (500g/m²)
(G2) NON-WOVEN NEEDLE PUNCHED GEOTEXTILE (300g/m²)
(G3) 1.5mm DOUBLE TEXTURED LLDPE GEOMEMBRANE

ATKINSRÉALIS #: 702381-0000-4GDD00-0008

REV	DESCRIPTION	PAR BY	ING ENG	DATE
C	ISSUED FOR FEASIBILITY STUDY	A.C.	B.M.	25/09/10
B	CLIENT REVIEW / COMMENT	A.C.	B.M.	25/07/28
A	INTERNAL REVIEW	A.C.	B.M.	25/04/12

PATRIOT BATTERY METALS

AtkinsRéalis

Mining Services

CONCEPTEUR/DESIGN:	P. ADDIS	25-09-10
DESSINATEUR/DRAWN:	M. SYKES	25-09-10
VÉRIFIÉ PAR/CHECKED:	R. ALAM	25-09-10
INGÉNIEUR/ENGINEER:	B. MORRISSETTE	25-09-10
ÉCHELLE/SCALE:	AS SHOWN	DATE

PROJET/PROJECT:

PHASE:
ÉTUDE DE FAISABILITÉ
FEASIBILITY STUDY

TITRE:
-
-
-
-

TITLE
DYKES AND DIVERSION FOR LAKE 001
PLAN, SECTIONS AND DETAILS
-
-

DESSIN NUM./DRAWING NO.: CASN - A

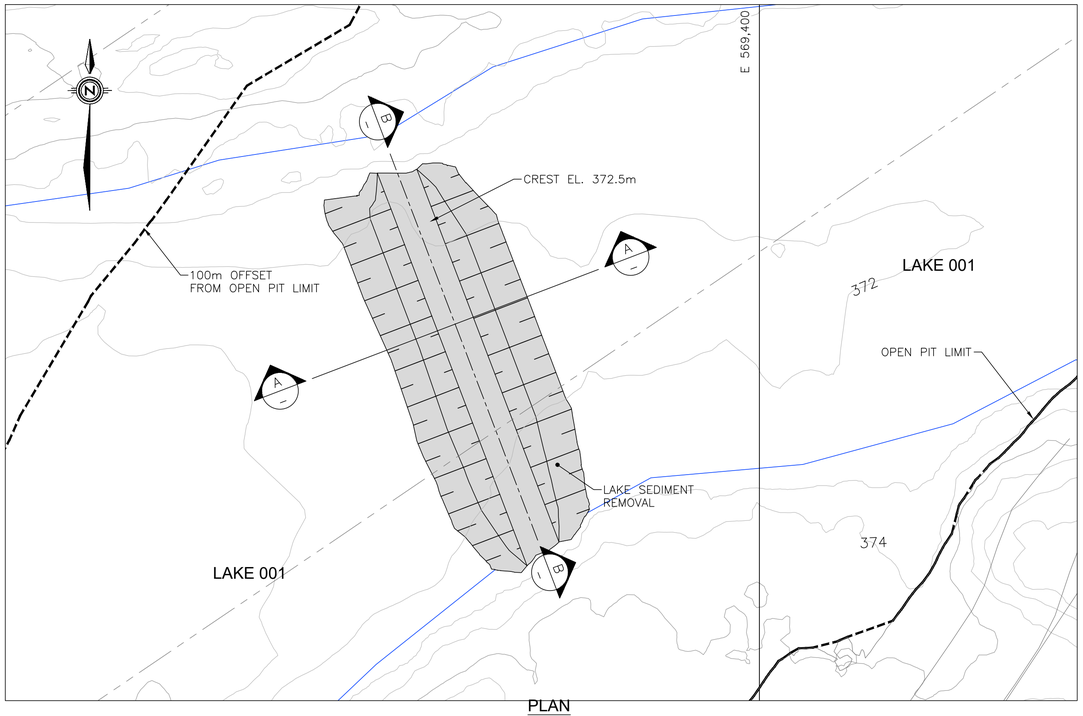
327 - WM - DWG - 0001 - C
AREA DISC. TYPE SEQ. REV.

PAPER SIZE FORMAT: A1
SAVED ON: 25-10-20 12:34 PM BY Shea, Mark
PATH: C:\Users\SYKEM\OneDrive - Atkins\Rio\Shared Documents - 702381 PR Metals Strauss\Havaanan project\40_Engineering\40_Drawings\0000\CASN-A-327-WM-DWG-0001_C.dwg

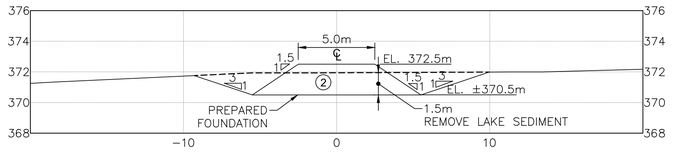
PAPER SIZE FORMAT : A1

NOTES

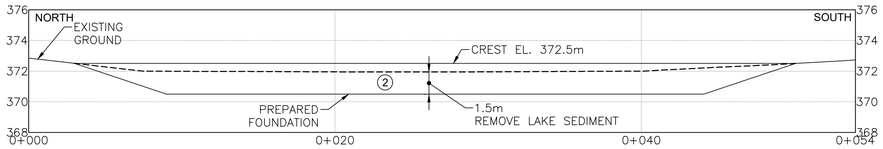
1. THE CO-ORDINATES, DIMENSIONS AND ELEVATIONS ARE IN METERS. ELEVATIONS ARE TIED TO MEAN SEA LEVEL. CO-ORDINATES ARE BASED ON UTM NAD83(CSRS) ZONE 18 METRIC GRID PROJECTION.
2. CONTOURS WERE DERIVED FROM LiDAR SURVEY FROM PATRIOT LiDAR DATED OCT 11, 2022.
3. STRIP LAKE SEDIMENT CONSISTS OF LOOSE SANDY SILT (ML) AND SILTY SAND (SM)



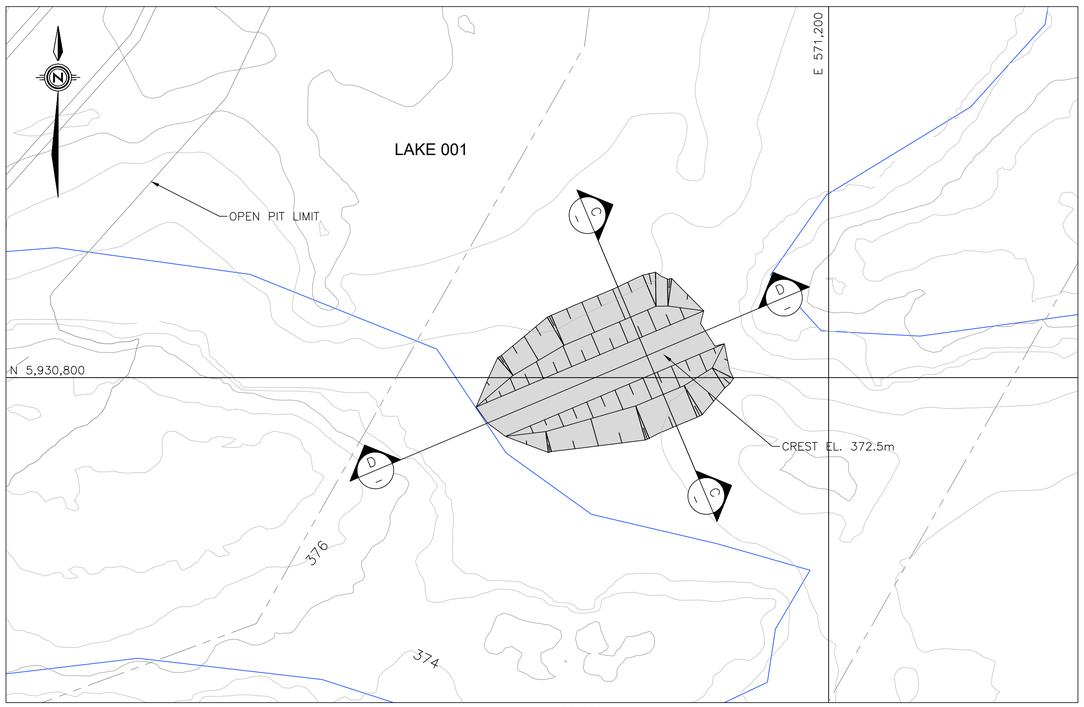
PLAN
SEDIMENT CONTROL DAM 1
SCALE=1:500



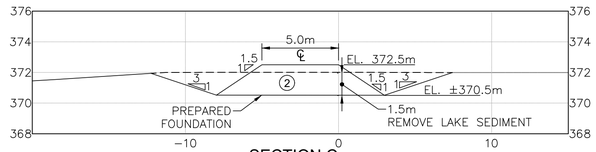
SECTION A
SCALE=1:200



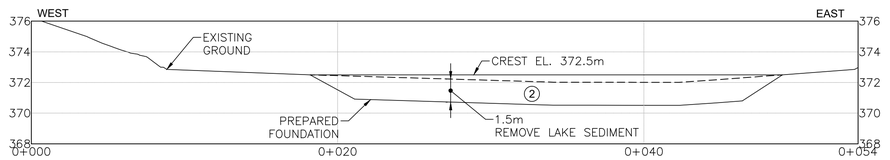
SECTION B
SCALE=1:200



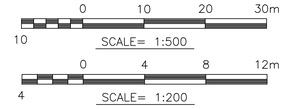
PLAN
SEDIMENT CONTROL DAM 2
SCALE=1:400



SECTION C
SCALE=1:200



SECTION D
SCALE=1:200



MATERIALS

1. CRUSHED STONE (−75mm)
2. WASTE ROCK (−450mm)
3. TILL / SAND BENTONITE CEMENT FILL
4. GRANULAR B TYPE II
5. FILTER / BEDDING SAND (−4.75mm)
6. TRANSITION SAND AND GRAVEL (−26.5mm)
7A. RIP-RAP EROSION PROTECTION (D_{50}=200mm)
7B. RIP-RAP EROSION PROTECTION (D_{50}=300mm)
7C. RIP-RAP EROSION PROTECTION (D_{50}=400mm)
8. SAND / SILT (OVERBURDEN)
9. CLEAR STONE (−19mm)
G1. NON-WOVEN GEOTEXTILE (500g/m²)
G2. NON-WOVEN NEEDLE PUNCHED GEOTEXTILE (300g/m²)
GL. 1.5mm DOUBLE TEXTURED LLDPE GEOMEMBRANE

ATKINSRÉALIS #: 702381-0000-4GDD00-0009

REV	DESCRIPTION	PAR BY	ING ENG	DATE
C	ISSUED FOR FEASIBILITY STUDY	A.C.	B.M.	25/09/10
B	CLIENT REVIEW / COMMENT	A.C.	B.M.	25/07/28
A	INTERNAL REVIEW	A.C.	B.M.	25/04/12

PATRIOT BATTERY METALS

AtkinsRéalis

Mining Services

CONCEPTEUR/DESIGN:	R. ALAM	
DESSINATEUR/DRAWN:	D. KRASNOV	25-05-20
VÉRIFIÉ PAR/CHECKED:	P. ADDIS	
INGÉNIEUR/ENGINEER:	B. MORRISSETTE	
ÉCHELLE/SCALE:	AS SHOWN	DATE

PROJET/PROJECT:

PHASE:
ÉTUDE DE FAISABILITÉ
FEASIBILITY STUDY

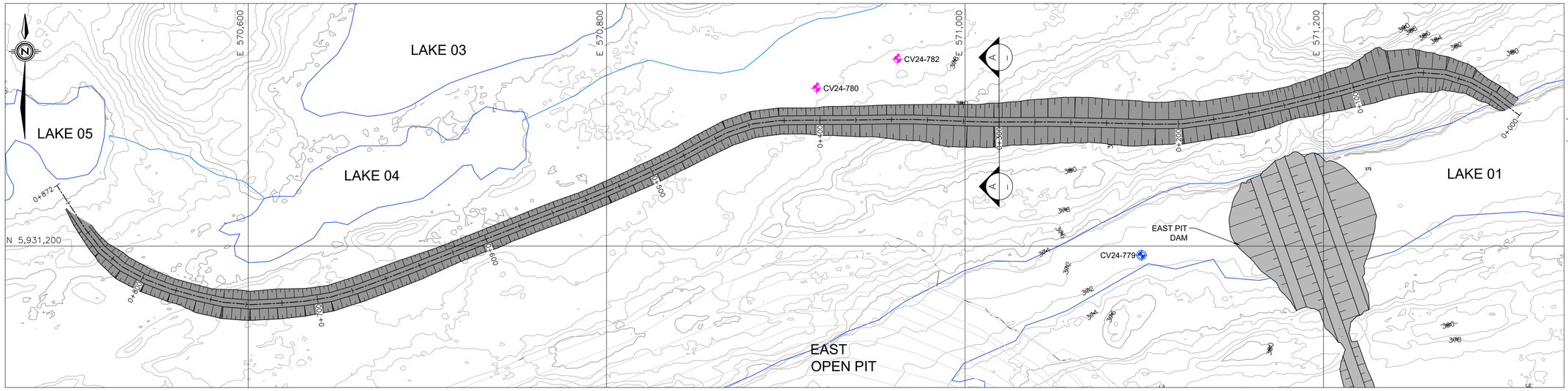
TITRE:
-
-
-
-

TITLE
SEDIMENT CONTROL DAM
FOR DEWATERED LAKE FOOTPRINT
PLAN AND SECTION
-

DESSIN NUM./DRAWING NO.: CASN - A

327 - WM - DWG - 0002 - C
AREA DISC. TYPE SEQ. REV.

SAVED ON: 25-09-08 3:33 PM BY Sykes, Mark
PATH: C:\Users\SYKEM\OneDrive - AtkinsRéalis\Shared Documents - 702381 PB Metals Shaakichiuwaanaan project\40_Engineering\40_Drawings\0000\CASN-A-327-WM-DWG-0002_C.dwg



PLAN
SCALE=1:1250

NOTES

1. THE CO-ORDINATES, DIMENSIONS AND ELEVATIONS ARE IN METERS. ELEVATIONS ARE TIED TO MEAN SEA LEVEL. CO-ORDINATES ARE BASED ON UTM NAD83(CSRS) ZONE 18 METRIC GRID PROJECTION.
2. CONTOURS WERE DERIVED FROM LiDAR SURVEY FROM PATRIOT LiDAR DATED OCT 11, 2022.

LEGEND

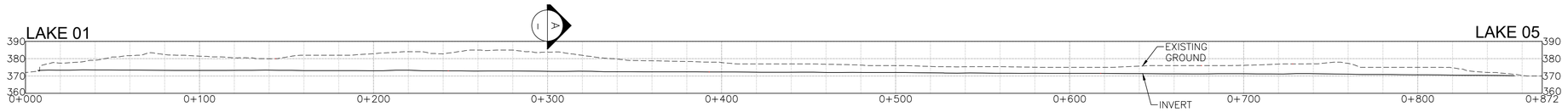
CV24 - BOREHOLES FROM 2024 GORTECHNICAL INVESTIGATION

OBSERVATION WELL

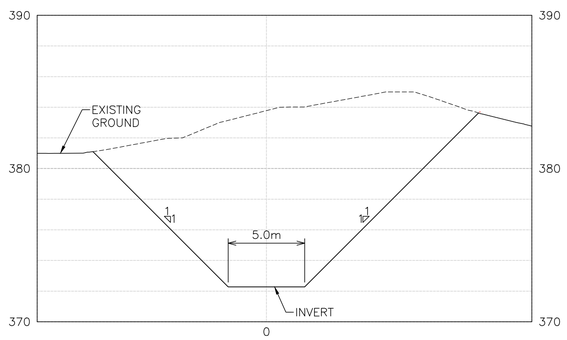
30 — 0 30 60 90m — SCALE= 1:1500

25 — 0 25 50 75m — SCALE= 1:1250

4 — 0 4 8 12m — SCALE= 1:200



PROFILE ALONG DIVERSION CHANNEL CENTERLINE
SCALE=1:1500



SECTION A
SCALE=1:200

MATERIALS

1. CRUSHED STONE (−75mm)
2. WASTE ROCK (−450mm)
3. TILL / SAND BENTONITE CEMENT FILL
4. GRANULAR B TYPE II
5. FILTER / BEDDING SAND (−4.75mm)
6. TRANSITION SAND AND GRAVEL (−26.5mm)
7A. RIP-RAP EROSION PROTECTION (D_{50}=200mm)
7B. RIP-RAP EROSION PROTECTION (D_{50}=300mm)
7C. RIP-RAP EROSION PROTECTION (D_{50}=400mm)
8. SAND / SILT (OVERBURDEN)
9. CLEAR STONE (−19mm)
G1. NON-WOVEN GEOTEXTILE (500g/m²)
G2. NON-WOVEN NEEDLE PUNCHED GEOTEXTILE (300g/m²)
GL. 1.5mm DOUBLE TEXTURED LLDPE GEOMEMBRANE

ATKINSRÉALIS #: 702381-0000-4GDD00-0010

REV	DESCRIPTION	PAR BY	ING ENG	DATE
C	ISSUED FOR FEASIBILITY STUDY	A.C.	B.M.	25/09/10
B	CLIENT REVIEW / COMMENT	A.C.	B.M.	25/07/28
A	INTERNAL REVIEW	A.C.	B.M.	25/04/12

PATRIOT BATTERY METALS

AtkinsRéalis

Mining Services

CONCEPTEUR/DESIGN:	R. ALAM	25-09-10
DESSINATEUR/DRAWN:	M. SYKES	25-09-10
VÉRIFIÉ PAR/CHECKED:	P. ADDIS	25-09-10
INGÉNIEUR/ENGINEER:	B. MORRISSETTE	25-09-10
ÉCHELLE/SCALE:	AS SHOWN	DATE

PROJET/PROJECT:

PHASE:
ÉTUDE DE FAISABILITÉ
FEASIBILITY STUDY

TITRE:
-
-
-
-

TITLE
DIVERSION DITCH

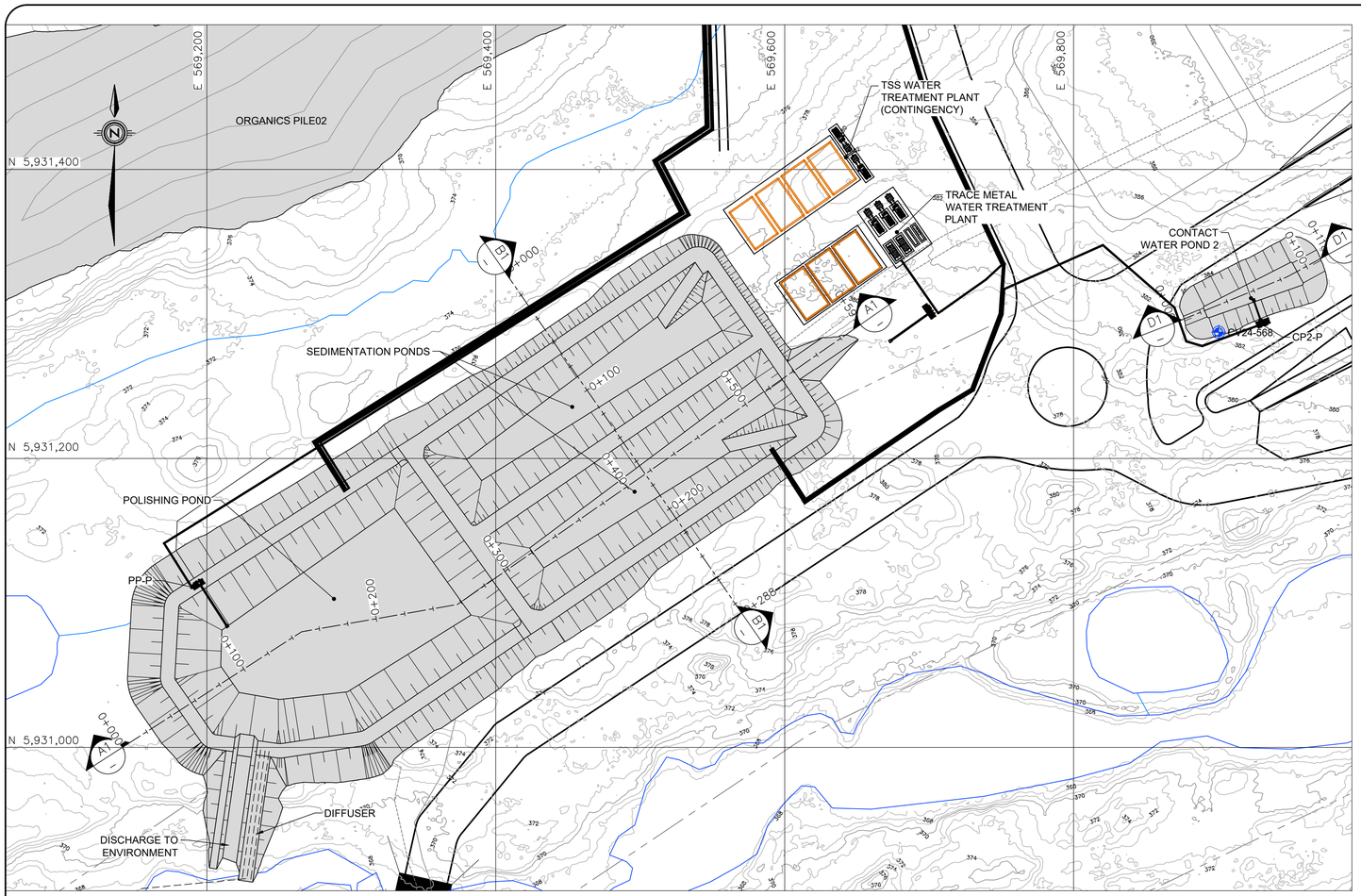
PLAN, PROFILE AND SECTION
-

DESSIN NUM./DRAWING NO.: CASN - A

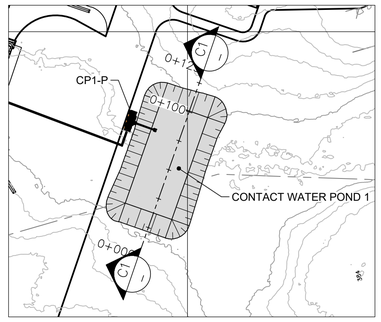
327 - WM - DWG - 0003 - C
AREA DISC. TYPE SEQ. REV.

PAPER SIZE FORMAT : A1

SAVED ON: 25-10-02 12:30 PM BY Sykes, Mark
PATH: C:\Users\SYKEM\OneDrive - AtkinsRéalis\Shared Documents - 702381 PB Metals Shaakichiuwaanaan project\40_Engineering\40_Drawings\0000\CASN-A-327-WM-DWG-0003_C.dwg



WATER MANAGEMENT PONDS - PLAN
SCALE=1:2000



WATER MANAGEMENT PONDS - PLAN
SCALE=1:2000

NOTES

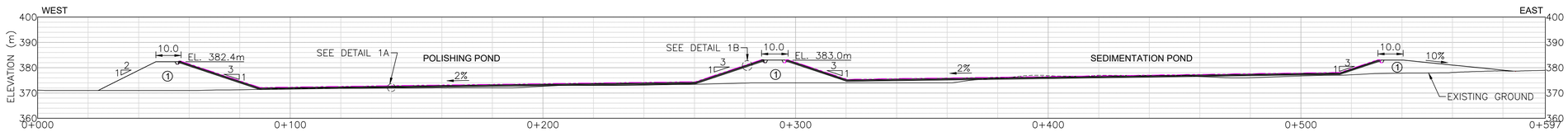
1. THE CO-ORDINATES, DIMENSIONS AND ELEVATIONS ARE IN METERS. ELEVATIONS ARE TIED TO MEAN SEA LEVEL. CO-ORDINATES ARE BASED ON UTM NAD83(CSRS) ZONE 18 METRIC GRID PROJECTION.
2. CONTOURS WERE DERIVED FROM LIDAR SURVEY FROM PATRIOT LIDAR DATED OCT 11, 2022.

LEGEND

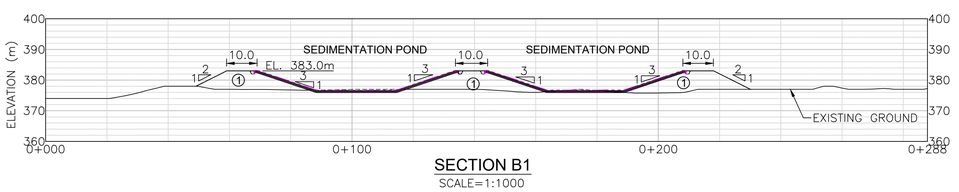
- CV24 - BOREHOLES FROM 2024 GORTECHNICAL INVESTIGATION
- OBSERVATION WELL

0 40 80 120m
40 SCALE= 1:2000

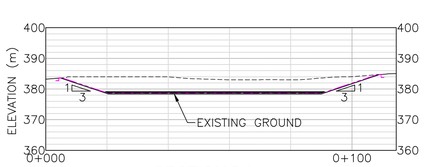
0 20 40 60m
20 SCALE= 1:1000



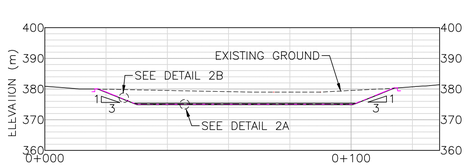
SECTION A1
SCALE=1:1000



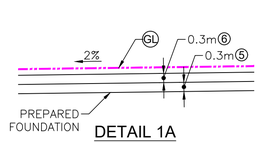
SECTION B1
SCALE=1:1000



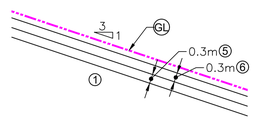
SECTION D1
SCALE=1:1000



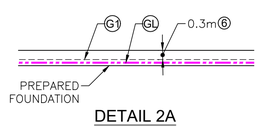
SECTION A1
SCALE=1:1000



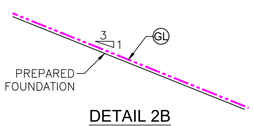
DETAIL 1A
WATER MANAGEMENT POND FLOOR
SCALE=1:100



DETAIL 1B
WATER MANAGEMENT POND SLOPE
SCALE=1:100



DETAIL 2A
CONTACT WATER POND FLOOR
SCALE=1:100



DETAIL 2B
CONTACT WATER POND SLOPE
SCALE=1:100

MATERIALS

1. CRUSHED STONE (-75mm)
2. WASTE ROCK (-450mm)
3. TILL / SAND BENTONITE CEMENT FILL
4. GRANULAR B TYPE II
5. FILTER / BEDDING SAND (-4.75mm)
6. TRANSITION SAND AND GRAVEL (-26.5mm)
7A. RIP-RAP EROSION PROTECTION (D_{50}=200mm)
7B. RIP-RAP EROSION PROTECTION (D_{50}=300mm)
7C. RIP-RAP EROSION PROTECTION (D_{50}=400mm)
8. SAND / SILT (OVERBURDEN)
9. CLEAR STONE (-19mm)
G1. NON-WOVEN GEOTEXTILE (500g/m²)
G2. NON-WOVEN NEEDLE PUNCHED GEOTEXTILE (300g/m²)
GL. 1.5mm DOUBLE TEXTURED LLDPE GEOMEMBRANE

ATKINSRÉALIS #: 702381-0000-4GDD00-0011

REV	DESCRIPTION	PAR BY	ING ENG	DATE
C	ISSUED FOR FEASIBILITY STUDY	A.C.	B.M.	25/09/10
B	CLIENT REVIEW / COMMENT	A.C.	B.M.	25/07/28
A	INTERNAL REVIEW	A.C.	B.M.	25/04/12

PATRIOT BATTERY METALS

AtkinsRéalis

Mining Services

CONCEPTEUR/DESIGN:	P. ADDIS	25-09-10
DESSINATEUR/DRAWN:	M. SYKES	25-09-10
VÉRIFIÉ PAR/CHECKED:	R. ALAM	25-09-10
INGÉNIEUR/ENGINEER:	B. MORRISSETTE	25-09-10
ÉCHELLE/SCALE:	AS SHOWN	DATE

PROJET/PROJECT:

PHASE:
ÉTUDE DE FAISABILITÉ
FEASIBILITY STUDY

TITRE:
-
-
-
-

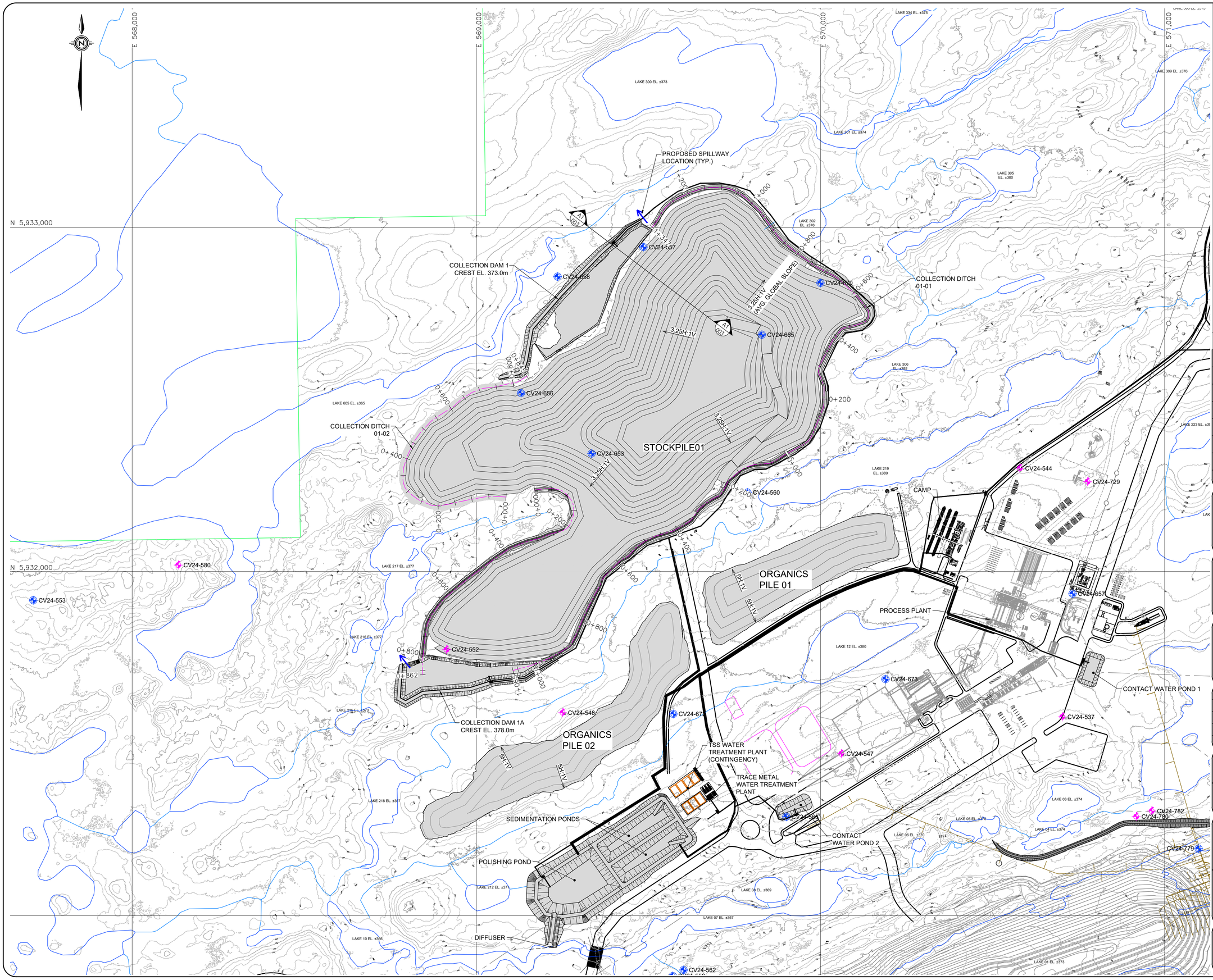
TITLE
WATER TREATMENT PONDS
PLANS, SECTIONS AND DETAILS
-
-

DESSIN NUM./DRAWING NO.: CASN - A

320 - WM - DWG - 0004 - C
AREA DISC. TYPE SEQ. REV.

PAPER SIZE FORMAT: A1

SAVED ON: 25-10-07 7:46 PM BY: Sykes, Mark
PATH: C:\Users\SYKEM\Desktop - Autodesk\Autodesk Shared Documents - 702381 PR Metals Stuskichiwaanaan project\40_Engineering\40_Drawings\0000\CASN-A-327-WM-DWG-0004_C.dwg



NOTES

1. THE CO-ORDINATES, DIMENSIONS AND ELEVATIONS ARE IN METERS. ELEVATIONS ARE TIED TO MEAN SEA LEVEL. CO-ORDINATES ARE BASED ON UTM NAD83(CSRS) ZONE 18 METRIC GRID PROJECTION.
2. CONTOURS WERE DERIVED FROM LiDAR SURVEY FROM PATRIOT LiDAR DATED OCT 11, 2022.

LEGEND

CV24 - BOREHOLES FROM 2024 GORTECHNICAL INVESTIGATION

OBSERVATION WELL

ATKINSRÉALIS #: 702381-0000-4GDD00-0003

REV	DESCRIPTION	PAR BY	ING ENG	DATE
C	ISSUED FOR FEASIBILITY STUDY	A.C.	B.M.	25-09-10
B	ISSUED FORCLIENT REVIEW	P.A.	B.M.	25-04-10
A	ISSUED FOR INTERNAL REVIEW	P.A.	B.M.	25-01-10

PATRIOT BATTERY METALS

AtkinsRéalis

Mining Services

CONCEPTEUR/DESIGN:	P. ADDIS	25-09-10
DESSINATEUR/DRAWN:	M. SYKES	25-09-10
VÉRIFIÉ PAR/CHECKED:	R. ALAM	25-09-10
INGÉNIEUR/ENGINEER:	B. MORRISSETTE	25-09-10
ÉCHELLE/SCALE:	1:5,000	DATE

PROJET/PROJECT:
SHAAKICHIUWAANAAN

PHASE:
ÉTUDE DE FAISABILITÉ
FEASIBILITY STUDY

TITRE:
-
-
-
-

TITLE
STOCKPILE 001, ORGANICS PILES AND WATER MANAGEMENT AT INDUSTRAIL AREA PLAN
-

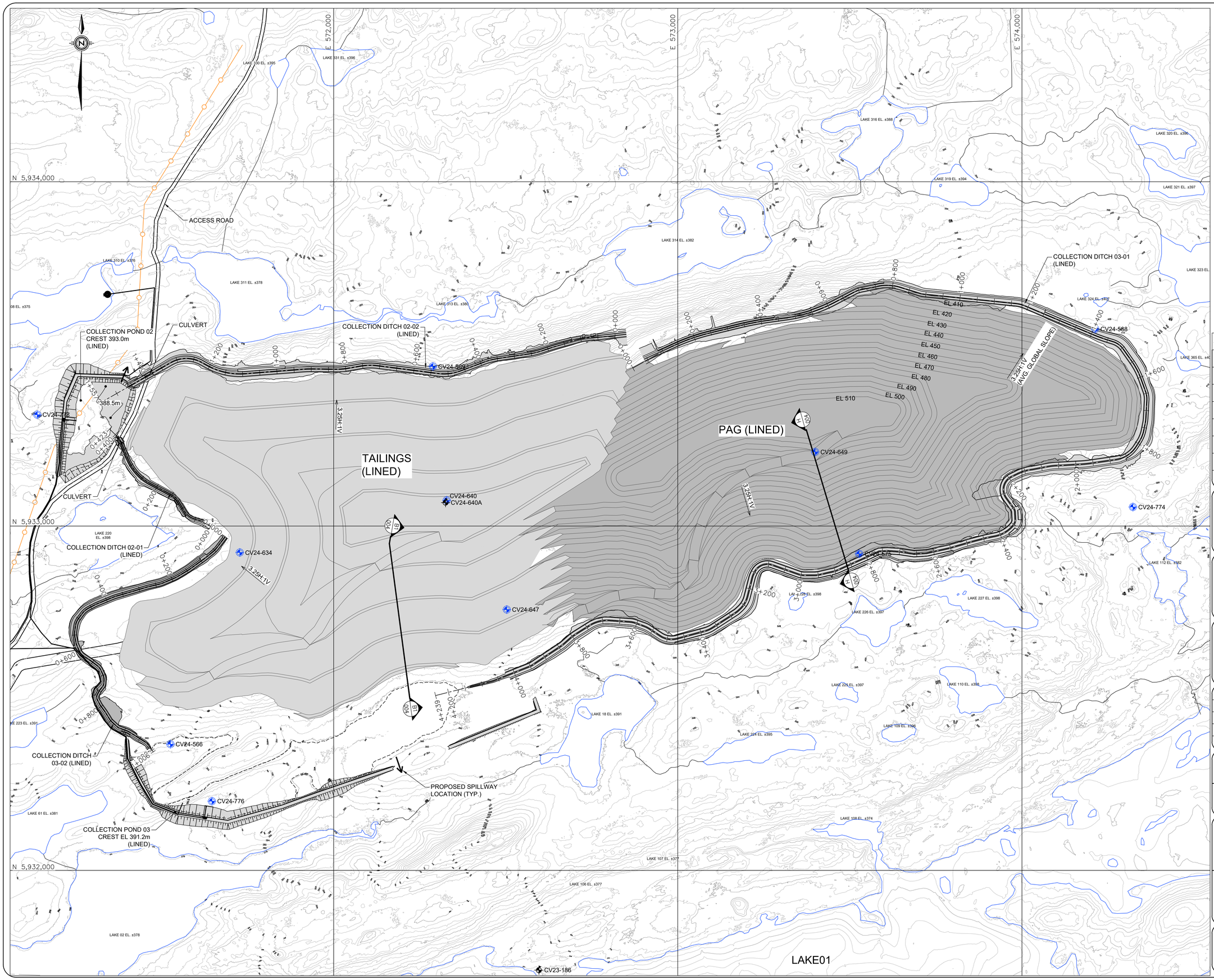
DESSIN NUM./DRAWING NO.: CASN - A

370 - GT - DWG - 0001 - C

AREA DISC. TYPE SEQ. REV.

PAPER SIZE FORMAT : A1

SAVED ON: 25-10-02 12:28 PM BY Sykes, Mark
PATH: C:\Users\SYKEM\OneDrive - AtkinsRéalis\Shared Documents - 702381 PB Metals Shaakichiuwaanaan project\40_Engineering\40_Drawings\0000\CASN-A-370-GT-DWG-0001_C.dwg



NOTES

1. THE CO-ORDINATES, DIMENSIONS AND ELEVATIONS ARE IN METERS. ELEVATIONS ARE TIED TO MEAN SEA LEVEL. CO-ORDINATES ARE BASED ON UTM NAD83(CSRS) ZONE 18 METRIC GRID PROJECTION.
2. CONTOURS WERE DERIVED FROM LiDAR SURVEY FROM PATRIOT LiDAR DATED OCT 11, 2022.

LEGEND

CV24 - BOREHOLES FROM 2024 GORTECHNICAL INVESTIGATION

OBSERVATION WELL

100 0 100 200 300m

SCALE= 1:5000

ATKINSRÉALIS #: 702381-0000-4GDD00-0004

REV	DESCRIPTION	PAR BY	ING ENG	DATE
C	ISSUED FOR FEASIBILITY STUDY	P.A.	B.M.	25-09-10
B	ISSUED FOR PROJECT REVIEW/APPROVAL/COMMENTS	P.A.	B.M.	25-01-24
A	ISSUED FOR INTERNAL REVIEW	P.A.	B.M.	25-01-10

PATRIOT BATTERY METALS

AtkinsRéalis

Mining Services

CONCEPTEUR/DESIGN:	P. ADDIS	25-09-10
DESSINATEUR/DRAWN:	M. SYKES	25-09-10
VÉRIFIÉ PAR/CHECKED:	R. ALAM	25-09-10
INGÉNIEUR/ENGINEER:	B. MORRISSETTE	25-09-10
ÉCHELLE/SCALE:	1:5,000	DATE

PROJET/PROJECT:
SHAAKICHIUWAANAAN

PHASE:
ÉTUDE DE FAISABILITÉ
FEASIBILITY STUDY

TITRE:
-
-
-
-

TITLE
STOCKPILE 002
PLAN
-
-

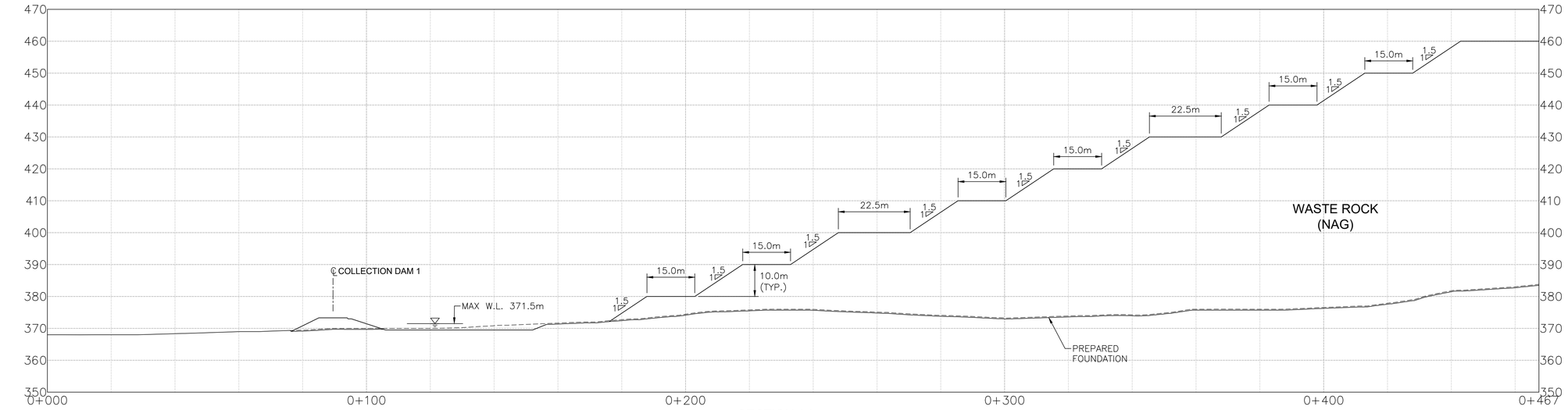
DESSIN NUM./DRAWING NO.: CASN - A

370 - GT - DWG - 0002 - C
AREA DISC. TYPE SEQ. REV.

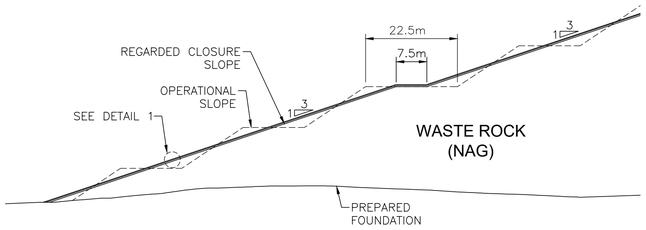
PAPER SIZE FORMAT : A1

SAVED ON: 25-10-02 12:25 PM BY Sykes, Mark
PATH: C:\Users\SYKEM\OneDrive - AtkinsRéalis\Shared Documents - 702381 PB Metals Shaakichiuwaanaan project\40_Engineering\40_Drawings\0000\CASN-A-370-GT-DWG-0002_C.dwg

PAPER SIZE FORMAT : A1

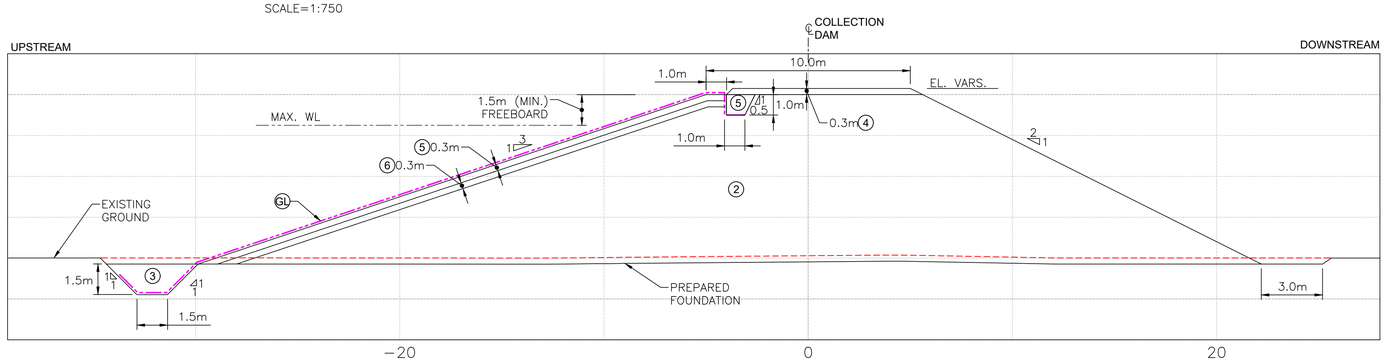


SECTION A1
STOCKPILE01 WASTE ROCK - OPERATION
SCALE=1:750

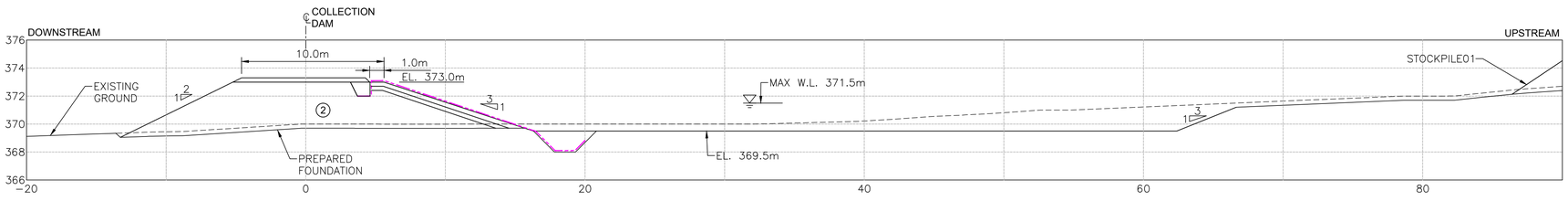


TYPICAL STOCKPILE01 SECTION CLOSURE
SCALE=1:750

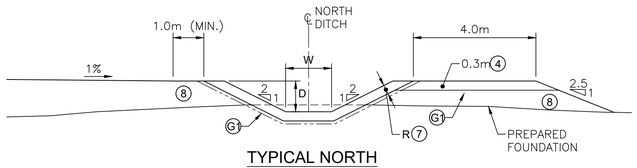
DETAIL 1 CLOSURE
SCALE=1:100



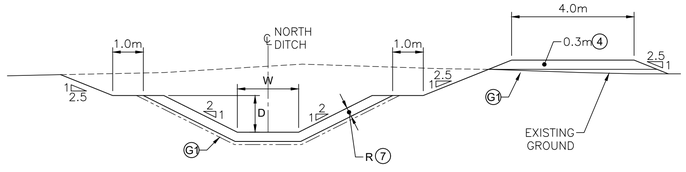
TYPICAL COLLECTION POND DAM SECTION
POND 1 AND 1A
SCALE=1:150



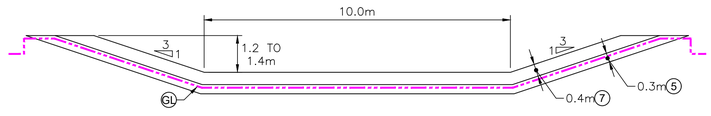
TYPICAL COLLECTION POND DAM SECTION
POND 1
SCALE=1:200



TYPICAL NORTH COLLECTION DITCH
SCALE=1:100

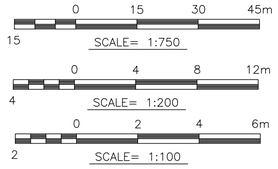


TYPICAL NORTH COLLECTION DITCH
SCALE=1:100



TYPICAL SPILLWAY SECTION
SCALE=1:100

DITCH	CHAINAGE START	CHAINAGE END	WIDTH (W)	DEPTH (D)	RIPRAP THICKNESS (R)
01–01	1+482	0+910	1.5 m	1.2 m	300 mm
	0+910	0+718			450 mm
	0+718	0+688			300 mm
	0+688	0+000	2.0 m	1.0 m	
01–02	0+000	0+846	1.5 m	1.0 m	300 mm
01A–01	0+000	1+068	2.0 m	1.0 m	300 mm
01A–02	0+000	0+863	1.5 m	1.0 m	300 mm



MATERIALS

1. CRUSHED STONE (−75mm)
2. WASTE ROCK (−450mm)
3. TILL / SAND BENTONITE CEMENT FILL
4. GRANULAR B TYPE II
5. FILTER / BEDDING SAND (−4.75mm)
6. TRANSITION SAND AND GRAVEL (−26.5mm)
7. RIP−RAP EROSION PROTECTION
8. SAND / SILT (OVERBURDEN)
9. CLEAR STONE (−19mm)

G1. NON−WOVEN GEOTEXTILE (500g/m²)
G2. NON−WOVEN NEEDLE PUNCHED GEOTEXTILE (300g/m²)
GL. 1.5mm DOUBLE TEXTURED LLDPE GEOMEMBRANE

ATKINSRÉALIS #: 702381-0000-4GDD00-0005

REV	DESCRIPTION	PAR BY	ING ENG	DATE
C	ISSUED FOR FEASIBILITY STUDY	A.C.	B.M.	25-09-10
B	ISSUED FORCLIENT REVIEW	P.A.	B.M.	25-04-10
A	ISSUED FOR INTERNAL REVIEW	P.A.	B.M.	25-01-10

PATRIOT BATTERY METALS

AtkinsRéalis

Mining Services

CONCEPTEUR/DESIGN:	P. ADDIS	25-09-10
DESSINATEUR/DRAWN:	M. SYKES	25-09-10
VÉRIFIÉ PAR/CHECKED:	R. ALAM	25-09-10
INGÉNIEUR/ENGINEER:	B. MORRISSETTE	25-09-10
ÉCHELLE/SCALE:	AS SHOWN	DATE

PROJET/PROJECT:

PHASE:
ÉTUDE DE FAISABILITÉ
FEASIBILITY STUDY

TITRE:
-
-
-
-

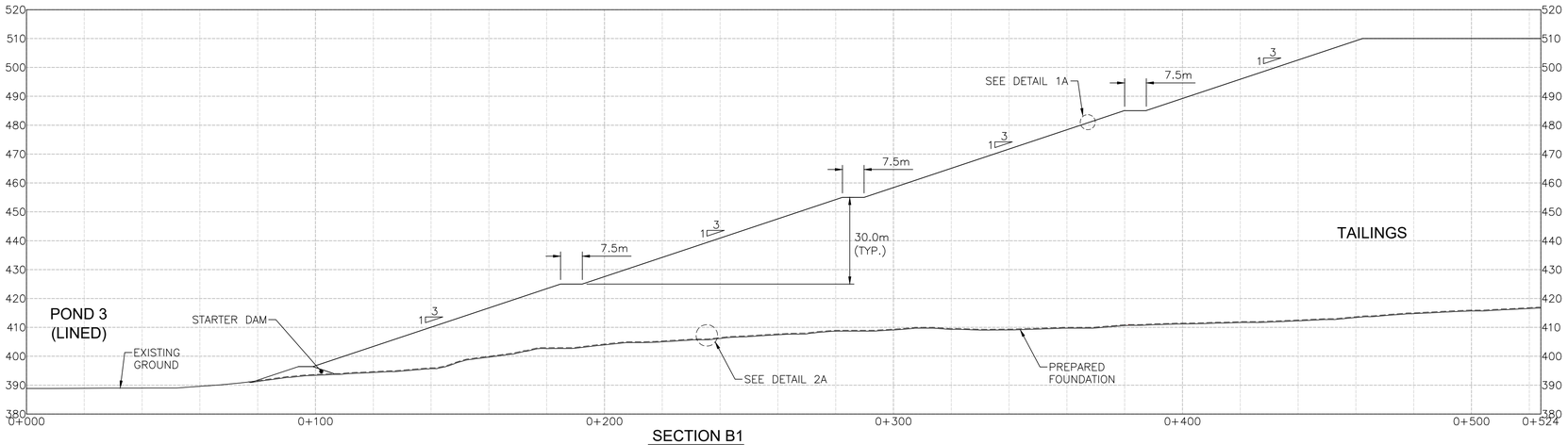
TITLE
STOCKPILE AND WATER MANAGEMENT
SECTIONS AND DETAILS
1 OF 2
-

DESSIN NUM./DRAWING NO.: CASN − A

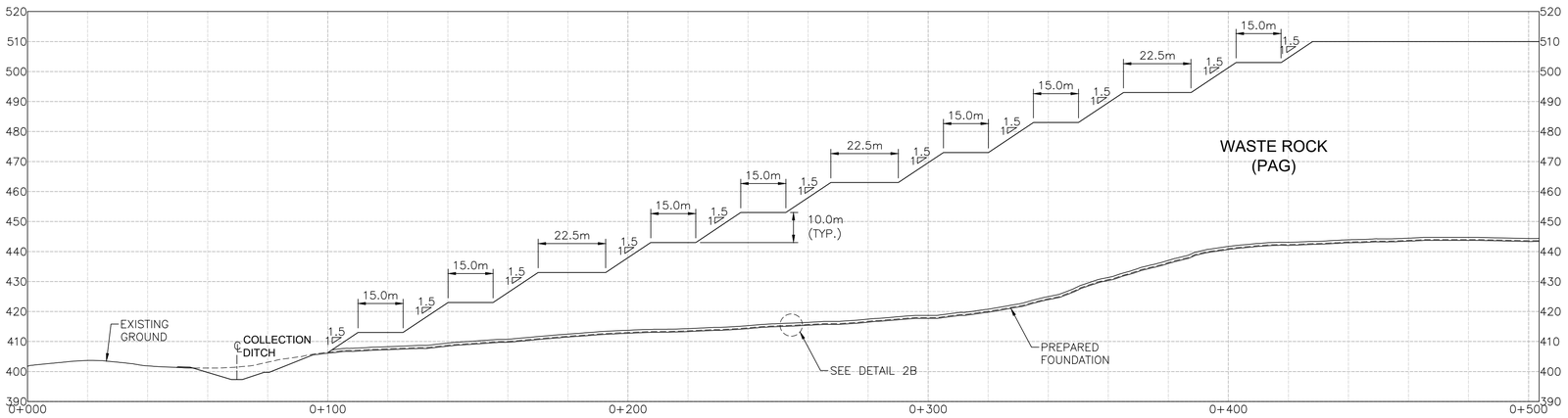
370	GT	DWG	0003	C
AREA	DISC.	TYPE	SEQ.	REV.

SAVED ON: 25-09-08 3:12 PM BY Sykes, Mark
PATH: C:\Users\SYKESM\OneDrive - AtkinsRéalis\Shared Documents - 702381 PB Metals Shaakichiwaanaan project\40_Engineering\40_Drawings\0000\CASN-A-370-GT-DWG-0003_C.dwg

PAPER SIZE FORMAT : A1

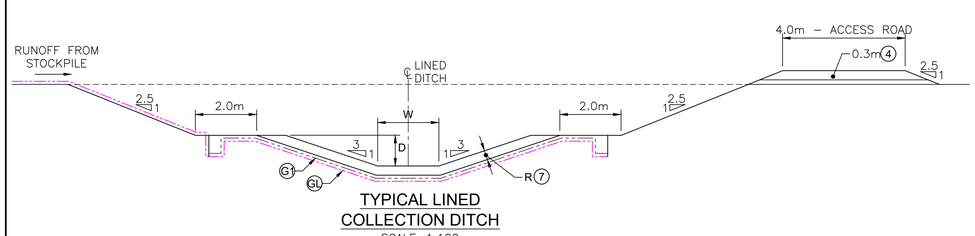


SECTION B1
STOCKPILE02 - TAILINGS - OPERATION
SCALE=1:1000



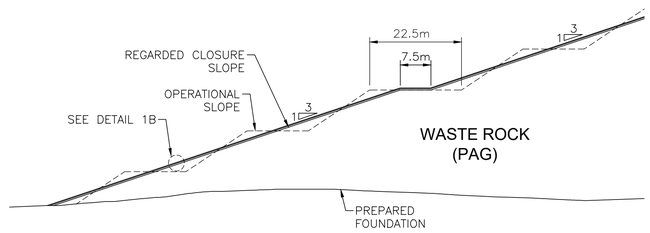
SECTION H
STOCKPILE02 - PAG - OPERATION
SCALE=1:1000

TYPICAL COLLECTION POND SECTION
LINED POND
SCALE=1:200

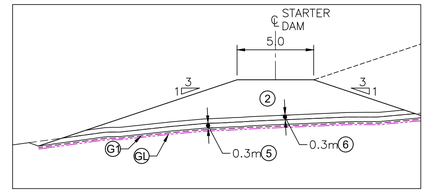


TYPICAL LINED
COLLECTION DITCH
SCALE=1:100

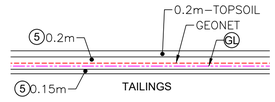
DITCH	CHAINAGE START	CHAINAGE END	WIDTH (W)	DEPTH (D)	RIPRAP THICKNESS (R)
02−01	0+000	0+423	2.5 m	1.2 m	300 mm
02−02	0+000	0+515	1.5 m	1.1 m	300 mm
	0+516	1+557	3.0 m	1.3 m	
03−01	0+000	0+508	2.0 m	1.2 m	300 mm
	0+508	0+706			450 mm
	0+706	1+786		1.5 m	300 mm
	1+786	4+036	3.0 m	2.2 m	
	4+036	4+239	5.0 m		
03−02	0+000	0+578	2.0 m	1.1 m	300 mm
	0+578	0+647			450 mm
	0+647	1+006			300 mm



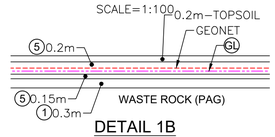
TYPICAL STOCKPILE01 SECTION
CLOSURE
SCALE=1:750



TYPICAL STARTER DAM
SCALE=1:200

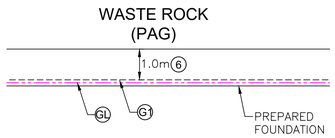


DETAIL 1A
CLOSURE-TAILINGS
SCALE=1:100



DETAIL 1B
CLOSURE-WASTE ROCK (PAG)
SCALE=1:100

DETAIL 2A
BASIN GEOMEMBRANE - TAILINGS
SCALE=1:100



DETAIL 2B
BASIN GEOMEMBRANE - WASTEROCK (PAG)
SCALE=1:100

① CRUSHED STONE (−75mm)
② WASTE ROCK (−450mm)
③ TILL / SAND BENTONITE CEMENT FILL
④ GRANULAR B TYPE II
⑤ FILTER / BEDDING SAND (−4.75mm)
⑥ TRANSITION SAND AND GRAVEL (−26.5mm)
⑦ RIP−RAP EROSION PROTECTION
⑧ SAND / SILT (OVERBURDEN)
⑨ CLEAR STONE (−19mm)
G1 NON−WOVEN GEOTEXTILE (500g/m²)
G2 NON−WOVEN NEEDLE PUNCHED GEOTEXTILE (300g/m²)
GL 1.5mm DOUBLE TEXTURED LLDPE GEOMEMBRANE

TYPICAL SPILLWAY SECTION
SCALE=1:100

SCALE= 1:1000
SCALE= 1:200
SCALE= 1:100

ATKINSRÉALIS #: 702381-0000-4GDD00-0006

REV	DESCRIPTION	PAR BY	ING ENG	DATE
C	ISSUED FOR FEASIBILITY STUDY	A.C.	B.M.	25-09-10
B	ISSUED FORCLIENT REVIEW	P.A.	B.M.	25-04-10
A	ISSUED FOR INTERNAL REVIEW	P.A.	B.M.	25-01-10

PATRIOT BATTERY METALS

AtkinsRéalis

Mining Services

CONCEPTEUR/DESIGN: P. ADDIS	25-09-10
DESSINATEUR/DRAWN: M. SYKES	25-09-10
VÉRIFIÉ PAR/CHECKED: R. ALAM	25-09-10
INGÉNIEUR/ENGINEER: B. MORRISSETTE	25-09-10
ÉCHELLE/SCALE: AS SHOWN	DATE

PROJET/PROJECT:

PHASE:
ÉTUDE DE FAISABILITÉ
FEASIBILITY STUDY

TITRE:
-
-
-
-

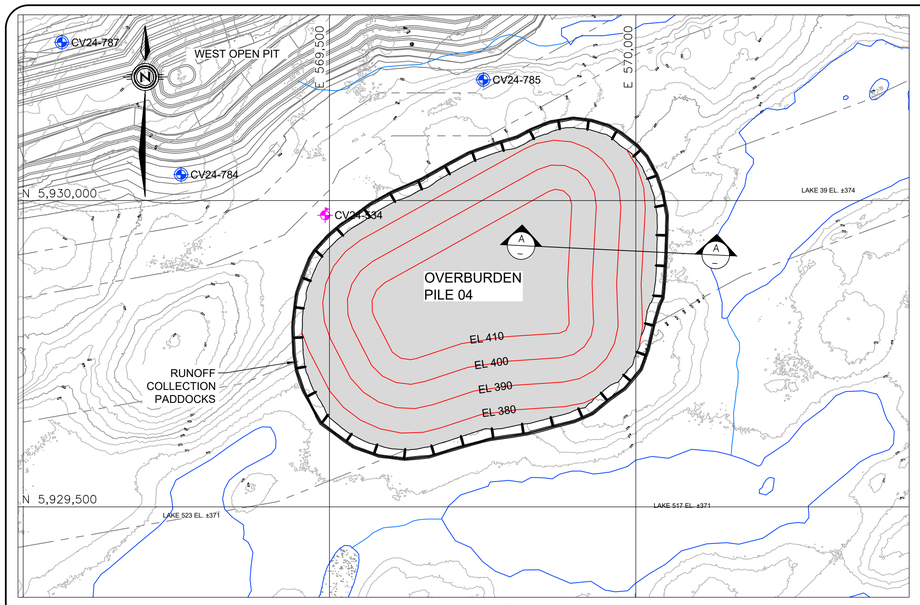
TITLE
STOCKPILE AND WATER MANAGEMENT
SECTIONS AND DETAILS
2 OF 2
-

DESSIN NUM./DRAWING NO.: CASN − A

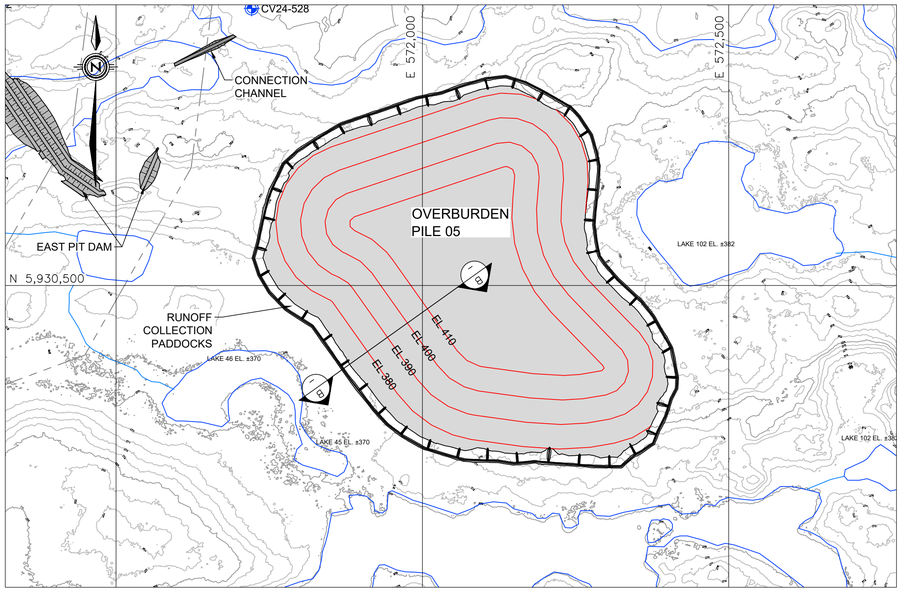
370 − GT − DWG − 0004 − C
AREA DISC. TYPE SEQ. REV.

SAVED ON: 25-09-09 3:15 PM BY Sykes, Mark
PATH: C:\Users\SYKESM\OneDrive - AtkinsRéalis\Shared Documents - 702381 PB Metals Shaakichiuwaanan project\40_Engineering\40_Drawings\0000\CASN-A-370-GT-DWG-0004_C.dwg

PAPER SIZE FORMAT : A1



PLAN
OVERBURDEN PILE 04
SCALE=1:5000



PLAN
OVERBURDEN PILE 04
SCALE=1:5000

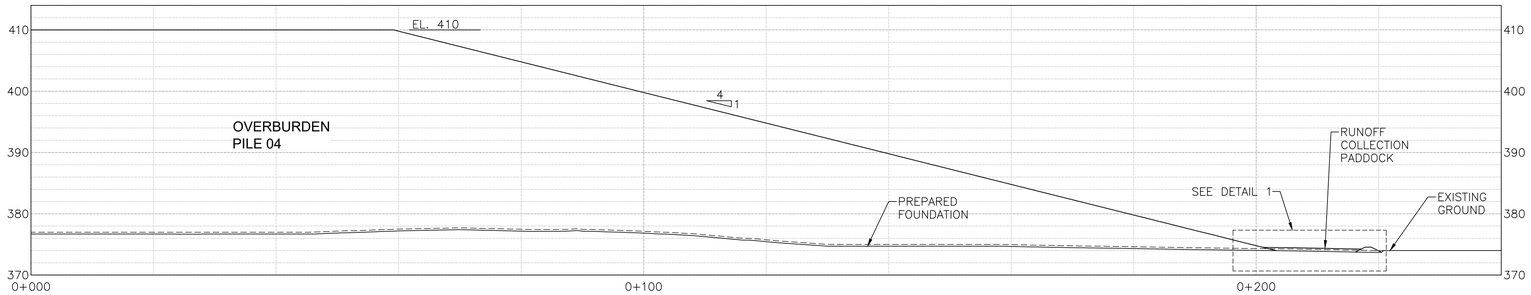
NOTES

1. THE CO-ORDINATES, DIMENSIONS AND ELEVATIONS ARE IN METERS. ELEVATIONS ARE TIED TO MEAN SEA LEVEL. CO-ORDINATES ARE BASED ON UTM NAD83(CSRS) ZONE 18 METRIC GRID PROJECTION.
2. CONTOURS WERE DERIVED FROM LiDAR SURVEY FROM PATRIOT LiDAR DATED OCT 11, 2022.

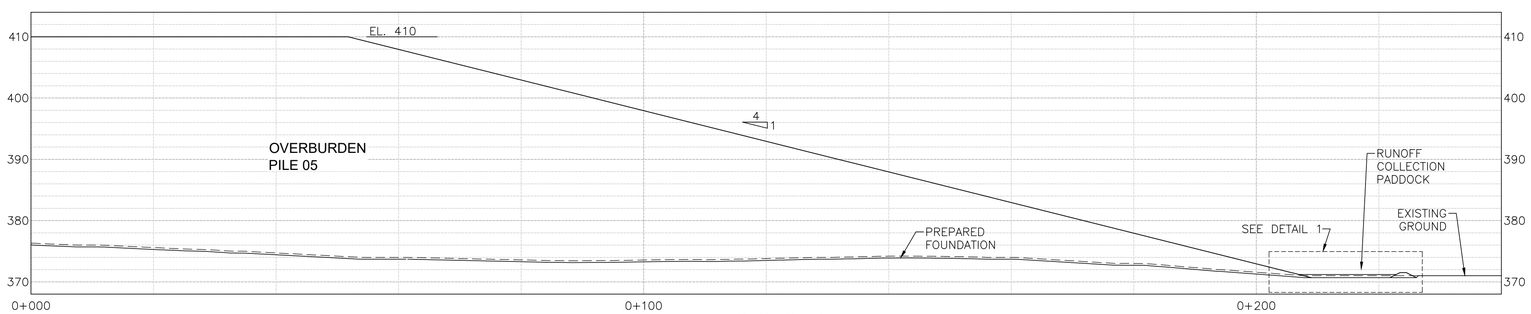
LEGEND

CV24 - BOREHOLES FROM 2024 GORTECHNICAL INVESTIGATION

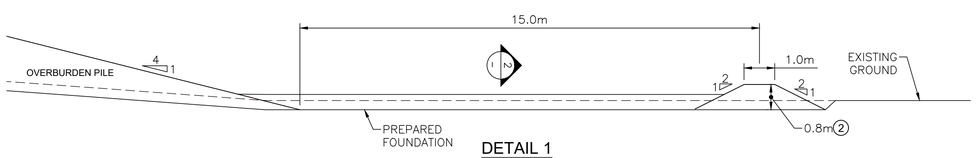
OBSERVATION WELL



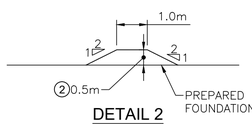
SECTION A
OVERBURDEN PILE 04
SCALE=1:500



SECTION B
OVERBURDEN PILE 05
SCALE=1:500

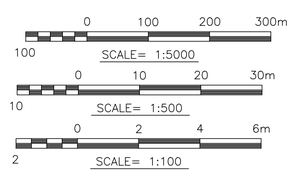


DETAIL 1
RUNOFF COLLECTION PADDOCK
SCALE=1:100



DETAIL 2
RUNOFF COLLECTION PADDOCK
SCALE=1:100

1. CRUSHED STONE (-75mm)
2. WASTE ROCK (-450mm)
3. TILL / SAND BENTONITE CEMENT FILL
4. GRANULAR B TYPE II
5. FILTER / BEDDING SAND (-4.75mm)
6. TRANSITION SAND AND GRAVEL (-26.5mm)
7. RIP-RAP EROSION PROTECTION
8. SAND / SILT (OVERBURDEN)
9. CLEAR STONE (-19mm)
- G1 NON-WOVEN GEOTEXTILE (500g/m²)
- G2 NON-WOVEN NEEDLE PUNCHED GEOTEXTILE (300g/m²)
- GL 1.5mm DOUBLE TEXTURED LLDPE GEOMEMBRANE



ATKINSRÉALIS #: 702381-0000-4GDD00-0007

REV	DESCRIPTION	PAR BY	ING ENG	DATE
C	ISSUED FOR FEASIBILITY STUDY	A.C.	B.M.	25-09-10
B	ISSUED FORCLIENT REVIEW	P.A.	B.M.	25-04-10
A	ISSUED FOR INTERNAL REVIEW	P.A.	B.M.	25-01-10

PATRIOT BATTERY METALS

AtkinsRéalis

Mining Services

CONCEPTEUR/DESIGN: P. ADDIS	25-09-10
DESSINATEUR/DRAWN: M. SYKES	25-09-10
VÉRIFIÉ PAR/CHECKED: R. ALAM	25-09-10
INGÉNIEUR/ENGINEER: B. MORRISSETTE	25-09-10
ÉCHELLE/SCALE: 1:3,000	DATE

PROJET/PROJECT:
SHAAKICHIUWAANAAN

PHASE:
ÉTUDE DE FAISABILITÉ
FEASIBILITY STUDY

TITRE:
-
-
-
-

TITLE
OVERBURDEN PILES04 AND 05
PLANS, SECTIONS AND DETAIL
-
-

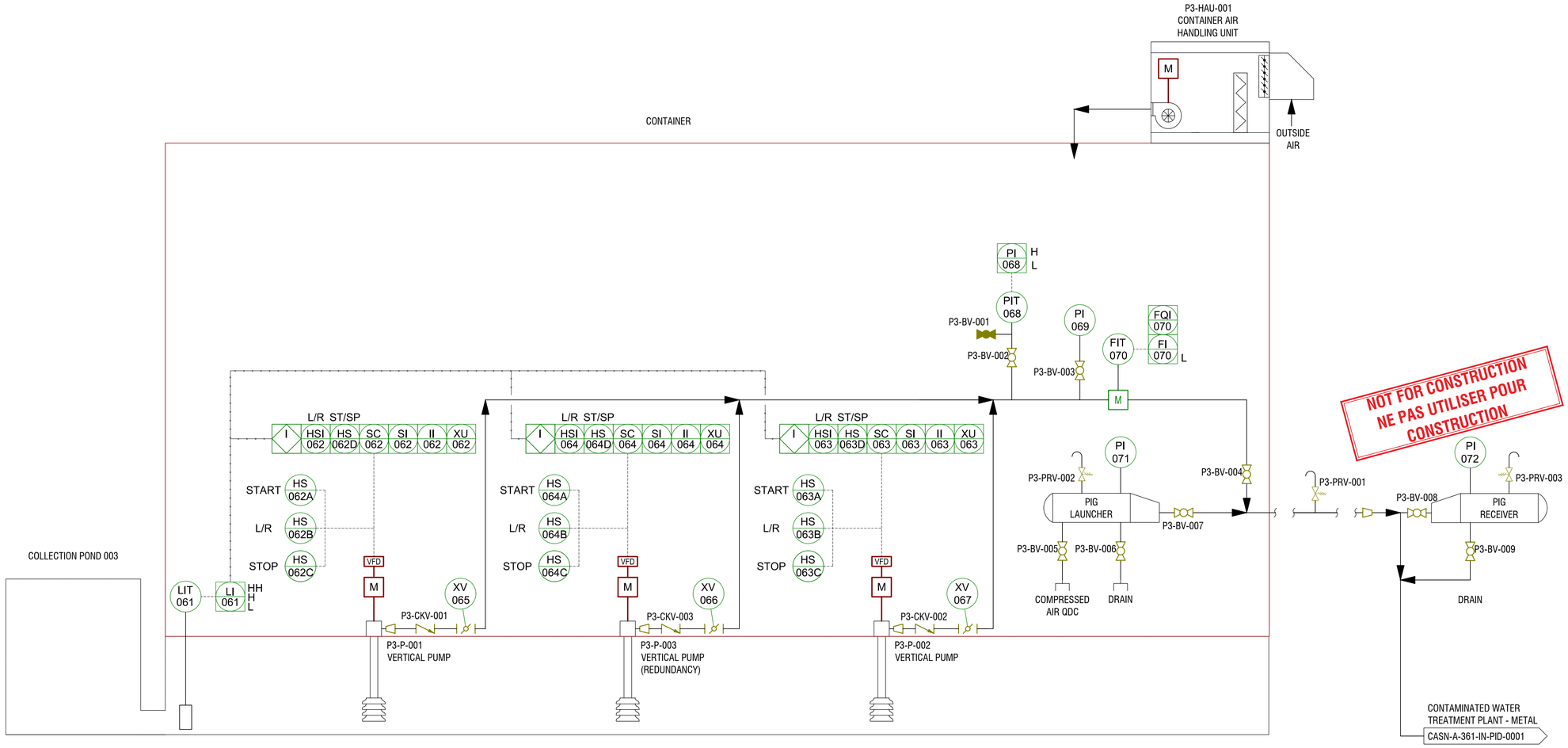
DESSIN NUM./DRAWING NO.: CASN - A

370	GT	DWG	0005	C
AREA	DISC.	TYPE	SEQ.	REV.

SAVED ON: 25-10-01 12:02 PM BY Shea, Mark
PATH: C:\Users\SYKEM\Desktop\Patriot Battery Metals\Shaakichiuwaanaan project - Documents - 702381 PR Metals Shaakichiuwaanaan project\40_Engineering\40_Drawings\0000\CASN-A-370-GT-DWG-0005_C.dwg

Annexe C Figures

PAPER SIZE FORMAT - A1



NOT FOR CONSTRUCTION
NE PAS UTILISER POUR CONSTRUCTION

REV	DESCRIPTION	PAR BY	ING ENG	DATE
C	FINAL RELEASE FOR FEASIBILITY STUDY	D.K.	A.C.	25-09-15
B	INITIAL RELEASE ISSUED FOR CLIENT REVIEW	D.K.	A.C.	25-09-03
A	INITIAL RELEASE ISSUED FOR INTERNAL REVIEW	R.D.	A.C.	25-05-02

PATRIOT BATTERY METALS

AtkinsRéalis

702381-5100-45DG10-005

Mining Services

CONCEPTEUR/DESIGN:	A. COGULET	25-05-02
DESSINATEUR/DRAWN:	R. DIDIER	25-05-02
VÉRIFIÉ PAR/CHECKED:	AL NGUYEN	25-05-02
INGÉNIEUR/ENGINEER:	A. COGULET	25-05-02
ÉCHELLE/SCALE:	N.T.S.	DATE

PROJET/PROJECT:
SHAAKICHIUWAANAAN

PHASE:
ÉTUDE DE FAISABILITÉ
FEASIBILITY STUDY

TITRE:
BASSIN DE COLLECTE 003
SCHÉMA DE TUYAUTERIE
ET D'INSTRUMENTATION
FRANCAIS

TITLE
COLLECTION POND 003
PIPING AND INSTRUMENTATION DIAGRAM

ENGLISH

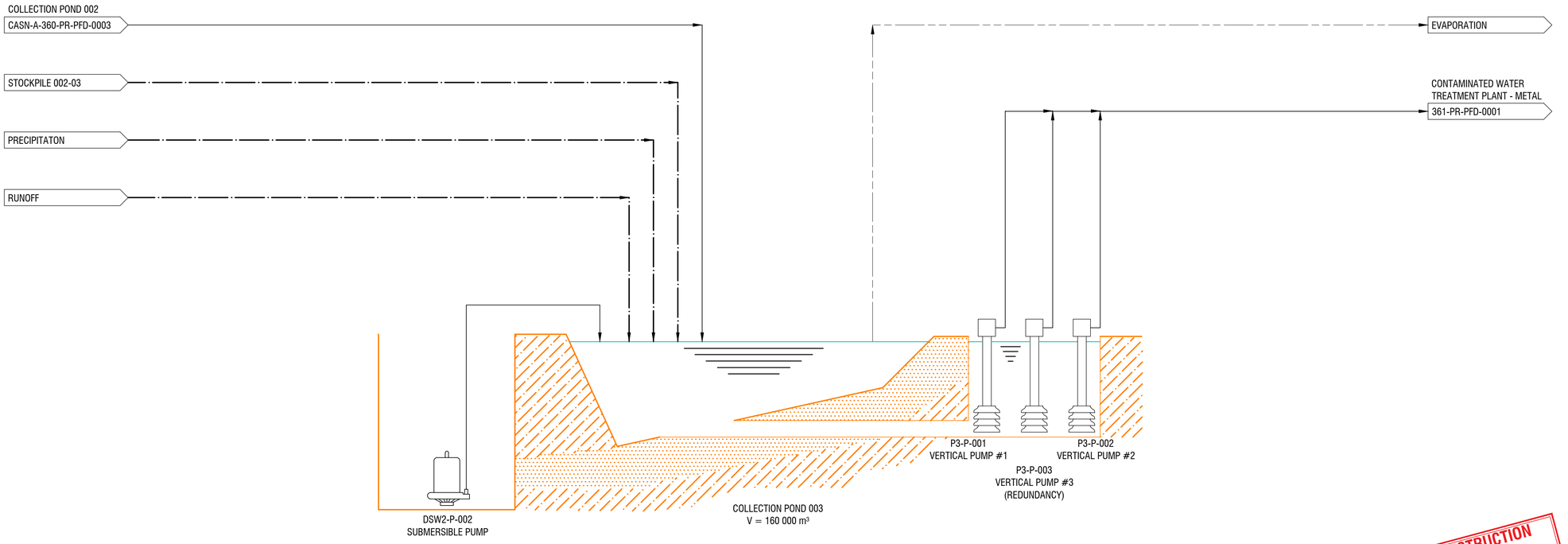
DESSIN NUM./DRAWING NO.: CASN - A

360	IN	PID	0004	C
AREA	DISC.	TYPE	SEQ.	REV.

INGÉNIEURE
Antoine Cogulet
6028243
QUÉBEC
Ing. PhD
6028243

SAVED ON: 25-09-15 9:21 AM BY Kwame Drehli
PATH: C:\Users\KRB5353\OneDrive - AtkinsRéalis\702381 PB Metals Shaakichiuwaanaan project - 8. Drawings\C-Pumping_stations\PAID\CASN-A-360-IN-PID-0004.dwg

PAPER SIZE FORMAT - A1



LEGEND

PUMPED

GRAVITY

ALTERNATIVE

REV	DESCRIPTION	PAR BY	ING ENG	DATE
C	FINAL RELEASE FOR FEASIBILITY STUDY	D.K.	A.C.	25-09-15
B	INITIAL RELEASE ISSUED FOR CLIENT REVIEW	D.K.	A.C.	25-09-03
A	INITIAL RELEASE ISSUED FOR INTERNAL REVIEW	R.D.	A.C.	25-04-30

PATRIOT BATTERY METALS

AtkinsRéalis

702381-5100-45DG02-004

Mining Services

CONCEPTEUR/DESIGN:	A. Cogulet	25-04-30
DESSINATEUR/DRAWN:	R. DIDIER	25-04-30
VÉRIFIÉ PAR/CHECKED:	AL Nguyen	25-04-30
INGÉNIEUR/ENGINEER:	A. Cogulet	25-04-30
ÉCHELLE/SCALE:	N.T.S.	DATE

PROJET/PROJECT:
SHAAKICHIUWAANAAN

PHASE:
ÉTUDE DE FAISABILITÉ
FEASIBILITY STUDY

TITRE:
BASSIN DE COLLECTE 003
DIAGRAMME DE FLUX DE PROCESSUS
DESSIN ET NOTES
FRANCAIS

TITLE
COLLECTION POND 003
PROCESS FLOW DIAGRAM
DRAWING AND NOTES
ENGLISH

DESSIN NUM./DRAWING NO.: CASN - A

360	PR	PFD	0004	C
AREA	DISC.	TYPE	SEQ.	REV.

NOT FOR CONSTRUCTION
NE PAS UTILISER POUR CONSTRUCTION

INGÉNIEUR.E
Antoine Cogulet
6028243
QUÉBEC

Ing. PhD
OIQ 6028243

SAVED ON: 25-09-15 9:29 AM BY Kiranraj, Pinnili
PATH: C:\Users\KRAJ5830\OneDrive - AtkinsRéalis\702381 PB Metals Shaakichiuwaanaan project - 8. Drawings\2-D\Pumping_stations\PFD\CASN-A-360-PR-PFD-0004.dwg

PAPER SIZE FORMAT - A1

SAVED ON: 25-06-16 9:37 AM BY Kiosque, Drafti
PATH: C:\Users\KR6533\Desktop\Work + Akkon\Kiosk\702381 PB Metals Shaakichiuwaanaan project - 8. Drawings\C\Water_treatment\PAID\CASN-A-331-IN-PID-0001.dwg

SODIUM HYPOHCLORITE

FIT 006

FW-GV-026

FW-GV-025

PT 003B

FIT 003B

FW-GV-018

FW-GV-017

FW-GV-019

FW-CHK-003

PT 003A

PT 003C

FW-CHK-004

FIT 003A

FW-GV-015

FW-P-005 BOOSTER PUMP

FW-GV-016

PT 001B

FW-GV-012

AE ORP

FW-XV-009

FW-GV-008

FW-XV-003

DRAIN

HEATER

FW-GV-001

FW-GV-002

FW-GV-003

FW-GV-011

FW-SV-004

AE TURB

FW-GV-013

FW-GV-014

FIT 001

PT 001A

FW-YS-001

COMPRESSED AIR

FW-SV-001

ANTISCALANT

FW-XV-002

FW-XV-001

FW-CHK-001

FW-P-003 BOOSTER PUMP

RAW WATER

LAKE 308

SEE DRAWING CASN-A-310-IN-PID-0001

FW-XV-004

FW-XV-008

PT 002B

FW-SV-003

FW-GV-010

FW-GV-007

FW-GV-009

FW-GV-004

FW-GV-005

FW-GV-006

PT 004B

FIT 004B

FW-GV-023

FW-GV-022

FW-GV-024

FW-CHK-005

PT 004A

PT 004C

FW-CHK-006

FIT 004A

FW-GV-020

FW-P-006 BOOSTER PUMP

FW-GV-021

FIT 005

FW-GV-027

UV

FW-GV-028

FW-CHK-007

FW-P-007 RECIRCULATION PUMP

FW-GV-027

HEATER

FIT 002

PT 002A

FW-XV-006

FW-XV-005

CWPM-P-004 BOOSTER PUMP

FW-CHK-002

FW-YS-002

ANTISCALANT

COMPRESSED AIR

FW-SV-002

FW-XV-007

WASTE WATER TREATMENT

CASN-A-341-IN-PID-0001

FW-GV-029

FW-SV-005

AE CL2

AE PH

LT 007A

TT 007A

POTABLE WATER RESERVOIR #1

HEATER

FW-XV-010

LT 007B

TT 007B

POTABLE WATER RESERVOIR #2

HEATER

FW-XV-011

LT 007C

TT 007C

POTABLE WATER RESERVOIR #3

HEATER

FW-XV-012

TREATED WATER DIST.

29 PSIG

PT 008

UF TRAINS

FW-GV-031

FW-RV-002

80 PSIG

SOLENOID PANEL

FW-GV-030

FW-RV-001

FW-GV-032

INGÉNIEUR E
Antoine Cogulet
6028243
QUÉBEC
Ing. P.Eng.

NOT FOR CONSTRUCTION
NE PAS UTILISER POUR CONSTRUCTION

LEGEND

- PUMPED
- GRAVITY
- ALTERNATIVE
- FUTURE
- BACKUP

REV	DESCRIPTION	PAR BY	ING ENG	DATE
C	FINAL RELEASE FOR FEASIBILITY STUDY	D.K.	A.C.	25-09-15
B	INITIAL RELEASE ISSUED FOR CLIENT REVIEW	D.K.	A.C	25-09-03
A	INITIAL RELEASE ISSUED FOR INTERNAL REVIEW	R.D.	A.C	25-06-05

PATRIOT BATTERY METALS

AtkinsRéalis

702381-5300-4KDG10-001

Mining Services

CONCEPTEUR/DESIGN:	A. Cogulet	25-06-05
DESSINATEUR/DRAWN:	R. DIDIER	25-06-05
VÉRIFIÉ PAR/CHECKED:	AL Nguyen	25-06-05
INGÉNIEUR/ENGINEER:	A. Cogulet	25-06-05
ÉCHELLE/SCALE:	N.T.S.	DATE

PROJET/PROJECT:

SHAAKICHIUWAANAAN

PHASE:

ÉTUDE DE FAISABILITÉ
FEASIBILITY STUDY

TITRE:

USINE D'EAU POTABLE
SYSTÈME DE FILTRATION
DIAGRAMME DE FLUX DE PROCESSUS
DESSIN ET NOTES

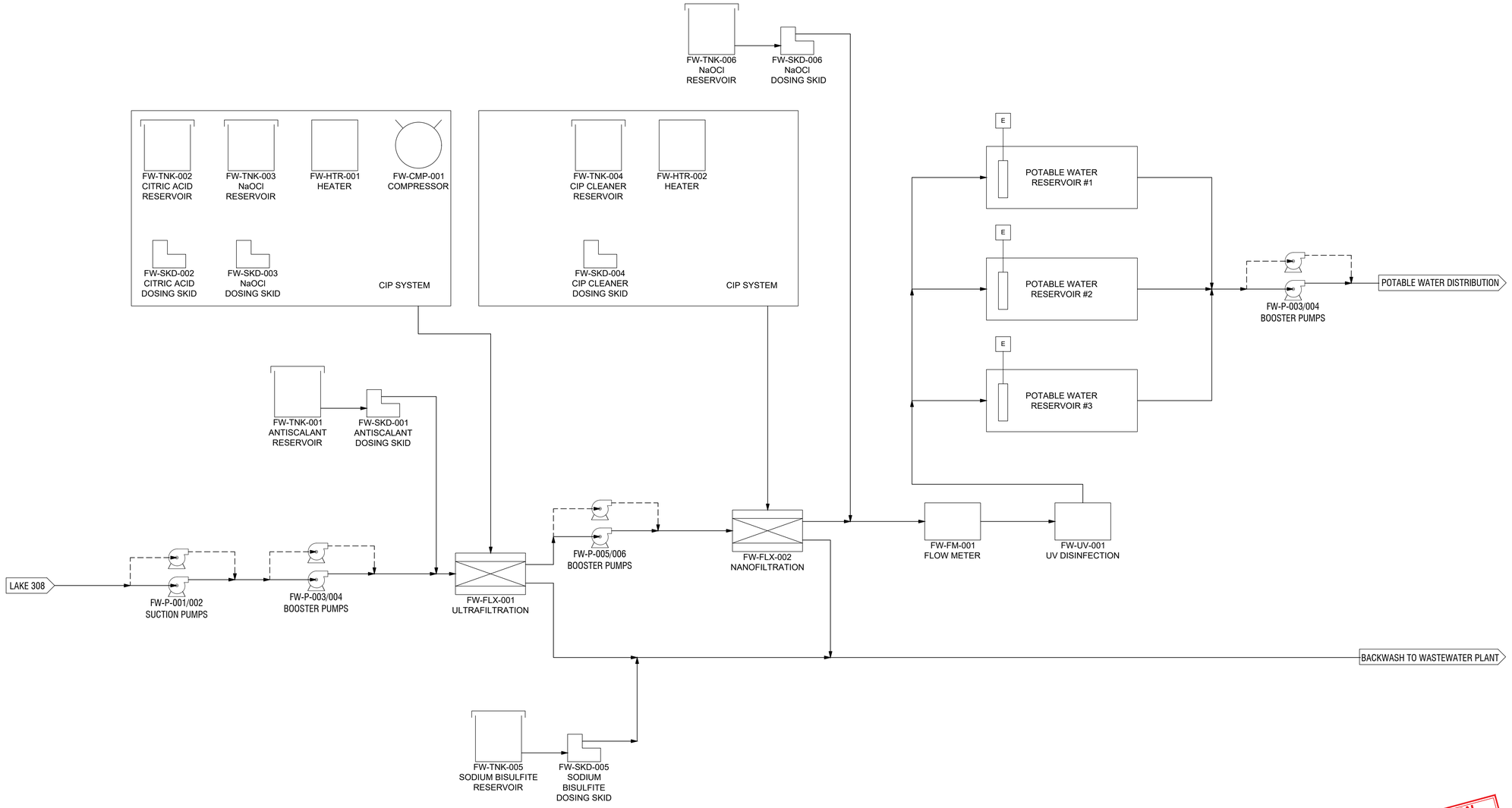
TITLE

POTABLE WATER TREATMENT PLANT
FILTRATION SYSTEM
PROCESS FLOW DIAGRAM
DRAWING AND NOTES

DESSIN NUM./DRAWING NO.: CASN – A 331 – IN – PID – 0001 – C

AREA – DISC. – TYPE – SEQ. – REV.

PAPER SIZE FORMAT - A1



LEGEND

- PUMPED
- GRAVITY
- ALTERNATIVE
- FUTURE
- BACKUP

REV	DESCRIPTION	PAR BY	ING ENG	DATE
C	FINAL RELEASE FOR FEASIBILITY STUDY	D.K.	A.C.	25-09-15
B	INITIAL RELEASE ISSUED FOR CLIENT REVIEW	D.K.	A.C	25-09-03
A	INITIAL RELEASE ISSUED FOR INTERNAL REVIEW	R.D.	A.C	25-05-13

PATRIOT BATTERY METALS

AtkinsRéalis

702381-5300-4KDG02-001

Mining Services

CONCEPTEUR/DESIGN:	A. COGULET	25-05-13
DESSINATEUR/DRAWN:	R. DIDIER	25-05-13
VÉRIFIÉ PAR/CHECKED:	AL NGUYEN	25-05-13
INGÉNIEUR/ENGINEER:	A. COGULET	25-05-13
ÉCHELLE/SCALE:	N.T.S.	DATE

PROJET/PROJECT:
SHAAKICHIUWAANAAN

PHASE:
ÉTUDE DE FAISABILITÉ
FEASIBILITY STUDY

TITRE:
STATION DE TRAITEMENT D'EAU POTABLE
DIAGRAMME DE FLUX DE PROCESSUS
DESSIN ET NOTES
FRANCAIS

TITLE
POTABLE WATER TREATMENT PLANT
PROCESS FLOW DIAGRAM
DRAWING AND NOTES
ENGLISH

DESSIN NUM./DRAWING NO.: CASN – A

331 – PR – PFD – 0001 – C
AREA | DISC. | TYPE | SEQ. | REV.

NOT FOR CONSTRUCTION
NE PAS UTILISER POUR CONSTRUCTION

INGÉNIEUR.E
Antoine Cogulet
6028243
QUÉBEC

Ing. PhD. #6028243.

SAVED ON: 25-09-15 9:50 AM BY Kiyanna Drehli
PATH: C:\Users\KRI6333\OneDrive - AtkinsRéalis\702381 PR Metals Shaakichiuwaanaan project - 8. Drawings\C\Water_treatment\PFD\CASN-A-331-PR-PFD-0001.dwg

PAPER SIZE FORMAT - A1

NOT FOR CONSTRUCTION
NE PAS UTILISER POUR CONSTRUCTION

PERMANENT CAMP KITCHEN WASTEWATER

GREASE TRAP

PERMANENT CAMP DOMESTIC WASTEWATER

DRY BUILDING DOMESTIC WASTEWATER

COLD SERVICE WATER

SWT-FLX-001
ROTARY
STRAINER

LIC 001
LI 001 HH H L LL
LAH 001
LAL 001
LT 001
LSL 001
LSH 001
PI 001
FIT 001
SWT-BV-003
SWT-BV-002
SWT-BV-001
SWT-CHK-001
SWT-CHK-002
M

SWT-PRS-001
CASN-A-341-IN-PID-0002

SWT-EQ-001
EQUALIZATION
TANK

SWT-P-001/002
SUBMERSIBLE
PUMPS

BAKING SODA

SWT-BLW-001
BLOWER

LIC 002
LI 002 HH H L LL
LAH 002
LAL 002
LT 002
LSL 002
LSH 002

SWT-BV-004
SWT-BV-006
SWT-BV-005

SWT-MBR-001
MOVING BED BIOFILM
REACTOR

SWT-BV-007

ANTIFOAM
COAGULANT
POLYMER
MCC
M

SWT-AGX-001
COAGULATION
CHAMBER

SWT-AGX-002
FLOCULATION
CHAMBER

MCC
M

SWT-DAF-001
DISSOLVED AIR
FLOATATION TANK

SWT-BV-022
SWT-BV-021
SWT-BV-008
SWT-BV-011

SWT-XV-002
LSH 003
LAH 003
SWT-XV-001
LSL 003
LAL 003

COLD SERVICE WATER

SWT-TNK-006
EFFLUENT HOLDING
TANK

SWT-CHK-005
SWT-CHK-004

POLISHING POND
CASN-A-360-PR-PFD-0008

SWT-MBR-002
CASN-A-341-IN-PID-0002

SWT-BV-020
SWT-BV-019
SWT-BV-018
SWT-BV-017
SWT-CHK-003

PI 004
SWT-GV-011
SWT-GV-012
VFD
SWT-BV-010
SWT-BV-009
SWT-P-007
DAF RECIRCULATION
PUMP

PI 005
SWT-GV-015
SWT-GV-016
SWT-BV-014
SWT-BV-013
SWT-P-008
DAF RECIRCULATION
PUMP

SWT-BLW-002
BLOWER

LEGEND

- PUMPED
- GRAVITY
- ALTERNATIVE
- FUTURE
- BACKUP

REV	DESCRIPTION	PAR BY	ING ENG	DATE
C	FINAL RELEASE FOR FEASIBILITY STUDY	D.K.	A.C.	25-09-15
B	INITIAL RELEASE ISSUED FOR CLIENT REVIEW	D.K.	A.C	25-09-03
A	INITIAL RELEASE ISSUED FOR INTERNAL REVIEW	R.D.	A.C	25-06-10

PATRIOT BATTERY METALS

AtkinsRéalis

702381-5300-4KDG10-002

Mining Services

CONCEPTEUR/DESIGN:	A. COGULET	25-06-10
DESSINATEUR/DRAWN:	R. DIDIER	25-06-10
VÉRIFIÉ PAR/CHECKED:	AL. NGUYEN	25-06-10
INGÉNIEUR/ENGINEER:	A. COGULET	25-06-10
ÉCHELLE/SCALE:	N.T.S.	DATE

PROJET/PROJECT:
SHAAKICHIUWAANAAN

PHASE:
ÉTUDE DE FAISABILITÉ
FEASIBILITY STUDY

TITRE:
STATION DE TRAITEMENT DES EAUX USÉES
DIAGRAMME DE FLUX DE PROCESSUS
DESSIN ET NOTES
FRANCAIS

TITLE
SEWAGE WATER TREATMENT PLANT
PROCESS FLOW DIAGRAM
DRAWING AND NOTES
ENGLISH

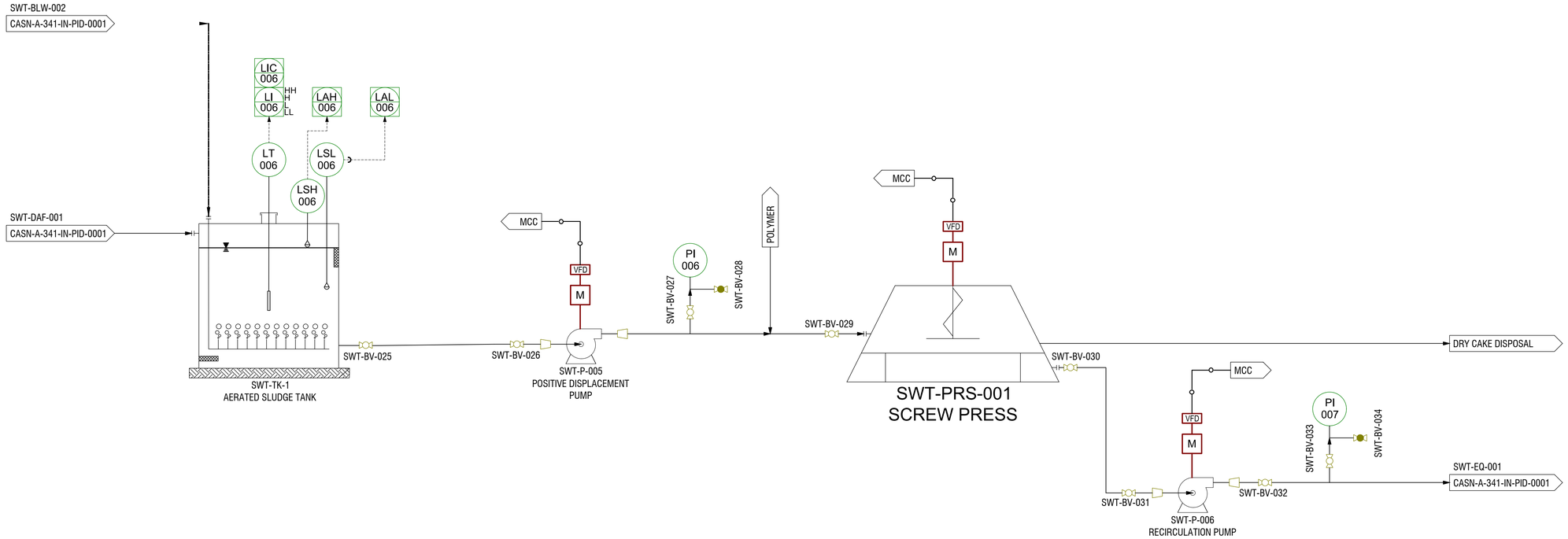
DESSIN NUM./DRAWING NO.: CASN – A

341	IN	PID	0001	C
AREA	DISC.	TYPE	SEQ.	REV.

INGÉNIEUR·E
Antoine Cogulet
6028243
QUÉBEC

SAVED ON: 25-09-15 9:36 AM BY Kronon, Dmitri
PATH: C:\Users\KRONSD\Downloads\Kronon • Kronon@atkinsr702381 PB Metals Shaakichiuwaanaan project - 8. Drawings\Civil\Water_treatment\PKID\CASN-A-341-IN-PID-0001.dwg

PAPER SIZE FORMAT - A1



LEGEND

- PUMPED
- GRAVITY
- ALTERNATIVE
- FUTURE
- BACKUP

REV	DESCRIPTION	PAR BY	ING ENG	DATE
C	FINAL RELEASE FOR FEASIBILITY STUDY	D.K.	A.C.	25-09-15
B	INITIAL RELEASE ISSUED FOR CLIENT REVIEW	D.K.	A.C	25-09-03
A	INITIAL RELEASE ISSUED FOR INTERNAL REVIEW	R.D.	A.C	25-06-10

PATRIOT BATTERY METALS

AtkinsRéalis

702381-5300-4KDG10-003

Mining Services

CONCEPTEUR/DESIGN:	A. COGULET	25-06-10
DESSINATEUR/DRAWN:	R. DIDIER	25-06-10
VÉRIFIÉ PAR/CHECKED:	AL. NGUYEN	25-06-10
INGÉNIEUR/ENGINEER:	A. COGULET	25-06-10
ÉCHELLE/SCALE:	N.T.S.	DATE

PROJET/PROJECT:
SHAAKICHIUWAANAAN

PHASE:
ÉTUDE DE FAISABILITÉ
FEASIBILITY STUDY

TITRE:
STATION DE TRAITEMENT DES EAUX USÉES
DIAGRAMME DE FLUX DE PROCESSUS
DESSIN ET NOTES
FRANCAIS

TITLE
SEWAGE WATER TREATMENT PLANT
PROCESS FLOW DIAGRAM
DRAWING AND NOTES
ENGLISH

DESSIN NUM./DRAWING NO.: CASN - A

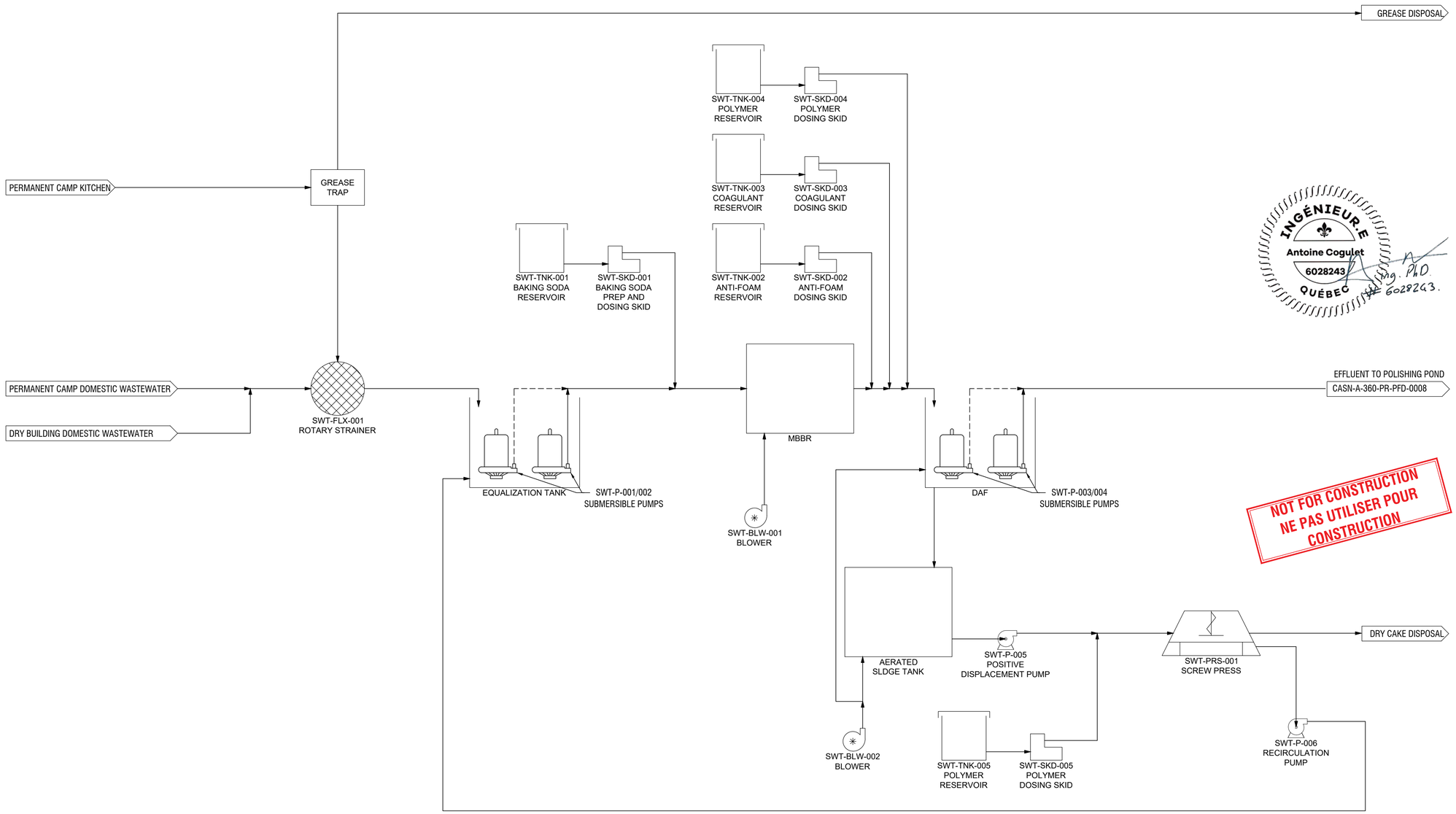
341	IN	PID	0002	C
AREA	DISC.	TYPE	SEQ.	REV.

INGÉNIEUR.E
Antoine Cogulet
6028243
QUÉBEC
Ing. PhD. # 6028243.

NOT FOR CONSTRUCTION
NE PAS UTILISER POUR CONSTRUCTION

SAVED ON: 25-06-15 8:36 AM BY Kristine Pimbili
PATH: C:\Users\KRIS\ISO\OneDrive - AtkinsRéalis\702381 PB Metals Shaakichiuwaanaan project - 8. Drawings\Civ\Water_treatment\PA\DC\CASN-A-341-IN-PID-0002.dwg

PAPER SIZE FORMAT - A1



LEGEND

- PUMPED
- GRAVITY
- ALTERNATIVE
- FUTURE
- BACKUP

INGÉNIEUR.E
Antoine Cogulet
6028243
QUÉBEC

Eng. PhD
6028243

REV	DESCRIPTION	PAR BY	ING ENG	DATE
C	FINAL RELEASE FOR FEASIBILITY STUDY	D.K.	A.C.	25-09-15
B	INITIAL RELEASE ISSUED FOR CLIENT REVIEW	D.K.	A.C	25-09-03
A	INITIAL RELEASE ISSUED FOR INTERNAL REVIEW	R.D.	A.C	25-05-13

PATRIOT BATTERY METALS

AtkinsRéalis

702381-5300-4KDG02-002

Mining Services

CONCEPTEUR/DESIGN:	A. COGULET	25-05-13
DESSINATEUR/DRAWN:	R. DIDIER	25-05-13
VÉRIFIÉ PAR/CHECKED:	AL NGUYEN	25-05-13
INGÉNIEUR/ENGINEER:	A. COGULET	25-05-13
ÉCHELLE/SCALE:	N.T.S.	DATE

PROJET/PROJECT:
SHAAKICHIUWAANAAN

PHASE:
ÉTUDE DE FAISABILITÉ
FEASIBILITY STUDY

TITRE:
STATION DE TRAITEMENT DES EAUX USÉES
DIAGRAMME DE FLUX DE PROCESSUS
DESSIN ET NOTES
FRANCAIS

TITLE
SEWAGE WATER TREATMENT PLANT
PROCESS FLOW DIAGRAM
DRAWING AND NOTES
ENGLISH

DESSIN NUM./DRAWING NO.: CASN - A

341	PR	PFD	0001	C
AREA	DISC.	TYPE	SEQ.	REV.

SAVED ON: 25-09-15 9:47 AM BY Vicenzo Dinelli
PATH: C:\Users\XR4S830.DinelliVin_Atkins\Patriot\702381 PB Metals Shaakichiuwaanaan project - 8. Drawings\C\Water_treatment\PFD\CASN-A-341-PR-PFD-0001.dwg

Annexe D Analyses de stabilité des haldes 001 et 002 Note technique

AtkinsRéalis	NOTE TECHNIQUE Projet Shaakichiuwaanaan – Gestion de l'eau et résidus		
	Numéro de document : CASN-A-370-GT-REP-0002 702381-4000-4GER-0002	**Rév.** D	**Date:** 27 février 2026

Titre du document: **ANALYSE DE STABILITÉ DES PILES 001 ET 002**

Client: **PATRIOT BATTERY METALS INC.**

Projet **PROJET SHAAKICHIUWAANAAN – GESTION DE L'EAU ET RÉSIDUS**

Préparé par : Raquibul Alam, Ph.D, P. Eng.
Titre : Spécialiste en génie géotechnique
#PEO: 100231585

Révisé par : Philip Addis
Titre : Ingénieur principal en résidus miniers
#OIQ: 6076892

Approuvé par : Bruno Morrissette, ing.
Chef de projet
#OIQ: 125157

Note au lecteur

Le présent rapport est une traduction de la version anglophone du rapport portant le même numéro. En cas de disparité entre ces 2 rapports, la version anglophone prime.

Le présent rapport a été préparé et les travaux qui y sont mentionnés ont été réalisés par AtkinsRéalis Canada Inc. (AtkinsRéalis), à l'usage exclusif de Patriot Battery Metals Inc., qui a participé à l'élaboration de la portée des travaux et en comprend les limites. La méthodologie, les résultats, les conclusions et les recommandations contenus dans le présent rapport sont fondés uniquement sur la portée des travaux et sont soumis aux considérations de temps et de budget décrites dans la proposition et/ou le contrat en vertu desquels le présent rapport a été publié. Toute utilisation, confiance ou décision prise par un tiers sur la base du présent rapport relève de la seule responsabilité dudit tiers. AtkinsRéalis décline toute responsabilité pour les dommages que pourrait subir ou encourir un tiers à la suite de l'utilisation, de la confiance accordée ou de toute décision prise sur la base du présent rapport.

Les constatations, conclusions et recommandations contenues dans le présent rapport (i) ont été élaborées d'une manière conforme au niveau de compétence normalement exercée par des professionnels exerçant actuellement dans des conditions similaires dans le domaine, et (ii) reflètent le meilleur jugement d'AtkinsRéalis sur la base des informations disponibles au moment de la préparation du présent rapport. Aucune autre garantie, expresse ou implicite, n'est donnée concernant les services professionnels fournis à Patriot Battery Metals Inc. ou les résultats, conclusions et recommandations contenus dans le présent rapport. Les résultats et conclusions contenus dans le présent rapport ne sont valables qu'à la date du rapport et peuvent être basés, en partie, sur des informations fournies par des tiers. Si certaines informations s'avèrent inexactes, si de nouvelles informations sont découvertes ou si les paramètres du projet changent, des modifications du présent rapport peuvent s'avérer nécessaires.

Ce rapport doit être lu dans son intégralité, car des sections prises hors contexte peuvent être trompeuses. En cas de divergence entre la version préliminaire (projet) et la version finale de ce rapport, c'est la version finale qui prévaut. Aucune partie de ce rapport n'est destinée à constituer ou à fournir un avis juridique.

Le contenu du présent rapport est confidentiel et exclusif. À l'exception de Patriot Battery Metals Inc., la copie ou la distribution du présent rapport, ainsi que l'utilisation ou l'exploitation des informations qu'il contient, en tout ou en partie, ne sont pas autorisées sans l'autorisation écrite expresse de Patriot Battery Metals Inc. et d'AtkinsRéalis.

Liste des révisions

#	Prép.	Rév.	App.	Date	Pages	Remarques
A	RA	PA	BM	13/06/2025	Tous	Question soumise à examen interne
B	RA	PA	BM	03/07/2025	Tous	Problème soumis à l'avis du client
C	RA	PA	BM	29/08/2025	Tous	Publié pour étude de faisabilité
D	RA	PA	BM	12 février 2026	Section 2.2.3	Publié avec quelques corrections mineures pour l'étude de faisabilité

Table des matières

1 Introduction 1

2 Analyses de stabilité 2

2.1 Géométrie du modèle 4
2.1.1 Pile de stériles (pile 001 et pile 002) 5
2.1.2 Pile de résidus (pile 002) 8

2.2 Scénarios de chargement et FoS minimum 9
2.2.1 Drainé 10
2.2.2 Non drainé 10
2.2.3 Sismicité 10

2.3 Propriétés des matériaux 11
2.3.1 Fondations 11
2.3.2 Résidus 12
2.3.3 Roche stérile 12
2.3.4 Géomembrane et géotextile 12
2.3.5 Roche 13

2.4 Hypothèse relative à la nappe phréatique 13

2.5 Résultats de l'analyse de stabilité 13

3 Conclusions 17

4 Références 18

Liste des tableaux

Tableau 2-1: Facteurs de sécurité minimaux pour les piles 001 et 002 (MRNF, 2024 ; BCMWRPRC, 1991a et Hawley et Cunning, 2017) 10

Tableau -2-2 : Paramètres géotechniques des matériaux – Piles 001 et 002 11

Tableau 2-3: Coefficient de sécurité de l'analyse de la stabilité des pentes 14

Liste des figures

Figure 1-1 Disposition des piles 001 et 002 1

Figure 2-1 Disposition des sections critiques pour l'analyse de la stabilité des pentes – Stockage de stériles 001. Coupe transversale A1-A1 2

Figure 2-2 Disposition des sections critiques pour l'analyse de la stabilité des pentes – Pile de stériles 002. Coupe transversale H-H 4

Figure 2-3 Section A1-A1 de la pile de stériles (NAG) (pile 001) pour la phase d'exploitation 5

Figure 2-4 Section H-H de la pile de stériles (PAG) (pile 002) pour la phase d'exploitation 6

Figure 2-5 Section A1-A1 de la pile de stériles (NAG) (pile 001) pour la fermeture 7

Figure 2-6 Section H-H de la pile de stériles (PAG) (pile 002) pour la fermeture 8

Figure 2-7 Section B1-B1 de la pile de résidus pour l'exploitation et la fermeture 9

Liste des annexes

Annexe A Résultats de l'analyse de stabilité

1 Introduction

Patriot Battery Metals Inc. (PMET) a retenu les services d'AtkinsRéalis pour mener une étude de faisabilité sur la gestion des déchets et de l'eau pour le projet Shaakichiuwaanaan. Le projet de mine de lithium dans la région d'Eeyou Istchee Baie-James, dans le nord du Québec, comprendra des opérations d'exploitation à ciel ouvert et souterraine. Le projet comprendra des piles de morts-terrains, de stériles, de résidus et de matières organiques, une usine de traitement des eaux et d'autres infrastructures minières nécessaires. Les opérations minières devraient commencer en 2028, avec une durée de vie prévue de 22 ans.

Deux sites ont été identifiés pour l'élimination des résidus et des stériles, comme le montre la **Figure 1-1**. Le site de stockage 001, situé au nord-ouest du site de l'usine, sera exclusivement dédié au stockage des stériles en raison de sa proximité avec la mine à ciel ouvert. En revanche, la pile 002, située au nord-est de l'usine, est destiné aux stériles et aux résidus potentiellement acidogènes, avec des plans pour stocker les résidus séparément des stériles, comme le montre la **Figure 1-1**.

Dans le cadre de l'étude de faisabilité, des analyses de stabilité ont été réalisées pour les piles 001 et 002 proposés. La présente note technique résume les conclusions de ces analyses de stabilité.

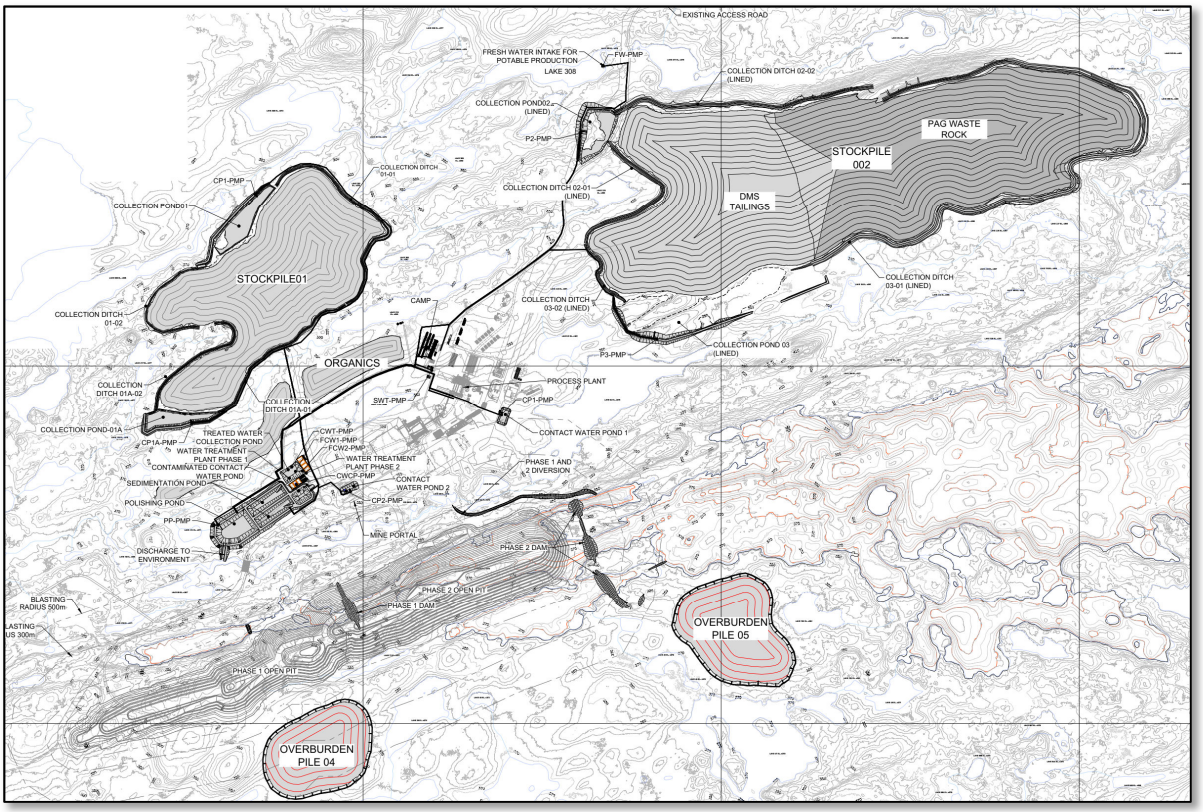


Figure 1-1 Disposition des piles 001 et 002

2 Analyses de stabilité

Des analyses de stabilité des pentes ont été réalisées sur trois sections critiques : une pour la pile de stockage de stériles non générteurs d'acide (NAG) (section A1-A1 pour la pile de stockage 001) comme indiqué à la Figure 2-1 Disposition des sections critiques pour l'analyse de la stabilité des pentes – Stockage de stériles 001. **Coupe transversale A1-A1**
, une pour la pile de stockage de résidus générateurs d'acide (PAG) (section H-H pour le pile 002) et une pour la pile de résidus (section B1-B1 pour la pile 002), comme indiqué dans la **Figure 2-1**. Ces sections sont illustrées dans la Figure 2-7, où la pile atteint sa hauteur maximale et présente la pente la plus raide.

Les analyses de stabilité des pentes ont été réalisées à l'aide du logiciel SLOPE/W version 2023.1.2, un logiciel d'équilibre limite bidimensionnel développé par Geo-Slope International Limited.

La méthode Morgenstern-Price a été utilisée pour identifier les surfaces de rupture potentielle dans les pentes des piles et leurs fondations sous-jacentes. L'objectif principal de ces analyses était de déterminer les surfaces de rupture les plus critiques qui produiraient le facteur de sécurité (FoS) le plus conservateur. Le FoS est le rapport entre la résistance moyenne au cisaillement disponible (force de résistance) et la contrainte de cisaillement moyenne mobilisée (force motrice) le long d'une surface de rupture spécifique. Les sous-sections suivantes fournissent des détails sur la géométrie des piles, les propriétés des matériaux, les scénarios de chargement et la surface phréatique utilisés dans le modèle, ainsi qu'une discussion des résultats de l'analyse de stabilité.

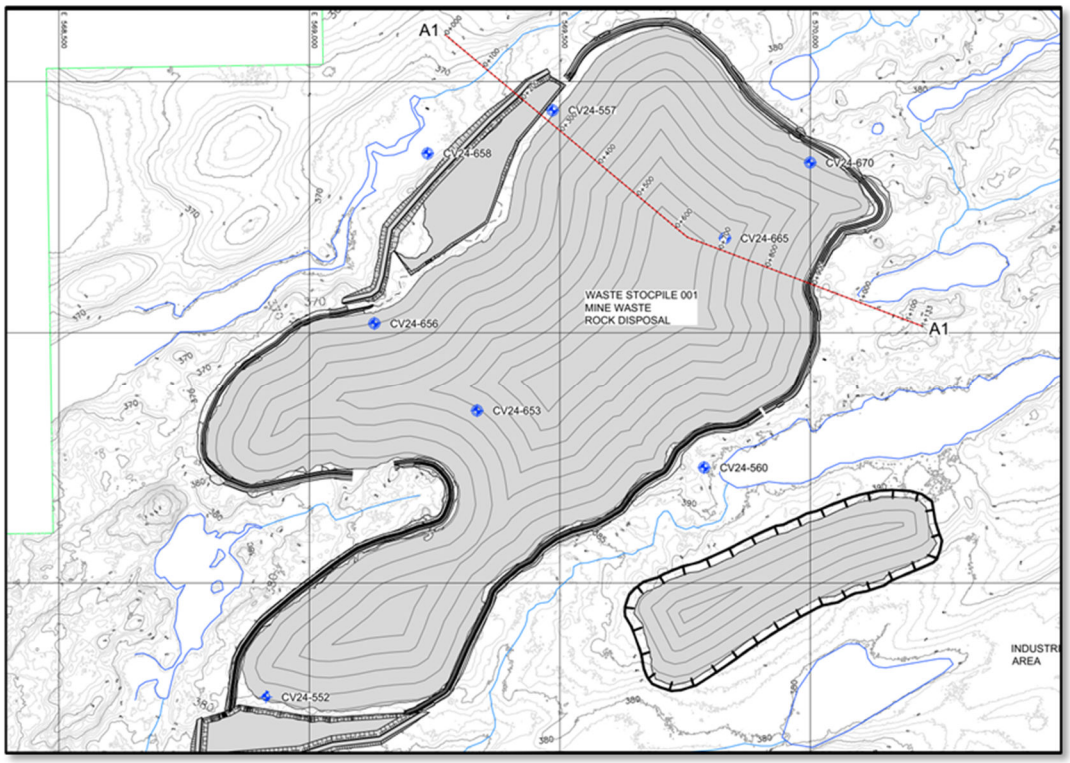


Figure 2-1 Disposition des sections critiques pour l'analyse de la stabilité des pentes – Stockage de stériles 001. Coupe transversale A1-A1

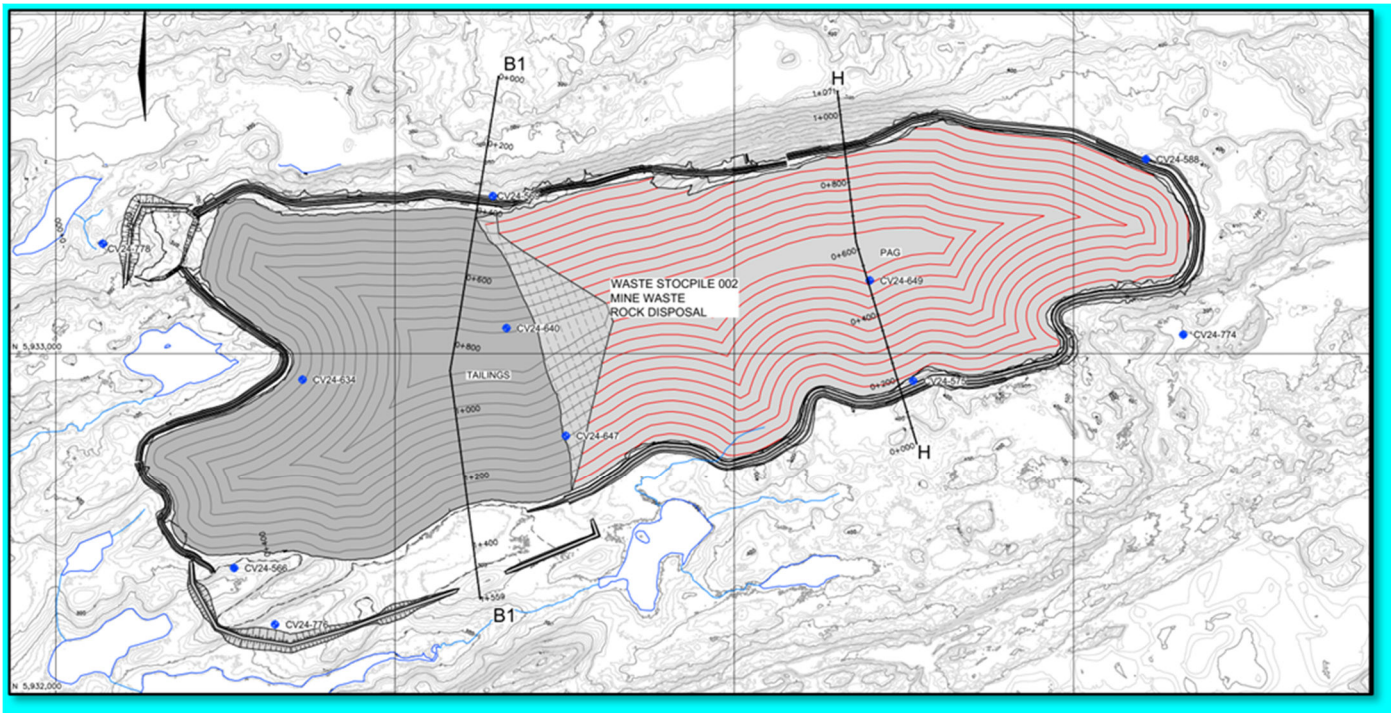


Figure 2-2 Disposition des sections critiques pour l'analyse de la stabilité des pentes – Pile de stériles 002. Coupe transversale H-H

2.1 Géométrie du modèle

La mine devrait produire un total de 154,1 millions de tonnes (Mt) de stériles. Ce volume comprend 73,1 Mt de stériles non acidogènes (NAG) et 81,0 Mt de stériles potentiellement acidogènes (PAG). Sur les 73,1 Mt de stériles NAG, 29,6 Mt seront stockées à ciel ouvert, tandis que le reste sera placé dans la pile 001, conçu pour accueillir un total de 43,5 Mt de stériles NAG.

Au cours des 22 années d'exploitation de la mine, la production prévue de résidus miniers est estimée à 71,1 Mt. Environ 54,0 Mt de ces résidus seront éliminés en surface, tandis que les 17,1 Mt restantes seront utilisées pour le remblayage en pâte. La pile 002 est destiné à stocker 54,0 Mt de résidus miniers et 81,0 Mt de stériles PAG.

La pile 001 a une superficie de 80 hectares (ha) et une hauteur maximale d'environ 90 mètres (m). La pile 002, qui contient des roches PAG, couvre environ 126 ha (58 %), tandis que la partie de résidus couvre environ 91 ha (42 %), avec une hauteur maximale d'environ 120 m. Deux configurations ont été conçues pour les stockages 001 et 002, tant pour la phase d'exploitation que pour la phase de fermeture. Le profil des fondations a été intégré dans la géométrie du modèle sur la base des informations disponibles sur les forages.

Une description détaillée des modèles géométriques des piles 001 et 002 est fournie dans les sous-sections suivantes.

2.1.1 Piles de stériles (pile 001 et pile 002)

2.1.1.1 Phase opérationnelle

La géométrie type pour les phases opérationnelles des piles 001 et 002 est illustrée respectivement aux **Figure 2-3** et **Figure 2-4**. Pendant la phase opérationnelle, les piles de stériles sont conçues en couches de 10 m de haut, avec des pentes locales d'environ 1,5 horizontal (H) pour 1 vertical (V). Chaque palier mesure 15 m de large, et un palier sur trois mesure 22,5 m de large. Cette conception permet d'obtenir une pente externe globale de 3,25 horizontal (H) pour 1 vertical (V).

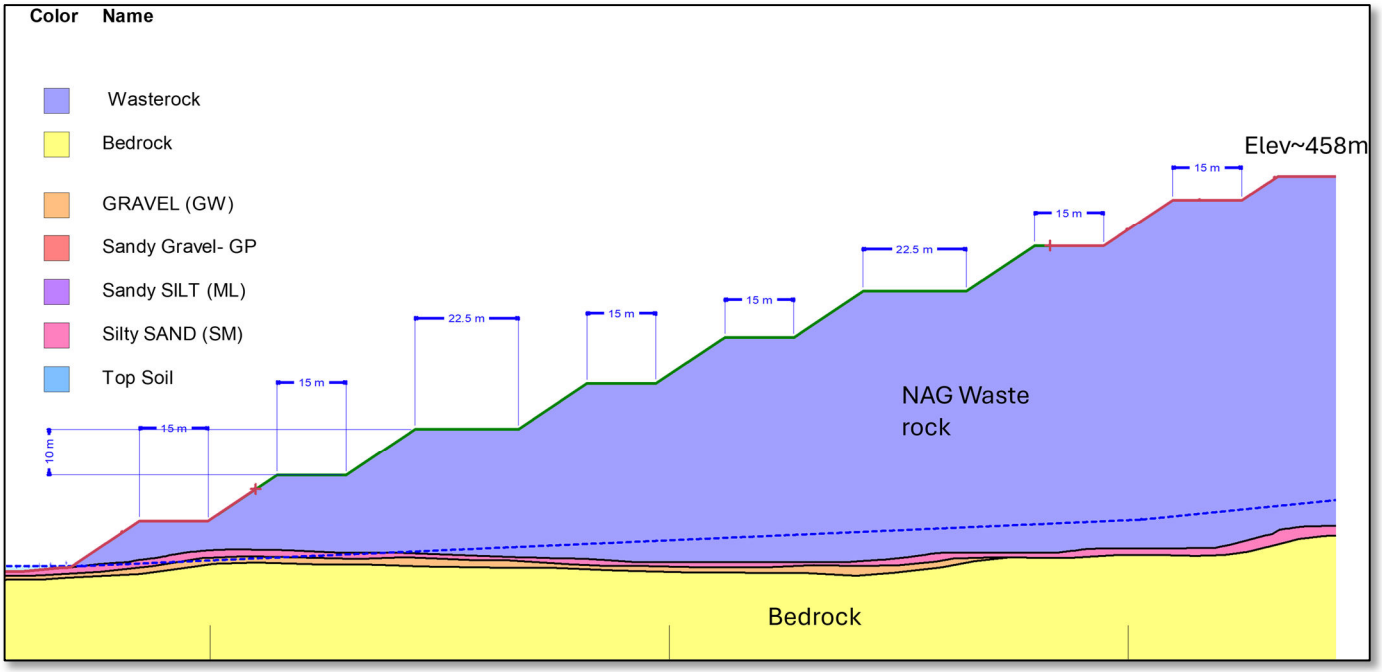


Figure 2-3 Section A1-A1 de la pile de stériles (NAG) (pile 001) pour la phase d'exploitation

Le bassin de la pile 002 est recouvert d'une géomembrane LLDPE double texture de 1,5 mm. Un géotextile de rembourrage est placé sur cette géomembrane, suivi d'une couche de rembourrage protectrice d'une épaisseur de 1 m. En revanche, la pile 001 ne comporte pas de revêtement intégré à sa géométrie.

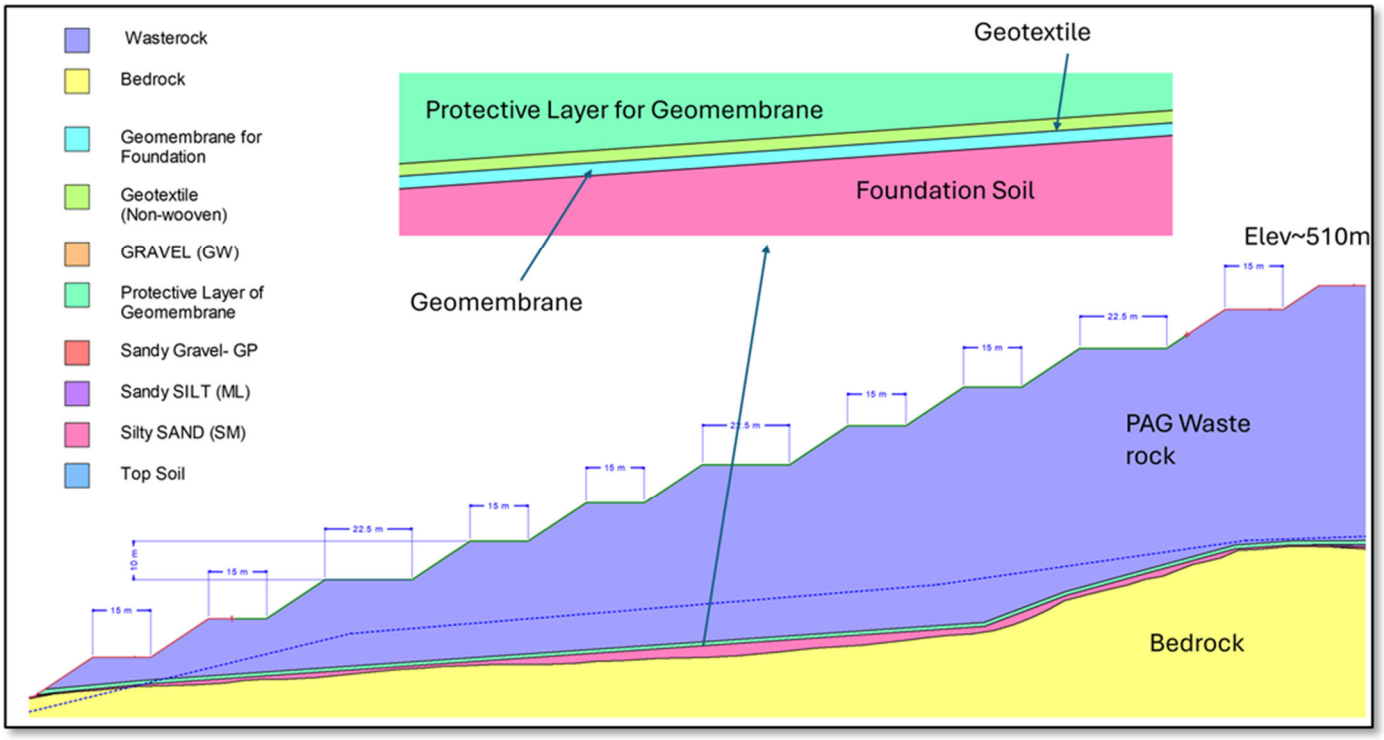


Figure 2-4 Section H-H de la pile de stériles (PAG) (pile 002) pour la phase d'exploitation

2.1.1.2 Fermeture

La géométrie type pour les phases de fermeture des stockages 001 et 002 est illustrée dans la **Figure 2-5** et la **Figure 2-6.** Pendant la phase de fermeture, les paliers sont conçus avec une pente locale de 3:1 (horizontale à verticale) afin de favoriser une gestion efficace de l'eau. Chaque palier mesure 7,5 m de large.

Pour la pile 001, la conception de la fermeture consiste en une couche de 30 cm d'épaisseur de pierre concassée, recouverte d'une couche de 20 cm de terre végétale pour soutenir l'ensemencement hydraulique (**Figure 2-5Erreur ! Source du renvoi introuvable.**).

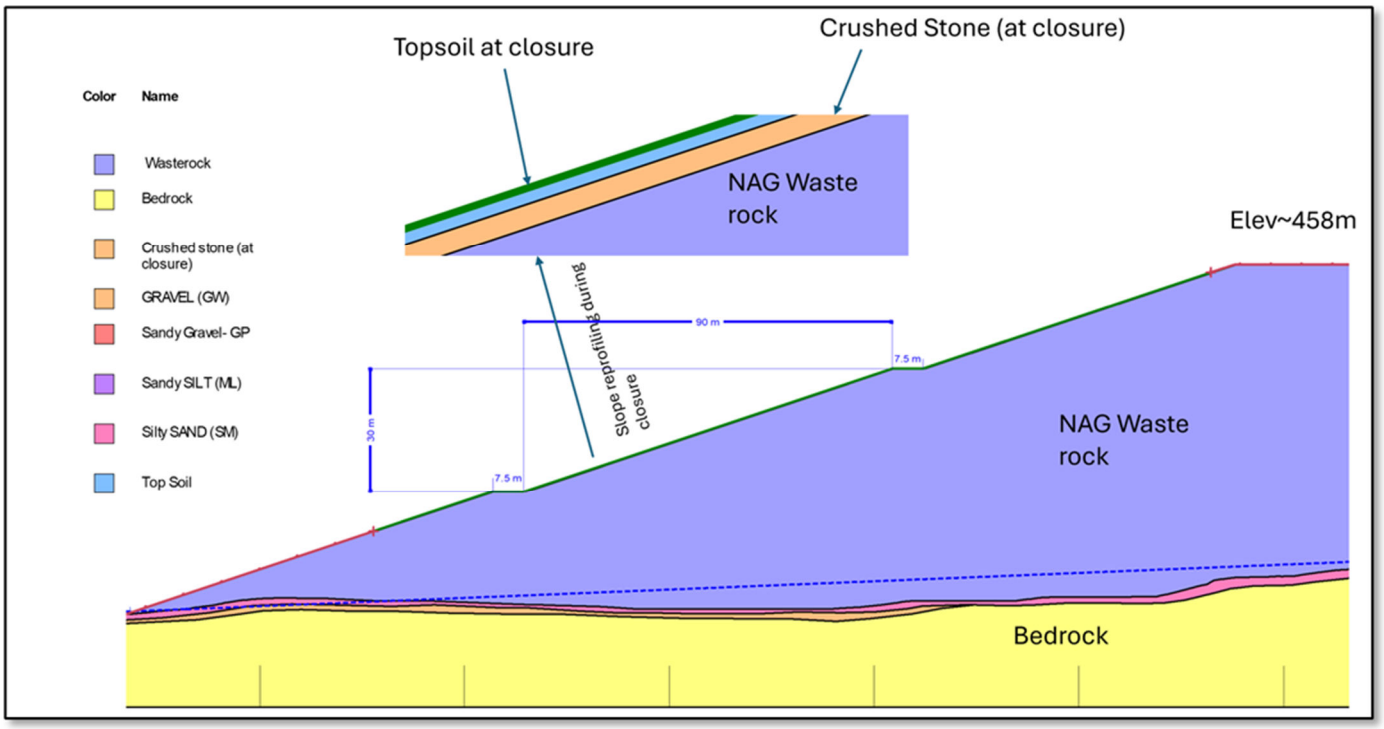


Figure 2-5 Section A1-A1 de la pile de stériles (NAG) (pile 001) pour la fermeture

En revanche, le modèle de fermeture de la pile 002 consiste en une couche de 30 cm d'épaisseur de pierre concassée sur la pente, suivie d'une couche de sable de 15 cm d'épaisseur (empruntée à la couche de recouvrement) pour soutenir la géomembrane. Au-dessus de cette couche, une géomembrane en PEHD double texture de 1,5 mm est incorporée. Un géonet est ensuite placé au-dessus de la géomembrane, servant de couche de drainage. De plus, une autre couche de sable de 20 cm d'épaisseur empruntée à la couverture est appliquée sur le géonet, qui est recouvert d'une couche de 20 cm de terre végétale pour faciliter l'ensemencement hydraulique (voir **Figure 2-6**). Cette conception garantit une reproduction fidèle de la structure de fermeture prévue.

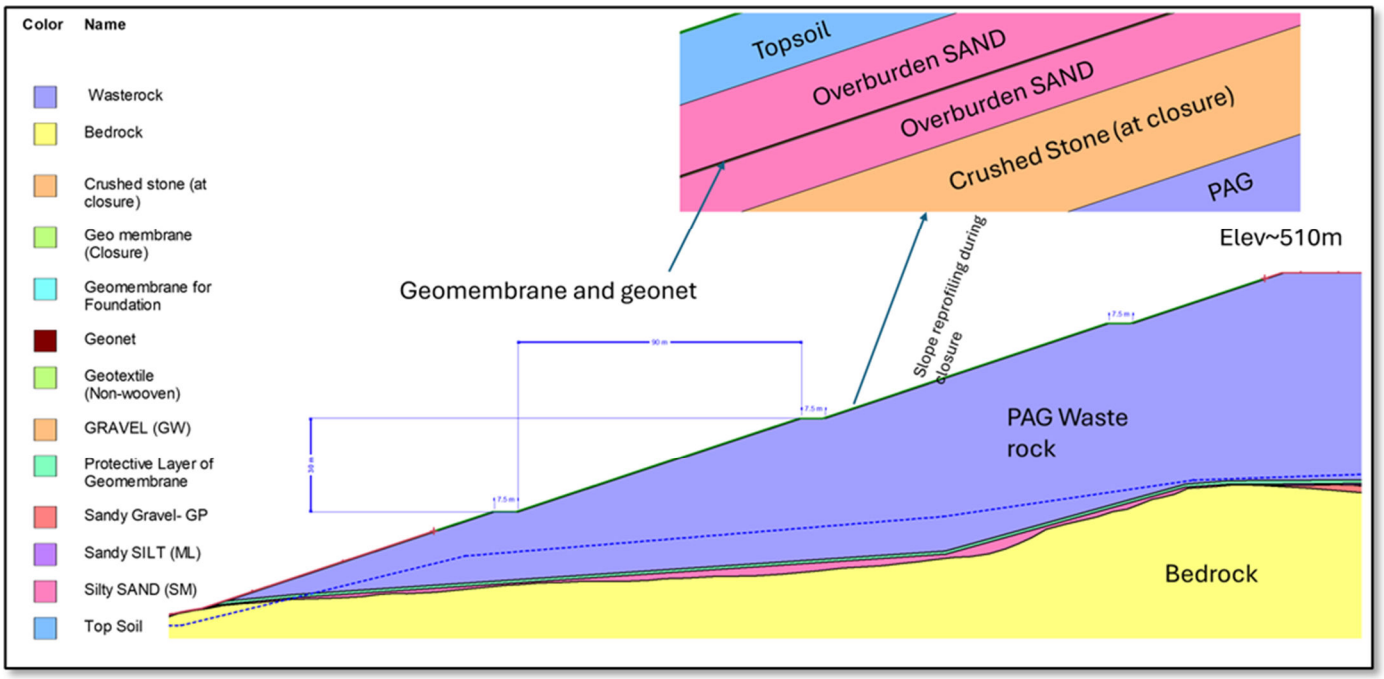


Figure 2-6 Section H-H de la pile de stériles (PAG) (pile 002) pour la fermeture

2.1.2 Pile de résidus (pile 002)

2.1.2.1 Exploitation

La géométrie type de la partie résidus de la pile 002 est illustrée dans la **Figure 2-7**. La pile de résidus présente une pente externe globale de 3,25 horizontal pour 1 vertical (3,25 H : 1 V) et comprend des paliers intermédiaires de 7,5 m de large, espacées tous les 30 m d'élévation (voir **Figure 2-7**). Le bassin est recouvert d'une géomembrane en polyéthylène linéaire à basse densité (LLDPE) double texture de 1,5 mm. Un géotextile de rembourrage est placé sur la géomembrane, et les résidus sont modélisés directement au-dessus de cette couche.

De plus, le remblai de départ a été intégré au modèle afin de permettre l'accès des véhicules au pied de l'installation de résidus à des fins d'inspection. Ce remblai de départ sera construit à l'aide de stériles à faible risque. Il aura une hauteur de 3 m et une largeur de crête de 5 m, comme le montre la **Figure 2-7** .

2.1.2.2 Fermeture

Par rapport aux stériles de la pile 002, le modèle de fermeture des résidus ne nécessite pas de couche de pierre concassée de 30 cm d'épaisseur sur la pente. Une géomembrane en PEHD à double texture de 1,5 mm est intégrée au modèle directement au-dessus des résidus (voir **Figure 2-7**). Un géonet est ensuite placé au-dessus de la géomembrane, agissant comme une couche de drainage. De plus, une couche de matériaux granulaires de 20 cm d'épaisseur est placée sur la géomembrane, recouverte d'une autre couche de 20 cm de terre végétale pour faciliter l'ensemencement hydraulique. Cette configuration dans le modèle reflète fidèlement la structure prévue pour la fermeture.

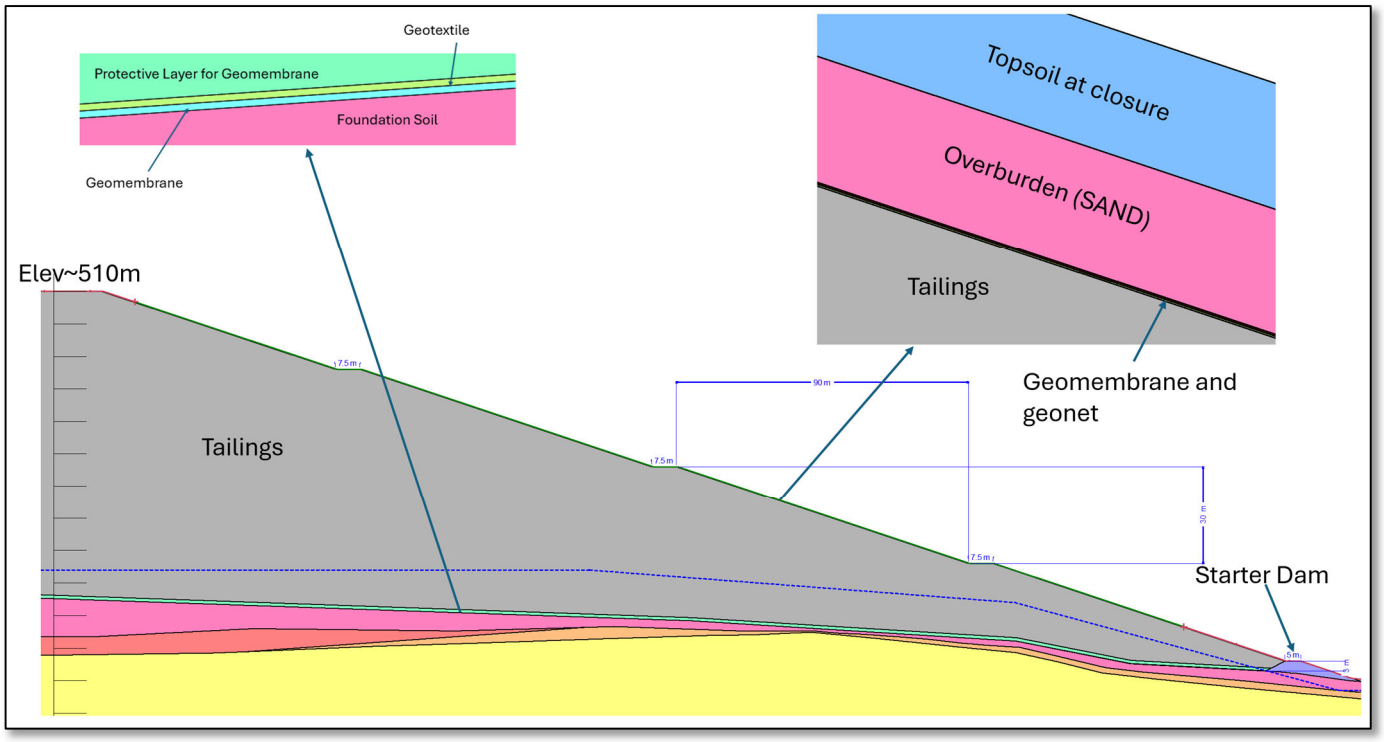


Figure 2-7 Section B1-B1 de la pile de résidus pour l'exploitation et la fermeture

2.2 Scénarios de chargement et FoS minimum

Des analyses de stabilité ont été effectuées dans des conditions statiques et pseudo-statiques pour les trois sections critiques mentionnées précédemment. Il est important de noter que le coefficient de sécurité (FoS) pour les piles classés comme non liquéfiables n'est pas abordé par la CDA (2019). Toutefois, le CDA (2019) indique que si les résidus sont non liquéfiables et ne peuvent s'écouler, l'installation peut être considérée comme une zone d'élimination des déchets similaire à une zone d'élimination des morts-terrains. Il existe des directives de conception pour les décharges et les zones d'élimination des morts-terrains, qui seraient applicables dans ce cas.
Sur la base de ces directives, les valeurs FoS ont été déterminées conformément à la réglementation québécoise (MRNF, 2024) pour les terrils et les piles de morts-terrains. Il convient de noter que les directives du MRNF (2024) sont identiques à celles suggérées par le BCMWRPRC (1991a) et Hawley et Cunning (2017). Les FoS minimaux requis pour les résidus miniers et les terrils de stériles sont présentés dans le **Tableau 2-1**. Les raisons qui ont motivé le choix des conditions de chargement sont expliquées dans les sous-sections suivantes.

Tableau 2-1 Facteurs de sécurité minimaux pour la pile 001 et la pile 002 (MRNF, 2024 ; BCMWRPRC, 1991a et Hawley et Cunning, 2017)

Condition	Facteurs de sécurité minimaux (MRNF, 2024)	
Classification des conséquences (CDA, 2019)	Faible à considérable	Élevé à extrême
Stabilité locale (chaque palier)		
Statique (condition non drainée)	1,0	1,1
Statique (condition drainée)	1,2	
Stabilité globale (ensemble du contenu)		
Statique (condition non drainée)	1.3	1,5
Statique à long terme	1,5	
Pseudo-statique	1,1	1,3

2.2.1 Drainé

La condition de charge drainée reflète la stabilité à long terme et utilise les résistances au cisaillement sous contrainte effective pour tous les matériaux dans le modèle de stabilité des pentes. Un coefficient de sécurité (FOS) minimal cible de 1,5 a été adopté pour les conditions statiques à long terme, sur la base du Tableau 2-1.

2.2.2 Non drainé

La charge non drainée se caractérise généralement par une charge rapide et à court terme. Contrairement aux conditions de charge drainée, la charge non drainée peut entraîner des pressions interstitielles excédentaires positives, en particulier dans les sols contractifs. Le facteur de sécurité (FOS) minimal visé pour les analyses de stabilité à l'équilibre limite non drainé est de 1,3 pour les risques faibles à importants et de 1,5 pour les risques élevés à extrêmes. Cependant, les résidus miniers analysés en laboratoire sont à grains grossiers (AtkinsRéalis, 2025b), ce qui signifie qu'ils peuvent être classés comme drainants. De même, les piles potentiellement génératrices d'acide (PAG) et non génératrices d'acide (NAG) sont également drainants.

On suppose que toutes les matières organiques, la terre végétale et l'argile susceptibles de générer une pression interstitielle due à une charge rapide seront retirées de l'empreinte des piles. Par conséquent, les conditions de charge non drainées n'ont pas été prises en compte dans cette étude.

2.2.3 Sismicité

Cette étude n'a pas inclus d'analyses post-séisme, qui évaluent généralement les résistances résiduelles au cisaillement des matériaux de fondation susceptibles de s'être liquéfiés. Cette décision a été prise sur la base d'études de forage indiquant que les matériaux de fondation ne devraient pas subir de liquéfaction. Cependant, pendant la phase de conception détaillée, des études géotechniques supplémentaires seront nécessaires pour déterminer si des couches épaisses et faibles sous les zones occupées par les piles pourraient présenter un risque de liquéfaction.

Les résidus seront compactés à 95 % de la densité sèche maximale standard Proctor, ce qui les rend non liquéfiables. Par conséquent, la résistance résiduelle n'est pas prise en compte dans cette étude. La CDA (2019) précise également qu'une installation de résidus sans eau stagnante (telle qu'un empilement à sec) peut être conçue conformément aux lignes directrices relatives aux décharges et aux piles de morts-terrains, à condition que les matériaux empilés à sec ne soient pas liquéfiables et ne puissent pas s'écouler. Par conséquent, aucune analyse post-sismique n'a été effectuée pour les matériaux stockés.

Une analyse pseudo-statique a été réalisée afin d'évaluer la stabilité dynamique des deux parcs de stockage. Tout parc de stockage à sec conçu selon la norme GISTM doit répondre aux critères de conception correspondant à la classification des conséquences extrêmes pour les conditions post-fermeture. Le site est classé dans la catégorie D, avec un coefficient d'accélération sismique horizontale (K_h) de 0,1 g (50 % de la PGA pour un événement survenant une fois tous les 10 000 ans [extrême], extrapolé à partir du NBCC [2020]) utilisé dans l'analyse pseudo-statique. Toutefois, une évaluation des risques sismiques spécifiques au site est recommandée dans la prochaine phase de l'étude.

2.3 Propriétés des matériaux

Les paramètres de densité et de résistance des matériaux utilisés dans les analyses de stabilité ont été dérivés par AtkinsRéalis, sur la base des études géotechniques menées par BBA (BBA, 2024) et des essais en laboratoire sur les résidus miniers réalisés au laboratoire WSP (AtkinsRéalis, 2025b). Lorsque les données issues des essais sur le terrain ou en laboratoire n'étaient pas disponibles, des hypothèses ont été formulées sur la base de l'expérience d'AtkinsRéalis avec des matériaux similaires. Le **Tableau 2-2** résume les paramètres et les modèles des matériaux utilisés dans cette étude. Une description détaillée des propriétés de ces matériaux est fournie dans les sous-sections suivantes.

Tableau 2-2 : Paramètres géotechniques des matériaux – Piles 001 et 002

Description	γ (kN/m³)	C' (kPa)	Φ' (°)	Modèle de stabilité des pentes
Matières organiques/couche arable	14	0	18	Mohr-Coulomb
ML - Limon/limon sableux/limon avec gravier	18,5	0	31	Mohr-Coulomb
SM - Sable limoneux/Sable limoneux avec gravier	19,0	0	34	Mohr-Coulomb
GM - Gravier limoneux avec sable/gravier avec limon et sable	20,0	0	38	Mohr-Coulomb
GW - Gravier	20,5	0	39	Mohr-Coulomb
Résidus	18	0	37	Mohr-Coulomb
Roche stérile	20	0	38	Mohr-Coulomb
Géomembrane LLDPE double texture de 1,5 mm (couche de base)	9	3,15	30,1	Mohr-Coulomb
Géotextile non tissé (couche de base)	1	3,15	30,1	Mohr-Coulomb
Géomembrane HDPE de 1,5 mm (couverture)	9	0,65	17,8	Mohr-Coulomb
Geonet (Couverture)	9	0,65	17,8	Mohr-Coulomb
Couche protectrice en géomembrane/géotextile	19	0	34	Mohr-Coulomb
Pierre concassée (à la fermeture)	19	0	38	Mohr-Coulomb
Roche mère	Impénétrable			

2.3.1 Fondations

BBA Engineering Ltd. (BBA) a mené une étude géotechnique afin d'évaluer les conditions du sous-sol aux emplacements proposés pour les piles (BBA, 2024). BBA (2024) a réalisé au total soixante et un (61) forages pour des essais sur le terrain (essais SPT) et des analyses en laboratoire sur l'ensemble du site. Parmi ces forages, onze (11) sont situés dans le site de stockage 001 et huit (8) dans le site de stockage 002. Ces forages ont pour but de déterminer la stratigraphie et d'évaluer les propriétés du sol de fondation. Les échantillons de sol sélectionnés ont été analysés au laboratoire Englobe à Montréal, où des essais ont été effectués pour évaluer la distribution

granulométrique, la teneur en eau, la densité et la résistance à la compression uniaxiale (UCS). De plus, des évaluations du module d'élasticité et du coefficient de Poisson ont été réalisées. AtkinsRéalis a analysé les diagraphies des forages réalisées par BBA, ainsi que les données des essais en laboratoire issus de cette étude, afin d'élaborer des profils de sol pour le site conformément au système de classification unifiée des sols (USCS) et aux normes ASTM D2487-17 (AtkinsRéalis, 2025a). AtkinsRéalis a interprété les « valeurs N » obtenues à partir du test de pénétration standard (SPT) de BBA afin de fournir des recommandations sur les propriétés matérielles des unités de sol classées.

D'après les interprétations d'AtkinsRéalis, les fondations sous les empreintes des piles 001 et 002 sont constituées de matériaux organiques, suivis d'un type de sol classé ML - Limon/limon sableux/limon avec gravier. Sous la couche ML, un type de sable limoneux/sable limoneux avec gravier (SM) a été identifiée. Sous cette couche SM se trouve un type de gravier limoneux avec sable/gravier avec limon et sable (GM), suivie d'un type de gravier (y compris des galets) (GW), qui est située au-dessus du substrat rocheux. Les angles de frottement estimés à 31º, 34º, 38º et 39º, ainsi que les poids unitaires de 18,5, 19,0, 20,0 et 20,5 kN/m³, ont été dérivés de l'analyse des « valeurs N » SPT pour ML, SM, GM et GW, respectivement, et ont été utilisés dans le modèle.

2.3.2 Résidus

Les résidus destinés à être éliminés en surface sont constitués d'un mélange comprenant des flottants et des grains grossiers primaires séparés par DMS, des grains grossiers secondaires séparés par DMS, des flottants et des grains fins DMS, des flottants et des grains ultrafins séparés par DMS, des flottants DMS rebroyés, des mags séparés par DMS et des gâteaux de filtration à bande. Les essais en laboratoire de ce mélange de résidus indiquent une distribution granulométrique avec un D_{80} de 7,68 mm et 2,9 % du matériau étant plus fin que 75 microns (AtkinsRéalis, 2025b).

L'analyse en laboratoire a également déterminé une densité sèche maximale Proctor standard de 1 958 kg/m³ et une teneur en humidité optimale de 11,7 % (Ww/Ws). Par conséquent, un poids unitaire de 95 % de la densité Proctor standard (1 860 kg/m³ ou 18,2 kN/m³) a été utilisé dans le modèle.

Sur la base des interprétations des essais CIU (ASTM D4767), un angle de frottement effectif a été estimé à partir du modèle pour des conditions de charge drainées. Un angle de frottement effectif de 42° a été estimé à partir des essais CIU pour des conditions de charge drainées. Pour plus de détails, veuillez vous référer à AtkinsRéalis, 2025b. Cependant, il est essentiel de noter que cet essai a été réalisé dans un environnement de laboratoire contrôlé, qui ne peut pas être reproduit sur le terrain. Par conséquent, par mesure de prudence, un angle de frottement de 37° a été utilisé dans l'analyse du modèle de stabilité.

2.3.3 Roche stérile

Il n'existe aucune donnée de laboratoire disponible pour les stériles. Un angle de frottement effectif de 38° et un poids unitaire de 20 kN/m³ ont été attribués au modèle sur la base de l'expérience antérieure d'AtkinsRéalis avec des matériaux similaires, en adoptant une approche prudente.

2.3.4 Géomembrane et géotextile

Comme indiqué à la section 2.1.2.1, le bassin de la pile 002 est recouvert d'une géomembrane sur laquelle est posé un coussin de géotextile non tissé, qui a été intégré à la géométrie du modèle. L'interface entre le géotextile et la géomembrane est essentielle pour garantir la stabilité des pentes. Pour résoudre ce problème, une série d'analyses de stabilité a été réalisée en utilisant différentes combinaisons de types de géomembranes et de géotextiles sur une surface de glissement entièrement définie. L'étude a démontré que la combinaison d'une géomembrane LLDPE

double texture de 1,5 mm (60 mil) et d'un géotextile non tissé offrait le coefficient de sécurité (FoS) le plus élevé. Cette combinaison a donc été retenue pour la conception.

Le LLDPE a été modélisé comme drainé, avec un angle de frottement effectif de 30,1 degrés et un poids unitaire de 9 kN/m³. Parallèlement, le géotextile non tissé a également été modélisé en attribuant un poids unitaire de 1 kN/m³ pour chaque condition de charge. Ces paramètres de modélisation ont été repris de la base de données d'AtkinsRéalis et sont basés sur les spécifications de divers fournisseurs.

2.3.5 Roche

Les surfaces de rupture de la pente ne sont pas censées traverser le substrat rocheux. Par conséquent, le substrat rocheux est modélisé comme impénétrable et aucun paramètre de modèle n'a été attribué.

2.4 Hypothèse relative à la nappe phréatique

Le modèle a attribué une surface phréatique conservatrice basée sur un modèle en régime permanent où la nappe phréatique s'abaisse au niveau des drains périphériques sous le terrain naturel.

2.5 Résultats de l'analyse de stabilité

Les conditions de charge drainées et pseudo-statiques ont été évaluées pour les trois sections à la hauteur maximale de la pile. Les conditions de charge non drainées n'ont pas été évaluées, car on a supposé que l'eau pouvait s'écouler rapidement du sol. Les ruptures globales et locales ont été étudiées.
L'analyse a pris en compte la surface de rupture critique aux interfaces entre la géomembrane et les matériaux géotextiles. Il a été déterminé que l'interface entre la géomembrane LLDPE à double texture et le géotextile non tissé n'était pas une surface de rupture critique.

Les mécanismes de rupture circulaires et non circulaires ont été évalués. Le mécanisme de rupture prédominant, qui a donné lieu au FoS le plus faible, a été identifié comme non circulaire. Par conséquent, les résultats présentés dans cette note sont basés sur une rupture non circulaire.

Il existe une légère différence géométrique entre les phases d'exploitation et de fermeture du projet. Par exemple, le nombre de paliers dans les piles de stériles 001 et 002 est plus élevé pendant la phase d'exploitation que pendant la phase de fermeture. Bien que cette différence puisse avoir un impact mineur sur le coefficient de sécurité (FoS), elle n'est pas significative. Dans l'ensemble, le FoS pendant la phase d'exploitation est légèrement supérieur à celui de la phase de fermeture.

Le FoS de la pile 001 est légèrement supérieur à celui de la pile 002, ce qui peut s'expliquer par la hauteur et le poids inférieurs de la pile 001. Il en résulte un moment de glissement relativement plus faible par rapport au moment de résistance. De plus, le FoS de la pile de résidus est inférieur à celui de la pile de stériles, car les résidus ont généralement une résistance au cisaillement inférieure à celle des stériles.
Il existe de légères variations du FoS entre les défaillances locales sur les différents bancs, attribuées à l'orientation variable des lignes d'entrée-sortie et au positionnement des bancs. En général, les bancs situés à des altitudes plus élevées présentent un FoS plus élevé que ceux situés à des altitudes plus basses.

Comme le montre le **Tableau 2-3,** les configurations et optimisations proposées démontrent que le FoS de la pile 001 répond aux exigences minimales établies par le Règlement du Québec (MRNF, 2024) dans tous les scénarios de chargement, y compris les défaillances globales et locales.

Tableau 2-3 Analyse du facteur de sécurité de la stabilité des pentes

Pile	Phase	Section	Conditions de chargement	Exigence minimale du FoS	FoS	Référence	Type de défaillance
001	Opérationnel	A1-A1	Statique (vidangé)	1,5	2,53	Figure A-1	Global
002	Opérationnel	H-H	Statique (vidangé)	1,5	2,31	Figure A-2	Global
002	Opérationnel	B1-B1	Statique (vidangé)	1,5	2,13	Figure A-3	Global
001	Opérationnel	A1-A1	Pseudo-statique	1,3	1,91	Figure A-4	Global
002	Opérationnel	H-H	Pseudo-statique	1,3	1,76	Figure A-5	Global
002	Opérationnel	B1-B1	Pseudo-statique	1,3	1,60	Figure A-6	Global
001	Fermeture	A1-A1	Statique (vidangé)	1,5	2,41	Figure A-7	Global
002	Fermeture	H-H	Statique (vidangé)	1,5	2,32	Figure A-8	Global
002	Fermeture	B1-B1	Statique (vidangé)	1,5	2,13	Figure A-9	Global
001	Fermeture	A1-A1	Pseudo-statique	1,3	1,84	Figure A-10	Global
002	Fermeture	H-H	Pseudo-statique	1,3	1,75	Figure A-11	Global
002	Fermeture	B1-B1	Pseudo-statique	1,3	1,60	Figure A-12	Global
001	Opérationnel	A1-A1	Statique (vidangé)	1,2	1,80	Figure A-13	Local (banc 1)
001	Opérationnel	A1-A1	Statique (vidangé)	1,2	1,30	Figure A-14	Local (banc 2)
001	Opérationnel	A1-A1	Statique (vidangé)	1,2	1,22	Figure A-15	Local (banc 3)
001	Opérationnel	A1-A1	Statique (vidangé)	1,2	1,27	Figure A-16	Local (banc 4)
001	Opérationnel	A1-A1	Statique (vidangé)	1,2	1,26	Figure A-17	Local (banc 5)
001	Opérationnel	A1-A1	Statique (vidangé)	1,2	1,2	Figure A-18	Local (banc 6)
001	Opérationnel	A1-A1	Statique (drainé)	1,2	1,2	Figure A-19	Local (banc 7)
001	Opérationnel	A1-A1	Statique (drainé)	1,2	1,38	Figure A-20	Local (banc 8)
001	Opérationnel	A1-A1	Statique (drainé)	1,2	1,24	Figure A-21	Local (banc 9)
001	Fermeture	A1-A1	Statique (drainé)	1,2	2,41	Figure A-22	Local (banc 1)

Pile	Phase	Section	Conditions de chargement	Exigence minimale du FoS	FoS	Référence	Type de défaillance
001	Fermeture	A1-A1	Statique (drainé)	1,2	2,33	Figure A-23	Local (banc 2)
001	Fermeture	A1-A1	Statique (drainé)	1,2	2,21	Figure A-24	Local (banc 3)
002	Opérationnel	H-H	Statique (drainé)	1,2	1,63	Figure A-25	Local (banc 1)
002	Opérationnel	H-H	Statique (drainé)	1,2	1,49	Figure A-26	Local (banc 2)
002	Opérationnel	H-H	Statique (drainé)	1,2	1,31	Figure A-27	Local (banc 3)
002	Opérationnel	H-H	Statique (drainé)	1,2	1,37	Figure A-28	Local (banc 4)
002	Opérationnel	H-H	Statique (drainé)	1,2	1,36	Figure A-29	Local (banc 5)
002	Opérationnel	H-H	Statique (drainé)	1,2	1,42	Figure A-30	Local (banc 6)
002	Opérationnel	H-H	Statique (drainé)	1,2	1,37	Figure A-31	Local (banc 7)
002	Opérationnel	H-H	Statique (drainé)	1,2	1,42	Figure A-32	Local (banc 8)
002	Opérationnel	H-H	Statique (drainé)	1,2	1,46	Figure A-33	Local (banc 9)
002	Opérationnel	H-H	Statique (drainé)	1,2	1,37	Figure A-34	Local (banc 10)
002	Opérationnel	H-H	Statique (drainé)	1,2	1,35	Figure A-35	Local (banc 11)
002	Fermeture	H-H	Statique (drainé)	1,2	2,43	Figure A-36	Local (banc 1)
002	Fermeture	H-H	Statique (drainé)	1,2	2,37	Figure A-37	Local (banc 2)
002	Fermeture	H-H	Statique (drainé)	1,2	2,44	Figure A-38	Local (banc 3)
002	Fermeture	H-H	Statique (drainé)	1,2	2,21	Figure A-39	Local (banc 4)
002	Opérationnel	B1-B1	Statique (drainé)	1,2	2,36	Figure A-40	Local (banc 1)
002	Opérationnel	B1-B1	Statique (drainé)	1,2	2,28	Figure A-41	Local (banc 2)
002	Opérationnel	B1-B1	Statique (drainé)	1,2	2,28	Figure A-42	Local (banc 3)
002	Opérationnel	B1-B1	Statique (drainé)	1,2	1,84	Figure A-43	Local (banc 4)
002	Fermeture	B1-B1	Statique (drainé)	1,2	2,33	Figure A-44	Local (banc 1)
002	Fermeture	B1-B1	Statique (drainé)	1,2	2,36	Figure A-45	Local (banc 2)

Pile	Phase	Section	Conditions de chargement	Exigence minimale du FoS	FoS	Référence	Type de défaillance
002	Fermeture	B1-B1	Statique (drainé)	1,2	2,29	Figure A-46	Local (banc 3)
002	Fermeture	B1-B1	Statique (drainé)	1,2	1,90	Figure A-47	Local (banc 4)

3 Conclusions

Une étude a été menée afin d'évaluer la stabilité des piles 001 et 002. Les conclusions suivantes peuvent être tirées de cette étude :

- Le facteur de sécurité (FoS) des deux piles 001 et 002 répond aux exigences minimales fixées par la réglementation québécoise (MRNF, 2024) dans différentes conditions de chargement, tant pour la phase d'exploitation que pour la phase de fermeture ;
- Les facteurs de sécurité les plus faibles identifiés se sont avérés non circulaires ;
- Le facteur de sécurité (FoS) de la pile 001 est légèrement supérieur à celui de la pile 002. Cela s'explique par la hauteur et le poids inférieurs de la pile 001 par rapport à la pile 002, ce qui se traduit par un moment de glissement relativement inférieur au moment de résistance ;
- Le FoS de la pile de résidus est inférieur à celui de la pile de stériles, car les résidus ont généralement une résistance au cisaillement inférieure à celle des stériles.
- Il existe certaines incertitudes concernant la résistance des fondations sous l'empreinte des stockages 001 et 002. Au cours de la phase de conception détaillée, des études géotechniques supplémentaires seront nécessaires pour déterminer si des couches épaisses et fragiles sous l'empreinte des stockages présentent un risque de liquéfaction. La conception devra être ajustée en conséquence sur la base de ces résultats.

4 Références

Atkins Realis, 2025a, Recommandations relatives aux fondations pour les infrastructures du site, numéro de document CASN-A-370-GT-MEM-0002

Atkins Realis, 2025 b, Analyse géotechnique en laboratoire des résidus, numéro de document CASN-A-370-GT-MEM-0003

BBA 2024. Projet Shaakichiuwaanaan, rapport technique, campagne géotechnique pour la phase 2 (factuelle), préliminaire, 7535009-020001-4G-ERA-0003-RAA

BCMWRPRC, 1991 b. Manuel d'exploitation et de surveillance – Lignes directrices provisoires. Piles de roches minières et de morts-terrains 2. Préparé par Klohn Leonoff Ltd, mai 1991.

CDA, 2019. Bulletin technique : Application des lignes directrices sur la sécurité des barrages aux barrages miniers, 2014 (édition 2019). Association canadienne des barrages

GlobalTailingsReview.org, 2020. Norme industrielle mondiale sur la gestion des résidus miniers (GISTM). https://globaltailingsreview.org/global-industry-standard/.

Hawley, M. et Cunning, J. (éditeurs), 2017. Lignes directrices pour la conception des décharges et des piles de déchets miniers. CSIRO Publishing.

MELCCFP, 2025. Directive 019 sur l'industrie minière, 13 février 2025. Ministère de l'Environnement, de la Lutte contre les changements climatiques, de la Faune et des Parcs, Gouvernement du Québec – 2025. [Consulté en français à l'adresse : https://www.environnement.gouv.qc.ca/milieu_ind/directive019/directive-019-2025.pdf].

MRNF, 2024. Guide de préparation du plan de réaménagement et de restauration des sites miniers au Québec, octobre 2024. Ministère des Ressources naturelles et des Forêts, Gouvernement du Québec – 2024. [Consulté en français à l'adresse : https://www.mern.gouv.qc.ca/wpcontent/uploads/GM_restauration_sites_miniers_MERN.pdf]

CNBC (2020). Outil d'évaluation des risques sismiques du Code national du bâtiment du Canada, 2020 Outil d'évaluation des risques sismiques du Code national du bâtiment du Canada

Annexe A
Résultats de l’analyse de stabilité

Color	Name	Slope Stability Material Model	Unit Weight (kN/m³)	Effective Cohesion (kPa)	Effective Friction Angle (°)	Piezometric Surface
	Wasterock	Mohr-Coulomb	20	0	38	1
	Bedrock	Bedrock (Impenetrable)				1
	GRAVEL (GW)	Mohr-Coulomb	20.5	0	39	1
	Sandy SILT (ML)	Mohr-Coulomb	18.5	0	31	1
	Silty Gravel- GM	Mohr-Coulomb	20	0	38	1
	Silty SAND (SM)	Mohr-Coulomb	19	0	34	1
	Top Soil	Mohr-Coulomb	14	0	18	1

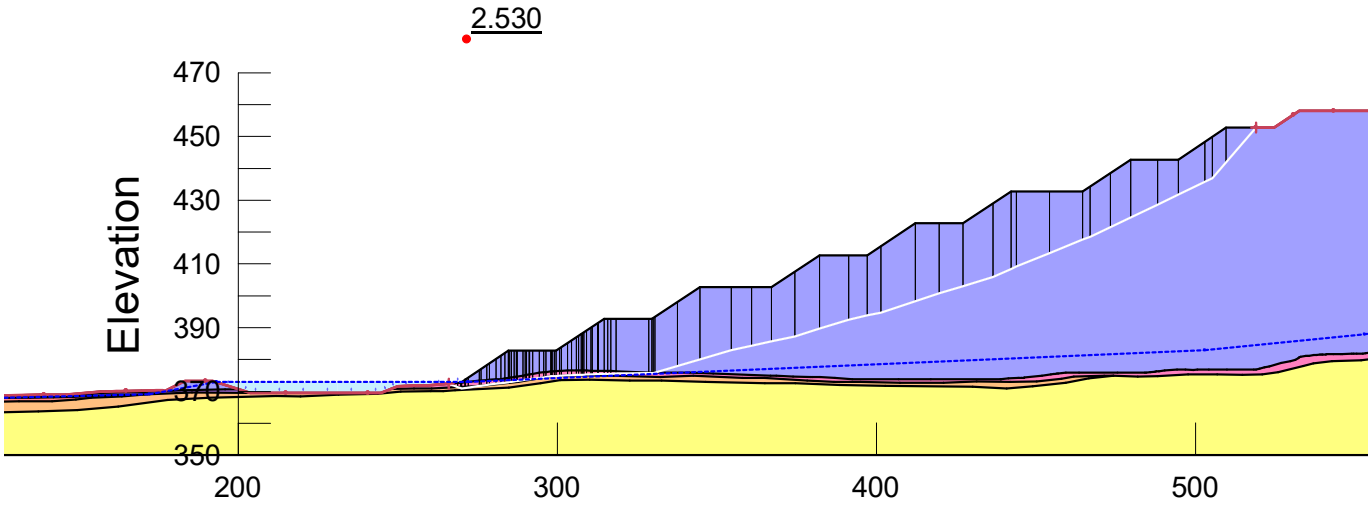


Figure A-1 Résultats de stabilité pour l'analyse statique (drainée) à la pile 001 pour le NAG en phase opérationnelle

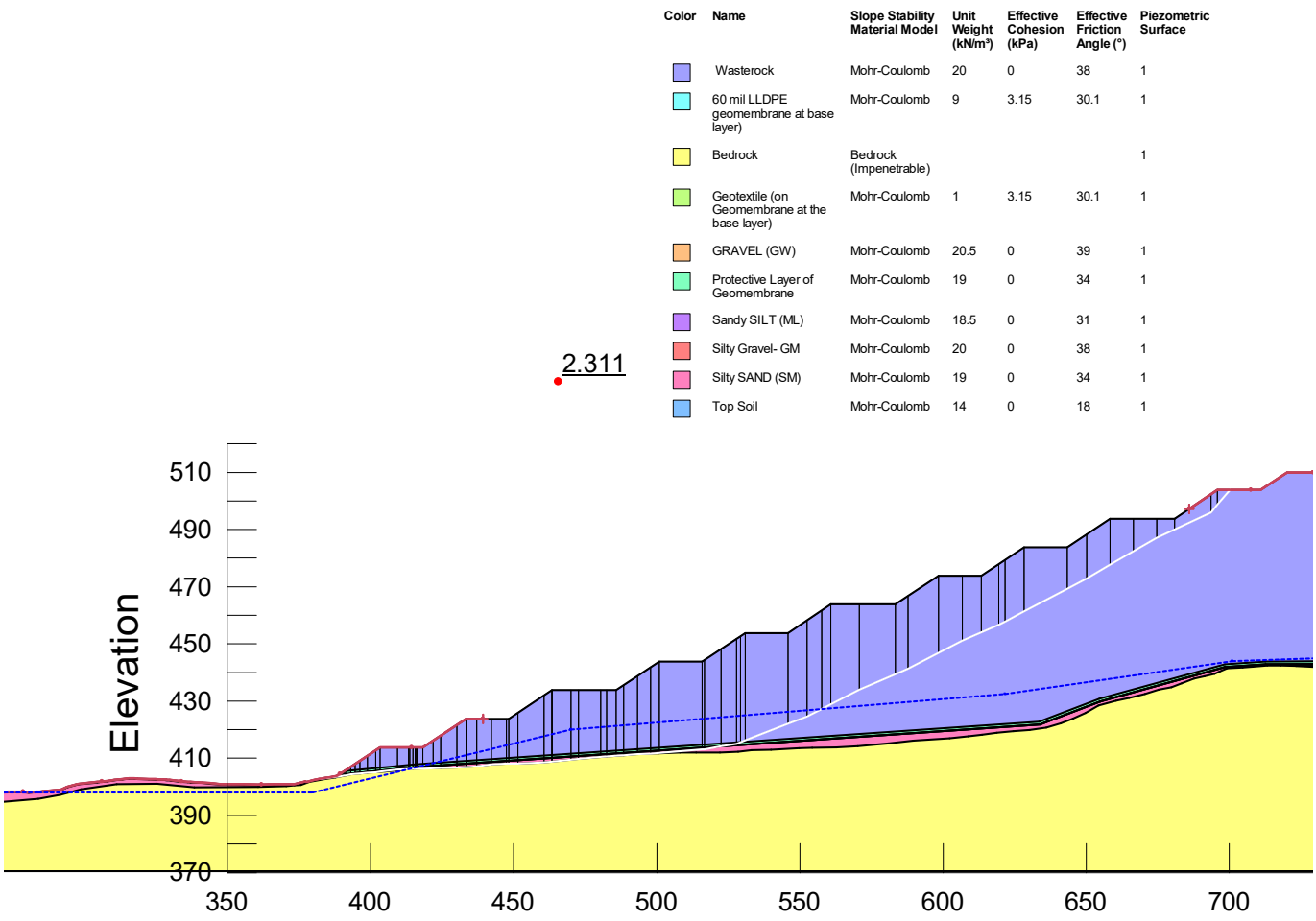


Figure A-2 Résultats de stabilité pour l'analyse statique (drainée) à la pile de stockage 002 pour le PAG en phase d'exploitation

Color	Name	Slope Stability Material Model	Unit Weight (kN/m³)	Effective Cohesion (kPa)	Effective Friction Angle (°)	Piezometric Surface
	Wasterock	Mohr-Coulomb	20	0	38	1
	60 mil LLDPE geomembrane at base layer)	Mohr-Coulomb	9	3.15	30.1	1
	Bedrock	Bedrock (Impenetrable)				1
	Geotextile (on Geomembrane at the base layer)	Mohr-Coulomb	1	3.15	30.1	1
	GRAVEL (GW)	Mohr-Coulomb	20.5	0	39	1
	Protective Layer of Geomembrane	Mohr-Coulomb	19	0	34	1
	Silty Gravel- GM	Mohr-Coulomb	20	0	38	1
	Silty SAND (SM)	Mohr-Coulomb	19	0	34	1
	Tailings	Mohr-Coulomb	18	0	37	1
	Top Soil	Mohr-Coulomb	14	0	18	1

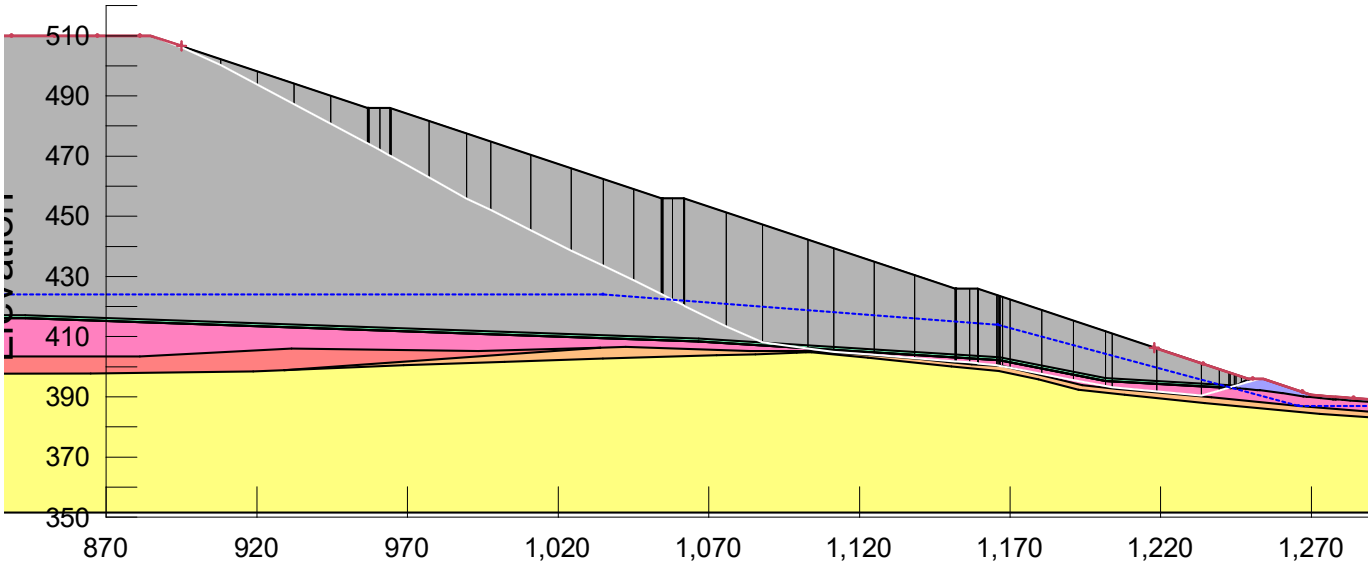


Figure A-3 Résultats de stabilité pour l'analyse statique (drainée) à la pile de stockage 002 pour les résidus miniers en phase d'exploitation

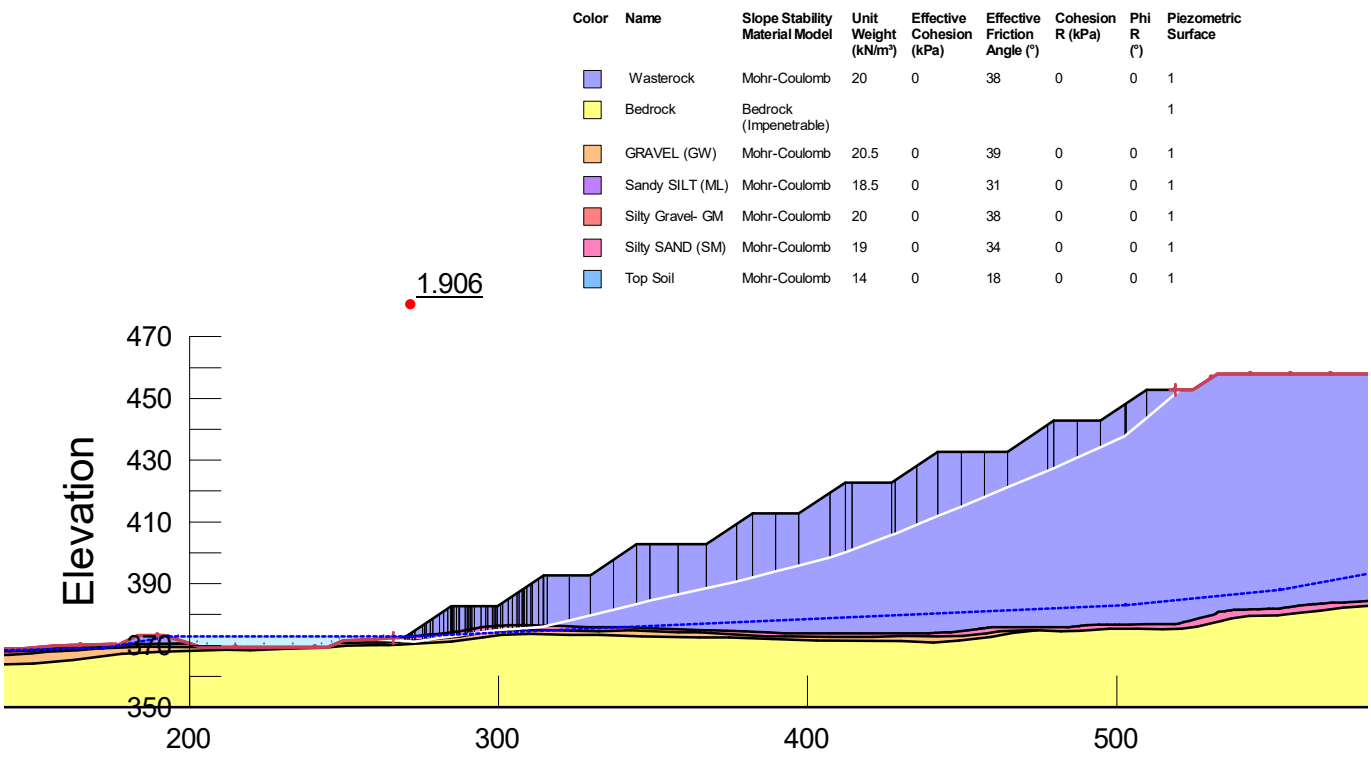


Figure A-4 Résultats de stabilité pour l'analyse statique (pseudostatique) au niveau de la pile 001 pour le NAG en phase opérationnelle

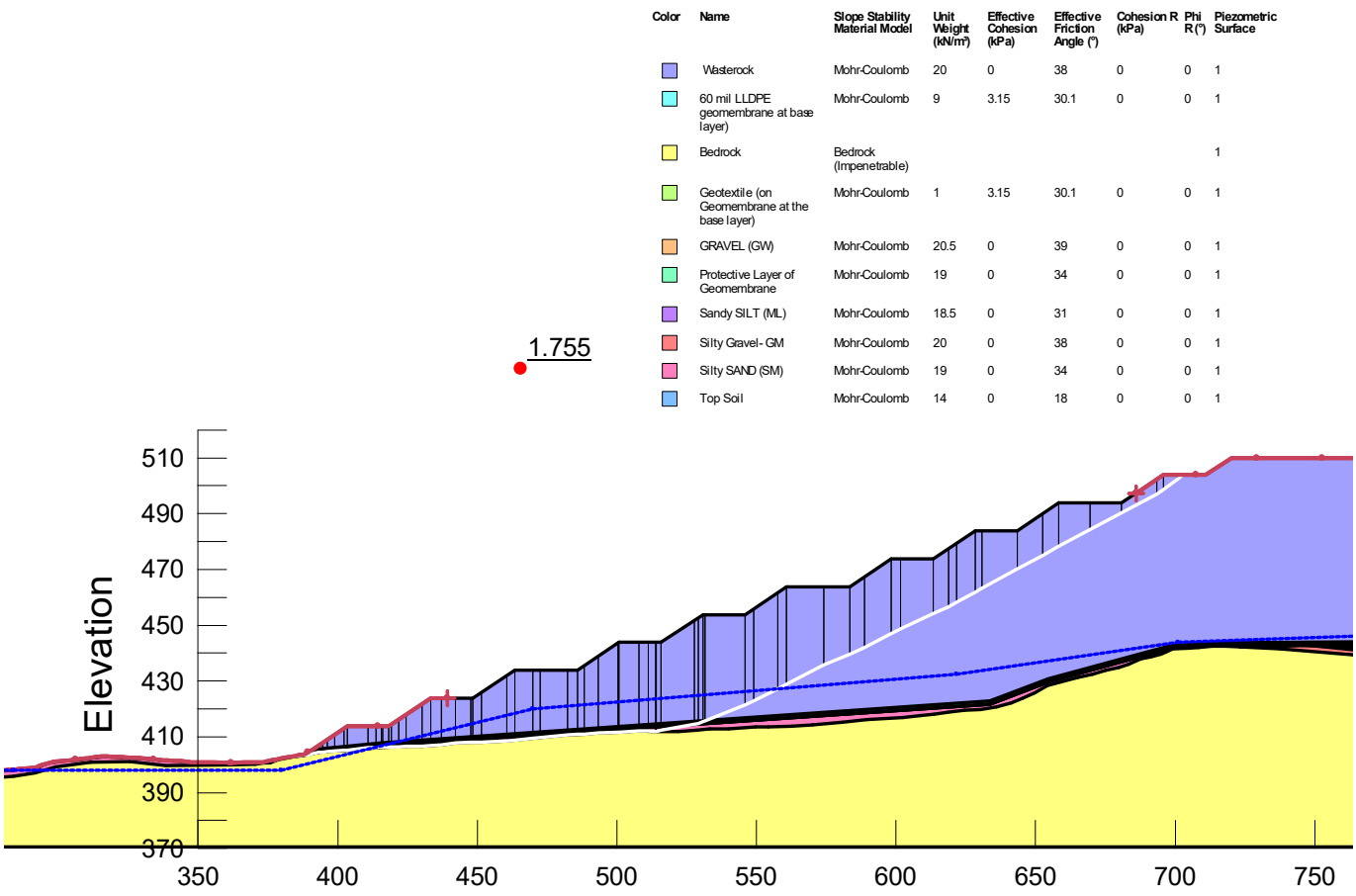


Figure A-5 Résultats de stabilité pour l'analyse statique (pseudostatique) au niveau de la pile 002 pour le PAG en phase opérationnelle

Color	Name	Slope Stability Material Model	Unit Weight (kN/m³)	Effective Cohesion (kPa)	Effective Friction Angle (°)	Cohesion R (kPa)	Phi R (°)	Piezometric Surface
	Wasterock	Mohr-Coulomb	20	0	38	0	0	1
	60 mil LLDPE geomembrane at base layer)	Mohr-Coulomb	9	3.15	30.1	0	0	1
	Bedrock	Bedrock (Impenetrable)						1
	Geotextile (on Geomembrane at the base layer)	Mohr-Coulomb	1	3.15	30.1	0	0	1
	GRAVEL (GW)	Mohr-Coulomb	20.5	0	39	0	0	1
	Protective Layer of Geomembrane	Mohr-Coulomb	19	0	34	0	0	1
	Silty Gravel- GM	Mohr-Coulomb	20	0	38	0	0	1
	Silty SAND (SM)	Mohr-Coulomb	19	0	34	0	0	1
	Tailings	Mohr-Coulomb	18	0	37	0	0	1
	Top Soil	Mohr-Coulomb	14	0	18	0	0	1

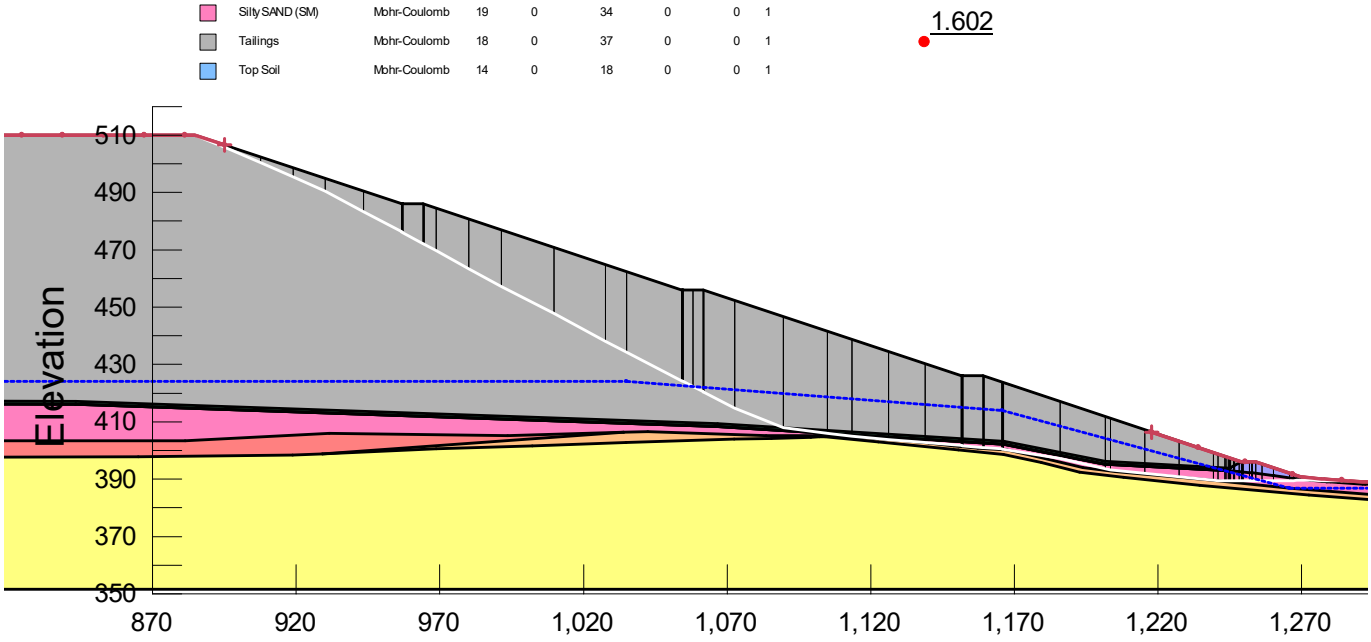


Figure A-6 Résultats de stabilité pour l'analyse statique (pseudo-statique) à la pile de stockage 002 pour les résidus miniers en phase d'exploitation

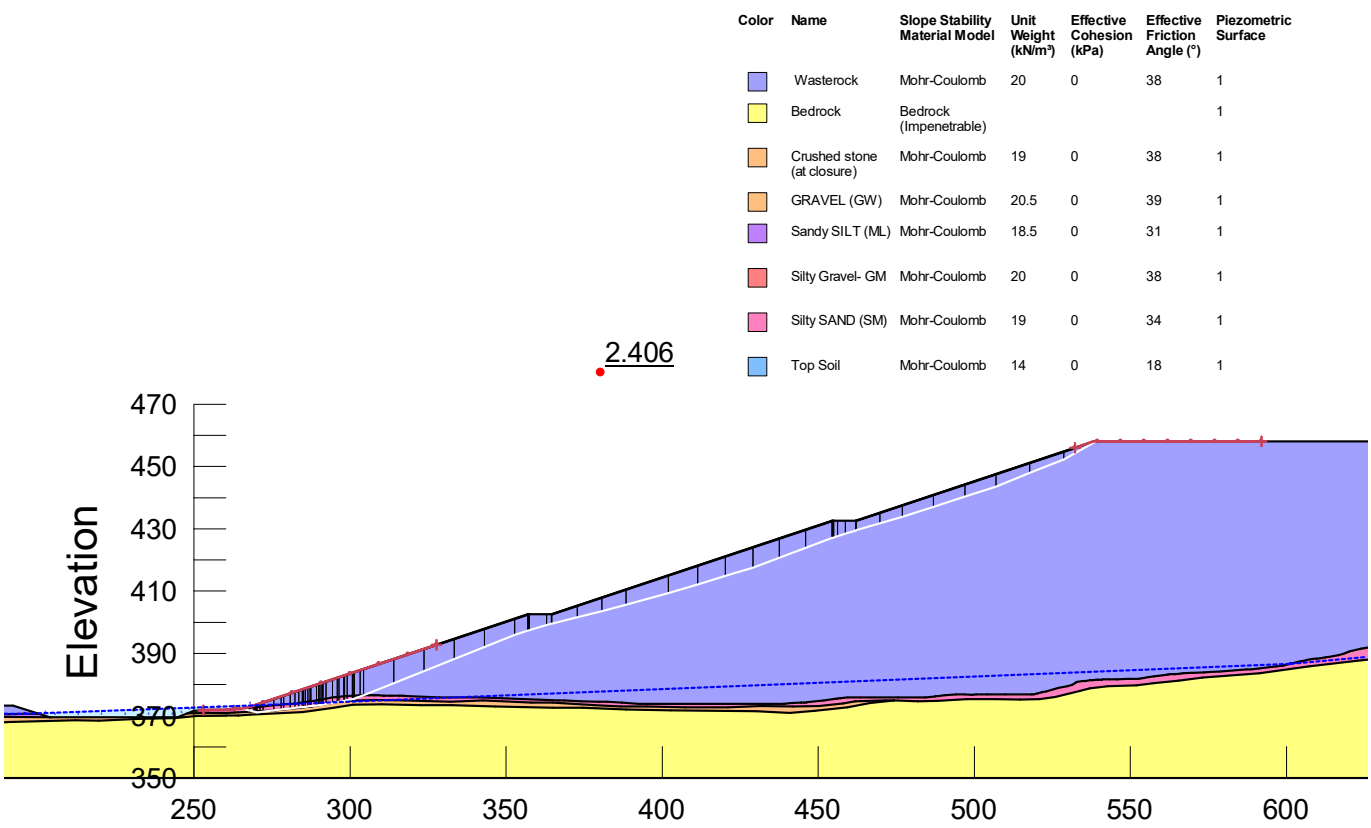


Figure A-7 Résultats de stabilité pour l'analyse statique (drainée) à la pile de stockage 001 pour le NAG à la fermeture

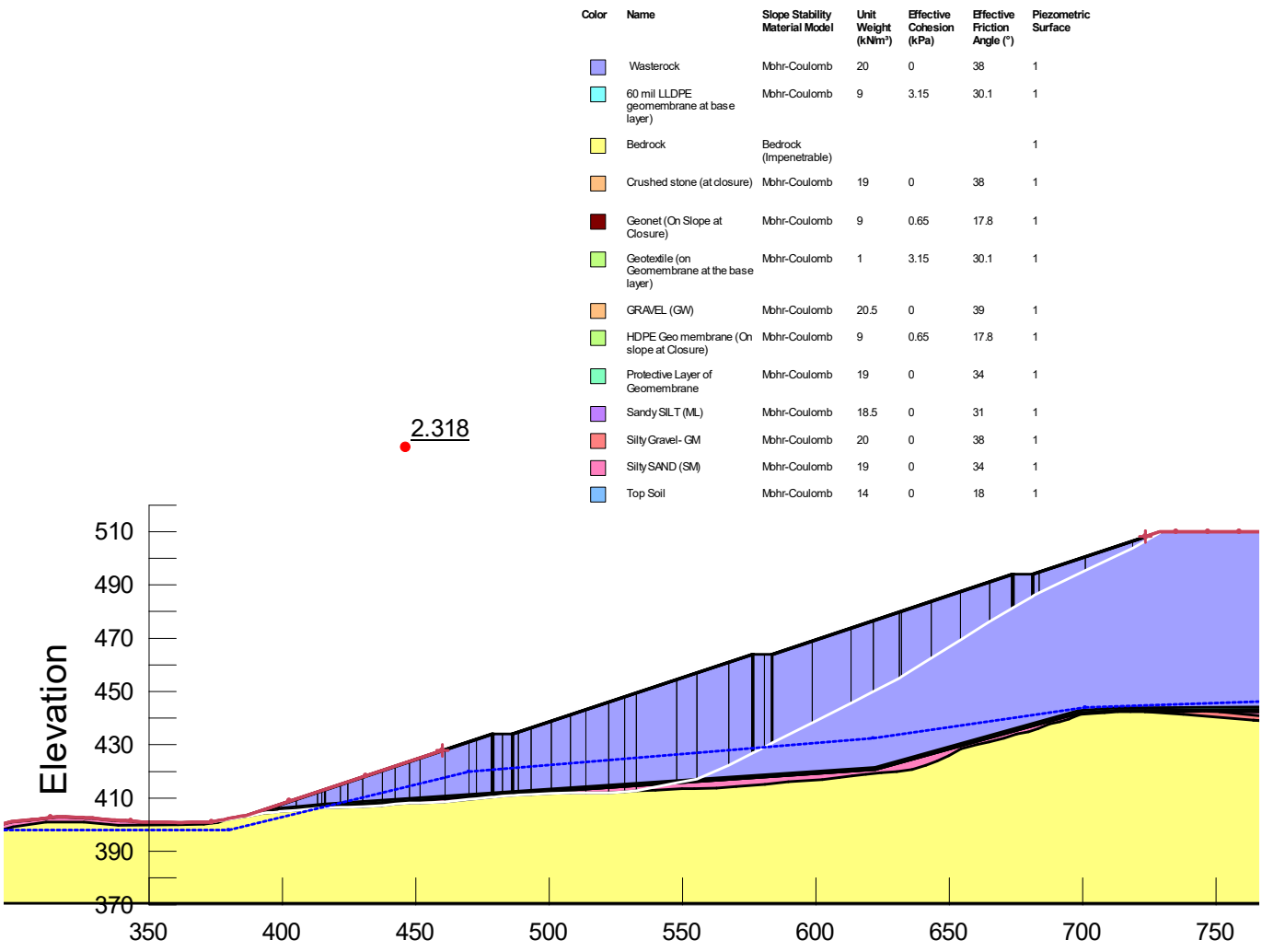


Figure A-8 Résultats de stabilité pour l'analyse statique (drainée) à la pile de stockage 002 pour le PAG à la fermeture

Color	Name	Slope Stability Material Model	Unit Weight (kN/m³)	Effective Cohesion (kPa)	Effective Friction Angle (°)	Piezometric Surface
	Wasterock	Mohr-Coulomb	20	0	38	1
	60 mil LLDPE geomembrane at base layer)	Mohr-Coulomb	9	3.15	30.1	1
	Bedrock	Bedrock (Impenetrable)				1
	Geonet (On Slope at Closure)	Mohr-Coulomb	9	0.65	17.8	1
	Geotextile (on Geomembrane at the base layer)	Mohr-Coulomb	1	3.15	30.1	1
	GRAVEL (GW)	Mohr-Coulomb	20.5	0	39	1
	HDPE Geo membrane (On slope at Closure)	Mohr-Coulomb	9	0.65	17.8	1
	Protective Layer of Geomembrane	Mohr-Coulomb	19	0	34	1
	Silty Gravel- GM	Mohr-Coulomb	20	0	38	1
	Silty SAND (SM)	Mohr-Coulomb	19	0	34	1
	Tailings	Mohr-Coulomb	18	0	37	1
	Top Soil	Mohr-Coulomb	14	0	18	1

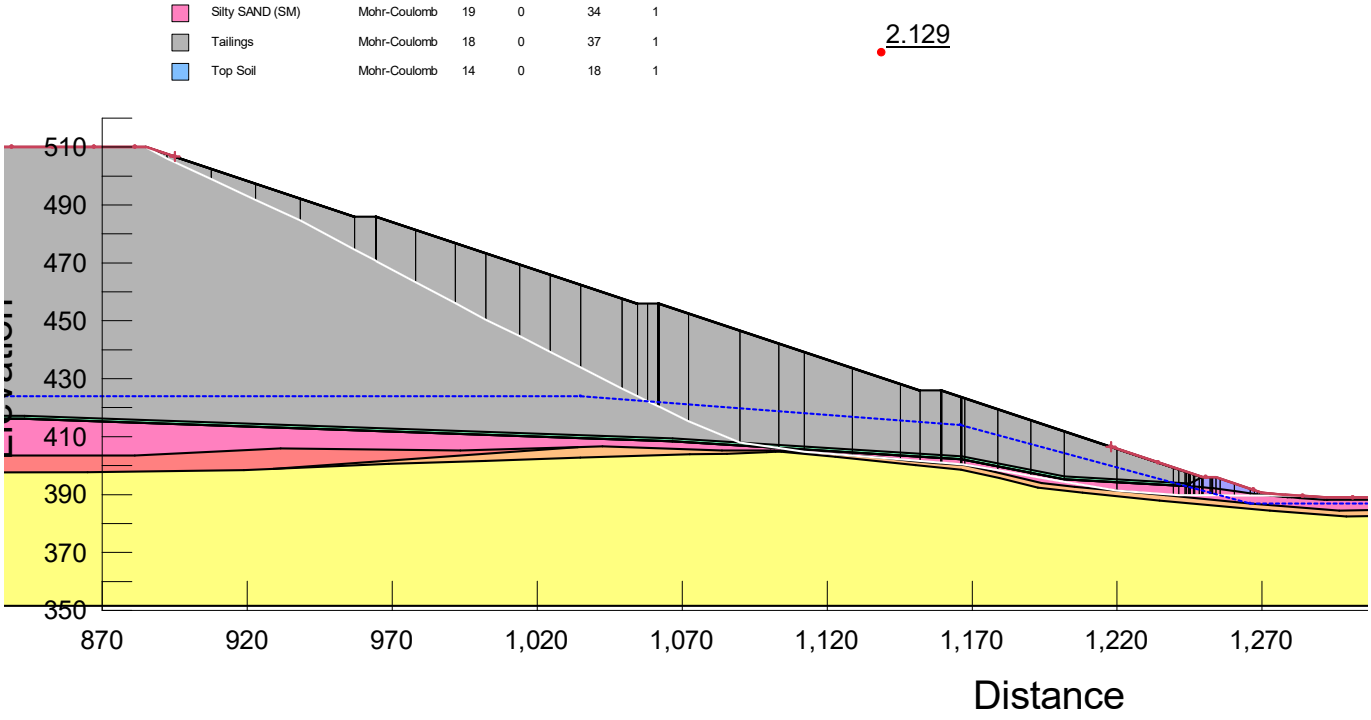


Figure A-9 Résultats de stabilité pour l'analyse statique (drainée) à la pile de stockage 002 pour les résidus à la fermeture

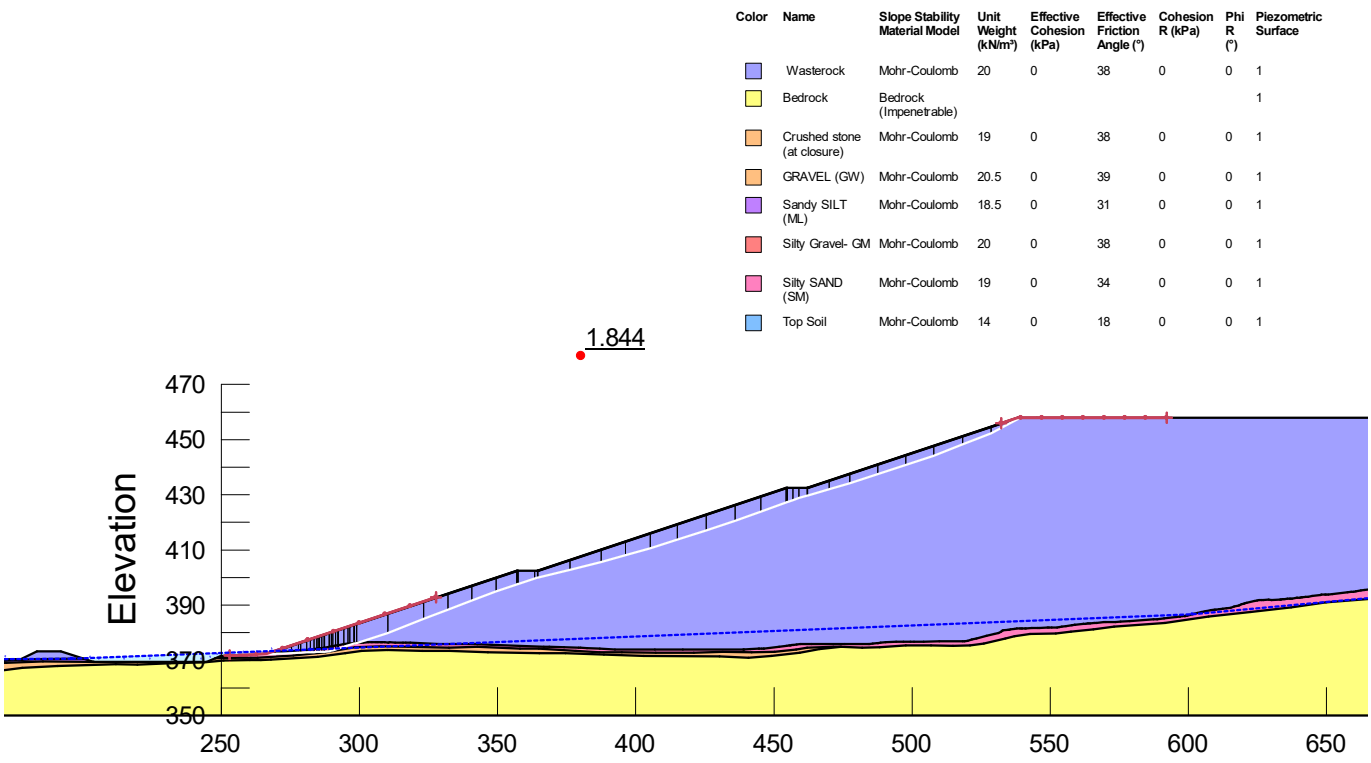


Figure A-10 Résultats de stabilité pour l'analyse pseudostatique à la pile de stockage 001 pour le NAG à la fermeture

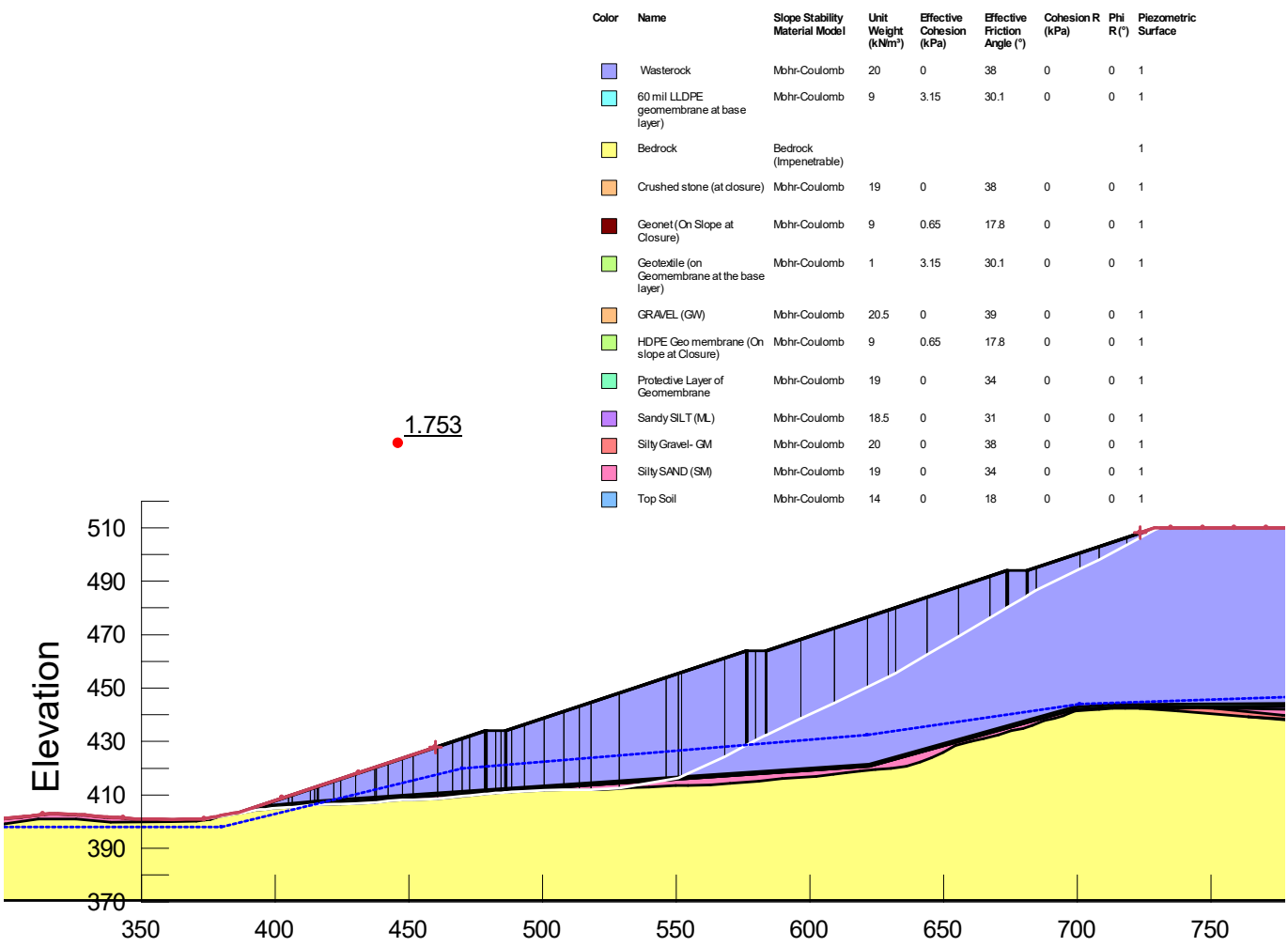


Figure A-11 Résultats de stabilité pour l'analyse pseudostatique à la pile de stockage 002 pour le PAG à la fermeture

Color	Name	Slope Stability Material Model	Unit Weight (kN/m³)	Effective Cohesion (kPa)	Effective Friction Angle (°)	Cohesion R (kPa)	Phi R (°)	Piezometric Surface
	Wasterock	Mohr-Coulomb	20	0	38	0	0	1
	60 mil LLDPE geomembrane at base layer)	Mohr-Coulomb	9	3.15	30.1	0	0	1
	Bedrock	Bedrock (Impenetrable)						1
	Geonet (On Slope at Closure)	Mohr-Coulomb	9	0.65	17.8	0	0	1
	Geotextile (on Geomembrane at the base layer)	Mohr-Coulomb	1	3.15	30.1	0	0	1
	GRAVEL (GW)	Mohr-Coulomb	20.5	0	39	0	0	1
	HDPE Geo membrane (On slope at Closure)	Mohr-Coulomb	9	0.65	17.8	0	0	1
	Protective Layer of Geomembrane	Mohr-Coulomb	19	0	34	0	0	1
	Silty Gravel- GM	Mohr-Coulomb	20	0	38	0	0	1
	Silty SAND (SM)	Mohr-Coulomb	19	0	34	0	0	1
	Tailings	Mohr-Coulomb	18	0	37	0	0	1
	Top Soil	Mohr-Coulomb	14	0	18	0	0	1

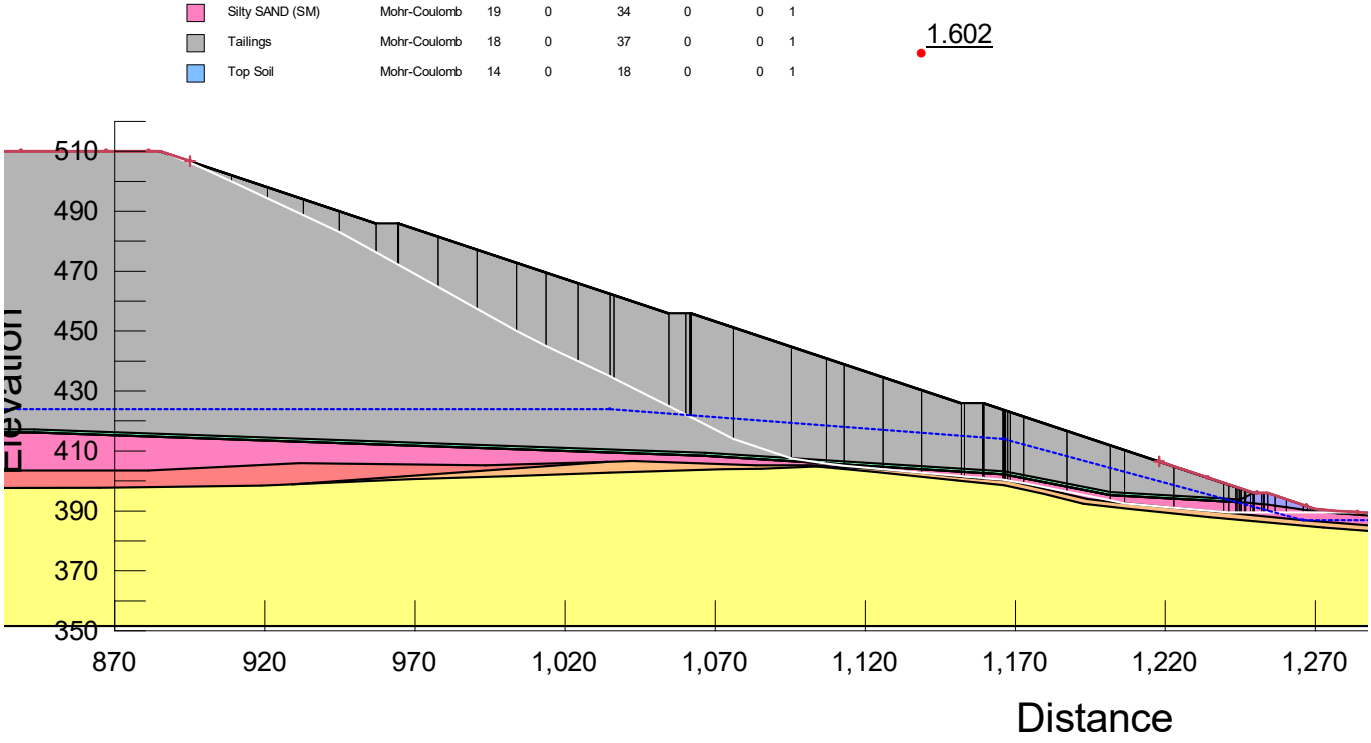


Figure A-12 Résultats de stabilité pour l'analyse pseudostatique au niveau de la pile 002 pour les résidus lors de la fermeture

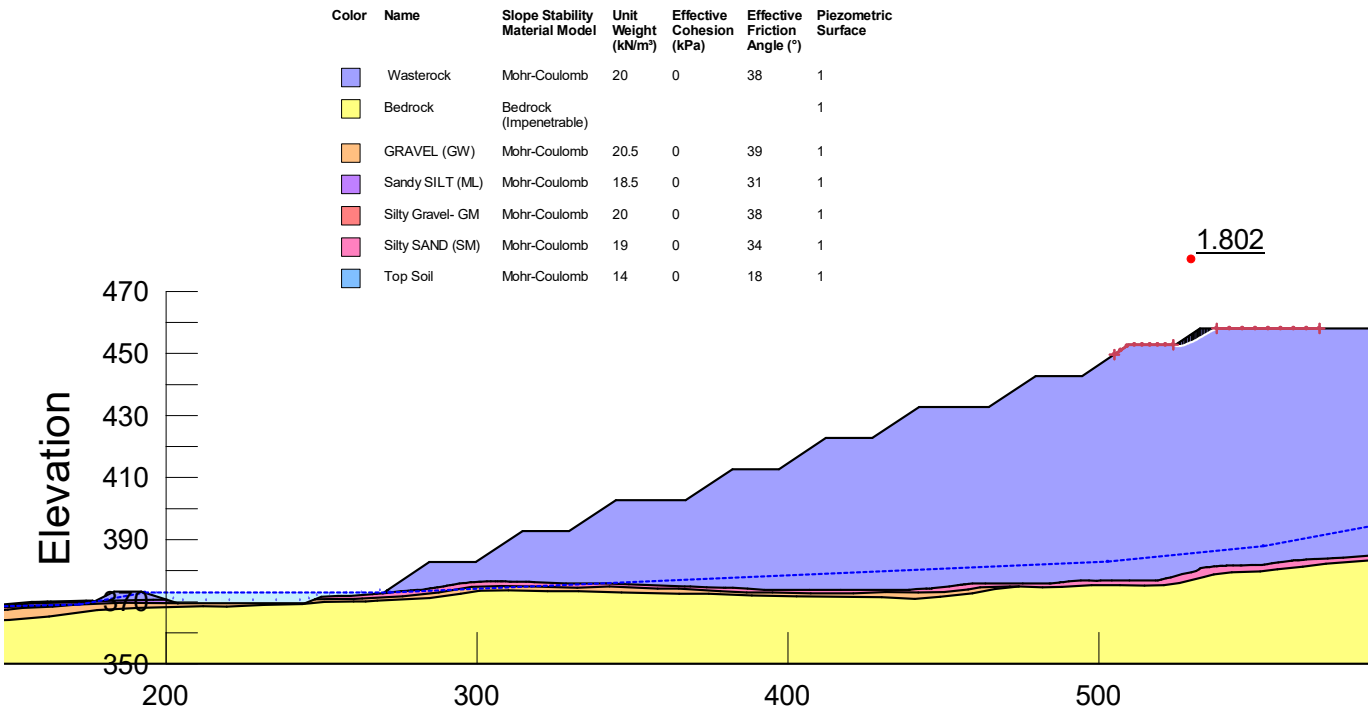


Figure A-13 Résultats de stabilité pour l'analyse statique (drainée) à la pile de stockage 001 pour le NAG en phase opérationnelle de défaillance locale (banc 1)

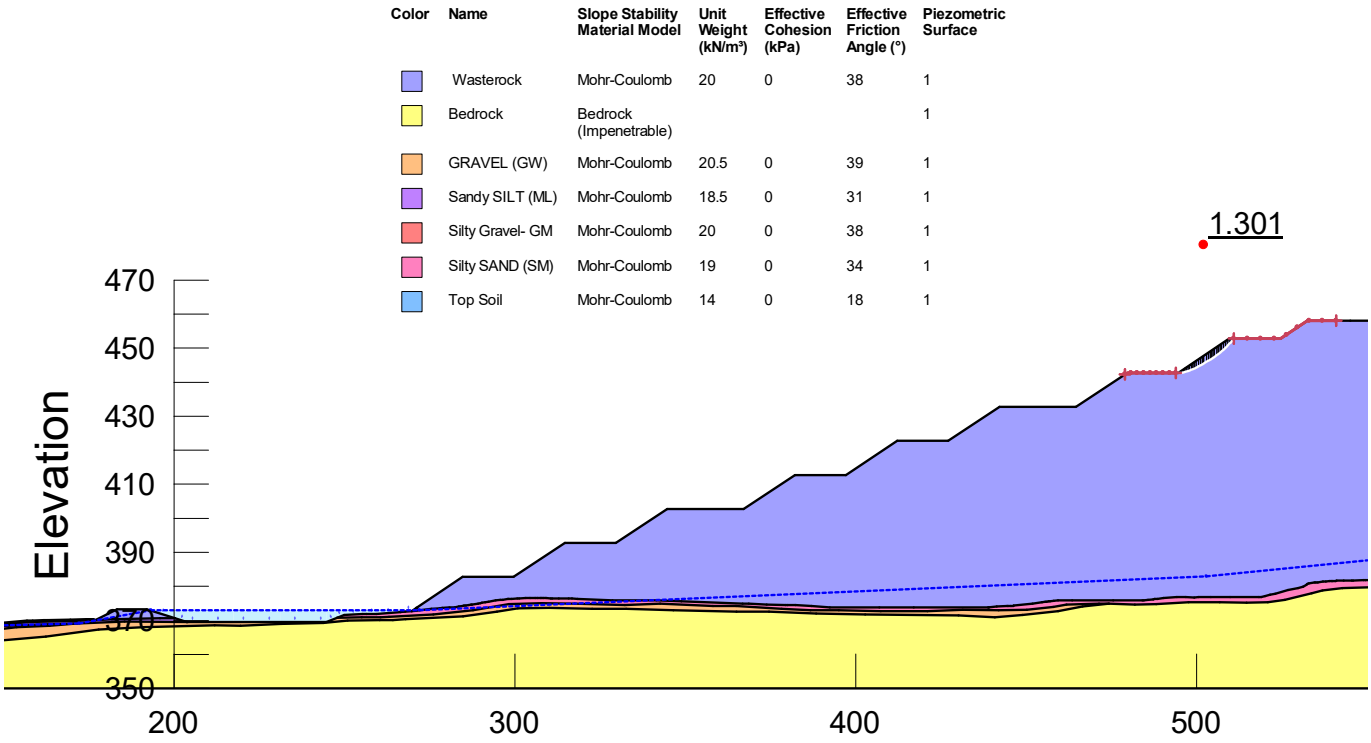


Figure A-14 Résultats de stabilité pour l'analyse statique (drainée) à la pile de stockage 001 pour le NAG en phase opérationnelle de défaillance locale (banc 2)

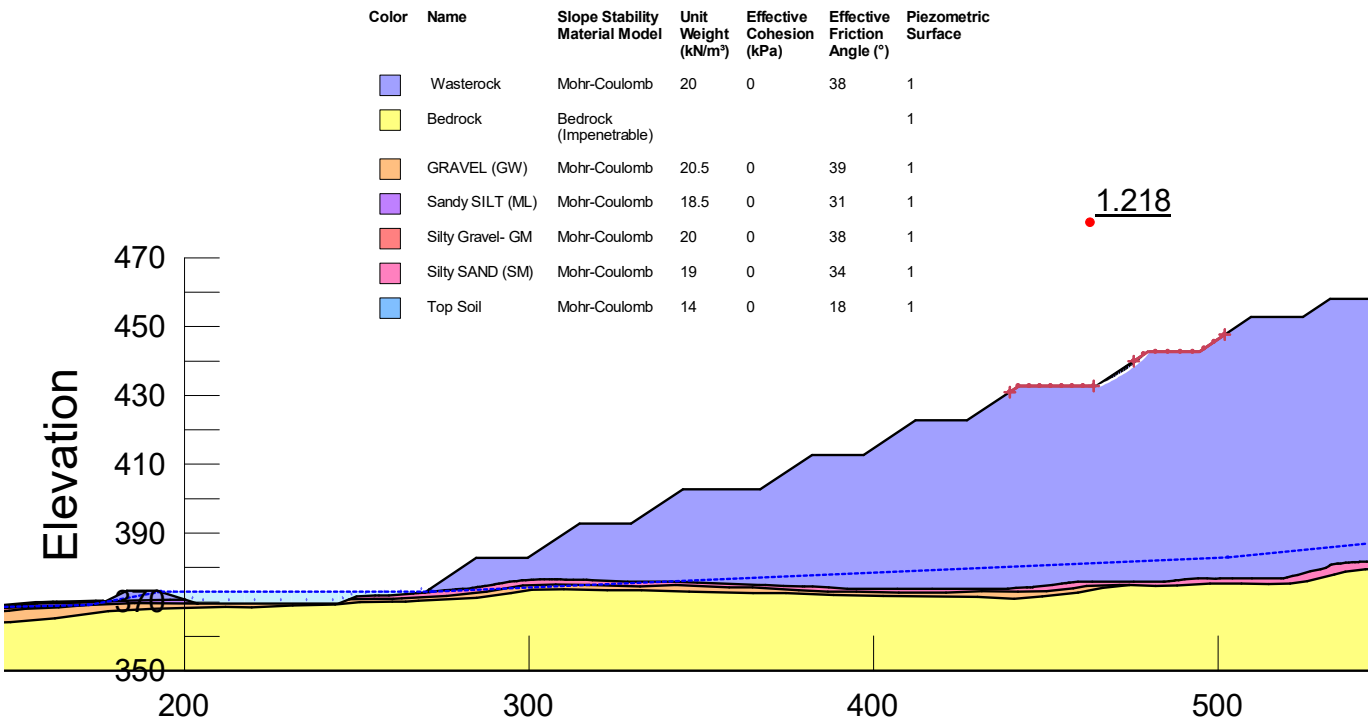


Figure A-15 Résultats de stabilité pour l'analyse statique (drainée) à la pile de stockage 001 pour les résidus miniers à la phase opérationnelle de défaillance locale (banc 3)

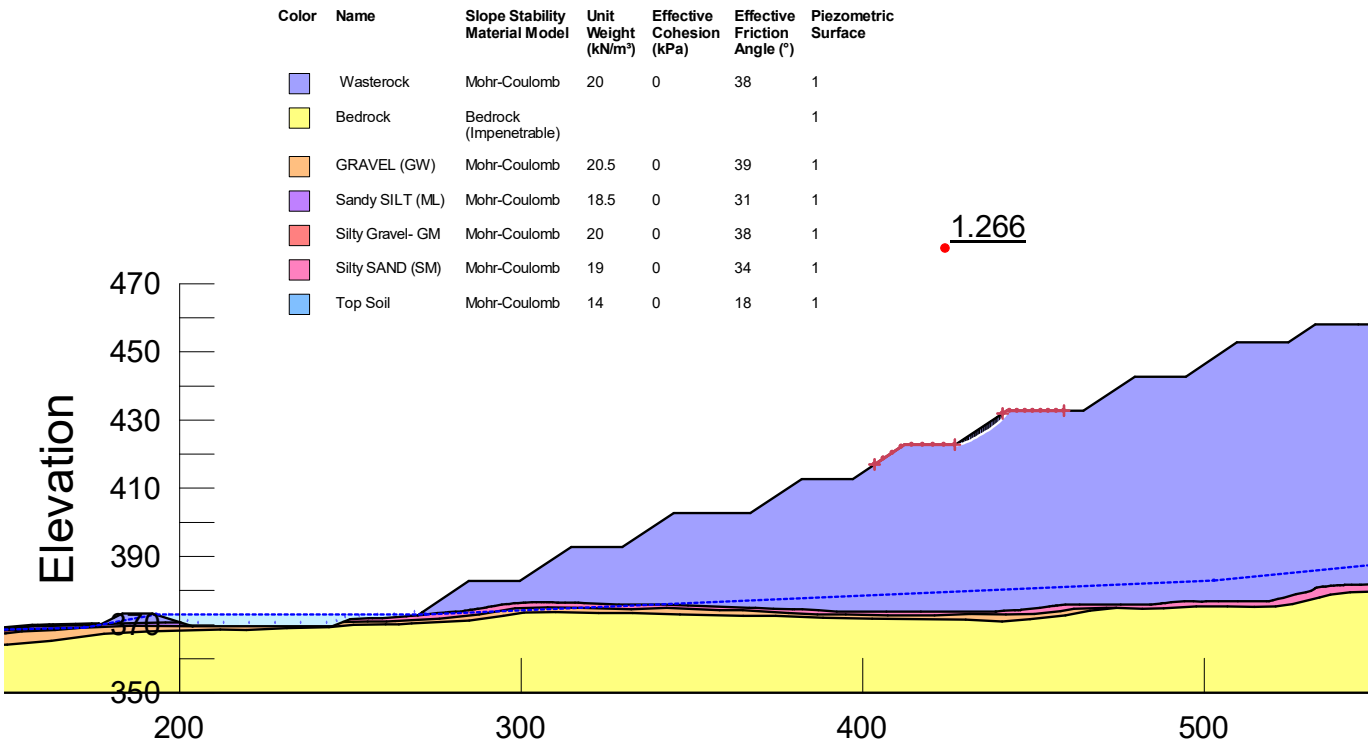


Figure A-16 Résultats de stabilité pour l'analyse statique (drainée) au niveau de la pile 001 pour NAG en phase opérationnelle de défaillance locale (banc 4)

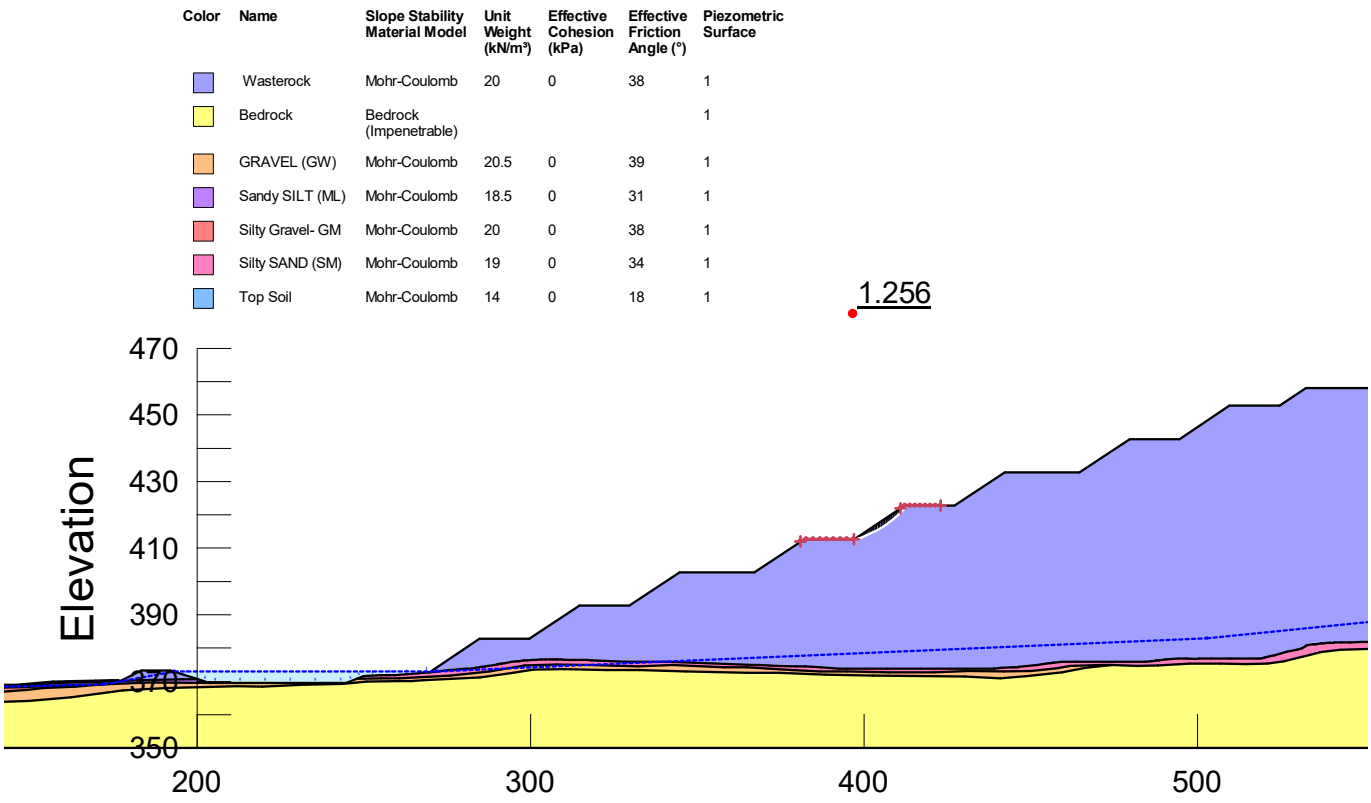


Figure A-17 Résultats de stabilité pour l'analyse statique (drainée) au niveau de la pile 001 pour NAG en phase opérationnelle de défaillance locale (banc 5)

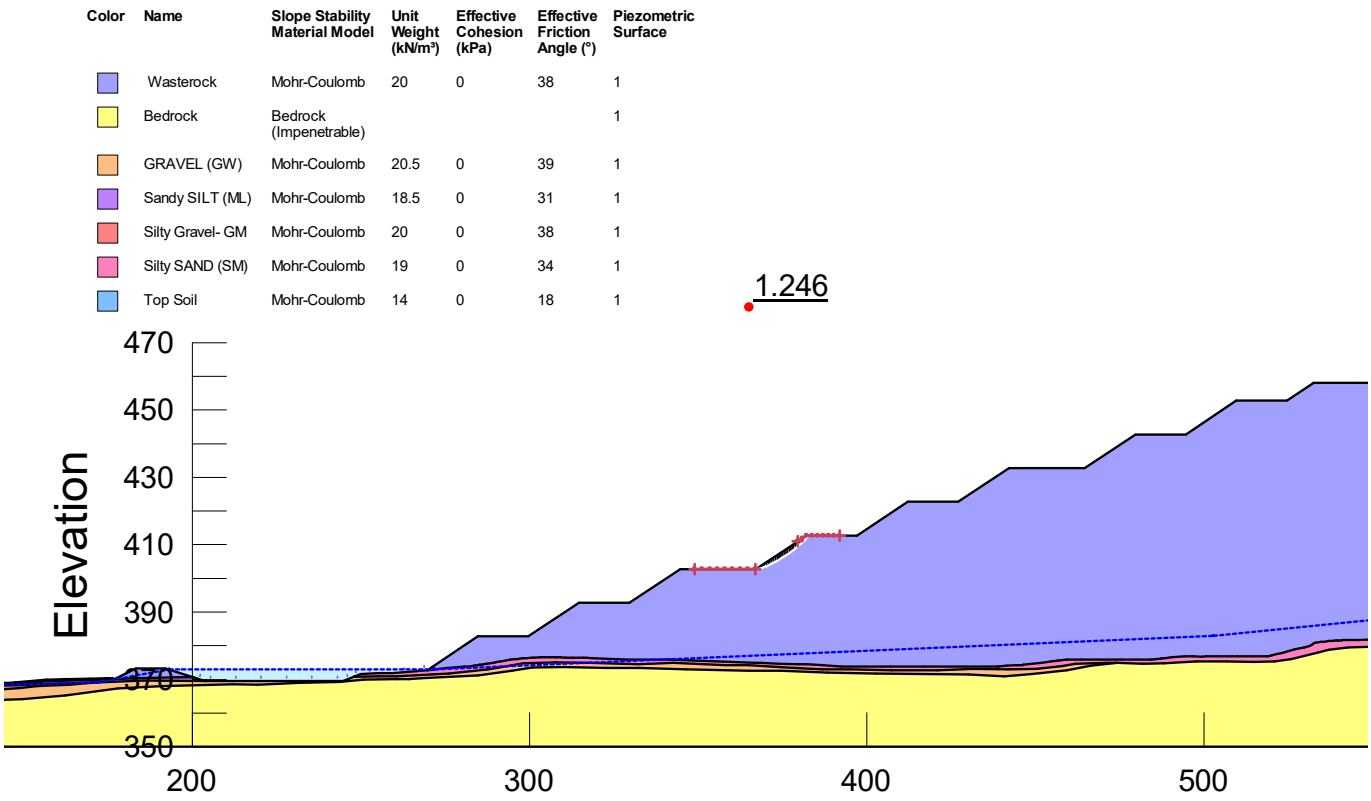


Figure A-18 Résultats de stabilité pour l'analyse statique (drainée) au niveau de la pile 001 pour NAG en phase opérationnelle de défaillance locale (banc 6)

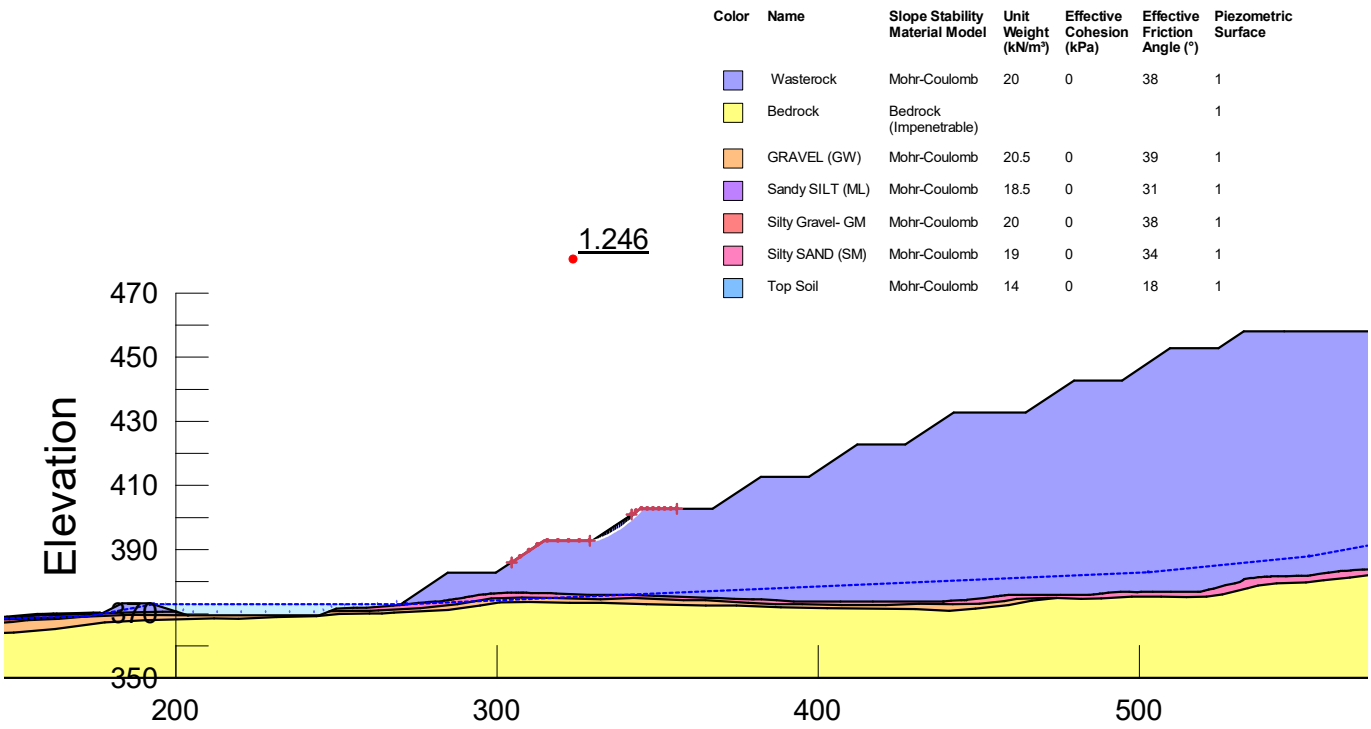


Figure A-19 Résultats de stabilité pour l'analyse statique (drainée) au niveau de la pile 001 pour NAG en phase opérationnelle de défaillance locale (banc 7)

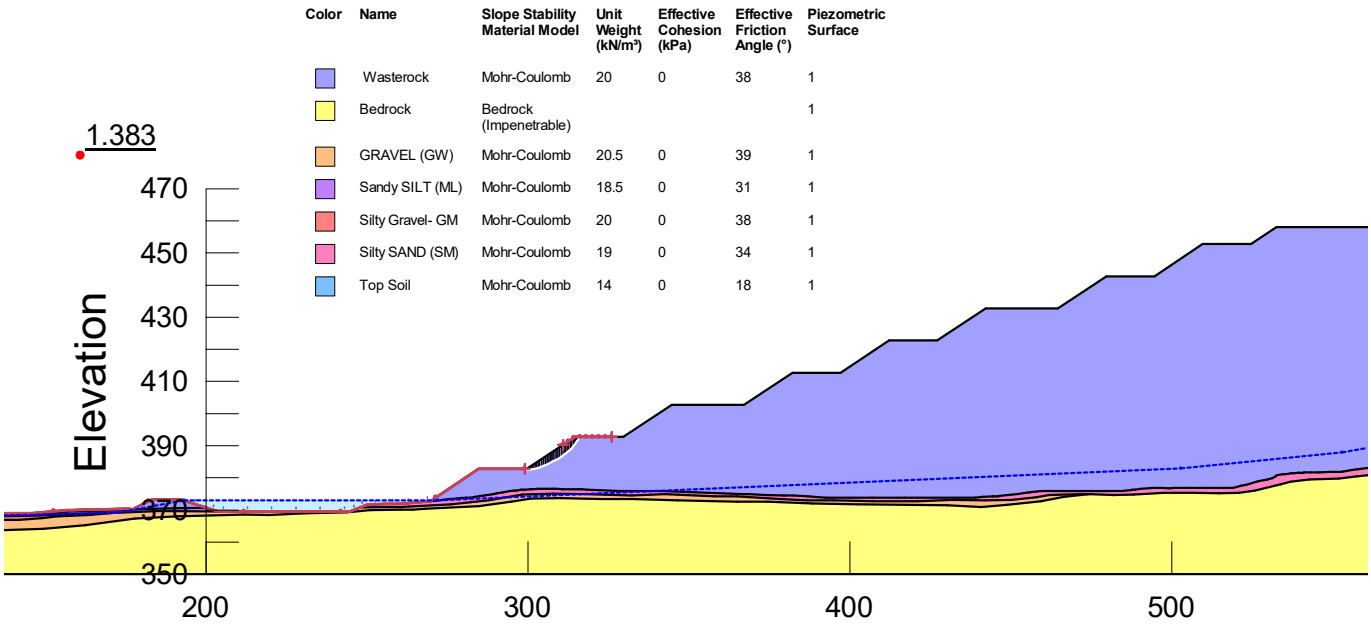


Figure A-20 Résultats de stabilité pour l'analyse statique (drainée) au niveau de la pile 001 pour NAG en phase opérationnelle de défaillance locale (banc 8)

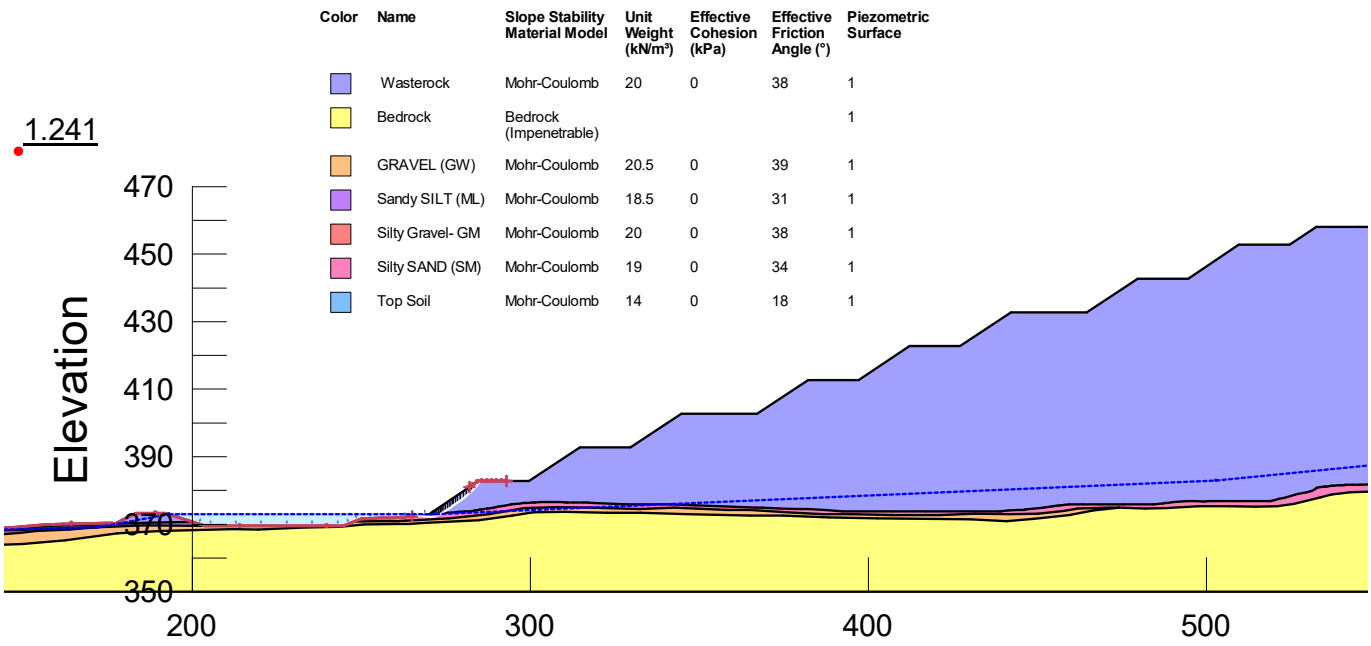


Figure A-21 Résultats de stabilité pour l'analyse statique (drainée) au niveau de la pile 001 pour NAG en phase opérationnelle de défaillance locale (banc 9)

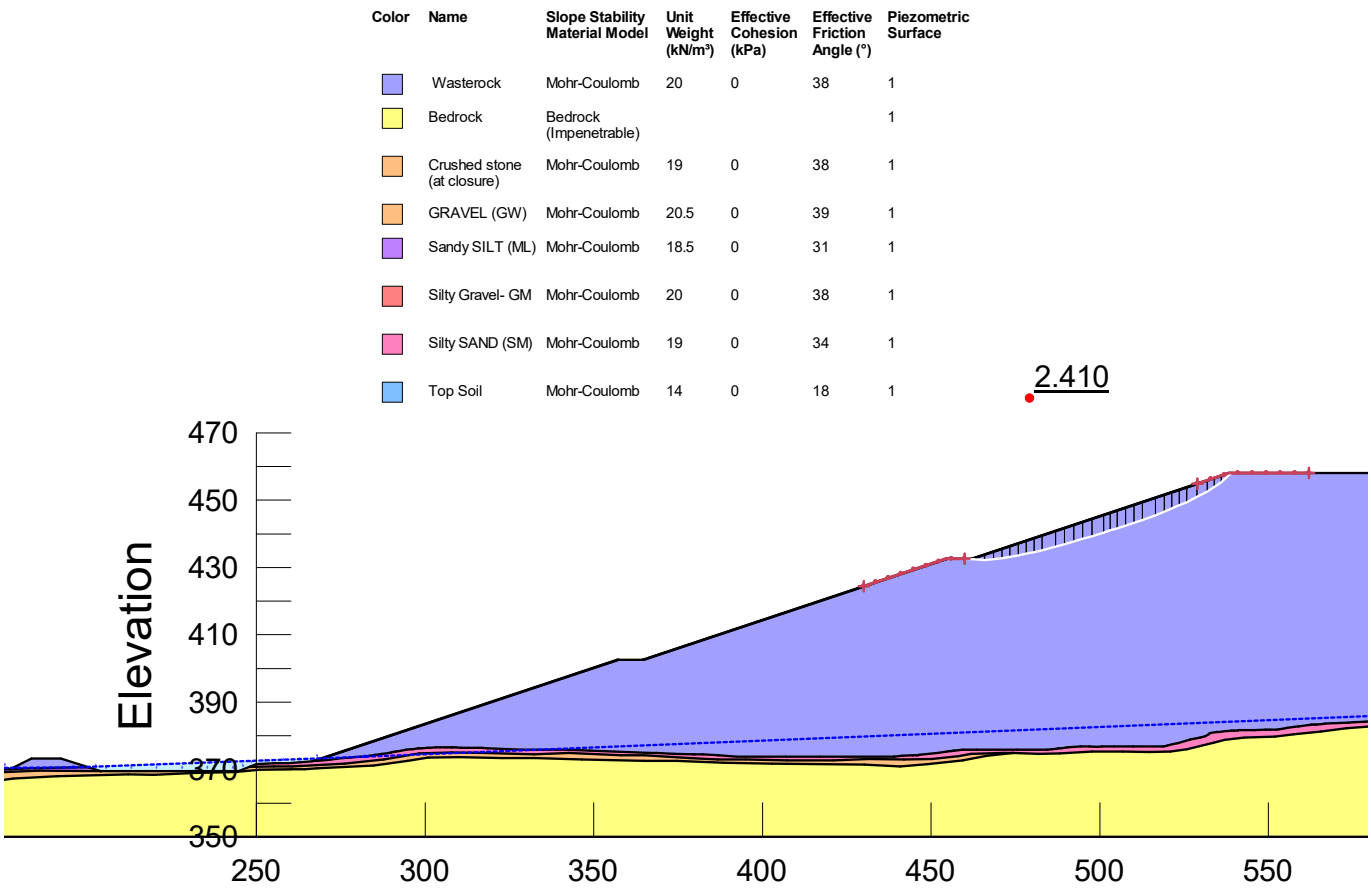


Figure A-22 Résultats de stabilité pour l'analyse statique (drainée) au niveau de la pile 001 pour NAG à la phase de fermeture de la défaillance locale (banc 1)

Color	Name	Slope Stability Material Model	Unit Weight (kN/m³)	Effective Cohesion (kPa)	Effective Friction Angle (°)	Piezometric Surface
	Wasterock	Mohr-Coulomb	20	0	38	1
	Bedrock	Bedrock (Impenetrable)				1
	Crushed stone (at closure)	Mohr-Coulomb	19	0	38	1
	GRAVEL (GW)	Mohr-Coulomb	20.5	0	39	1
	Sandy SILT (ML)	Mohr-Coulomb	18.5	0	31	1
	Silty Gravel- GM	Mohr-Coulomb	20	0	38	1
	Silty SAND (SM)	Mohr-Coulomb	19	0	34	1
	Top Soil	Mohr-Coulomb	14	0	18	1

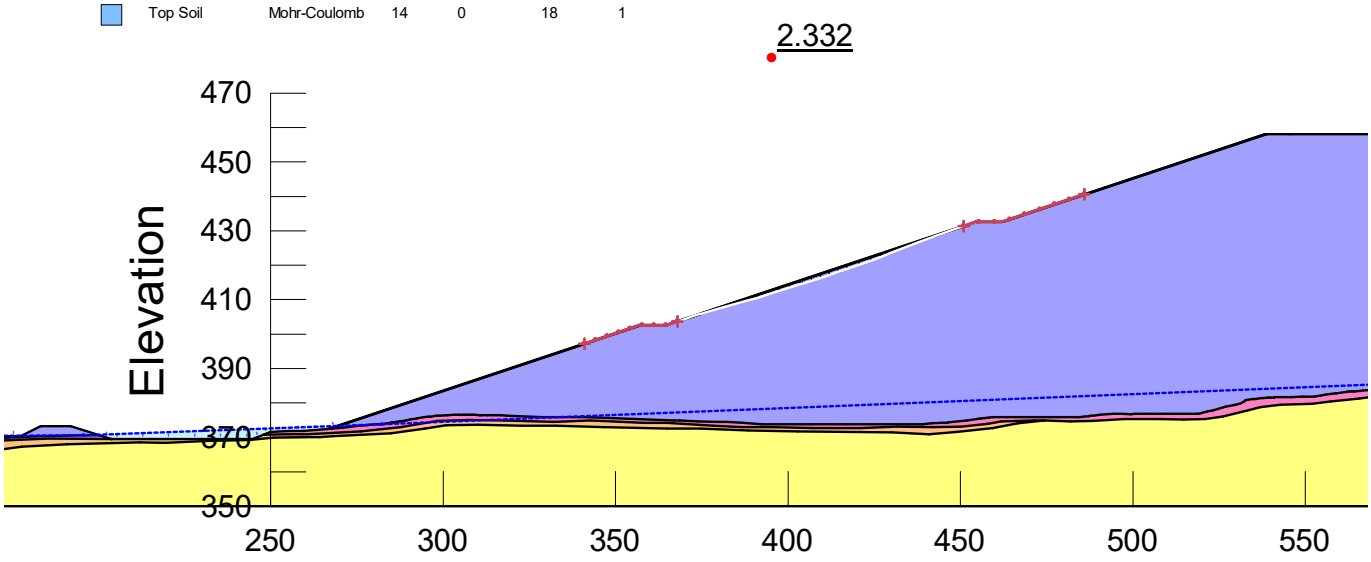


Figure A-23 Résultats de stabilité pour l'analyse statique (drainée) au niveau de la pile 001 pour le NAG à la phase de fermeture de la défaillance locale (banc 2)

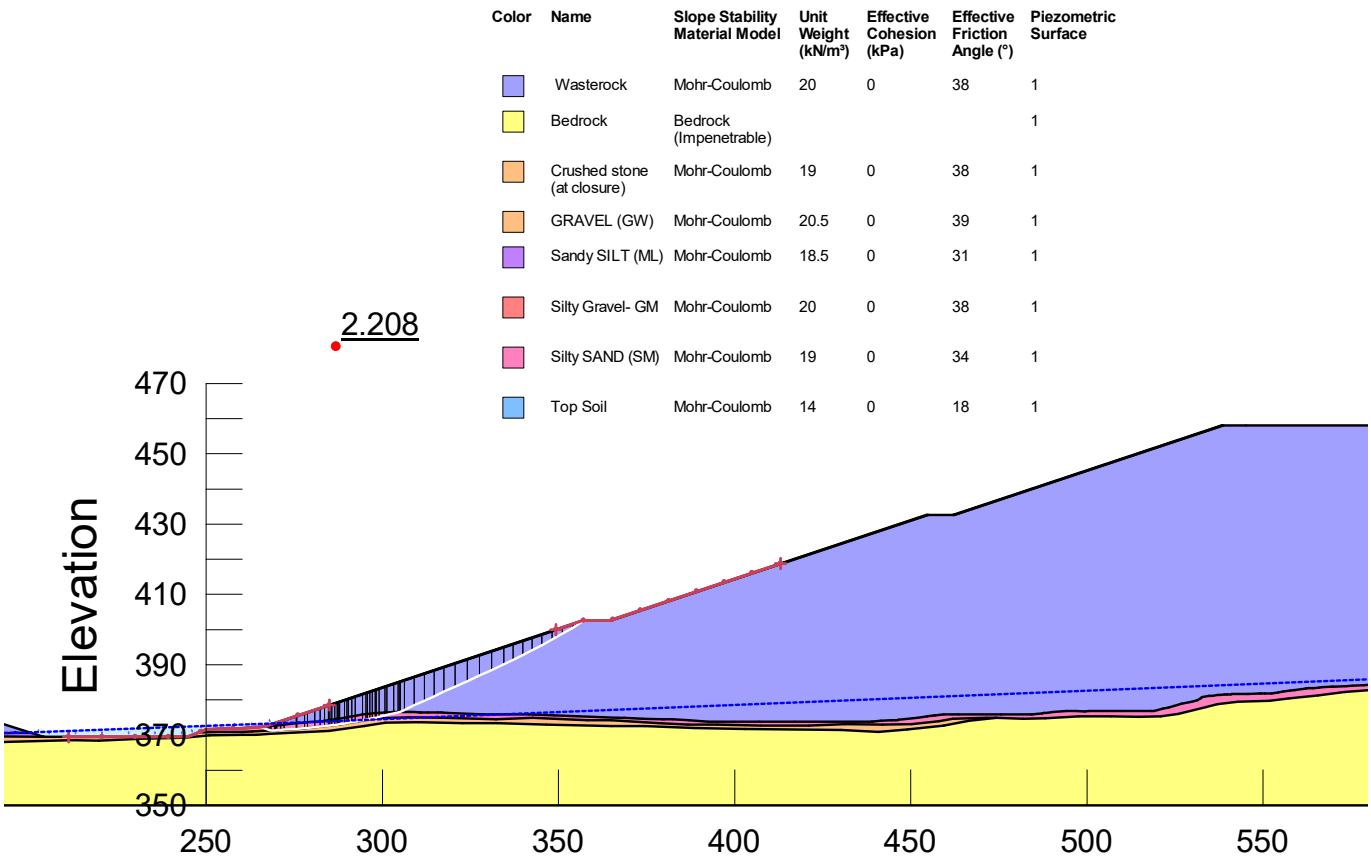


Figure A-24 Résultats de stabilité pour l'analyse statique (drainée) au niveau de la pile 001 pour le NAG à la phase de fermeture de la défaillance locale (banc 3)

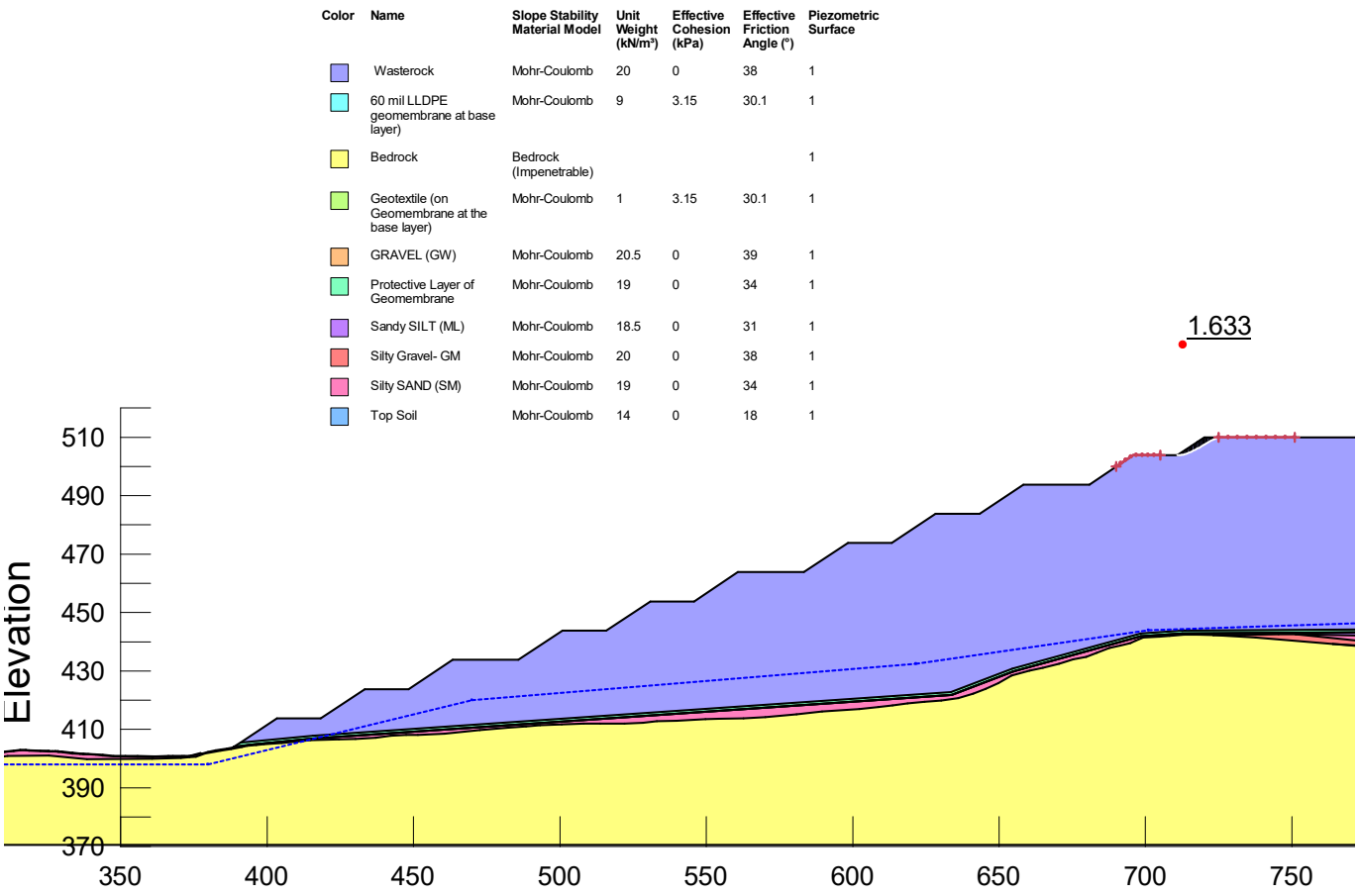


Figure A-25 Résultats de stabilité pour l'analyse statique (drainée) au niveau de la pile 002 pour le PAG en phase opérationnelle de défaillance locale (banc 1)

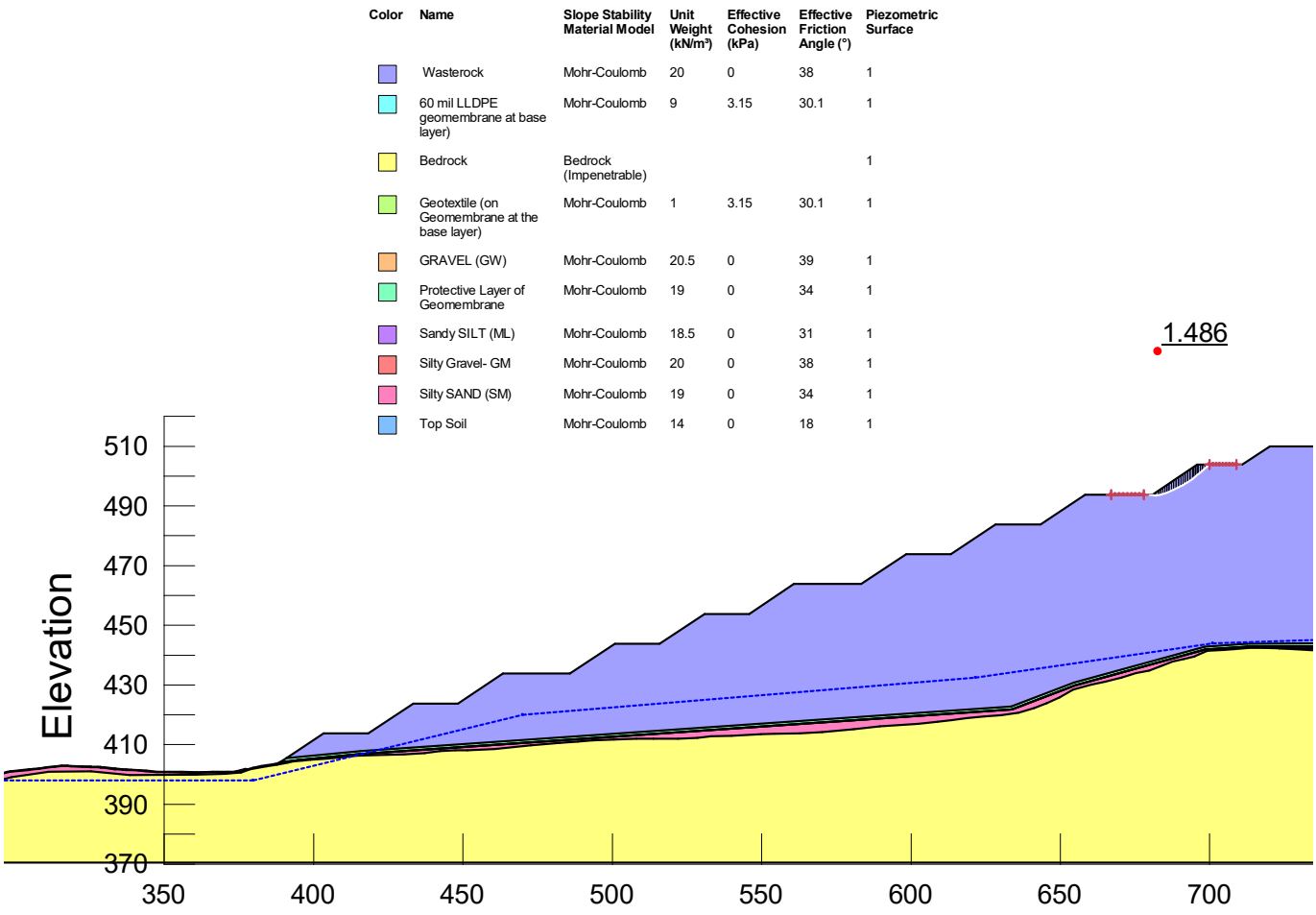


Figure A-26 Résultats de stabilité pour l'analyse statique (drainée) au niveau de la pile 002 pour le PAG en phase opérationnelle de défaillance locale (banc 2)

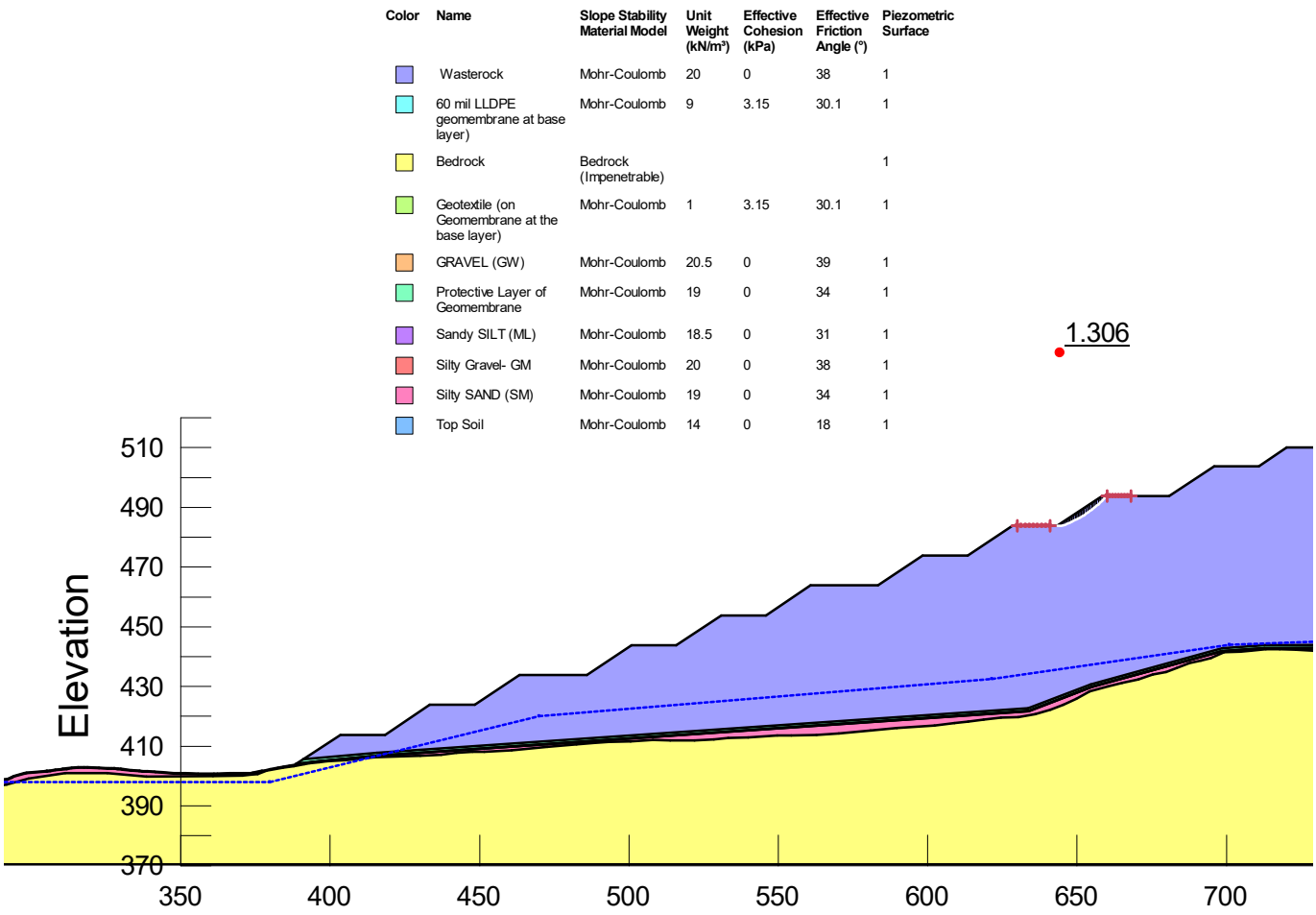


Figure A-27 Résultats de stabilité pour l'analyse statique (drainée) au niveau de la pile 002 pour le PAG en phase opérationnelle de défaillance locale (banc 3)

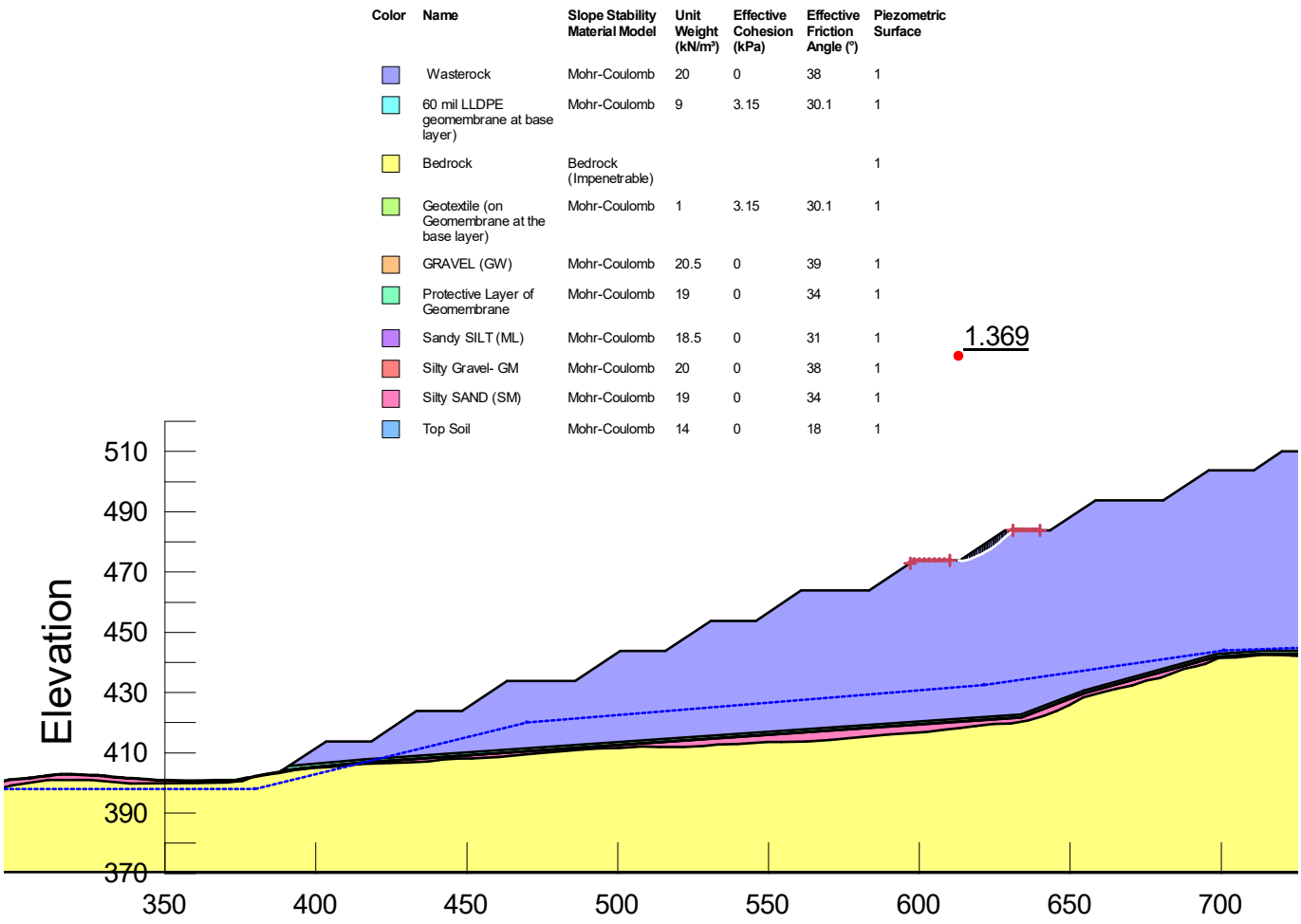


Figure A-28 Résultats de stabilité pour l'analyse statique (drainée) au niveau de la pile 002 pour le PAG en phase opérationnelle de défaillance locale (banc 4)

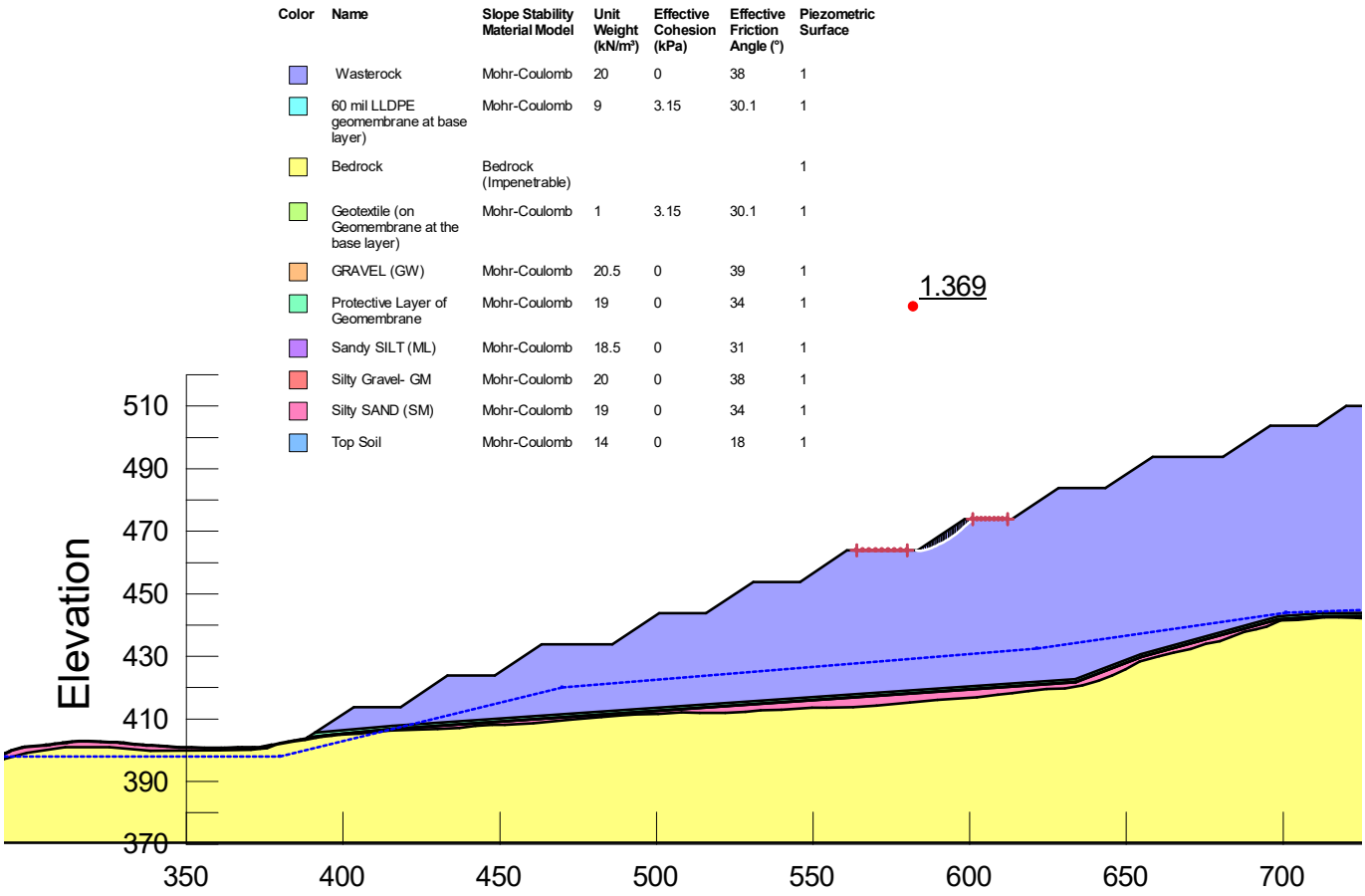


Figure A-29 Résultats de stabilité pour l'analyse statique (drainée) au niveau de la pile 002 pour le PAG en phase opérationnelle de défaillance locale (banc 5)

Color	Name	Slope Stability Material Model	Unit Weight (kN/m³)	Effective Cohesion (kPa)	Effective Friction Angle (°)	Piezometric Surface
	Wasterock	Mohr-Coulomb	20	0	38	1
	60 mil LLDPE geomembrane at base layer)	Mohr-Coulomb	9	3.15	30.1	1
	Bedrock	Bedrock (Impenetrable)				1
	Geotextile (on Geomembrane at the base layer)	Mohr-Coulomb	1	3.15	30.1	1
	GRAVEL (GW)	Mohr-Coulomb	20.5	0	39	1
	Protective Layer of Geomembrane	Mohr-Coulomb	19	0	34	1
	Sandy SILT (ML)	Mohr-Coulomb	18.5	0	31	1
	Silty Gravel- GM	Mohr-Coulomb	20	0	38	1
	Silty SAND (SM)	Mohr-Coulomb	19	0	34	1
	Top Soil	Mohr-Coulomb	14	0	18	1

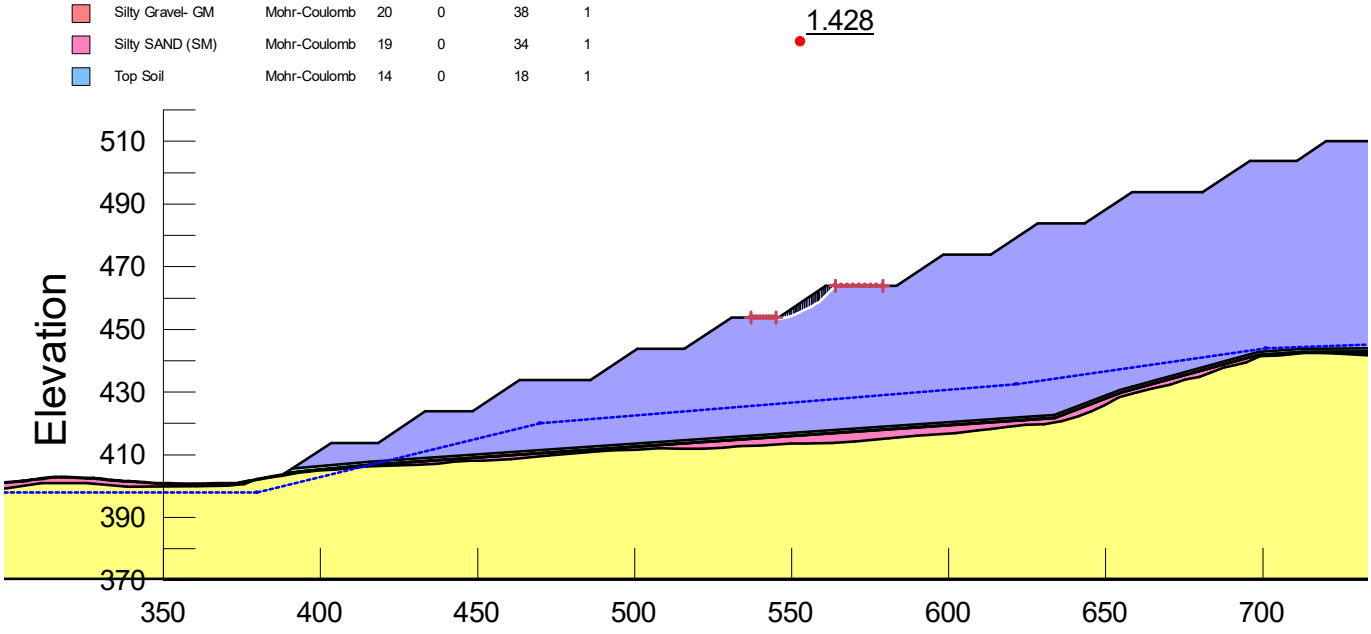


Figure A-30 Résultats de stabilité pour l'analyse statique (drainée) au niveau de la pile 002 pour le PAG en phase opérationnelle de défaillance locale (banc 6)

Color	Name	Slope Stability Material Model	Unit Weight (kN/m³)	Effective Cohesion (kPa)	Effective Friction Angle (°)	Piezometric Surface
	Wasterock	Mohr-Coulomb	20	0	38	1
	60 mil LLDPE geomembrane at base layer)	Mohr-Coulomb	9	3.15	30.1	1
	Bedrock	Bedrock (Impenetrable)				1
	Geotextile (on Geomembrane at the base layer)	Mohr-Coulomb	1	3.15	30.1	1
	GRAVEL (GW)	Mohr-Coulomb	20.5	0	39	1
	Protective Layer of Geomembrane	Mohr-Coulomb	19	0	34	1
	Sandy SILT (ML)	Mohr-Coulomb	18.5	0	31	1
	Silty Gravel- GM	Mohr-Coulomb	20	0	38	1
	Silty SAND (SM)	Mohr-Coulomb	19	0	34	1
	Top Soil	Mohr-Coulomb	14	0	18	1

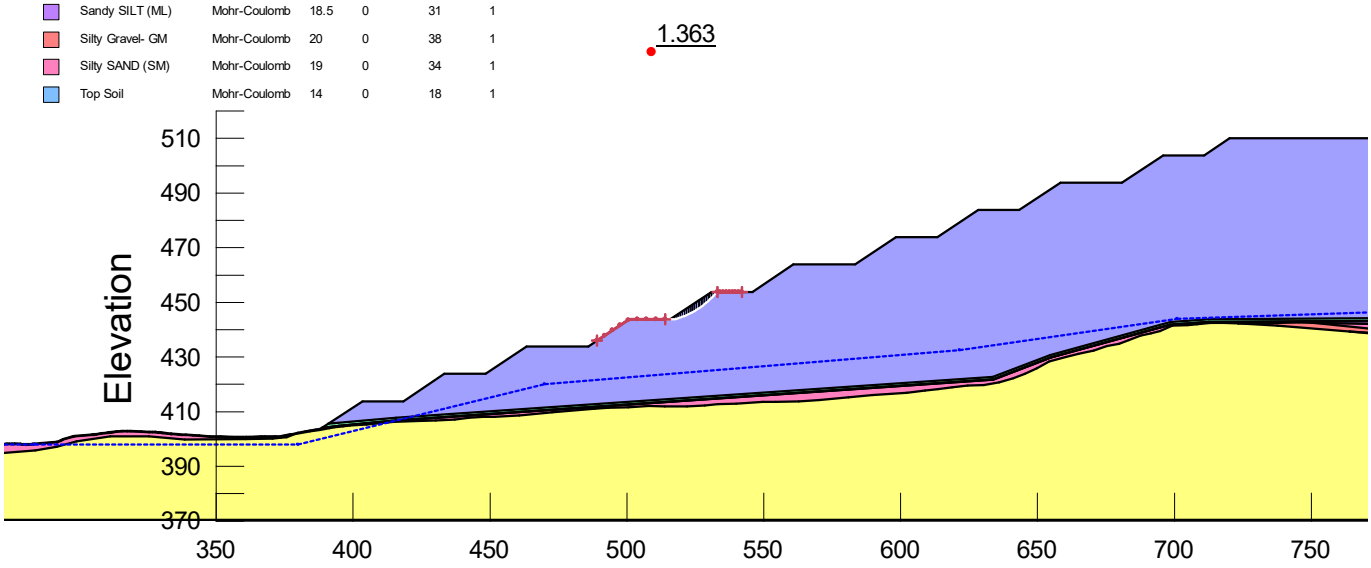


Figure A-31 Résultats de stabilité pour l'analyse statique (drainée) au niveau de la pile 002 pour le PAG en phase opérationnelle de défaillance locale (banc 7)

Color	Name	Slope Stability Material Model	Unit Weight (kN/m³)	Effective Cohesion (kPa)	Effective Friction Angle (°)	Piezometric Surface
	Wasterock	Mohr-Coulomb	20	0	38	1
	60 mil LLDPE geomembrane at base layer)	Mohr-Coulomb	9	3.15	30.1	1
	Bedrock	Bedrock (Impenetrable)				1
	Geotextile (on Geomembrane at the base layer)	Mohr-Coulomb	1	3.15	30.1	1
	GRAVEL (GW)	Mohr-Coulomb	20.5	0	39	1
	Protective Layer of Geomembrane	Mohr-Coulomb	19	0	34	1
	Sandy SILT (ML)	Mohr-Coulomb	18.5	0	31	1
	Silty Gravel- GM	Mohr-Coulomb	20	0	38	1
	Silty SAND (SM)	Mohr-Coulomb	19	0	34	1
	Top Soil	Mohr-Coulomb	14	0	18	1

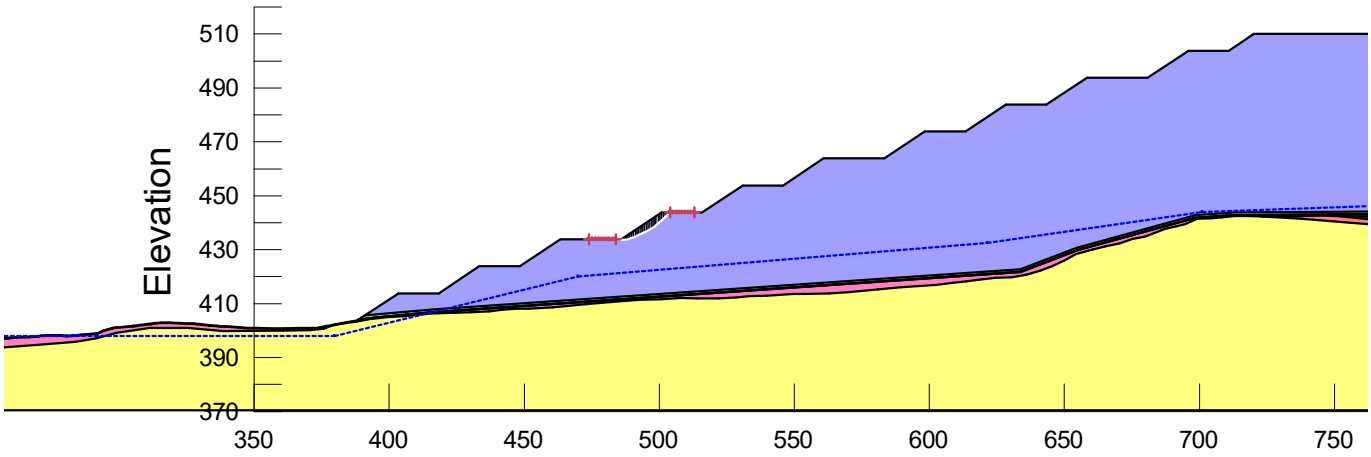


Figure A-32 Résultats de stabilité pour l'analyse statique (drainée) au niveau de la pile 002 pour le PAG en phase opérationnelle de défaillance locale (banc 8)

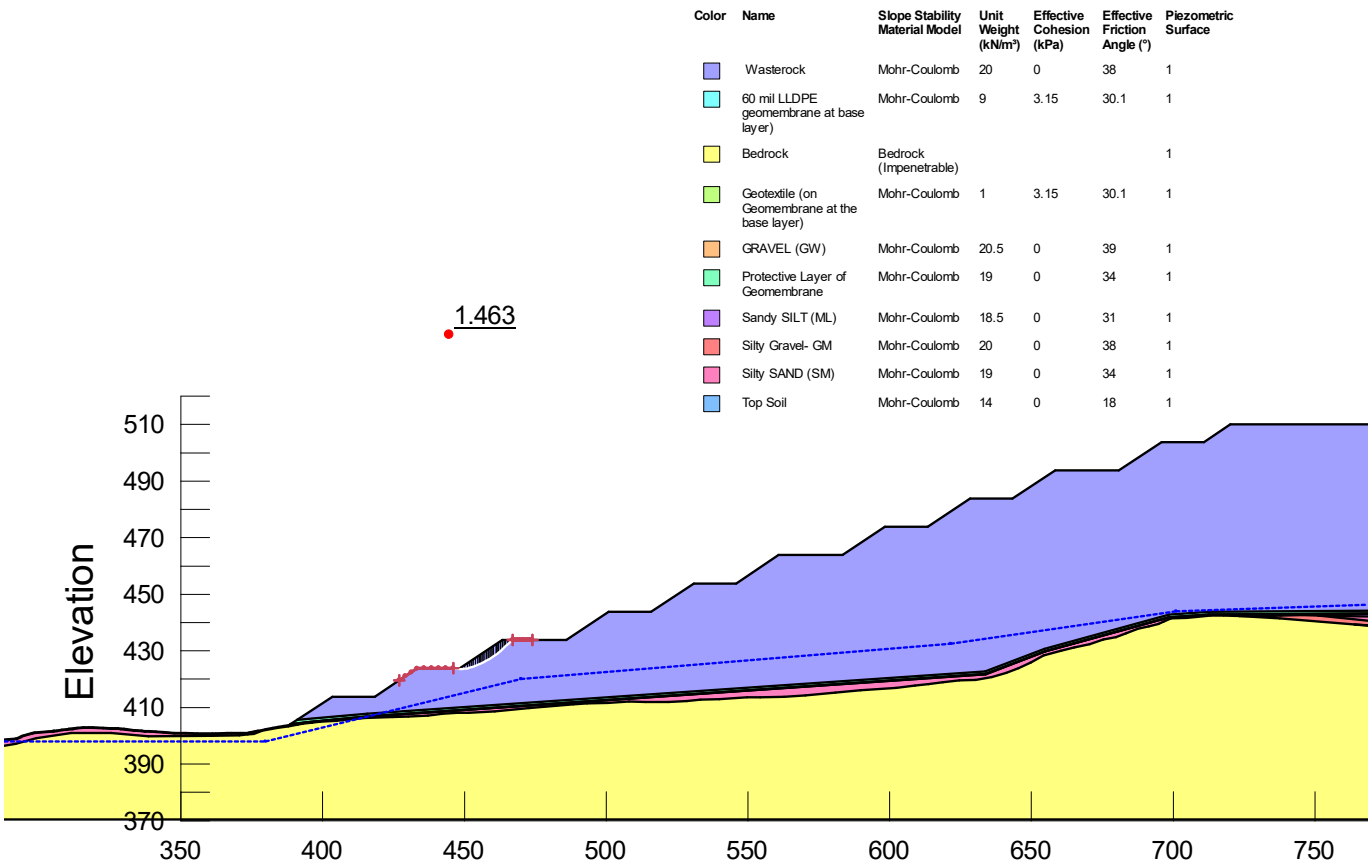


Figure A-33 Résultats de stabilité pour l'analyse statique (drainée) au niveau de la pile 002 pour le PAG en phase opérationnelle de défaillance locale (banc 9)

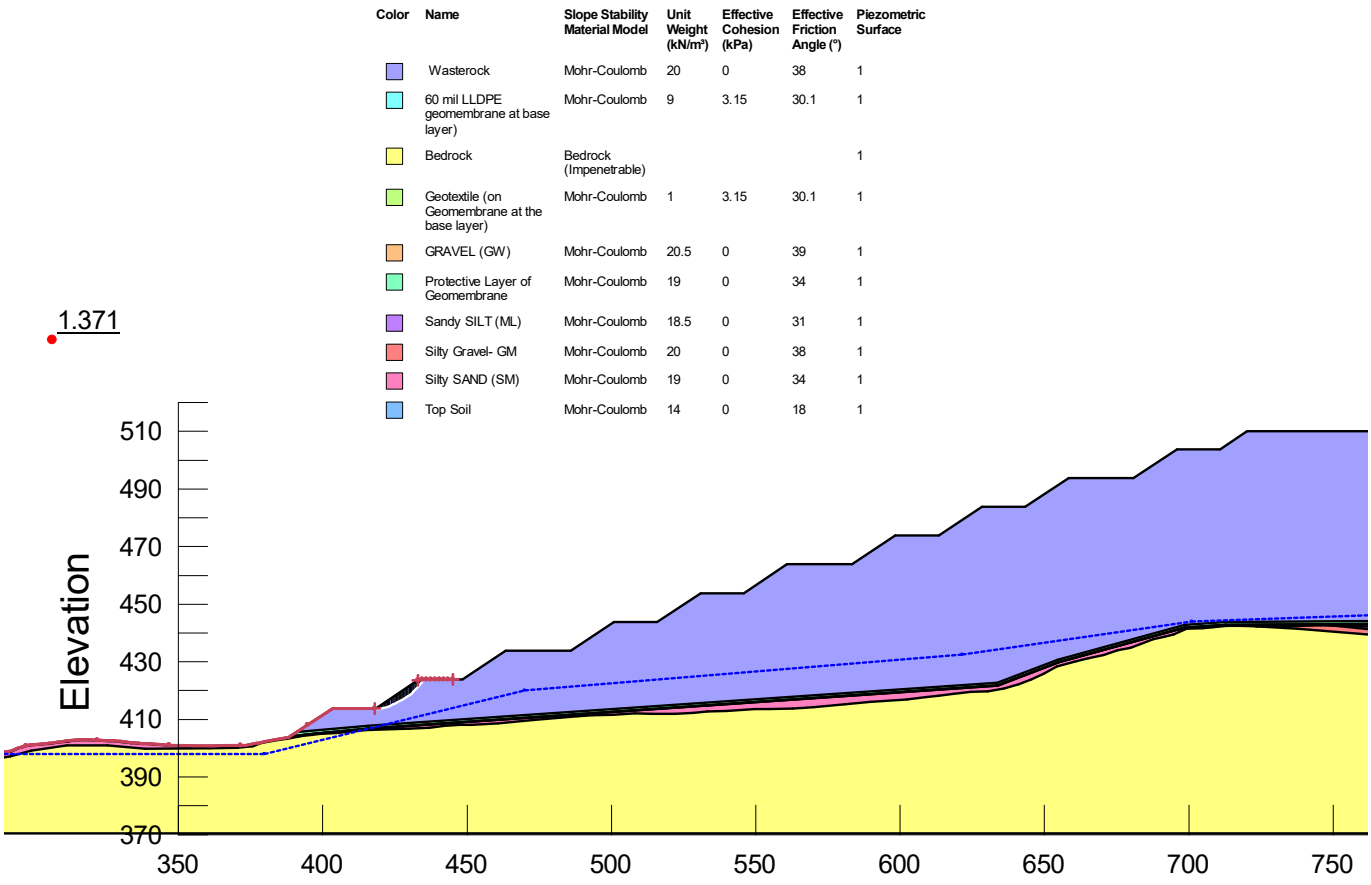


Figure A-34 Résultats de stabilité pour l'analyse statique (drainée) au niveau de la pile 002 pour le PAG en phase opérationnelle de défaillance locale (banc 10)

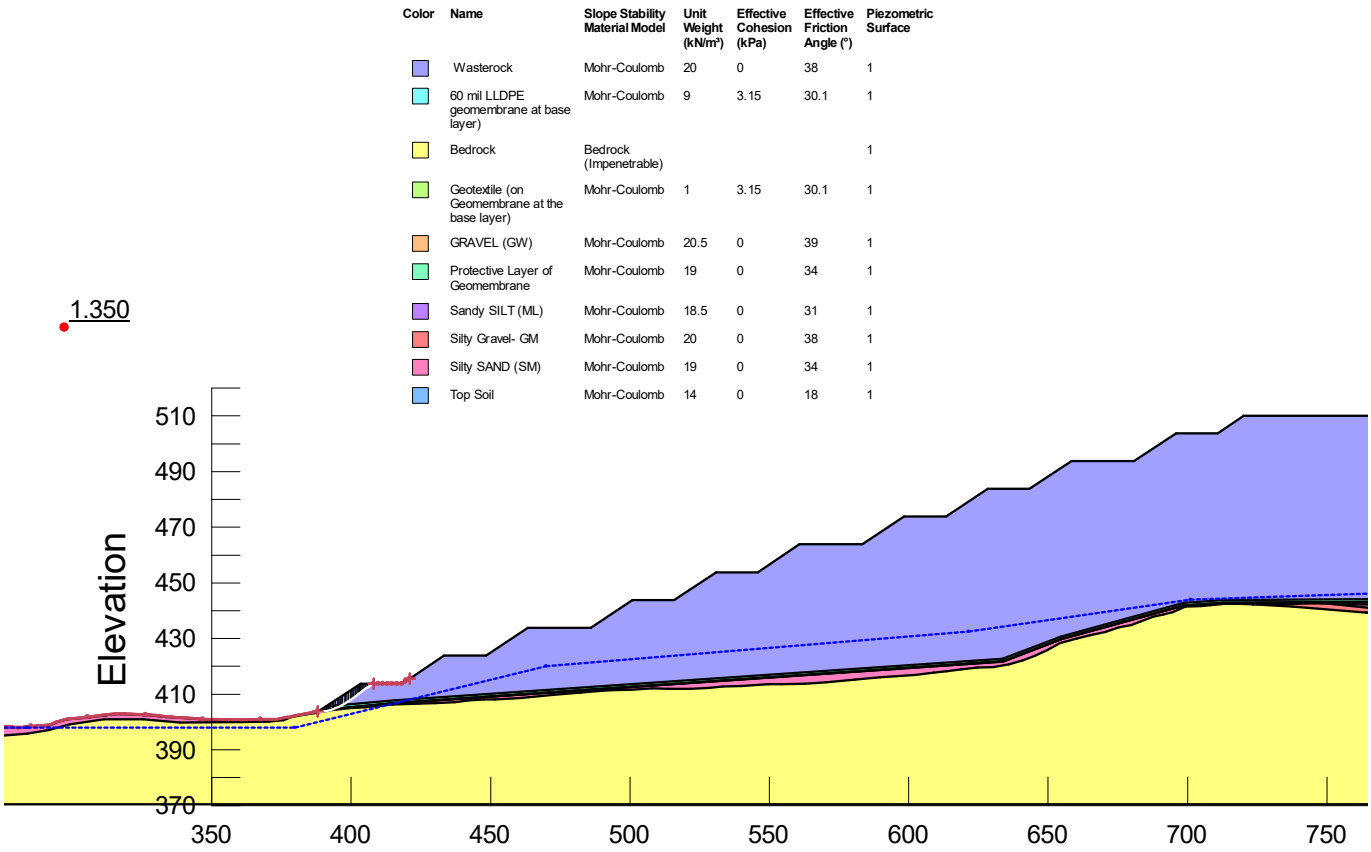


Figure A-35 Résultats de stabilité pour l'analyse statique (drainée) au niveau de la pile 002 pour le PAG en phase opérationnelle de défaillance locale (banc 11)

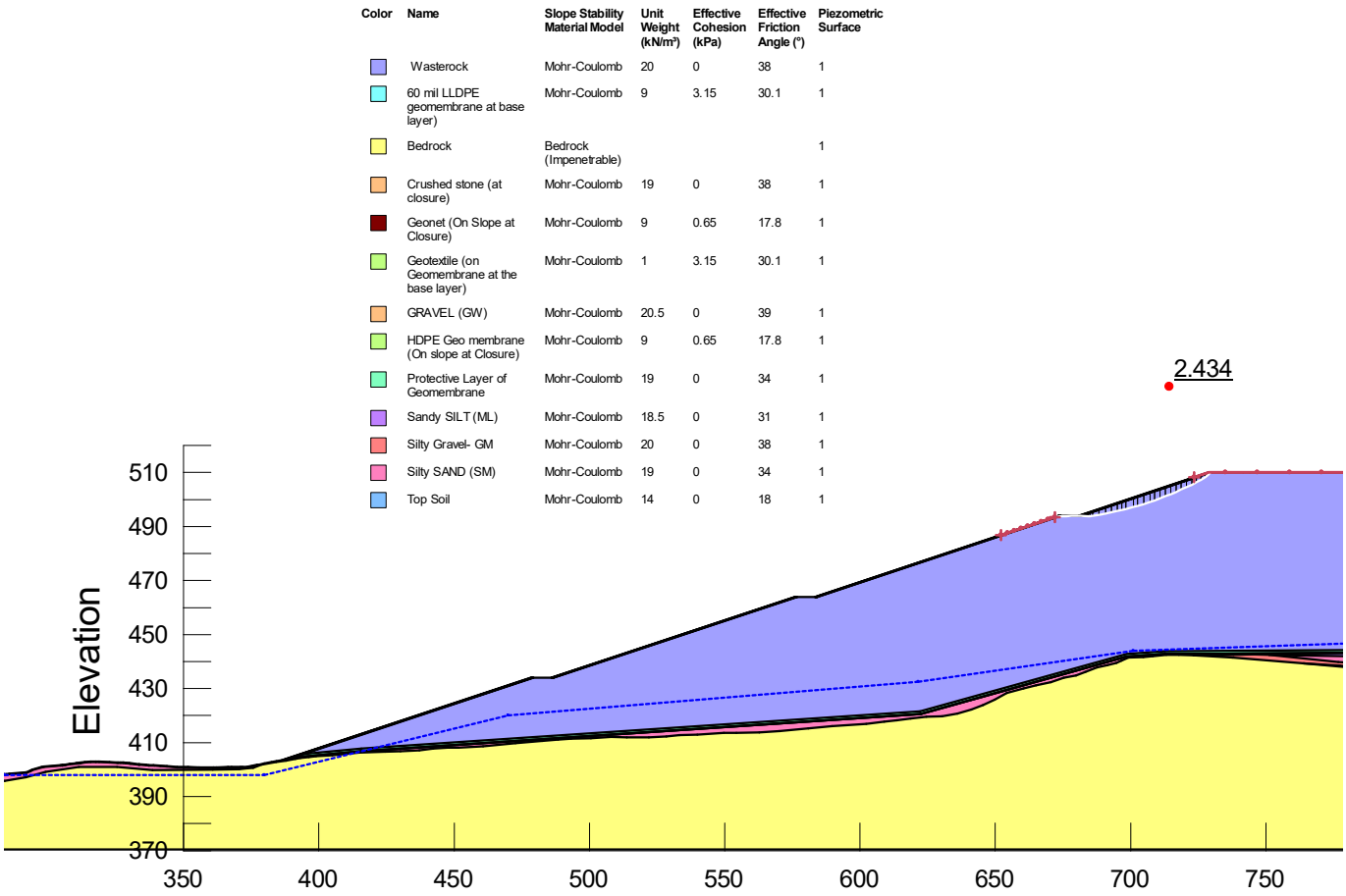


Figure A-36 Résultats de stabilité pour l'analyse statique (drainée) au niveau de la pile 002 pour le PAG en phase de fermeture de la défaillance locale (banc 1)

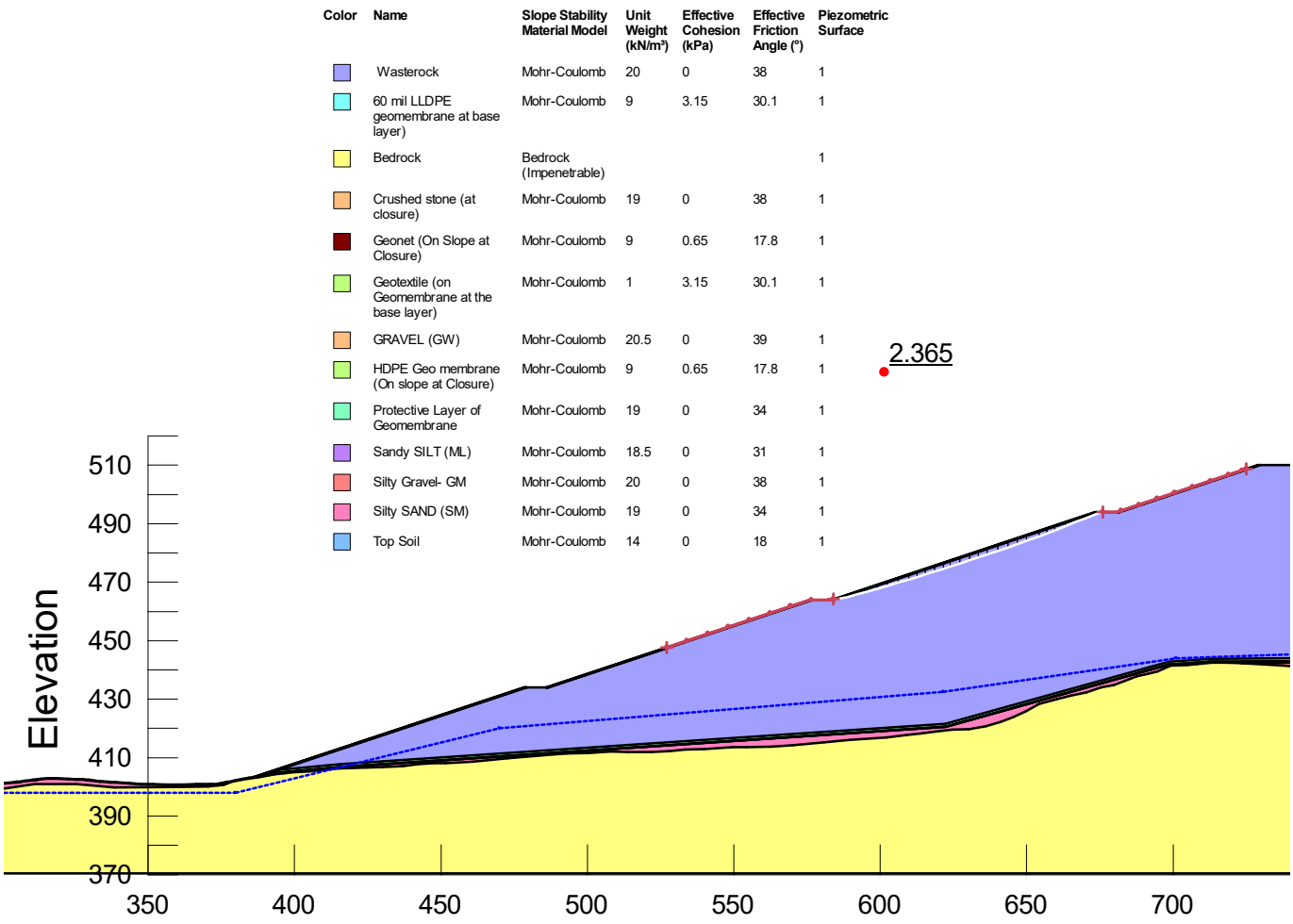


Figure A-37 Résultats de stabilité pour l'analyse statique (drainée) au niveau de la pile 002 pour le PAG en phase de fermeture de la défaillance locale (banc 2)

Color	Name	Slope Stability Material Model	Unit Weight (kN/m³)	Effective Cohesion (kPa)	Effective Friction Angle (°)	Piezometric Surface
	Wasterock	Mohr-Coulomb	20	0	38	1
	60 mil LLDPE geomembrane at base layer)	Mohr-Coulomb	9	3.15	30.1	1
	Bedrock	Bedrock (Impenetrable)				1
	Crushed stone (at closure)	Mohr-Coulomb	19	0	38	1
	Geonet (On Slope at Closure)	Mohr-Coulomb	9	0.65	17.8	1
	Geotextile (on Geomembrane at the base layer)	Mohr-Coulomb	1	3.15	30.1	1
	GRAVEL (GW)	Mohr-Coulomb	20.5	0	39	1
	HDPE Geo membrane (On slope at Closure)	Mohr-Coulomb	9	0.65	17.8	1
	Protective Layer of Geomembrane	Mohr-Coulomb	19	0	34	1
	Sandy SILT (ML)	Mohr-Coulomb	18.5	0	31	1
	Silty Gravel- GM	Mohr-Coulomb	20	0	38	1
	Silty SAND (SM)	Mohr-Coulomb	19	0	34	1
	Top Soil	Mohr-Coulomb	14	0	18	1

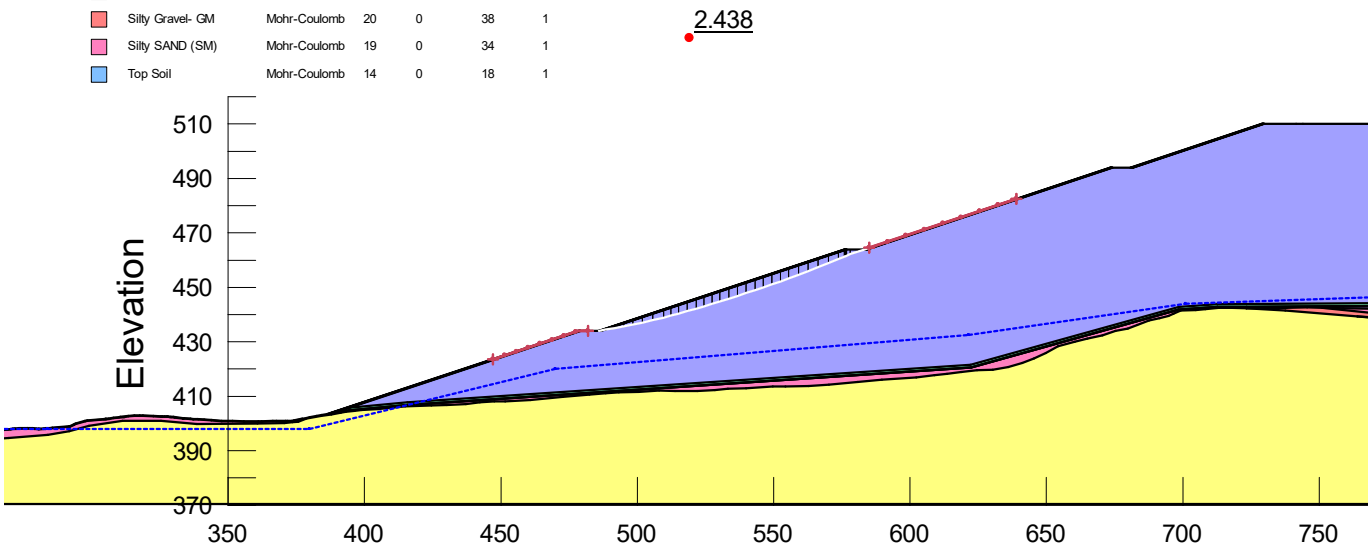


Figure A-38 Résultats de stabilité pour l'analyse statique (drainée) au niveau de la pile 002 pour le PAG à la phase de fermeture de la défaillance locale (banc 3)

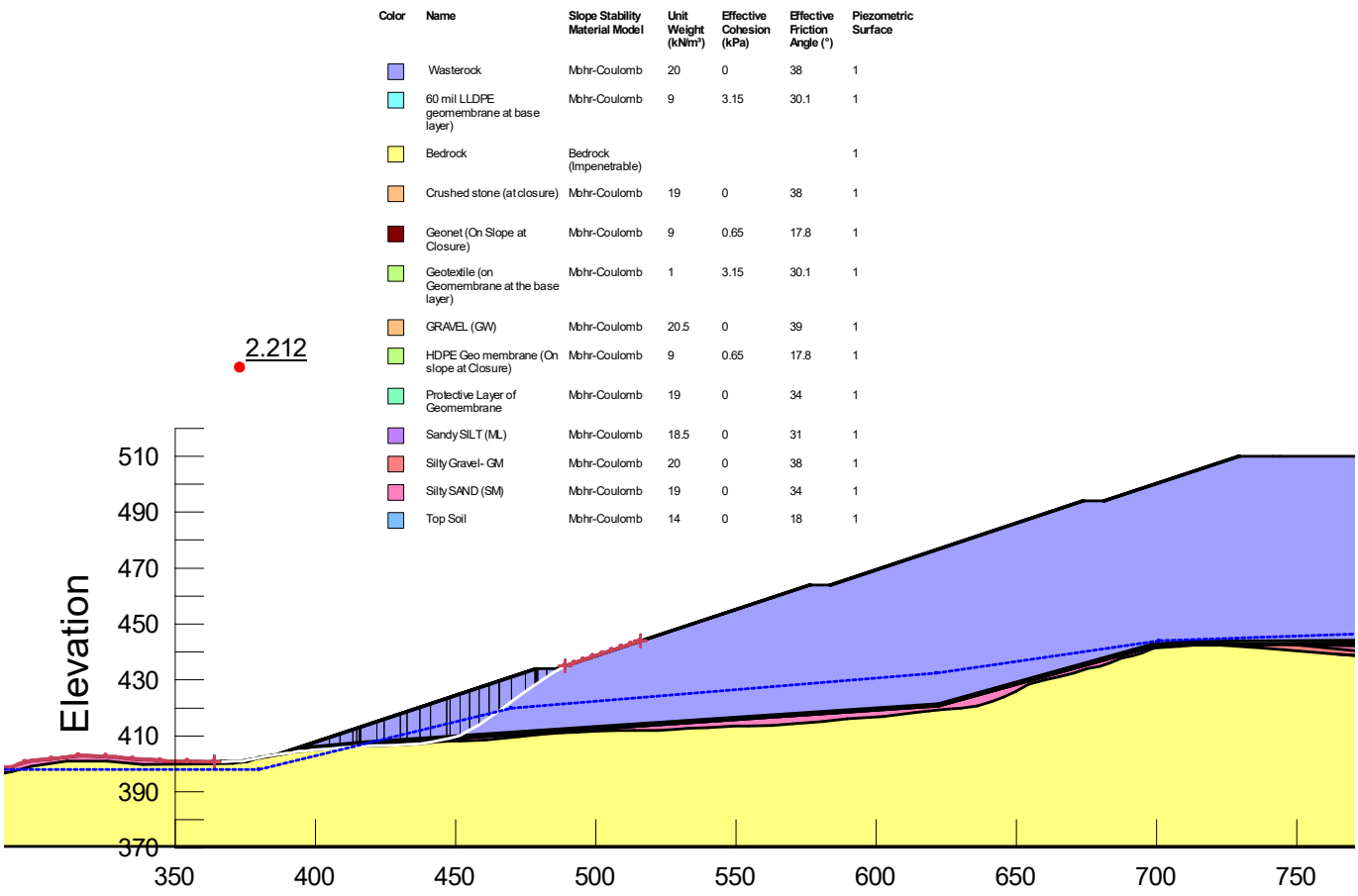


Figure A-39 Résultats de stabilité pour l'analyse statique (drainée) à la pile de stockage 002 pour le PAG à la phase de fermeture de la défaillance locale (banc 4)

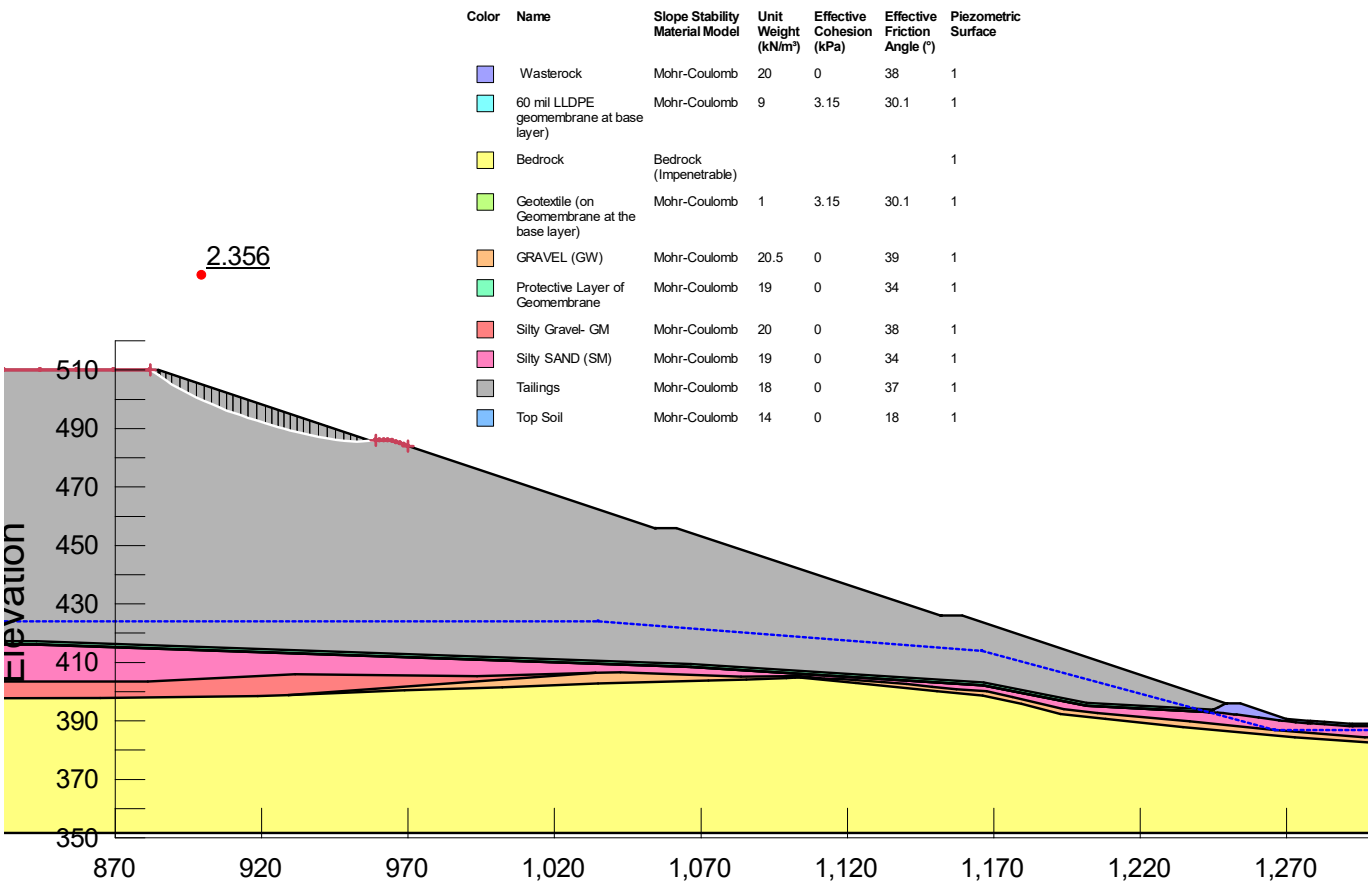


Figure A-40 Résultats de stabilité pour l'analyse statique (drainée) à la pile de stockage 002 pour les résidus à la phase opérationnelle de la défaillance locale (banc 1)

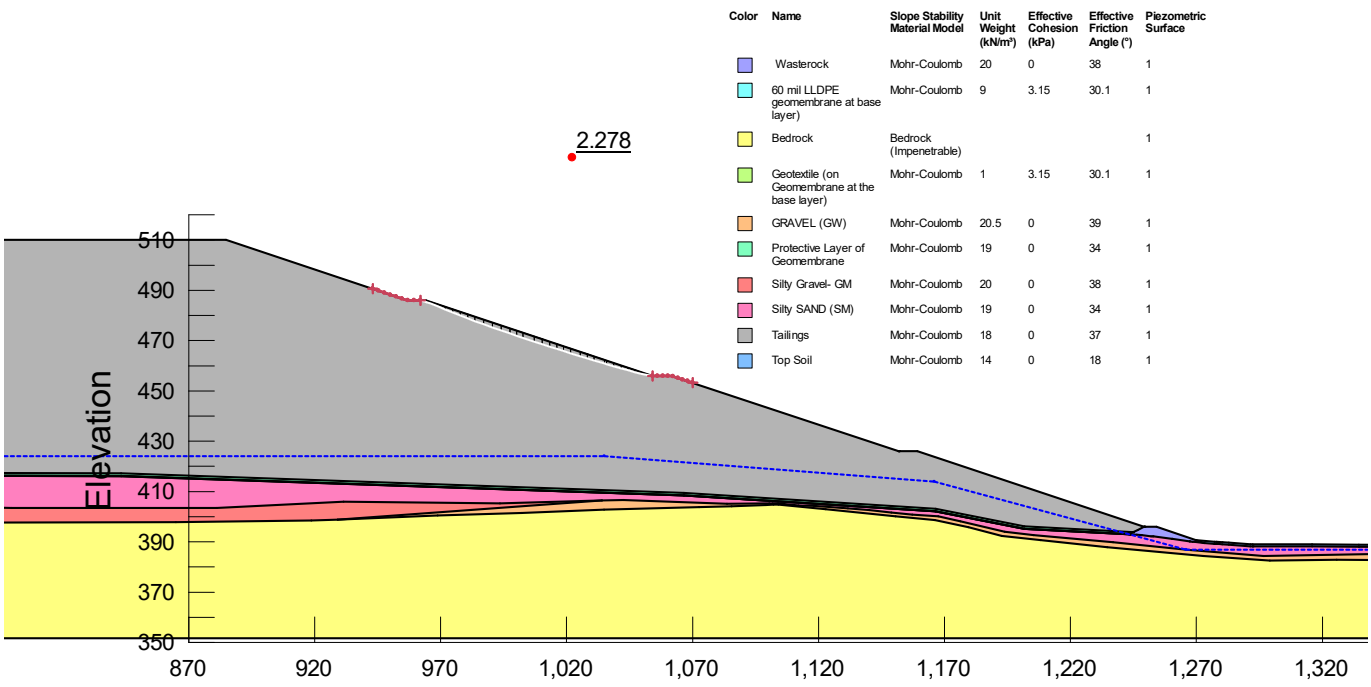


Figure A-41 Résultats de stabilité pour l'analyse statique (drainée) à la pile 002 pour les résidus miniers en phase opérationnelle de défaillance locale (banc 2)

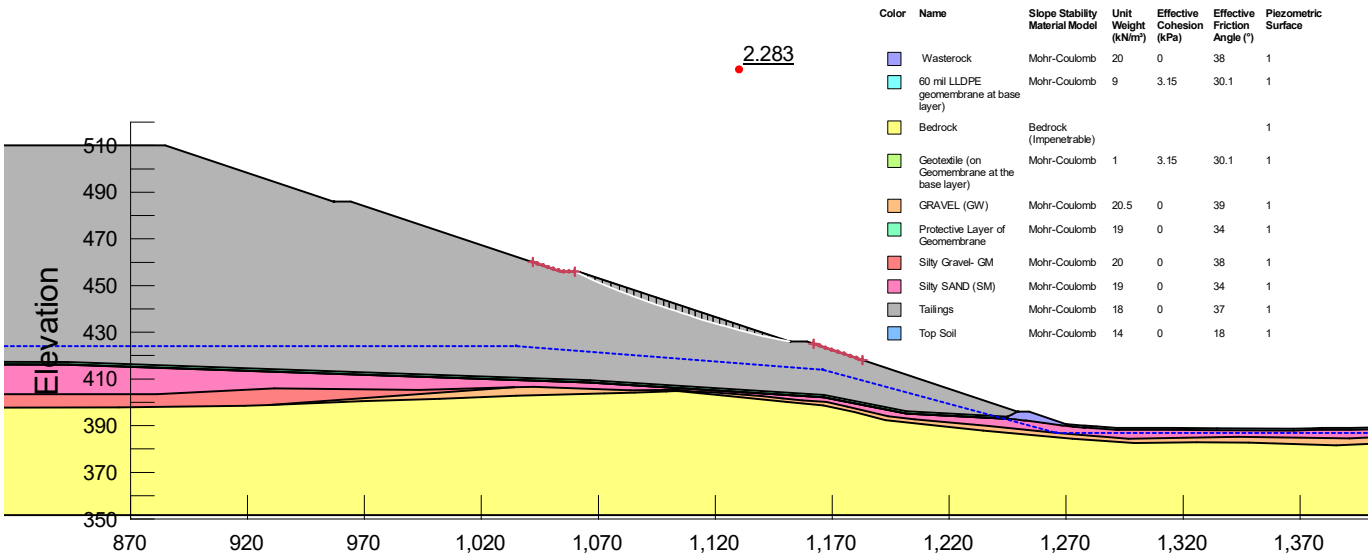


Figure A-42 Résultats de stabilité pour l'analyse statique (drainée) à la pile 002 pour les résidus miniers en phase opérationnelle de défaillance locale (banc 3)

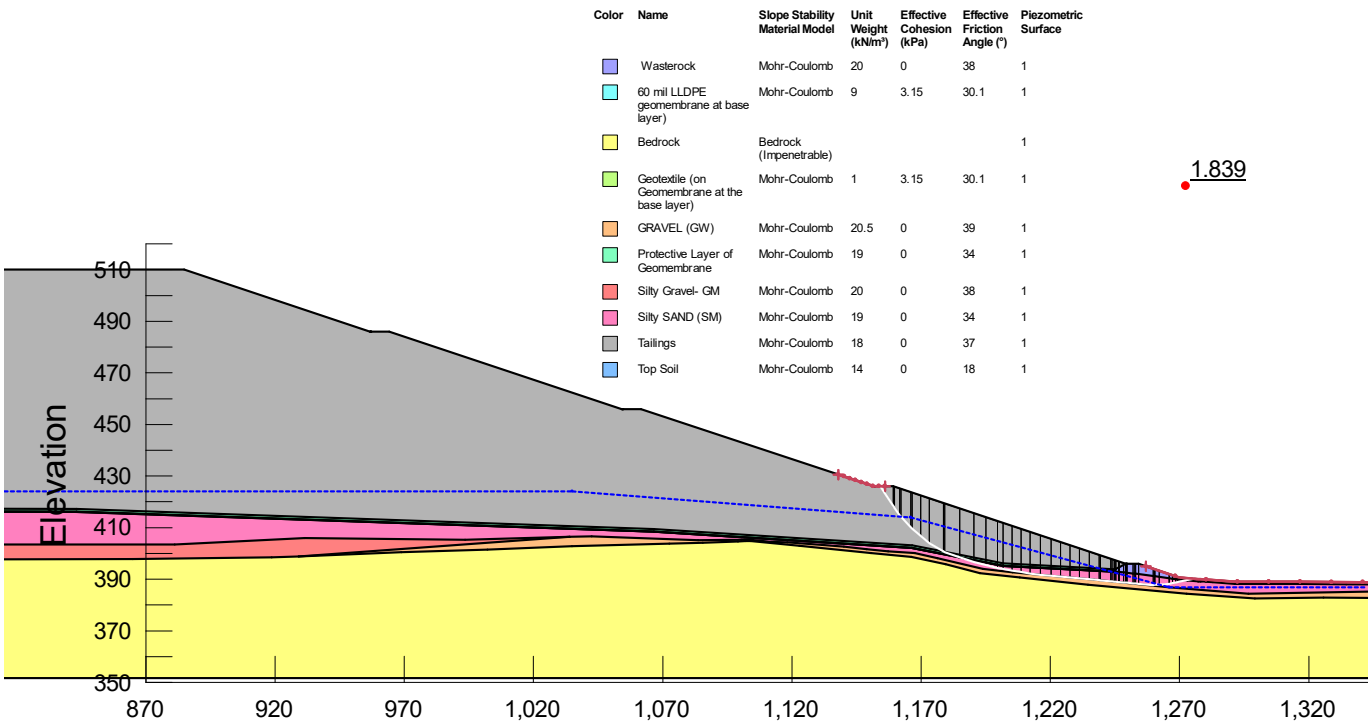


Figure A-43 Résultats de stabilité pour l'analyse statique (drainée) à la pile 002 pour les résidus miniers en phase opérationnelle de défaillance locale (banc 4)

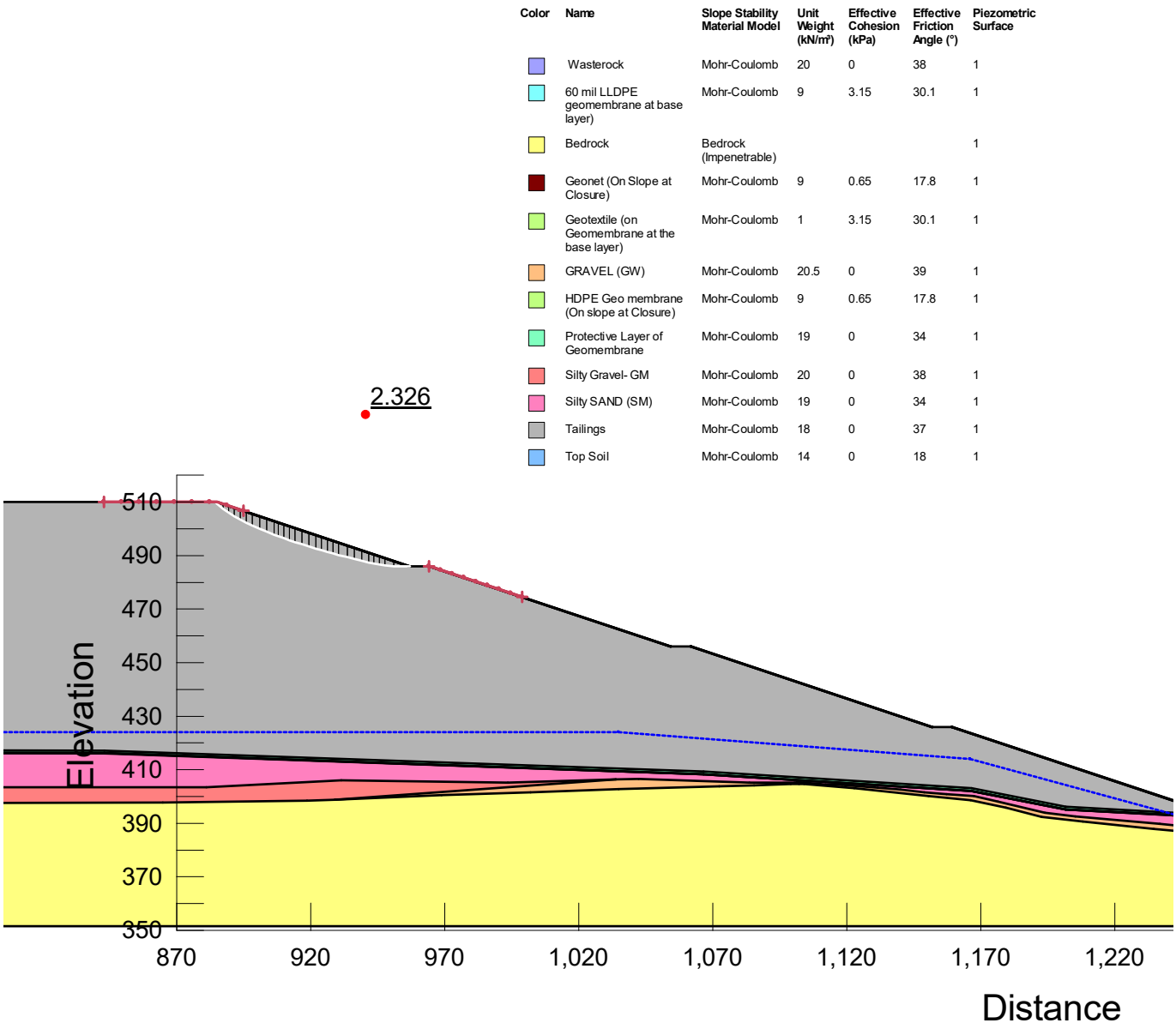


Figure A-44 Résultats de stabilité pour l'analyse statique (drainée) à la pile de résidus 002 pour la phase de fermeture de la défaillance locale (banc 1)

Color	Name	Slope Stability Material Model	Unit Weight (kN/m³)	Effective Cohesion (kPa)	Effective Friction Angle (°)	Piezometric Surface
	Wasterock	Mohr-Coulomb	20	0	38	1
	60 mil LLDPE geomembrane at base layer)	Mohr-Coulomb	9	3.15	30.1	1
	Bedrock	Bedrock (Impenetrable)				1
	Geonet (On Slope at Closure)	Mohr-Coulomb	9	0.65	17.8	1
	Geotextile (on Geomembrane at the base layer)	Mohr-Coulomb	1	3.15	30.1	1
	GRAVEL (GW)	Mohr-Coulomb	20.5	0	39	1
	HDPE Geo membrane (On slope at Closure)	Mohr-Coulomb	9	0.65	17.8	1
	Protective Layer of Geomembrane	Mohr-Coulomb	19	0	34	1
	Silty Gravel- GM	Mohr-Coulomb	20	0	38	1
	Silty SAND (SM)	Mohr-Coulomb	19	0	34	1
	Tailings	Mohr-Coulomb	18	0	37	1
	Top Soil	Mohr-Coulomb	14	0	18	1

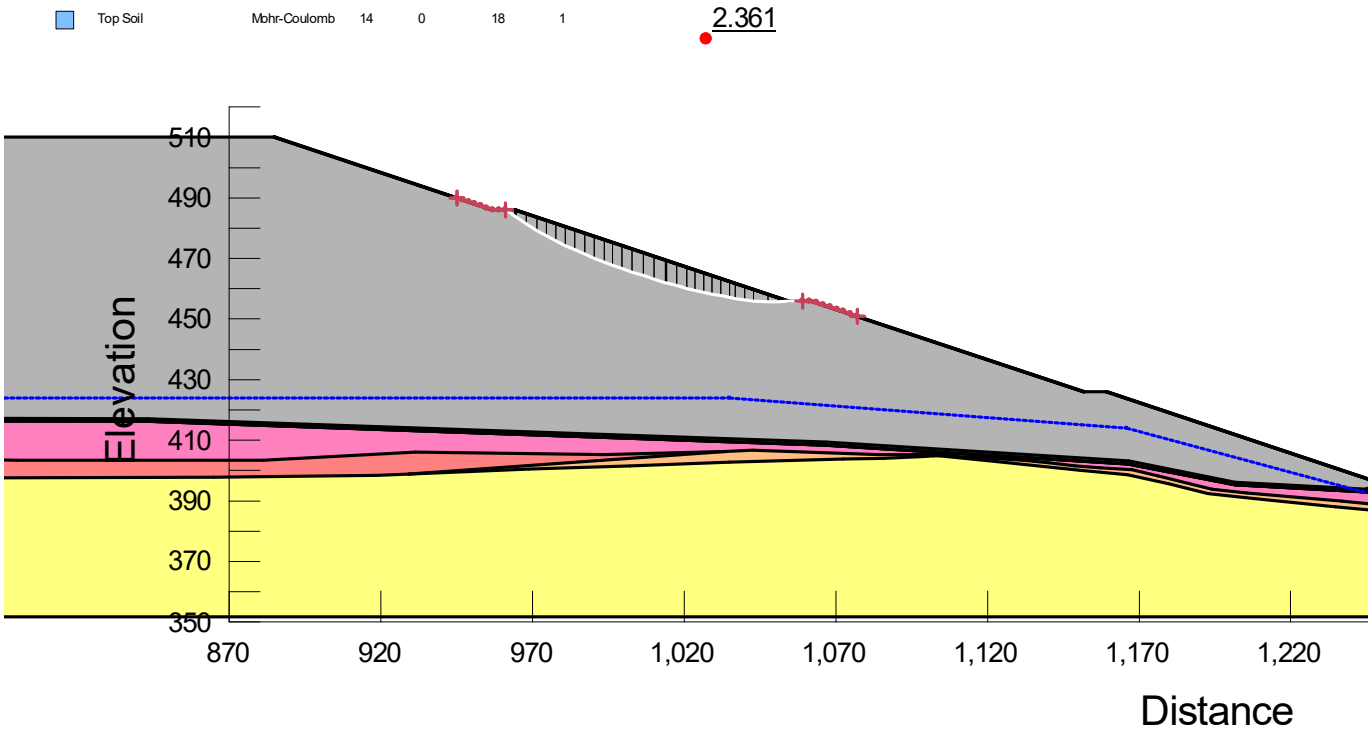


Figure A-45 Résultats de stabilité pour l'analyse statique (drainée) à la pile 002 pour les résidus à la phase de fermeture de la défaillance locale (banc 2)

Color	Name	Slope Stability Material Model	Unit Weight (kN/m³)	Effective Cohesion (kPa)	Effective Friction Angle (°)	Piezometric Surface
	Wasterock	Mohr-Coulomb	20	0	38	1
	60 mil LLDPE geomembrane at base layer)	Mohr-Coulomb	9	3.15	30.1	1
	Bedrock	Bedrock (Impenetrable)				1
	Geonet (On Slope at Closure)	Mohr-Coulomb	9	0.65	17.8	1
	Geotextile (on Geomembrane at the base layer)	Mohr-Coulomb	1	3.15	30.1	1
	GRAVEL (GW)	Mohr-Coulomb	20.5	0	39	1
	HDPE Geo membrane (On slope at Closure)	Mohr-Coulomb	9	0.65	17.8	1
	Protective Layer of Geomembrane	Mohr-Coulomb	19	0	34	1
	Silty Gravel- GM	Mohr-Coulomb	20	0	38	1
	Silty SAND (SM)	Mohr-Coulomb	19	0	34	1
	Tailings	Mohr-Coulomb	18	0	37	1
	Top Soil	Mohr-Coulomb	14	0	18	1

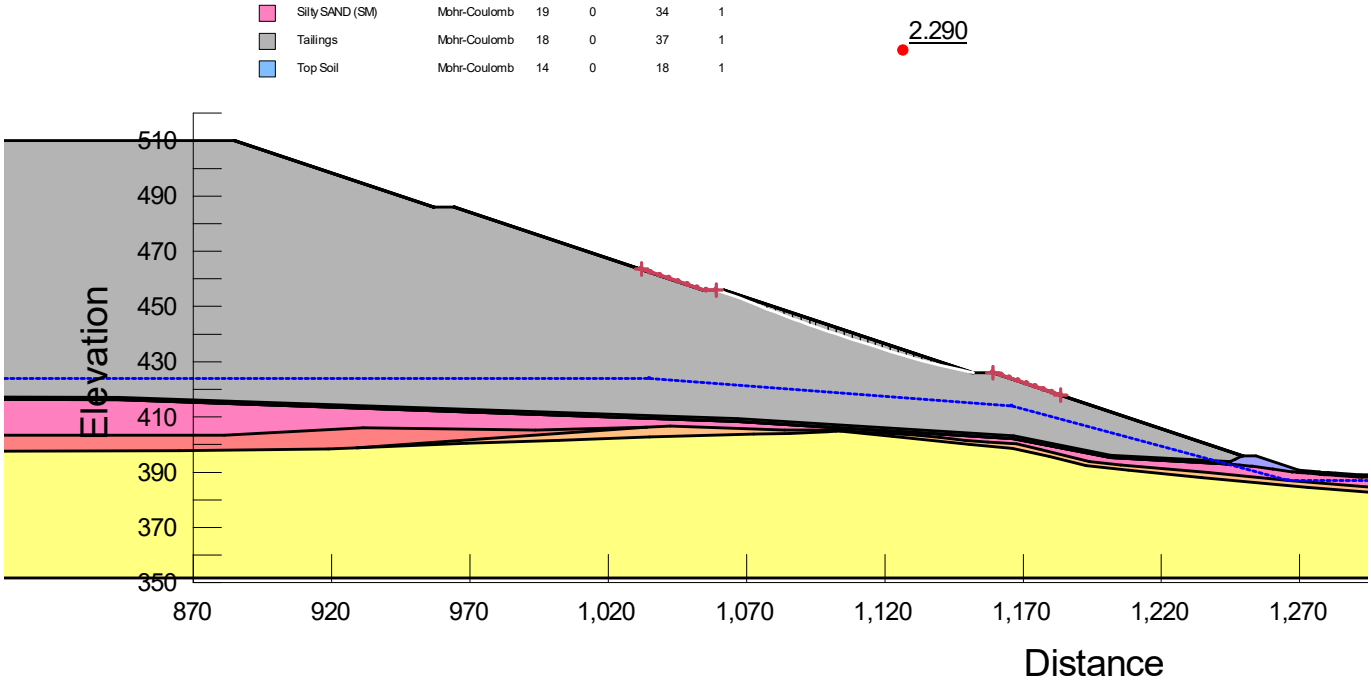


Figure A-46 Résultats de stabilité pour l'analyse statique (drainée) à la pile 002 pour les résidus à la phase de fermeture de la défaillance locale (banc 3)

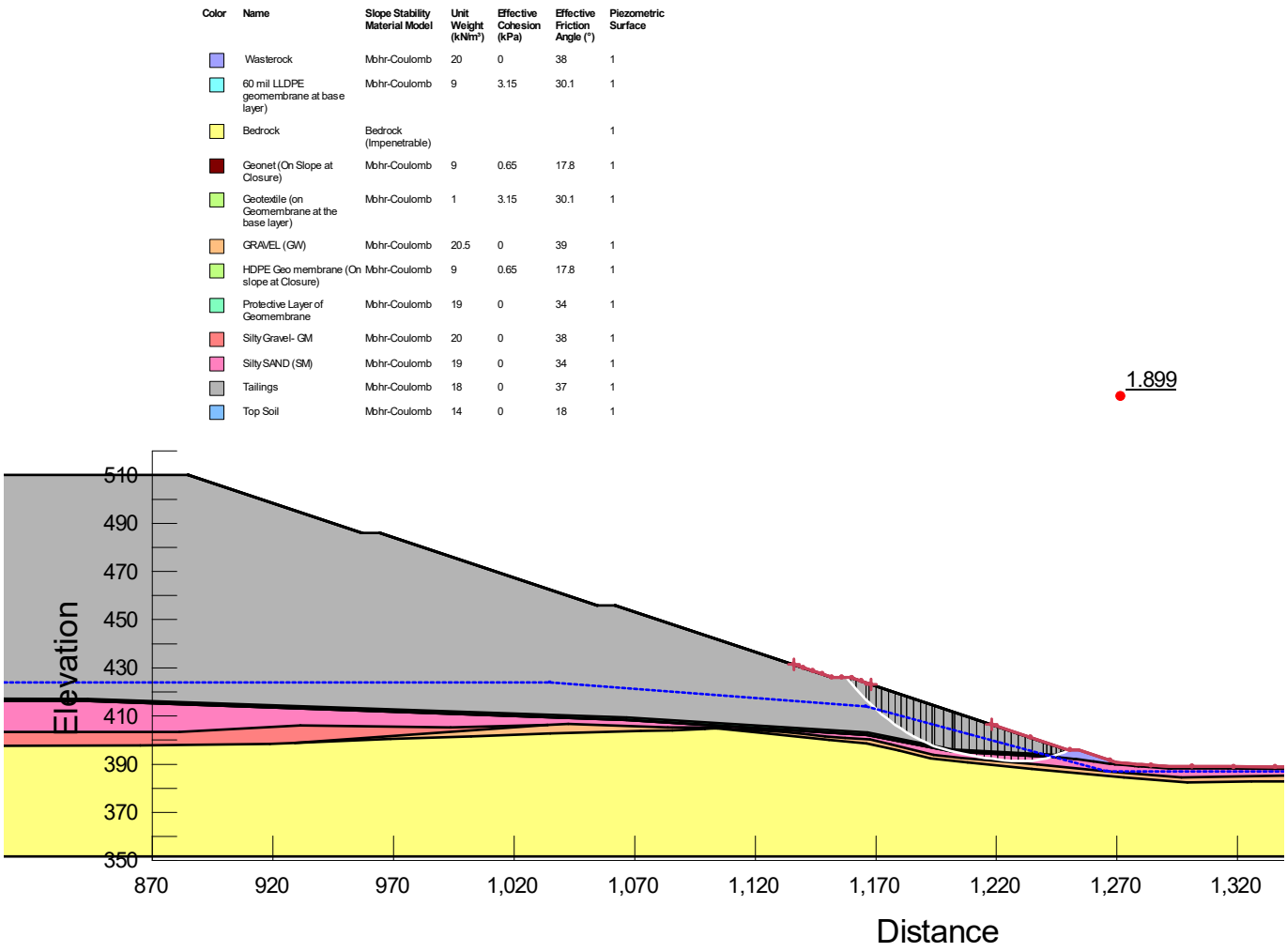


Figure A-47 Résultats de stabilité pour l'analyse statique (drainée) à la pile de résidus 002 pour les résidus à la phase de fermeture de la défaillance locale (banc 4)

Annexe E Quantités de matériaux

Schedule of Quantities

702381 SHAAKICHIUWAANAAN - WASTE AND WATER MANAGEMENT - FRESH WATER INTAKE FOR POTABLE PRODUCTION

Item #	Description	UNIT	QUANTITY	UNIT RATE ($) CDN	AMOUNT	BASIS OF PRICE
A	**Pumping station - FW-PMP-001/002**					
311	SUBMERGED - GRUNDFOS 150S150-8 / MS6000, 15HP, 60 Hz, 3Ph, 575V	UNIT	2	$12 458,00	$24 916,00	Quote from Nord-flo 16.04.2025
311	Flotation module for container	UNIT	1	$75 000,00	$75 000,00	Quote from Nord-flo 16.04.2025
311	Pump house - 20' insulated and heated container containing all the piping, valve, fittings, instrumentation, a transformer 600V/240V, a Local PLC, Motor Control Started, VFD, Local Control Station and HVAC	UNIT	1	$200 000,00	$200 000,00	Quote from Nord-flo 16.04.2025
311	Delivery of the plant to the site - 1 container					
311						
311						
B	**Pipeline**					
311	HDPE - DR11 (200PSI) - 3" - Butt fusion - Flange on both sides	m	2 186	$6,84	$14 952,24	Quote from Marcel Baril 09.04.2025
311	HDPE - DR11 (200PSI) - 3" - Fittings	Lot	1	$5 980,90	$5 980,90	
311	Heat Tracing cables (cables & splice kits only)	ft	7 889	$39,18	$309 095,24	Quote from George Fisher, 09.04.2025
311	Electronic Thermostat NGUTC 6340-01	UNIT	3	$6 911,00	$20 733,00	Quote from George Fisher, 09.04.2025
311	Temperature Sensor URTD 15G	UNIT	3	$298,25	$894,75	Quote from George Fisher, 09.04.2025
311	Temperature Sensor URTD 15R	UNIT	3	$298,25	$894,75	Quote from George Fisher, 09.04.2025
311	Oversize Kits	UNIT	17	$600,00	$10 200,00	Quote from George Fisher, 09.04.2025
311	Nominal 76 mm (3.0 in) thick standard U.I.P.® urethane insulation c/w black extruded polyethylene, integral heat trace channels on customer supplied pipe	ft	7 889	$42,70	$336 864,90	Quote from George Fisher, 09.04.2025
311	2"X 2" Air & Vacuum Valve, Crispin, Model AX20-2					
311		UNIT	2	$6 665,70	$13 331,40	Quote from Conval Quebec, 24.04.2025
311						
311						
311						
C	**Electrical**					
311	Panelboard 600V, 100A, 25kA, 7 FEEDERS (2X20, 1X30A, 2X40A, 1X60A, 1X80A)	UNIT	1	$15 000,00	$15 000,00	RSMEANS
311	Divers	Lot	1	$2 000,00	$2 000,00	
311	VFD 15HP, 600V	UNIT	2	$2 000,00	$4 000,00	Quote from ABB 02.05.2025
D	**Ground preparation**					
311	Pipe bench beside the access road. See the typical cross-section by G-Mining. To be planned with Genipur	lot	1			

Schedule of Quantities

702381 SHAAKICHIUWAANAAN - WASTE AND WATER MANAGEMENT - PUMPING AND DISTRIBUTION FOR PROCESS

Item #	Description	UNIT	QUANTITY	UNIT RATE ($) CDN	AMOUNT	BASIS OF PRICE	NOTES
A	**Pumping station - PP-PMP-001/002**						
313	Vertical pumps - GOULDSVIT-DIFM 14RJMC, 1 Stage, 50HP, 3Ph, 60Hz, 575V	UNIT	2	$60 491,00	$120 982,00	Quote from Nord-flo 16.04.2025	
313	Pump house - 20' insulated and heated container containing all the piping, valve, fittings, instrumentation, a transformer 600V/240V, a Local PLC, Motor Control Started, VFD, Local Control Station and HVAC	UNIT	1	$200 000,00	$200 000,00	Quote from Nord-flo 16.04.2025	
313	Delivery of the plant to the site - 1 container	lot	1				
B	**Pipeline**						
	B1 - Pumping well and suction line						
313	Slab on Grade Concrete 30 Mpa for containers 4in (100mm) - Including FormWork, Welded Wire Mesh, Embeds and anchor Bolts	m2	15	$-			
313	HDPE DR21 pipe 20 in diameter	m	40	$123,33	$4 933,20		
313	HDPE - DR11 (200PSI) - 12" - Butt fusion	m	1 930	$91,04	$175 707,20		
313	HDPE - DR11 (200PSI) - 12" - Fittings	Lot	1	$70 282,88	$70 282,88		
313	Heat Tracing cables C13-574-COJ	Ft	6 965	$39,18	$272 888,70		
313	Concrete prefabricated Pumping station SP9000 base of 2400 mm by Lecuyer for pipe of 500mm	Unit	1	$74 400,00	$74 400,00		
313	Concrete prefabricated Pumping station SP9000 extension of 5000 mm by Lecuyer	m	Included			Quote from Marcel Baril dated of 08.04.2025	
313	Concrete prefabricated Pumping station SP9000 Connexion of 2100 mm by Lecuyer	Lot	Included			Quote from Lecuyer 11.04.205	
313	galvanized steel ladder with anchor	Lot	Included				
313	butyl gasket for sealing sections (For pumping well and manhole)	Lot	Included				
313	Flex-Lok gasket for sealing the pipe (For pumping well and manhole)	Lot	Included				
313	Prefabricated concrete Manhole ø915 mm Base of 1110mm for pipe of 500mm	Unit	1	$1 600,00	$1 600,00		
313	Prefabricated concrete Manhole ø915 mm ring of 25 mm	Lot	Included				
313	Prefabricated concrete Manhole ø915 mm head of 200mm	Lot	Included				
313	Cast iron cover of ø750 mm. 300mm thick	Lot	Included				
313	Electronic Thermostat NGUTC 6340-01	UNIT	2	$6 911,00	$13 822,00	Quote from George Fisher, 09.04.2025	
313	Temperature Sensor URTD 15G	UNIT	2	$298,25	$596,50	Quote from George Fisher, 09.04.2025	
313	Temperature Sensor URTD 15R	UNIT	2	$298,25	$596,50	Quote from George Fisher, 09.04.2025	
313	Power Feed Kit 1	UNIT	7	$600,00	$4 200,00	Quote from George Fisher, 09.04.2025	
313	Nominal 76 mm (3.0 in) thick standard U.I.P.® urethane insulation c/w black extruded polyethylene, integral heat trace channels on customer supplied pipe	ft	6 965	$88,00	$612 939,63	Quote from George Fisher, 09.04.2025	
313	2"X 2" Air & Vacuum Valve, Crispin, Model AX20-2	UNIT	2	$6 665,70	$13 331,40	Quote from Conval Quebec, 24.04.2025	
C	**Electrical Room**						
313	Panelboard 600V, 125A, 25kA, 7 FEEDERS (2X20, 1X40A, 3X45A, 1X75A)	UNIT	1	$20 000,00	$20 000,00		
313	VFD 50HP, 600V	UNIT	2	$8 010,00	$16 020,00	Quote from ABB 02.05.2025	
313	Divers	Lot	1	$2 000,00	$2 000,00		
D	**Treatment**						
313	Sampson Bag Filter Unit Housings. Flowrate 900gpm. SS304	Unit	2	13999	$27 998,00	Quote from ERE, 10.04.	Ensuring good quality for process water
313	Filtration bags 7" x 32" - 1 micron	Unit	100	14,56	$1 456,00	Quote from ERE	Ensuring good quality for process water
E	**Instrumentation**						
364	Non-Contact Rader Level Transmitter	Unit	1	$ 3 000,00	$3 000,00		
364	Motorized Isolation Valve	Unit	2	$ 18 000,00	$36 000,00		
364	Pressure Transmitter	Unit	1	$ 3 000,00	$3 000,00		
364	Pressure Indicator	Unit	1	$ 3 000,00	$3 000,00		
364	Magnetic Flow Transmitter	Unit	1	$ 10 000,00	$10 000,00		

Schedule of Quantities

702381 SHAAKICHIUWAANAAN - WASTE AND WATER MANAGEMENT - WATER PONDS AND WATER MANAGEMENT (PLANT AREA)

Item #	Description	UNIT	QUANTITY	UNIT RATE ($) CDN	AMOUNT	BASIS OF QUANTITY
	Note: items and quantities completed in client template					
A	**CONTACT WATER PONDS 1 and 2**					
324	CWP1: Tree clearing within local construction area, to include removal of stumps and stockpile in designated area.	m^2	7 269			Calculated from 3D model
324	CWP1: Remove muskeg, organics, topsoil, overburden and unsuitable soil from pond footprint to a nominal depth of 300 mm and stockpile in designated area.	m^2	2 181			Calculated from 3D model
324	CWP1: Excavate overburden to form base of pond to the dimensions and slopes indicated in the drawings. Stockpile excavated material in designated stockpile.	m^3	21 406			Calculated from 3D model
324	CWP1: Excavate 500 mm wide trenches in overburden for installation of subsurface drainage system in base of pond to a depth of up to 1 m, as indicated on the drawings.	m^3	36			Calculated from 3D model
324	CWP1: Supply and install G2 300 g/m^2 non-woven needle punched geotextile as filter layer in subsurface drainage system trench prior to provision of drainage stone. Geotextile to have minimum 300 mm overlap after placement of perforated pipe and drainage stone. Rate to include allowance for wastage, overlap, etc.	m^2	234			Calculated from 3D model
324	CWP1: Supply and install Zone 9 Clear Stone (-19 mm) as drainage medium in subsurface drainage system trench. Rate to include excavation, selection, loading, transport, offloading, spreading or backfilling, final grading, complying with required tolerances, and disposal of spoil, all in accordance with the requirements of the specification.	m^3	36			Calculated from 3D model
324	CWP1: Supply and install 75 mm ID double walled perforated HDPE pipes (DR11) with smooth bore supplied in 6 m length with push fit couplings in trench for subsurface drainage system, to grades and slopes indicated on the drawings. Rate to include transport, offloading, installation, and allowance for wastage.	m	111			Calculated from 3D model
324	CWP1: Supply and install 1.5 m diameter concrete manhole with prefabricated concrete rings, base slab, cover slab, concrete lid and internal step irons. Concrete rings to be 500 mm wide and 83 mm thick. For manhole depth up to 3 m.	No.	1			Estimated from preliminary design
324	CWP1: Supply and install pump in concrete manhole (costed in water treatment section)	No.	1			Estimated from preliminary design
324	CWP1: Excavate 1 m x 1 m trench in overburden around perimeter of pond for geomembrane anchor trench.	m^3	333			Calculated from 3D model
324	CWP1: Supply and install 1.5 mm double textured LLDPE geomembrane on base and slopes of pond as shown in drawings and anchor at crest. Rate to include allowance for wastage, overlap, welding of seams etc.	m^2	7 306			Calculated from 3D model
324	CWP1: Backfill geomembrane anchor with Zone 3 Till/Sand Bentonite Cement Fill.	m^3	333			Calculated from 3D model
324	CWP1: Supply and install G1 500 g/m^2 nonwoven geotextile over geomembrane on base of pond. Rate to include allowance for wastage, overlap, etc.	m^2	2 482			Calculated from 3D model
324	CWP1: Construct ballast layer at base of ponds with Zone 6 Transition Sand and Gravel (-26.5 mm), 0.3 m thick. Rate to include excavate, select, load, transport, offload, spread or backfill, water, compact, final grading, complying with required tolerances, providing for testing, and disposal of spoil. Material sourced from processed material temporary stockpiles.	m^3	683			Calculated from 3D model
324	CWP2: Tree clearing within local construction area, to include removal of stumps and stockpile in designated area.	m^2	5 632			Calculated from 3D model
324	CWP2: Remove muskeg, organics, topsoil, overburden and unsuitable soil from pond footprint to a nominal depth of 300 mm and stockpile in designated area.	m^2	1 690			Calculated from 3D model
324	CWP2: Excavate overburden to form base of pond to the dimensions and slopes indicated in the drawings. Stockpile excavated material in designated stockpile.	m^3	13 358			Calculated from 3D model
324	CWP2: Excavate 500 mm wide trenches in overburden for installation of subsurface drainage system in base of pond to a depth of up to 1 m, as indicated on the drawings.	m^3	35			Calculated from 3D model
324	CWP2: Supply and install G2 300 g/m^2 non-woven needle punched geotextile as filter layer in subsurface drainage system trench prior to provision of drainage stone. Geotextile to have minimum 300 mm overlap after placement of perforated pipe and drainage stone. Rate to include allowance for wastage, overlap, etc.	m^2	231			Calculated from 3D model
324	CWP2: Supply and install Zone 9 Clear Stone (-19 mm) as drainage medium in subsurface drainage system trench. Rate to include excavation, selection, loading, transport, offloading, spreading or backfilling, final grading, complying with required tolerances, and disposal of spoil, all in accordance with the requirements of the specification.	m^3	35			Calculated from 3D model
324	CWP2: Supply and install 75 mm ID double walled perforated HDPE pipes (DR11) with smooth bore supplied in 6 m length with push fit couplings in trench for subsurface drainage system, to grades and slopes indicated on the drawings. Rate to include transport, offloading, installation, and allowance for wastage.	m	110			Estimated from preliminary design

324	CWP2: Supply and install 1.5 m diameter concrete manhole with prefabricated concrete rings, base slab, cover slab, concrete lid and internal step irons. Concrete rings to be 500 mm wide and 83 mm thick. For manhole depth up to 3 m.	No.	1			Estimated from preliminary design
324	CWP2: Supply and install pump in concrete manhole (costed in water treatment section)	No.	1			Estimated from preliminary design
324	CWP2: Excavate 1 m x 1 m trench in overburden around perimeter of pond for geomembrane anchor trench.	m^3	323			Calculated from 3D model
324	CWP2: Supply and install GL 1.5 mm double textured LLDPE geomembrane on base and excavated side slopes of pond as shown in drawings and anchor at crest. Rate to include allowance for wastage, overlap, welding of seams etc.	m^2	4 851			Calculated from 3D model
324	CWP2: Backfill geomembrane anchor with Zone 3 Till/Sand Bentonite Cement Fill.	m^3	323			Calculated from 3D model
324	CWP2: Supply and install G1 500 g/m^2 nonwoven geotextile over geomembrane on base of pond. Rate to include allowance for wastage, overlap, etc.	m^2	1 093			Calculated from 3D model
324	CWP2: Construct ballast layer at base of ponds with Zone 6 Transition Sand and Gravel (-26.5 mm), 0.3 m thick. Rate to include excavate, select, load, transport, offload, spread or backfill, water, compact, final grading, complying with required tolerances, providing for testing, and disposal of spoil. Material sourced from processed material temporary stockpiles.	m^3	278			Calculated from 3D model
	Subtotal					

B	SEDIMENTATION AND POLISHING PONDS					
325	SP1&2: Tree clearing within local construction area, to include removal of stumps and stockpile in designated area.	m^2	42 358			Calculated from 3D model
325	SP1&2: Remove muskeg, organics, topsoil, overburden and unsuitable soil from dam and pond footprint to a nominal depth of 300 mm and stockpile in designated area.	m^3	12 311			Calculated from 3D model
325	SP1&2: Excavate overburden to form base of pond to the dimensions and slopes indicated in the drawings. Stockpile excavated material in designated stockpile.	m^3	4 308			Calculated from 3D model
325	SP1&2: Regrade excavated overburden and nominally compact to achieve uniform slopes indicated in the drawings. Stockpile excess excavated material in designated stockpile.	m^3	8 422			Calculated from 3D model
325	SP1&2: Excavate 500 mm wide trenches in overburden for installation of subsurface drainage system in base of pond to a depth of 0.5 m, as indicated on the drawings.	m^3	63			Calculated from 3D model
325	SP1&2: Supply and install G2 300 g/m^2 non-woven needle punched geotextile as filter layer in subsurface drainage system trench prior to provision of drainage stone. Geotextile to have minimum 300 mm overlap after placement of perforated pipe and drainage stone. Rate to include allowance for wastage, overlap, etc.	m^2	575			Calculated from 3D model
325	SP1&2: Supply and install Zone 9 Clear Stone (-19 mm) as drainage medium in subsurface drainage system trench. Rate to include excavation, selection, loading, transport, offloading, spreading or backfilling, final grading, complying with required tolerances, and disposal of spoil, all in accordance with the requirements of the specification.	m^3	63			Calculated from 3D model
325	SP1&2: Supply and install 75 mm ID double walled perforated HDPE pipes (DR11) with smooth bore supplied in 6 m length with push fit couplings in trench for subsurface drainage system, to grades and slopes indicated on the drawings. Rate to include transport, offloading, installation, and allowance for wastage.	m	250			Calculated from 3D model
325	SP1&2: Rip base of dam embankment to a depth of 200 mm and compact to 95% Standard Proctor density.	m^2	31 976			Calculated from 3D model
325	SP1&2: Construct embankments with Zone 2 Waste Rock (-450 mm), including perimeter and central dams. Rate to include excavate, select, load, transport, offload, spread or backfill, water, compact, final grading, complying with required tolerances, providing for testing, and disposal of spoil. Material sourced from pit development or stockpiles as identified by Owner.	m^3	170 594			Calculated from 3D model
325	SP1&2: Construct access ramps using Zone 2 Waste Rock (-450 mm) to grades shown on drawings. Rate to include excavate, select, load, transport, offload, spread or backfill, water, compact, final grading, complying with required tolerances, providing for testing, and disposal of spoil. Material sourced from pit development or stockpiles as identified by Owner.	m^3	1 820			Calculated from 3D model
325	SP1&2: Construct upstream Zone 6 Transition Sand and Gravel (-26.5 mm) layer 0.3 m thick on upstream dam and access ramp slopes. Rate to include excavate, select, load, transport, offload, spread or backfill, water, compact, final grading, complying with required tolerances, providing for testing, and disposal of spoil. Material sourced from processed material temporary stockpiles.	m^3	6 586			Calculated from 3D model
325	SP1&2: Construct upstream Zone 5 Filter/Bedding Sand (-4.75 mm) layer 0.3 m thick on upstream dam and access ramp slopes. Rate to include excavate, select, load, transport, offload, spread or backfill, water, compact, final grading, complying with required tolerances, providing for testing, and disposal of spoil. Material sourced from processed material temporary stockpiles.	m^3	6 586			Calculated from 3D model
325	SP1&2: Supply and install vibrating wire piezometers (VWP, RST Instruments Part #VW2100, 0.35 MPa) at the toe of the highest portion of the lined pond dam (1 per dam). Rate to include transport, offloading, installation, calibration.	No.	2			Estimated from preliminary design
325	SP1&2: Supply and install VWP enclosures (4", RST Instruments Part #DT2011-SE) at each VWP location. Rate to include transport, offloading, installation.	No.	2			Estimated from preliminary design
325	SP1&2: Supply and install Single Channel VWP Datalogger (RST Instruments Part #DT2011B) at the crest of the dam above each VWP location. Rate to include transport, offloading, installation, calibration.	No.	2			Estimated from preliminary design
325	SP1&2: Supply and install Cable splice kit (RST Instruments Part #ELSPLICE4) at each VWP location. Rate to include transport, offloading, installation.	No.	2			Estimated from preliminary design
325	SP1&2: Supply and install cable to connect each VWP to a data logger. Rate to include transport, offloading, installation, calibration.	m	100			Estimated from preliminary design
325	SP1&2: Supply and install GL 1.5 mm double textured LLDPE geomembrane on pond base and upstream slopes of embankments and anchor at crest as shown in drawings. Rate to include allowance for wastage, overlap, welding of seams etc.	m^2	33 918			Calculated from 3D model
325	SP1&2: Backfill geomembrane anchor with Zone 3 Till/Sand Bentonite Cement Fill.	m^3	1 161			Calculated from 3D model
325	SP1&2: Supply and install G1 500 g/m^2 nonwoven geotextile over geomembrane on base of pond. Rate to include allowance for wastage, overlap, etc.	m^2	9 985			Calculated from 3D model
325	SP1&2: Construct ballast layer at base of ponds with Zone 6 Transition Sand and Gravel (-26.5 mm), 0.3 m thick. Rate to include excavate, select, load, transport, offload, spread or backfill, water, compact, final grading, complying with required tolerances, providing for testing, and disposal of spoil. Material sourced from processed material temporary stockpiles.	m^3	2 719			Calculated from 3D model
325	SP1&2: Supply and install Zone 4 Granular B Type II 300 mm on access ramp surfaces.	m^3	330			Calculated from 3D model

325	SP1&2: Supply and install 20 MPa concrete pad 0.3 m thick on lined access ramp surfaces.	m^3	330			Calculated from 3D model
325	SP1&2: Supply and install Zone 4 Granular B Type II minimum 300 mm thick wearing course on crest of dam for vehicular access as well as graded ramps between connecting dams of different heights.	m^3	3 874			Calculated from 3D model
325	SP1&2: Supply and install Zone 4 Granular B Type II safety berms on both sides of dam crest as indicated on the drawings.	m^3	1 393			Calculated from 3D model
325	SP1&2: Excavate in each Sedimentation Pond dam to form spillway to Polishing Pond as indicated on the drawings.	m^3	500			Estimated from preliminary design
325	SP1&2: Supply and install Zone 4 Granular B Type II 300 mm on spillway base as indicated on the drawings.	m^3	34			Calculated from 3D model
325	SP1&2: Supply and place 30 MPa reinforced concrete spillway as shown on drawings. Rate to include formwork and reinforcement.	m^3	50			Estimated from preliminary design
325	SP1&2: Provide and install anchor bolts to affix GL 1.5 mm double textured LLDPE geomembrane to concrete. Rate to include stainless steel batton and rubber gaskets.	No.	150			Estimated from preliminary design
325	PP: Tree clearing within local construction area including spillway chute, to include removal of stumps and stockpile in designated area.	m^2	49 297			Calculated from 3D model
325	PP: Remove muskeg, organics, topsoil, overburden and unsuitable soil from dam, pond, and spillway chute footprint to a nominal depth of 300 mm and stockpile in designated area.	m^3	14 186			Calculated from 3D model
325	PP: Excavate overburden to form base of pond to the dimensions and slopes indicated in the drawings. Stockpile excavated material in designated stockpile.	m^3	3 532			Calculated from 3D model

325	PP: Regrade excavated overburden and nominally compact to achieve uniform slopes indicated in the drawings. Stockpile excess excavated material in designated stockpile.	m^3	6 906			Calculated from 3D model
325	PP: Excavate 500 mm wide trenches in overburden for installation of subsurface drainage system in base of pond to a depth of 0.5 m, as indicated on the drawings.	m^3	75			Calculated from 3D model
325	PP: Supply and install G2 300 g/m^2 non-woven needle punched geotextile as filter layer in subsurface drainage system trench prior to provision of drainage stone. Geotextile to have minimum 300 mm overlap after placement of perforated pipe and drainage stone. Rate to include allowance for wastage, overlap, etc.	m^2	690			Calculated from 3D model
325	PP: Supply and install Zone 9 Clear Stone (-19 mm) as drainage medium in subsurface drainage system trench. Rate to include excavation, selection, loading, transport, offloading, spreading or backfilling, final grading, complying with required tolerances, and disposal of spoil, all in accordance with the requirements of the specification.	m^3	75			Calculated from 3D model
325	PP: Supply and install 75 mm ID double walled perforated HDPE pipes (DR11) with smooth bore supplied in 6 m length with push fit couplings in trench for subsurface drainage system, to grades and slopes indicated on the drawings. Rate to include transport, offloading, installation, and allowance for wastage.	m	300			Calculated from 3D model
325	PP: Supply and install 1.5 m diameter concrete manhole with prefabricated concrete rings, base slab, cover slab, concrete lid and internal step irons. Concrete rings to be 500 mm wide and 83 mm thick. For manhole depth of 1 to 2 m.	No.	1			Estimated from preliminary design
325	PP: Supply and install pump in concrete manhole (costed in water treatment section)	No.	1			Estimated from preliminary design
325	PP: Rip base of dam embankment to a depth of 200 mm and compact to 95% Standard Proctor density.	m^2	30 473			Calculated from 3D model
325	PP: Construct embankments with Zone 2 Waste Rockfill (-450 mm), including perimeter and central dams. Rate to include excavate, select, load, transport, offload, spread or backfill, water, compact, final grading, complying with required tolerances, providing for testing, and disposal of spoil. Material sourced from pit development or stockpiles as identified by Owner.	m^3	187 024			Calculated from 3D model
325	PP: Construct upstream Zone 6 Transition Sand and Gravel (-26.5 mm) layer 0.3 m thick on upstream dam slopes. Rate to include excavate, select, load, transport, offload, spread or backfill, water, compact, final grading, complying with required tolerances, providing for testing, and disposal of spoil. Material sourced from processed material temporary stockpiles.	m^3	4 190			Calculated from 3D model
325	PP: Construct upstream Zone 5 Filter/Bedding Sand (-4.75 mm) layer 0.3 m thick on upstream dam slopes. Rate to include excavate, select, load, transport, offload, spread or backfill, water, compact, final grading, complying with required tolerances, providing for testing, and disposal of spoil. Material sourced from processed material temporary stockpiles.	m^3	4 190			Calculated from 3D model
325	PP: Supply and install vibrating wire piezometers (VWP, RST Instruments Part #VW2100, 0.35 MPa) at the toe of the highest portion of the lined pond dam. Rate to include transport, offloading, installation, calibration.	No.	1			Estimated from preliminary design
325	PP: Supply and install VWP enclosures (4", RST Instruments Part #DT2011-SE) at each VWP location. Rate to include transport, offloading, installation.	No.	1			Estimated from preliminary design
325	PP: Supply and install Single Channel VWP Datalogger (RST Instruments Part #DT2011B) at the crest of the dam above each VWP location. Rate to include transport, offloading, installation, calibration.	No.	1			Estimated from preliminary design
325	PP: Supply and install Cable splice kit (RST Instruments Part #ELSPLICE4) at each VWP location. Rate to include transport, offloading, installation.	No.	1			Estimated from preliminary design
325	PP: Supply and install cable to connect each VWP to a data logger. Rate to include transport, offloading, installation, calibration.	m	50			Estimated from preliminary design
325	PP: Supply and install GL 1.5 mm double textured LLDPE geomembrane on pond base and upstream slopes of embankments and anchor at crest as shown in drawings. Rate to include allowance for wastage, overlap, welding of seams etc.	m^2	28 590			Calculated from 3D model
325	PP: Backfill geomembrane anchor trench with Zone 3 Till/Sand Bentonite Cement Fill.	m^3	574			Calculated from 3D model
325	PP: Supply and install G1 500 g/m^2 nonwoven geotextile over geomembrane on base of pond. Rate to include allowance for wastage, overlap, etc.	m^2	13 689			Calculated from 3D model
325	PP: Construct ballast layer at base of ponds with Zone 6 Transition Sand and Gravel (-26.5 mm), 0.3 m thick. Rate to include excavate, select, load, transport, offload, spread or backfill, water, compact, final grading, complying with required tolerances, providing for testing, and disposal of spoil. Material sourced from processed material temporary stockpiles.	m^3	3 956			Calculated from 3D model
325	PP: Supply and install Zone 4 Granular B Type II minimum 300 mm thick wearing course on crest of dam for vehicular access as well as graded ramps between connecting dams of different heights.	m^3	1 847			Calculated from 3D model
325	PP: Supply and install Zone 4 Granular B Type II safety berms on both sides of dam crest as indicated on the drawings.	m^3	861			Calculated from 3D model
325	PP: Construct spillway chute with Zone 2 Waste Rockfill (-450 mm). Rate to include excavate, select, load, transport, offload, spread or backfill, water, compact, final grading, complying with required tolerances, providing for testing, and disposal of spoil. Material sourced from pit development or stockpiles as identified by Owner.	m^3	12 810			Calculated from 3D model

325	PP: Supply and install three 36 inch DR21 HDPE pipes through dam (covered under WBS 366).	m	315			Estimated from preliminary design
325	PP: Supply and install Zone 4 Granular B Type II for pipe bedding and trench backfill around pipes through dam in layers of 200 mm thick and compact to 90% standard Proctor density. Rate to include excavation, selection, loading, transport, offloading, spreading or backfilling, water, compaction, final grading, complying with required tolerances, providing for testing, and disposal of spoil. Material sourced from processed material temporary stockpiles.	m^3	80			Estimated from preliminary design
325	PP: Excavate emergency spillway in Polishing Pond dam embankment and spillway chute to the lines and grades shown on the drawings.	m^3	3 517			Estimated from preliminary design
325	PP: Supply and install Zone 4 Granular B Type II in layers of 200 mm thick and compact to 90% standard Proctor density in base of emergency spillway. Rate to include excavation, selection, loading, transport, offloading, spreading or backfilling, water, compaction, final grading, complying with required tolerances, providing for testing, and disposal of spoil. Material sourced from processed material temporary stockpiles.	m^3	30			Estimated from preliminary design
325	PP: Supply and install 20 MPa concrete sill 0.3 m thick on Zone 4 placed on base of spillway to set the spillway sill elevation as indicated on the drawings.	m^3	30			Estimated from preliminary design
325	PP: Provide and install anchor bolts to affix GL 1.5 mm double textured LLDPE geomembrane to concrete. Rate to include stainless steel batton and rubber gaskets.	No.	67			Estimated from preliminary design
325	PP: Supply and install G1 500 g/m^2 nonwoven geotextile on spillway side slopes through the dam and on the base and side slopes in the spillway chute. Rate to include allowance for anchoring, wastage, overlap, etc.	m^2	2 483			Estimated from preliminary design
325	PP: Supply and install Zone 7a Rip-Rap Erosion Protection with D50 = 200 mm and place in 300 mm thick layer on geotextile on sideslopes in spillway weir on dam crest. Rate to include excavate, select, load, transport, offload, spread or backfill, final grading, complying with required tolerances, and disposal of spoil, all in accordance with the requirements of the specification. Sourced from open pit development or stockpiles as identified by Owner.	m^3	75			Estimated from preliminary design
325	PP: Supply and install Zone 7c Spillway Erosion Protection with D50 = 400 mm and place in 500 mm thick layer on geotextile in base of ditch and sideslopes in spillway chute. Rate to include excavate, select, load, transport, offload, spread or backfill, final grading, complying with required tolerances, and disposal of spoil, all in accordance with the requirements of the specification. Sourced from open pit development or stockpiles as identified by Owner.	m^3	3 122			Estimated from preliminary design
	Subtotal					

c	CONTAMINATED CONTACT WATER POND					
326	CCWP: Tree clearing within local construction area, to include removal of stumps and stockpile in designated area.	m^2	15 684			Calculated from 3D model
326	CCWP: Remove muskeg, organics, topsoil, overburden and unsuitable soil from dam and pond footprint to a nominal depth of 300 mm and stockpile in designated area.	m^3	4 288			Calculated from 3D model
325	CCWP: Excavate overburden to form base of pond to the dimensions and slopes indicated in the drawings. Stockpile excavated material in designated stockpile.	m^3	1 637			Calculated from 3D model
326	CCWP: Regrade excavated overburden and nominally compact to achieve uniform slopes indicated in the drawings. Stockpile excess excavated material in designated stockpile.	m^3	3 200			Calculated from 3D model
326	CCWP: Excavate 500 mm wide trenches in overburden for installation of subsurface drainage system in base of pond to a depth of 1 m, as indicated on the drawings.	m^3	120			Calculated from 3D model
326	CCWP: Supply and install G2 300 g/m^2 non-woven needle punched geotextile as filter layer in subsurface drainage system trench prior to provision of drainage stone. Geotextile to have minimum 300 mm overlap after placement of perforated pipe and drainage stone. Rate to include allowance for wastage, overlap, etc.	m^2	792			Calculated from 3D model
326	CCWP: Supply and install Zone 9 Clear Stone (-19 mm) as drainage medium in subsurface drainage system trench. Rate to include excavation, selection, loading, transport, offloading, spreading or backfilling, final grading, complying with required tolerances, and disposal of spoil, all in accordance with the requirements of the specification.	m^3	120			Calculated from 3D model
326	CCWP: Supply and install 75 mm ID double walled perforated HDPE pipes (DR11) with smooth bore supplied in 6 m length with push fit couplings in trench for subsurface drainage system, to grades and slopes indicated on the drawings. Rate to include transport, offloading, installation, and allowance for wastage.	m	240			Calculated from 3D model
326	CCWP: Supply and install 1.5 m diameter concrete manhole with prefabricated concrete rings, base slab, cover slab, concrete lid and internal step irons. Concrete rings to be 500 mm wide and 83 mm thick. For manhole depth of 1 to 2 m.	No.	1			Estimated from preliminary design
326	CCWP: Supply and install pump in concrete manhole (costed in water treatment section)	No.	1			Estimated from preliminary design
326	CCWP: Rip base of dam embankment to a depth of 200 mm and compact to 95% Standard Proctor density.	m^2	11 382			Calculated from 3D model
326	CCWP: Construct embankments with Zone 2 Waste Rock (-450 mm), including perimeter and central dams. Rate to include excavate, select, load, transport, offload, spread or backfill, water, compact, final grading, complying with required tolerances, providing for testing, and disposal of spoil. Material sourced from pit development or stockpiles as identified by Owner.	m^3	34 119			Calculated from 3D model
326	CCWP: Construct upstream Zone 6 Transition Sand and Gravel (-26.5 mm) layer 0.3 m thick on upstream dam slopes. Rate to include excavate, select, load, transport, offload, spread or backfill, water, compact, final grading, complying with required tolerances, providing for testing, and disposal of spoil. Material sourced from processed material temporary stockpiles.	m^3	1 376			Calculated from 3D model
326	CCWP: Construct upstream Zone 5 Filter/Bedding Sand (-4.75 mm) layer 0.3 m thick on upstream dam slopes. Rate to include excavate, select, load, transport, offload, spread or backfill, water, compact, final grading, complying with required tolerances, providing for testing, and disposal of spoil. Material sourced from processed material temporary stockpiles.	m^3	1 376			Calculated from 3D model
326	CCWP: Supply and install vibrating wire piezometers (VWP, RST Instruments Part #VW2100, 0.35 MPa) at the toe of the highest portion of the lined pond dam. Rate to include transport, offloading, installation, calibration.	No.	1			Estimated from preliminary design
326	CCWP: Supply and install VWP enclosures (4", RST Instruments Part #DT2011-SE) at each VWP location. Rate to include transport, offloading, installation.	No.	1			Estimated from preliminary design
326	CCWP: Supply and install Single Channel VWP Datalogger (RST Instruments Part #DT2011B) at the crest of the dam above each VWP location. Rate to include transport, offloading, installation, calibration.	No.	1			Estimated from preliminary design
326	CCWP: Supply and install Cable splice kit (RST Instruments Part #ELSPLICE4) at each VWP location. Rate to include transport, offloading, installation.	No.	1			Estimated from preliminary design
326	CCWP: Supply and install cable to connect each VWP to a data logger. Rate to include transport, offloading, installation, calibration.	m	40			Estimated from preliminary design
326	CCWP: Supply and install GL 1.5 mm double textured LLDPE geomembrane on pond base and upstream slopes of embankments and anchor at crest as shown in drawings. Rate to include allowance for wastage, overlap, welding of seams etc.	m^2	8 187			Calculated from 3D model
326	CCWP: Backfill geomembrane anchor trench with Zone 3 Till/Sand Bentonite Cement Fill.	m^3	352			Calculated from 3D model
326	CCWP: Supply and install G1 500 g/m^2 nonwoven geotextile over geomembrane on base of pond. Rate to include allowance for wastage, overlap, etc.	m^2	2 937			Calculated from 3D model

326	CCWP: Construct ballast layer at base of ponds with Zone 6 Transition Sand and Gravel (-26.5 mm), 0.3 m thick. Rate to include excavate, select, load, transport, offload, spread or backfill, water, compact, final grading, complying with required tolerances, providing for testing, and disposal of spoil. Material sourced from processed material temporary stockpiles.	m^3	846			Calculated from 3D model
326	CCWP: Supply and install Zone 4 Granular B Type II minimum 300 mm thick wearing course on crest of dam for vehicular access as well as graded ramps between dams of varying heights.	m^3	1 055			Calculated from 3D model
326	CCWP: Supply and install Zone 4 Granular B Type II safety berms on both sides of dam crest as indicated on the drawings.	m^3	527			Calculated from 3D model
326	CCWP: Construct access road to dam with Zone 2 Waste Rock (-450 mm). Rate to include excavate, select, load, transport, offload, spread or backfill, water, compact, final grading, complying with required tolerances, providing for testing, and disposal of spoil. Material sourced from pit development or stockpiles as identified by Owner.	m^3	764			Calculated from 3D model
326	CCWP: Supply and install Zone 4 Granular B Type II minimum 300 mm thick wearing course on dam access road.	m^3	144			Calculated from 3D model
	Subtotal					
D	**TREATED WATER COLLECTION POND**					
361	Treated water collection pond (TWCP): Tree clearing within local construction area, to include removal of stumps and stockpile in designated area.	m^2	10 122			Calculated from 3D model
361	TWCP: Remove muskeg, organics, topsoil, overburden and unsuitable soil from pond footprint to a nominal depth of 300 mm and stockpile in designated area.	m^2	10 122			Calculated from 3D model
361	TWCP: Excavate overburden to bedrock within pond footprint. Stockpile excavated material in designated stockpile.	m^3	52 255			Calculated from 3D model with assumed bedrock elevation at El. 374 m based on limited available borehole data
361	TWCP: Blast bedrock to form base of pond to the dimensions and slopes indicated in the drawings. Stockpile excavated material in designated stockpile.	m^3	6 848			Calculated from 3D model with assumed bedrock elevation at El. 374 m based on limited available borehole data
361	TWCP: Supply and install slush grout on exposed bedrock surface for liner surface preparation.	m^2	2 911			Calculated from 3D model
361	TWCP: Blast 500 mm wide trench in bedrock for installation of subsurface drainage system in base of pond to a depth of up to 1 m, as indicated on the drawings.	m^3	43			Bedrock elevation assumed at El. 374 m based on limited available borehole data. 0.5 m width x 1 m depth x 86 m length
361	TWCP: Supply and install G2 300 g/m^2 non-woven needle punched geotextile as filter layer in subsurface drainage system trench prior to provision of drainage stone. Geotextile to have minimum 300 mm overlap after placement of perforated pipe and drainage stone. Rate to include allowance for wastage, overlap, etc.	m^2	285			Calculated from 3D model
361	TWCP: Supply and install Zone 9 Clear Stone (-19 mm) as drainage medium in subsurface drainage system trench. Rate to include excavation, selection, loading, transport, offloading, spreading or backfilling, final grading, complying with required tolerances, and disposal of spoil, all in accordance with the requirements of the specification.	m^3	43			0.5 m width x 1 m depth x 86 m length
361	TWCP: Supply and install 75 mm ID double walled perforated HDPE pipes (DR11) with smooth bore supplied in 6 m length with push fit couplings in trench for subsurface drainage system, to grades and slopes indicated on the drawings. Rate to include transport, offloading, installation, and allowance for wastage.	m	110			Estimated from preliminary design
361	TWCP: Supply and install 1.5 m diameter concrete manhole with prefabricated concrete rings, base slab, cover slab, concrete lid and internal step irons. Concrete rings to be 500 mm wide and 83 mm thick. For manhole depth up to 3 m.	No.	1			Estimated from preliminary design
361	TWCP: Supply and install pump in concrete manhole (costed in water treatment section)	No.	1			Estimated from preliminary design
361	TWCP: Excavate 1 m x 1 m trench in overburden around perimeter of pond for geomembrane anchor trench.	m^3	393			Calculated from 3D model
361	TWCP: Supply and install GL 1.5 mm double textured LLDPE geomembrane on base and slopes of pond as shown in drawings and anchor at crest. Rate to include allowance for wastage, overlap, welding of seams etc.	m^2	10 251			Calculated from 3D model
361	TWCP: Backfill geomembrane anchor trench with Zone 3 Till/Sand Bentonite Cement Fill.	m^3	393			Calculated from 3D model
361	TWCP: Supply and install G1 500 g/m^2 nonwoven geotextile over geomembrane on base of pond. Rate to include allowance for wastage, overlap, etc.	m^2	3 133			Calculated from 3D model
361	TWCP: Construct ballast layer at base of ponds with Zone 6 Transition Sand and Gravel (-26.5 mm), 0.3 m thick. Rate to include excavate, select, load, transport, offload, spread or backfill, water, compact, final grading, complying with required tolerances, providing for testing, and disposal of spoil. Material sourced from processed material temporary stockpiles.	m^3	843			Calculated from 3D model
	Subtotal					
	TOTAL COST					

Schedule of Quantities

702381 SHAAKICHIUWAANAAN - WASTE AND WATER MANAGEMENT -PHASE 1 DYKES

WBS	Description	UNIT	QUANTITY	UNIT RATE ($) CDN	AMOUNT	Basis of Quantities
A	**DYKE IN LAKE 001 PHASE 1**					
327	Remove muskeg, organics, topsoil, overburden and unsuitable soil from dyke footprint (on dry land) to a nominal depth of 300 mm and stockpile in designated area.	m^2	5 600			The dam footprint on land from the Autocad model
327	Remove lake sediments from below dyke footprint with dredging or long reach excavator to a depth of 1.5 m.	m^3	7 800			The dam footprint underwater from the Autocad model, and the thickness of the loose materilas in lake sediment interpreted from BH logs
327	Supply and Install silt curtains in Lake 001 on the upstream and downstream sides of Phase 1 Dyke	m^2	1 200			Considering the height from the water level to the lake bed
327	Load, haul , dump and construct central berm in water with dumping and dozing method from edge of water with Zone 1 crushed stone (-75 mm) sourced from on-site stockpile	m^3	3 700			From deisgn of dam, using Civil 3D
327	Construct side berms in water with select Mine Rockfill (-450 mm) with dumping and dozing method from edge of water. (Below El 375m)	m3	13 900			From deisgn of dam, using Civil 3D
327	Supply and install steel sheet piles to bedrock within Zone 1 to form a barrier against water infiltration and to ensure the structural integrity of the dyke. Top of sheet pile elevation to match final dyke elevation	m^2	1 500			From the dam length and depth of the IDF water level to the bedrock
327	Construct remaining berm above crushed stone layer and adjacent to sheet pile to final berm elevation with Zone 2 Mine Rockfill (-450 mm) (Above EL 375m)	m^3	10 500			From deisgn of dam, using Civil 3D
327	Load, haul, place, and compact Granular B Type II from stockpile on crest of dyke for vehicular access, including safety berms on dam crest.	m^3	600			From deisgn of dam, using Civil 3D
	Subtotal				$0,00	
B	**DYKE IN LAKE 001 PHASE 2**					
327	Remove muskeg, organics, topsoil, overburden and unsuitable soil from dyke footprint (on dry land) to a nominal depth of 300 mm and stockpile in designated area.	m^2	9 800			The dam footprint on land from the Autocad model
327	Remove lake sediments from below dyke footprint with dredging or long reach excavator to a depth of 1.5 m.	m^3	44 300			The dam footprint underwater from the Autocad model, and the thickness of the loose materilas in lake sediment interpreted from BH logs
327	Supply and Install silt curtains in Lake 001 on the upstream and downstream sides of Phase 1 Dyke	m^2	2 800			Considering the height from the water level to the lake bed
327	Load, haul , dump and construct central berm in water with dumping and dozing method from edge of water with Zone 1 crushed stone (-75 mm) sourced from on-site stockpile.	m^3	23 900			From deisgn of dam, using Civil 3D
327	Construct side berms in water with select Mine Rockfill (-450 mm) with dumping and dozing method from edge of water. (below EL 375m)	m3	71 100			From deisgn of dam, using Civil 3D
327	Supply and install steel sheet piles to bedrock within Zone 1 to form a barrier against water infiltration and to ensure the structural integrity of the dyke. Top of sheet pile elevation to match final dyke elevation	m^2	7 200			From the dam length and depth of the IDF water level to the bedrock
327	Construct remaining berm above crushed stone layer and adjacent to sheet pile to final berm elevation with Zone 2 Mine Rockfill (-450 mm) (Above EL 375m)	m^3	26 800			From deisgn of dam, using Civil 3D
	Load, haul, place, and compact Granular B Type II from stockpile on crest of dyke for vehicular access, including safety berms on dam crest.	m^3	1 400		$0,00	From deisgn of dam, using Civil 3D
C	**SEDIMENT CONTROL DAM**					
327	Remove lake sediments from below dyke footprint with dredging or long reach excavator to a depth of 1.5 m.	m^3	1 188			The dam footprint from the Autocad model, and the thickness of the loose materilas in lake sediment interpreted from BH logs
327	Construct berm with Zone 2 Mine Rockfill (-450 mm)	m^3	772			From deisgn of dam, using Civil 3D
	Subtotal				**$0,00**	
	TOTAL COST				**$0,00**	

Schedule of Quantities

702381 SHAAKICHIUWAANAAN - WASTE AND WATER MANAGEMENT - DIVERSION DITCH

WBS	Description	UNIT	QUANTITY	UNIT RATE ($) CDN	AMOUNT	
A	**FOUNDATION PREPARATION**					
329	Excavate topsoil and soft material (overburden) to form the required channel profile in areas where it is aligned through natural soil. To be placed in Overburden Pile 04 or 05.	m^3	6 000			0.4 m of overburden as per BH CV 780/782
329	Blast bedrock to form the required channel profile in areas where it is aligned through rocky terrain. Remove blast muck and place it in the StockPile 001	m^3	61 000			Assuming bed rock below 0.4 m of surface as per BH CV 780/782.
329	Supply and install 500g/m2 non-woven needle punched geotextile below rip-rap for erosion protection in the channel induding anchoring as per detail in areas where is is aligned through natural soil. Rate to include allowance for wasteage, overlap, stitching of seams etc.	m^2	157			Assuming 15% of the channel needs to be ripraped.
329	Install Zone 7 rip-rap for erosion protection with D50 = 200 mm and place in 300 mm thick layer on geotextile in base and sideslopes of the ditches as per detail in areas where it is aligned through natural soil. Rate to include excavation, selection, loading, transport, offloading, spreading or backfilling, water, compaction, final grading, complying with required tolerances, providing for testing, and disposal of spoil. (Sourced from open pit development or stockpiles as identified by Owner)	m^3	517			Assuming 15% of the channel needs to be ripraped.
329	Backfill with blasted rock along the channel crest to meet the required channel profile and depth where required. Rate to include loading, transport, offloading, spreading or backfilling.	m^3	200			Assummed
C	**MISCELLANEOUS WORK ITEMS**					
	Subtotal					
	TOTAL COST					

Schedule of Quantities

702381 SHAAKICHIUWAANAAN - WASTE AND WATER MANAGEMENT - WATER TREATMENT FOR POTABLE PRODUCTION

Item #	Description	UNIT	QUANTITY	UNIT RATE ($) CDN	AMOUNT	Basis of estimate
A	**Treatment plant**					
331	Potable water production - Treatment Unit - 176 m3/d (450 rooms) - No installation, no delivery	UNIT	1	$1 671 554,00	$1 671 554,00	Supplier quote
331	Delivery of the plant to the site - 4 containers					
331	Installation and interconnecting piping					
331	First fill of chemical for start-up	lot	1	$1 200,00	$1 200,00	
331	Commissioning and training of operators (5% of total price)	lot	1	$83 577,70	$83 577,70	
331						
B	**Pipeline**					
331						
331						
331						
C	**Electrical Room**					
331	Panelboard 600V, 125A, 25kA, 9 FEEDERS (9X20A, 1x30A)	UNIT	1	$6 262,29	$6 262,29	Quote from ABB 01.05.2025
331	VFD 7,5HP, 600V	UNIT	2	$2 000,00	$4 000,00	Quote from ABB 0xx.05.2025
331	VFD 20HP, 600V	UNIT	2	$3 400,00	$6 800,00	Quote from ABB 0xx.05.2025
331	Divers	Lot	1			
D	**Services**					
331						
331						
E	**Ground preparation**					
331	Remove muskeg, organics, topsoil, overburden and unsuitable soil from designated footprint and stockpile in designated area.	m2	120			
331	Slab on Grade Concrete 30 Mpa for containers 4in (100mm) - Including FormWork, Welded Wire Mesh, Embeds and anchor Bolts	m2	74			
331		m3				
331		m2				

Schedule of Quantities

702381 SHAAKICHIUWAANAAN - WASTE AND WATER MANAGEMENT - POTABLE WATER DISTRIBUTION

Item #	Description	UNIT	QUANTITY	UNIT RATE ($) CDN	AMOUNT
A	**Pumping station - FWD-PMP-001/002**				
333					
333					

Schedule of Quantities

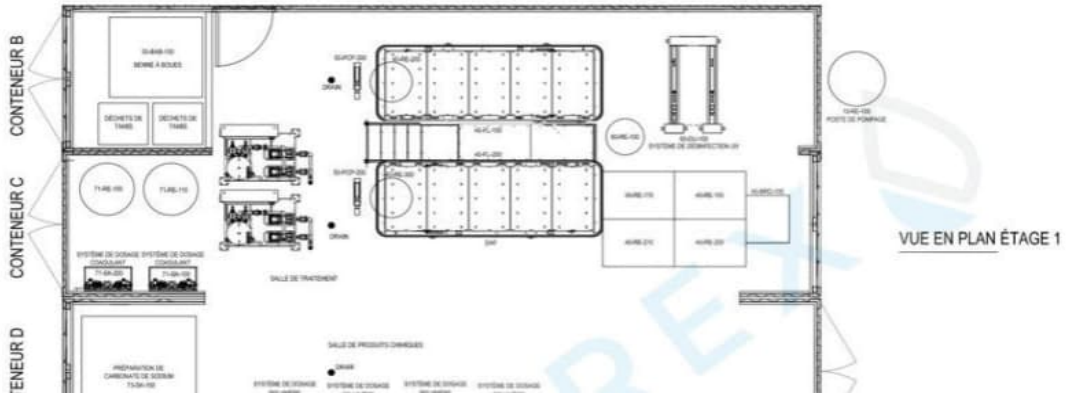
702381 SHAAKICHIUWAANAAN - WASTE AND WATER MANAGEMENT - SEWAGE TREATMENT PLANT

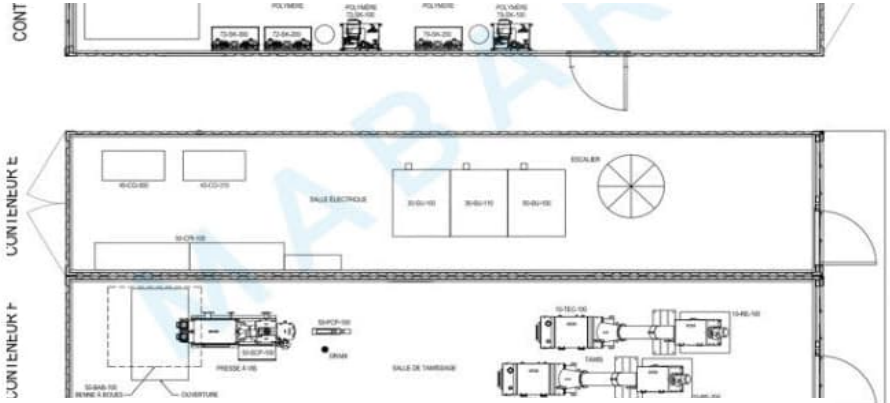
Item #	Description	UNIT	QUANTITY	UNIT RATE ($) CDN	AMOUNT	Basis of estimate
A	**Treatment plant**					
341	Ultimo SMBR - Sewage water treatment unit - Mabarex - 176 m3/d (450 rooms) - No installation, no delivery	UNIT	1	$4 618 114,00	$4 618 114,00	Supplier quote from Mabarex
341	Delivery of the plant to the site - 5 containers + 2 reservoirs					
341						
341	First fill of chemical for start-up	lot	1	$18 800,00	$18 800,00	
341	Commissioning and training of operators (5% of total price)	lot	1	$230 905,70	$230 905,70	
341						
341						
B	**Pipeline**					
341	Potable water pipeline between potable production plant and sewage treatment plant - DR17 - 2in - Butt fusion	m	100	$3,08	$308,00	
341	Potable water pipeline between potable production plant and sewage treatment plant - DR17 - 2in - fittings	lot	1	$92,40	$92,40	
C	**Electrical Room**					
341	Panelboard 600V, 600A, 25kA, 11 FEEDERS (20X20A, 1X40)	UNIT	1	$25 000,00	$25 000,00	
341	VFD 7,5HP, 600V	UNIT	8	$2 000,00	$16 000,00	Quote from ABB 0xx.05.2025
341	VFD 15HP, 600V	UNIT	8	$2 800,00	$22 400,00	Quote from ABB 0xx.05.2025
D	**Services**					
		TBD				
E	**Ground preparation**					
341	Crushed stone, backfill and compaction	m2	500			
341	Remove muskeg, organics, topsoil, overburden and unsuitable soil from designated footprint and stockpile in designated area.	m2	500			
341	Slab on Grade Concrete 30 Mpa for containers 4in (100mm) - Including FormWork, Welded Wire Mesh, Embeds and anchor Bolts	m2	53			

NN10260950
25,000 gal. (US) 20,880 gal. (UK) 94,600 L
Diamètre: 3,048 mm (10')
Longueur: 13,996 aim (45' 11")
Poids: 3,425 kg (7,550 livres)

NN08350687
18,000 gal. (US) 14,990 gal. (UK) 68,100 L
Diamètre: 2,438 mm (8')
Longueur: 16,573 mm (54' 4 1/2")
Poids: 2,654 kg (6,860 livres)

*Considering the footprint of 3X40' containers + 2 X40' containers for the two reservoirs





VUE EN PLAN ÉTAGE 2

sol du bâtiment mécanique constitué de cinq conteneurs de 40' et des deux
-sols en fibre de verre isolés (prétraitement/bioréacteur totalisant 65 m^3 et 85 m^3
ge des boues) représente environ 500 m^2.

Schedule of Quantities

702381 SHAAKICHIUWAANAAN - WASTE AND WATER MANAGEMENT - TREATED DOMESTIC WATER DISCHARGE

Item #	Description	UNIT	QUANTITY	UNIT RATE ($) CDN	AMOUNT	Base of estimate
A	**Pumping station - SWT-PMP-001/002**					included in 341 for electricity
342	Barmesa Submersible Stainless Dewatering Pump - 2KLEIN-202, 2", 153 GPM, 2.0 HP, Stainless, 230V, Single-Phase	Unit	2	$2 000,00	$4 000,00	Barmesa Submersible Stainless Dewatering Pump - 2KLEIN-202, 2", 153 GPM, 2.0 HP, Stainless, 230V, Single-Phase
342	Concrete prefabricated Pumping station SP9000 base of 2400 mm by Lecuyer for pipe of 500mm	Lot	1	$43 400,00	$43 400,00	Quote from Lecuyer 11.04.205 (70% of the price to consider a smaller pumping station)
342	Concrete prefabricated Pumping station SP9000 Connexion of 2100 mm by Lecuyer	Lot	Included			
342	galvanized steel ladder with anchor	Lot	Included			
342	butyl gasket for sealing sections (For pumping well and manhole)	Lot	Included			
342	Flex-Lok gasket for sealing the pipe (For pumping well and manhole)	Lot	Included			
342	Non-Contact Rader Level Transmitter	unit	1	$3 000,00	$3 000,00	
B	**Pipeline**					
342	HDPE - DR11 (200PSI) - 3" Butt Fusion	m	1 525	$6,84	$10 431,00	Quote from Marcel Baril 09.04.2025
342	HDPE - DR11 (200PSI) - 3" - Fittings	lot	1	$3 129,30	$3 129,30	

Schedule of Quantities

702381 SHAAKICHIUWAANAAN - WASTE AND WATER MANAGEMENT - CONTACT WATER TREATEMENT PLANT - PHASE 1

Item #	Description	UNIT	QUANTITY	UNIT RATE ($) CDN	AMOUNT	Basis of estimate	
A	**Treatment plant**						
361	Trace Metal Water Treatment - Veolia - 1 165 m3/h - No installation, no delivery	Lot	1	$4 375 000,00	$4 375 000,00	Quote from Veolia (2025.04.14). 20% of contingency added	
361	Laboratory in 20" container - Insulated and heated	Unit	1	$150 000,00		Quote from Veolia (2025.04.16). 20% of contingency added	
361	Delivery of the plant to the site - 6 containers + 2 geotubes	lot	1				
361							
361	First fill of chemical for start-up	lot	1	$15 000,00	$15 000,00		
361	Commissioning and training of operators (5% of total price)	lot	1	$218 750,00	$218 750,00		
361	Megadome XP high Profiles - 30m wide x 40m length	Unit	1				
361	Barmesa Submersible Stainless Steel Vortex Sewage Pump - 2BSV-101DS, 2", 127 GPM, 1.0 HP, Single-Phase, 115 Volt - FCW-PMP-001	UNit	2	$1 061,00	$2 122,00	To transfer water from filtered water to contaminated water -	Barmesa Submersible Stainless Steel Vortex Sewage Pump - 2BSV-101DS, 2", 127 GPM, 1.0 HP, Single-Phase, 115 Volt
361	HDPE DR17 pipe 2 in diameter Butt fusion - FCW-PMP-001	m	100	$3,08	$308,00		
361	HDPE - DR17 - 2" - Fittings - FCW-PMP-001	lot	1	$92,40	$92,40		
361	Heat Tracing cables C13-574-COJ - FCW-PMP-001	Ft	361	$12,00	$4 330,71		
361	Electronic Thermostat NGUTC 6340-01 - FCW-PMP-001	Unit	1	$6 911,00	$6 911,00		
361	Temperature Sensor URTD 15G - FCW-PMP-001	Unit	1	$298,25	$298,25		
361	Temperature Sensor URTD 15R - FCW-PMP-001	Unit	1	$298,25	$298,25		
361	Power Feed Kit 1 - FCW-PMP-001	Unit	1	$935,90	$935,90		
361	Nominal 76 mm (3.0 in) thick standard U.I.P.® urethane insulation c/w black extruded polyethylene, integral heat trace channels on customer supplied pipe - FCW-PMP-001	Ft	361	$30,00	$10 826,77		
B	**Electrical Room**						
361	Panelboard 600V, 400A, 25kA, 11 FEEDERS (20X20A, 1x40A, 4x100A)	UNIT	1	$30 000,00	$30 000,00		
361	VFD 5HP, 600V	UNIT	8	$1 500,00	$12 000,00	Quote from ABB 0xx.05.2025	
361	VFD 75HP, 600V	UNIT	4	$11 000,00	$44 000,00	Quote from ABB 0xx.05.2025	
361							
C	**Ground preparation**						
361	Remove muskeg, organics, topsoil, and unsuitable soil from designated footprint to a nominal depth of 300 mm and stockpile in designated area.	m2	1575				
361	Slab on Grade Concrete 30 Mpa for containers 4in (100mm) - Including FormWork, Welded Wire Mesh, Embeds and anchor Bolts	m2	5775				
D	**SERVICES**						
361	Insulated potable water tank of 5 m3 with recirculating flow to protect againt freezing	Unit	1				
361	Centrifugal pump rated at 55 Usgpm	Unit	1				
361	All the piping to allow the recirculation of 15 Usgpm + 40 Usgpm for 2 emergency shower in the plant	Unit	1				
361	All the fitting to allow the recirculation of 15 Usgpm + 40 Usgpm for 2 emergency shower in the plant	Unit	1				

Schedule of Quantities

702381 SHAAKICHIUWAANAAN - WASTE AND WATER MANAGEMENT - CONTACT WATER TREATEMENT PLANT - PHASE 2

Item #	Description	UNIT	QUANTITY	UNIT RATE ($) CDN	AMOUNT	Basis of quantities
A	**Treatment plant -**					
A1	**Trace Metal**					
362	Trace Metal Water Treatment - Veolia - 1 895 m3/h (NOT IN INITIAL CAPEX)	Lot	1	$2 880 000,00	$2 880 000,00	Quote from Veolia (2025.04.14).
362	Delivery of the plant to the site - 1 container + 1 geotube					
362						
A1	**TSS**					
362	TSS Water Treatment - Veolia 1 570 m3/hr (NOT IN INITIAL CAPEX)	Lot	1	$3 700 000,00	$3 700 000,00	Quote from Veolia (2025.04.14).
362	Delivery of the plant to the site - 2 container + 4 geotubes	Lot	1			
362	First fill of chemical for start-up	Lot	1	$15 000,00	$15 000,00	
362	Commissioning and training of operators (5% of total price)	Lot	1	$185 000,00	$185 000,00	
362						
B	**Electrical Room**					
362	Panelboard 600V, 400A, 25kA, 21 FEEDERS (20X20A, 1x40A)	UNIT	1	$25 000,00	$25 000,00	
362	VFD 5HP, 600V	UNIT	10	$1 500,00	$15 000,00	Quote from ABB 0xx.05.2025
362	VFD 10HP, 600V	UNIT	3	$2 500,00	$7 500,00	Quote from ABB 0xx.05.2025
361	VFD 75HP, 600V	UNIT	1	$11 000,00	$11 000,00	Quote from ABB 0xx.05.2025
C	**Ground preparation**					
C1	**Trace Metal**					
362	Slab on Grade Concrete 30 Mpa for containers 4in (100mm) - Including FormWork, Welded Wire Mesh, Embeds and anchor Bolts	m3	805,00			
362	Slab on Grade Concrete 30 Mpa for containers 4in (100mm) - Including FormWork, Welded Wire Mesh, Embeds and anchor Bolts	m2	6 370			
362		m2				
362						
C2	**TSS**					
362	Remove muskeg, organics, topsoil, and unsuitable soil from designated footprint to a nominal depth of 300 mm and stockpile in designated area.	m2	3150			
362		m2				
D	**SERVICES**					

Schedule of Quantities

702381 SHAAKICHIUWAANAAN - WASTE AND WATER MANAGEMENT - PUMPS & PIPING - PHASE 1

Item #	Description	UNIT	QUANTITY	UNIT RATE ($) CDN	AMOUNT	
A	**Pumping station - P1-PMP-001/002**					
	A1 Pumping station					
364	Centrifugal pump, Sewatec K 150-403G 3ENH 504/504	UNIT	2	$69 300,00	$138 600,00	Quote fromKSB 05.12.2025
364	Pump house - 20' insulated and heated container containing all the piping, valve, fittings, instrumentation, a transformer 600V/240V, a Local PLC, Motor Control Started, VFD, Local Control Station and HVAC	unit	1	$200 000,00	$200 000,00	
364	Priming System	unit	1	$20 000,00	$20 000,00	Quote from Nord-flo 16.04.2025
364	Delivery of the plant to the site - 1 container	unit	1			
	A2 Pipeline					
364	HDPE - DR11 (200PSI) - 14" - Butt fusion	m	2 971	$109,79	$326 186,09	Quote from Marcel Baril 09.04.2025
	HDPE - DR11 (200PSI) - 14" - Fittings	lot	1	$97 855,83	$97 855,83	
364	HDPE - DR11 (200PSI) - 24" (Suction) - Butt fusion	m	40	$322,58	$12 903,20	Quote from Marcel Baril 09.04.2025
	HDPE - DR11 (200PSI) - 24" - Fittings	lot	1	$3 870,96	$3 870,96	
	Piping installation					
364	3" Air & Vacuum Valve Crispin Model AX30	Unit	2	$14 952,72	$29 905,44	Quote from Conval Quebec 24.04.2025
364	Ball valve - 316 S.S. Body - Model 3"K-456666PTSE-v3 cadenassable	Unit	4	$4 153,19	$16 612,76	Quote from ISCO 29.04.2025
364	316 AI ROBINET A BOUTS FILETE 4 BILLE 2MC PASS 1000 WOG	UNIT	4	$944,09	$3 776,36	Quote from ISCO 29.04.2025
364	20" X 4" ELECTROFUSION BRANCH SADDLE	UNIT	4	$1 128,14	$4 512,56	Quote from ISCO 29.04.2025
364	4" IPS MANCHON ELECTROFUSION TEGA FM	UNIT	4	$36,33	$145,32	Quote from ISCO 29.04.2025
364	4" DR 11 IPS TRANSITION MPT ACIER STAINLESS 304, CAT 3	UNIT	4	$109,70	$438,80	Quote from ISCO 29.04.2025
364	14" X 3" ELECTROFUSION BRANCH SADDLE	UNIT	4	$570,51	$2 282,04	Quote from ISCO 29.04.2025
364	3" IPS MANCHON ELECTROFUSION TEGA FM	UNIT	4	$24,41	$97,64	Quote from ISCO 29.04.2025
364	3" DR 11 IPS TRANSITION MPT ACIER STAINLESS 304, CAT 3	UNIT	4	$73,79	$295,16	Quote from ISCO 29.04.2025
364	304 RACCORDS FILETE CLASSE 150 4 BOUCHON TETE CARREE	UNIT	4	$36,90	$147,60	Quote from ISCO 29.04.2025
	A3 Electrical Room					
364	Panelboard 600V, 225A, 25kA, 5 FEEDERS (2X200A, 2X20A, 1X40A)	UNIT	1	$30 000,00	$30 000,00	
364	VFD 200HP, 600V	UNIT	2	$26 000,00	$52 000,00	Quote from ABB 02.05.2025
	A4 Ground Preparation					
364						
364						

	A5 Instrumentation					
364	HydroStatic Level Transmitter	Unit	1	$2 000,00	$2 000,00	
364	Motorized Isolation Valve	Unit	2	$10 000,00	$20 000,00	
364	Pressure Transmitter	Unit	1	$2 500,00	$2 500,00	
364	Pressure Indicator	Unit	1	$1 000,00	$1 000,00	
364	Magnetic Flow Transmitter	Unit	1	$10 000,00	$10 000,00	
364	Mobile diesel air compressor - 100 PSI - 1600 cfm (for purging all pipelines)	Unit	1	$500 000,00	$500 000,00	
B	**Pumping station - P3-PMP-001/002**					
	B1 Pumping station					
364	Centrifugal pump, CPO 10x8x16H - 200HP, 60 hz	UNIT	4	$89 864,59	$359 458,36	
364	Pump house - 40' insulated and heated container containing all the piping, valve, fittings, instrumentation, a transformer 600V/240V, a Local PLC, Motor Control Started, VFD, Local Control Station and HVAC	UNIT	1	$270 000,00	$270 000,00	Quote from Nord-flo 16.04.2025
364	Delivery of the plant to the site - 1 container					
364	Priming System	UNIT	1	$20 000,00	$20 000,00	Quote from Nord-flo 16.04.2025
						Quote from Nord-flo 16.04.2025
	B2 Pipeline					
364	HDPE - DR11 (200PSI) - 32" - Butt fusion	m	3 469	$573,47	$1 989 367,43	Quote from Marcel Baril 09.04.2025
364	HDPE - DR11 (200PSI) - 32" - Fittings	UNit	1	$795 746,97	$795 746,97	
364	HDPE - DR9 (250PSI) - 18" - Butt fusion	m	15	$181,44	$2 721,60	Quote from Marcel Baril 09.04.2025
364	HDPE - DR9 (250PSI) - 18" - Fittings	Lot	1	$1 088,64	$1 088,64	
364	HDPE - DR11 (200PSI) - 30" (Suction) - Butt fusion	m	80	$418,79	$33 503,20	Quote from Marcel Baril 09.04.2025
364	HDPE - DR11 (200PSI) - 30" - Fittings	Lot	1	$13 401,28	$13 401,28	
364	Piping installation					
364	Line Drainage system					
	Knife gate valve 24" - 24" C67S-316EBU-EZ-LK7- 316/316/EPDM ITT FABRI E-Z MAN.KGV	Unit	2	$16 132,00	$32 264,00	Quote from Conval Quebec 16.04.2025
	Straight Tee - HDPE - 20"	Unit	2			
	Reducer - HDPE - 24" x 20"	Unit	2			
	Flange Adapter + Backup ring - HDPE - 24"	Unit	2			
	1" nipple	Unit	2			
	Ball valve - 316 S.S. Body - 1"446666PMSE-v3 cadenassable	UNIT	2	$57,14	$114,28	
	Foam Pig - 16-1/2" SLS BARE SWAB	UNIT	5	$137,00	$685,00	
	Ball valve - 316 S.S. Body - 1"446666PMSE-v3 cadenassable	unit	2	$14 952,72	$29 905,44	
	Foam Pig - 15-1/2" SLS BARE SWAB	UNIT	5	$137,00	$685,00	
	Knife gate valve - 18" C67S-316EBU-EZ-LK7- 316/316/EPDM ITT FABRI E-Z MAN.KGV	Unit	2	$14 346,79	$28 693,58	
	Ball valve - 316 S.S. Body - 1"446666PMSE-v3 cadenassable	UNIT	2	$536,35	$1 072,70	
	3" Air & Vacuum Valve Crispin Model AX30	Unit	2	$14 952,72	$29 905,44	

	B3 Electrical Room					
364	Panelboard 600V, 225A, 25kA, 5 FEEDERS (2X300A, 2X20A, 1X40A)	UNIT	1	$40 000,00	$40 000,00	
364	VFD 25 HP, 600V	UNIT	2	$4 250,00	$8 500,00	
364	VFD 250 HP, 600V	UNIT	2	$32 000,00	$64 000,00	
	B4 Ground Preparation					
364	Slab on Grade Concrete 30 Mpa for containers 4in (100mm) - Including FormWork, Welded Wire Mesh, Embeds and anchor Bolts	m2	29,52			
364						
364						
	B5 Instrumentation					
364	HydroStatic Level Transmitter	Unit	1	$2 000,00	$2 000,00	
364	Motorized Isolation Valve	Unit	2	$10 000,00	$20 000,00	
364	Pressure Transmitter	Unit	1	$2 500,00	$2 500,00	
364	Pressure Indicator	Unit	1	$1 000,00	$1 000,00	
364	Magnetic Flow Transmitter	Unit	1	$10 000,00	$10 000,00	
C	**Pumping station - CWT1-PMP-001**					
	C1 Pumping station					
364	Centrifugal pump,\ Xylen 7030 3 -621 38HP - Flygt	UNIT	4	$92 469,00	$369 876,00	Quote from Nord-flo
364	Pump box	UNIT	3	$140 000,00	$420 000,00	Quote from Veolia
	C2 Pipeline					
364	HDPE - DR11 (200PSI) - 20" - Butt fusion	m	99	$68,28	$6 759,72	
364	HDPE - DR11 (200PSI) - 20" - Fittings	Lot	1	$2 703,89	$2 703,89	
364	HDPE - DR11 (200PSI) - 26" - Butt fusion	m	340	$115,40	$39 236,00	
364	HDPE - DR11 (200PSI) - 26" - Fittings	Lot	1	$15 694,40	$15 694,40	
	C3 Electrical Room					
364						
364						
364						
	C4 Ground Preparation					
364						
	C5 Instrumentation					
364	Heat Tracing cables C13-574-COJ	Ft	3795	$16,42	$62 313,90	
364	Electronic Thermostat NGUTC 6340-01	UNIT	1	$6 911,00	$6 911,00	
364	Temperature Sensor URTD 15G	UNIT	1	$298,25	$298,25	
364	Temperature Sensor URTD 15R	UNIT	1	$298,25	$298,25	
364	Power Feed Kit 1	UNIT	1	$935,90	$935,90	
364	Nominal 76 mm (3.0 in) thick standard U.I.P.® urethane insulation c/w black extruded polyethylene, integral heat trace channels on customer supplied pipe	Ft	1265	$173,55	$219 540,75	
364	Pressure Transmitter	Unit	1	$2 500,00	$2 500,00	
364	Pressure Indicator	Unit	1	$1 000,00	$1 000,00	
364	Magnetic Flow Transmitter	Unit	1	$10 000,00	$10 000,00	

D	Pumping station - CP1-PMP-001/002/003					
	D1 Pumping station					
364	Centrifugal Pump, RUHRPUMPEN CPP10X8X13 (OH1), Ductile Iron casing, 75HP, 3PH, 60Hz, 230/460V	UNIT	3	$52 999,98	$158 999,94	Quote from Nord-flo 16.04.2025
364	Priming System	UNIT	1	$20 000,00	$20 000,00	Quote from Nord-flo 16.04.2025
364	Pump house - 20' insulated and heated container containing all the piping, valve, fittings, instrumentation, a transformer 600V/240V, a Local PLC, Motor Control Started, VFD, Local Control Station and HVAC	UNIT	1	$200 000,00	$200 000,00	Quote from Nord-flo 16.04.2025
364	Delivery of the plant to the site - 1 container					
	D2 Pipeline					
364	HDPE - DR11 (200PSI) - 20" - Butt fusion	m	30	$224,01	$6 720,30	Quote from Marcel Baril 09.04.2025
	HDPE - DR11 (200PSI) - 20" - Fittings	Lot	1	$2 688,12	$2 688,12	
364	HDPE - DR9 (250PSI) - 16" - Butt fusion	m	1 948	$143,35	$279 245,80	Quote from Marcel Baril 09.04.2025
364	HDPE - DR9 (250PSI) - 16" - Fittings	Lot	1	$111 698,32	$111 698,32	
364	Marine Oil Skimming Boom - Spillage response to apply in contact water pond 1 to prevent oil getting in the pump station	m	60	$100,00	$6 000,00	
364	3" Air & Vacuum Valve Crispin Model AX30	Unit	1	$14 952,72	$14 952,72	Quote from Conval Quebec 24.04.2025
364	Ball valve - 316 S.S. Body - Model 3"K-456666PTSE-v3 cadenassable	Unit	2	$4 153,19	$8 306,38	
364	316 AI ROBINET A BOUTS FILETE 4 BILLE 2MC PASS 1000 WOG	Unit	2	$944,09	$1 888,18	
364	20" X 4" ELECTROFUSION BRANCH SADDLE	UNIT	2	$1 128,14	$2 256,28	
364	4" IPS MANCHON ELECTROFUSION TEGA FM	UNIT	2	$36,33	$72,66	
364	4" DR 11 IPS TRANSITION MPT ACIER STAINLESS 304, CAT 3	UNIT	2	$109,70	$219,40	
364	304 RACCORDS FILETE CLASSE 150 4 BOUCHON TETE CARREE	UNIT	2	$36,90	$73,80	
	D3 Electrical Room					
364	Panelboard 600V, 100A, 25kA, 5 FEEDERS (3X80A, 1X40A, 2x20A)	UNIT	1	8000	$8 000,00	
364	VFD 75HP, 600V	UNIT	3	12000	$36 000,00	Quote from ABB 02.05.2025
	D4 Ground Preparation					
364						
364						
	D5 Instrumentation					
364	HydroStatic Level Transmitter	Unit	1	$2 000,00	$2 000,00	
364	Local Control Station - Local/Remote Selector, Start/Stop PushButton	Unit	2	$10 000,00	$20 000,00	
364	Variable Frequency Drive	Unit	1	$2 500,00	$2 500,00	
364	Local PLC Control Panel	Unit	1	$1 000,00	$1 000,00	
364	Motorized Isolation Valve	Unit	1	$10 000,00	$10 000,00	

E	**Pumping station - CP2-PMP-001/002**					
	E1 Pumping station					
364	Centrifugal pump, RUHRPUMPEN CPP 10X8X13 (OH1), Ductile Iron casing, 50HP, 3PH, 60Hz, 230/460V	UNIT	2	$45 656,64	$91 313,28	Quote from Nord-flo 16.04.2025
364	Pump house - 20' insulated and heated container containing all the piping, valve, fittings, instrumentation, a transformer 600V/240V, a Local PLC, Motor Control Started, VFD, Local Control Station and HVAC	UNIT	1	$200 000,00	$200 000,00	Quote from Nord-flo 16.04.2025
364	Compressor for priming system	UNIT	1	$20 000,00	$20 000,00	Quote from Nord-flo 16.04.2025
364	Delivery of the plant to the site - 1 container					
	E2 Pipeline					
364	HDPE - DR11 (200PSI) - 20" - Butt fusion	m	25	$224,01	$5 600,25	Quote from Marcel Baril 09.04.2025
364	HDPE - DR11 (200PSI) - 20" - Fittings	Lot	1	$2 240,10	$2 240,10	
364	HDPE - DR9 (250PSI) - 16" - Butt fusion	m	430	$109,79	$47 209,70	Quote from Marcel Baril 09.04.2025
364	HDPE - DR9 (250PSI) - 16" - Fittings	Lot	1	$18 883,88	$18 883,88	
364	Marine Oil Skimming Boom - Spillage response to apply in contact water pond 1 to prevent oil getting in the pump station	m	45	$100,00	$4 500,00	
364	3" Air & Vacuum Valve Crispin Model AX30	Unit	1	$14 952,72	$14 952,72	
364	Ball valve - 316 S.S. Body - Model 3"K-456666PTSE-v3 cadenassable	Unit	2	$4 153,19	$8 306,38	
364	316 AI ROBINET A BOUTS FILETE 4 BILLE 2MC PASS 1000 WOG	UNIT	2	$944,09	$1 888,18	
364	20" X 4" ELECTROFUSION BRANCH SADDLE	UNIT	2	$1 128,14	$2 256,28	
364	4" IPS MANCHON ELECTROFUSION TEGA FM	UNIT	2	$36,33	$72,66	
364	4" DR 11 IPS TRANSITION MPT ACIER STAINLESS 304, CAT 3	UNIT	2	$109,70	$219,40	
364	304 RACCORDS FILETE CLASSE 150 4 BOUCHON TETE CARREE	UNIT	2	$36,90	$73,80	
	E3 Electrical Room					
364	Panelboard 600V, 100A, 25kA, 5 FEEDERS (2X20A, 2X50A, 1X40A)	UNIT	1	$8 000,00	$8 000,00	
364	VFD 50HP, 600V	UNIT	2	$8 010,00	$16 020,00	Quote from ABB 02.05.2025
	E4 Ground Preparation					
364	Slab on Grade Concrete 30 Mpa for containers 4in (100mm) - Including FormWork, Welded Wire Mesh, Embeds and anchor Bolts	m2	14,76			
	E5 Instrumentation					
364	HydroStatic Level Transmitter	Unit	1	$2 000,00	$2 000,00	
364	Motorized Isolation Valve	Unit	2	$10 000,00	$20 000,00	
364	Pressure Transmitter	Unit	1	$2 500,00	$2 500,00	
364	Pressure Indicator	Unit	1	$1 000,00	$1 000,00	
364	Magnetic Flow Transmitter	Unit	1	$10 000,00	$10 000,00	
F	**Pumping station - CWCP-PMP-001/002/003**					
	F1 Pumping station					
364		UNIT	0			
364		UNIT	0			
364						
	F2 Pipeline					
	Pumping well and suction line					
364		Lot				
364						
364						
	Discharge					
364						
364						
	F3 Electrical Room					
364	Panelboard 600V, 225A, 25kA, 5 FEEDERS (3X300A, 2X20A, 1X40A)	UNIT	0	$0,00		
364						
	F4 Ground Preparation					

364	Backfill of Granular B Type II 12in (300mm)	m3			
364		m3			
364					
	F5 Instrumentation				
364	HydroStatic Level Transmitter	Unit	0		
364	Local Control Station - Local/Remote Selector, Start/Stop PushButton	Unit	0		

G	Pumping station - P1A-PMP-001/002					
	G1 Pumping station					
364	Centrifugal pump, Sewatec K 150-403G 3ENH 504/504	UNIT	2	$39 300,00	$78 600,00	Quote fromKSB 05.12.2025
364	Pump house - 20' insulated and heated container containing all the piping, valve, fittings, instrumentation, a transformer 600V/240V, a Local PLC, Motor Control Started, VFD, Local Control Station and HVAC	UNIT	1	$200 000,00	$200 000,00	Quote from Nord-flo 16.04.2025
364	Compressor for priming system	UNIT	1	$20 000,00	$20 000,00	Quote from Nord-flo 16.04.2025
364	Delivery of the plant to the site - 1 container	unit	1			
	G2 Pipeline					
364	HDPE - DR11 (200PSI) - 12" - Butt fusion	m	1 400	$91,04	$127 456,00	Quote from Marcel Baril 09.04.2025
364	HDPE - DR11 (200PSI) - 12" - Fittings	Lot	1	$38 236,80	$38 236,80	
364	HDPE - DR11 (200PSI) - 26" (Suction) - Butt fusion	m	40	$143,35	$5 734,00	
364	HDPE - DR11 (200PSI) - 26" - Fittings	Lot	1	$1 720,20	$1 720,20	
364	16" X 4" ELECTROFUSION BRANCH SADDLE	UNIT	2	$1 128,14	$2 256,28	Quote from ISCO 29.04.2025
364	4" IPS MANCHON ELECTROFUSION TEGA FM	UNIT	2	$36,33	$72,66	Quote from ISCO 29.04.2025
364	4" DR 11 IPS TRANSITION MPT ACIER STAINLESS 304, CAT 3	UNIT	2	$109,77	$219,54	Quote from ISCO 29.04.2025
364	HydroStatic Level Transmitter	Unit	1	$2 000,00	$2 000,00	
364	Motorized Isolation Valve	Unit	2	$10 000,00	$20 000,00	
364	Pressure Transmitter	Unit	1	$2 500,00	$2 500,00	
364	Pressure Indicator	Unit	1	$1 000,00	$1 000,00	
364	Magnetic Flow Transmitter	Unit	1	$10 000,00	$10 000,00	
	G3 Electrical Room					
364	Panelboard 600V, 225A, 25kA, 5 FEEDERS (2X30A, 2X20A, 1X40A)	UNIT	1	$6 262,29	$6 262,29	

Schedule of Quantities

702381 SHAAKICHIUWAANAAN - WASTE AND WATER MANAGEMENT - PUMPS & PIPING - PHASE 2

Item #	Description	UNIT	QUANTITY	UNIT RATE ($) CDN	AMOUNT	
A	**Pumping station - P2-PMP-001/002**					
	A1 Pumping station					
365	Centrifugal pump, RUHRPUMPEN CPO 10x8x16H, Ductile Iron casing, 100HP, 3PH, 60Hz, 230/460V (NOT IN INITIAL CAPEX)	UNIT	2	$59 276,18	$118 552,36	Quote from Nord-flo 16.04.2025
365	Pump house - 20' insulated and heated container containing all the piping, valve, fittings, instrumentation, a transformer 600V/240V, a Local PLC, Motor Control Started, VFD, Local Control Station and HVAC	UNIT	1	$200 000,00	$200 000,00	Quote from Nord-flo 16.04.2025
365	Compressor for priming system	UNIT	1	$20 000,00	$20 000,00	Quote from Nord-flo 16.04.2025
	Delivery of the plant to the site - 1 container	UNIT	1	$-		
	A2 Pipeline					
365	HDPE - DR11 (200PSI) - 20" - Butt fusion	m	40	$224,01	$8 960,40	Quote from Marcel Baril 09.04.2025
365	HDPE - DR11 (200PSI) - 20" - Fittings	Lot	1	$3 584,16	$3 584,16	
365	HDPE - DR11 (200PSI) - 16" - Butt fusion	m	1 800	$143,35	$258 030,00	Quote from Marcel Baril 09.04.2025
365	HDPE - DR11 (200PSI) - 16" - Fittings	Lot	1	$103 212,00	$103 212,00	
365	3" Air & Vacuum Valve Crispin Model AX30	Unit	2	$14 952,72	$29 905,44	Quote from Conval Quebec 24.04.2025
365	Ball valve - 316 S.S. Body - Model 3"K-456666PTSE-v3 cadenassable	UNIT	4	$4 153,19	$16 612,76	Quote from Conval Quebec 24.04.2025
365	316 AI ROBINET A BOUTS FILETE 4 BILLE 2MC PASS 1000 WOG	UNIT	4	$944,09	$3 776,36	Quote from ISCO 29.04.2025
365	20" X 4" ELECTROFUSION BRANCH SADDLE	UNIT	4	$1 128,14	$4 512,56	Quote from ISCO 29.04.2025
365	16" X 4" ELECTROFUSION BRANCH SADDLE	UNIT	4	$1 128,14	$4 512,56	
365	4" IPS MANCHON ELECTROFUSION TEGA FM	UNIT	4	$36,33	$145,32	Quote from ISCO 29.04.2025
365	4" DR 11 IPS TRANSITION MPT ACIER STAINLESS 304, CAT 3	UNIT	4	$109,70	$438,80	Quote from ISCO 29.04.2025
	304 RACCORDS FILETE CLASSE 150 4 BOUCHON TETE CARREE	UNIT	4	$36,90	$147,60	Quote from ISCO 29.04.2025
	A3 Electrical Room					
365	Panelboad 600V, 100A, 25kA, 5 FEEDER (2X20A, 1X40A, 2X150A)	UNIT	1	$15 000,00	$15 000,00	RSMEANS
365	VFD 100HP, 600V	UNIT	2	$12 630,00	$25 260,00	Quote from ABB 02.05.2025
	A4 Ground Preparation					
365						
365						
365						
	A5 Instrumentation					
365	HydroStatic Level Transmitter	Unit	1	$2 000,00	$2 000,00	
365	Motorized Isolation Valve	Unit	2	$10 000,00	$20 000,00	
365	Pressure Transmitter	Unit	1	$2 500,00	$2 500,00	
365	Pressure Indicator	Unit	1	$1 000,00	$1 000,00	
365	Magnetic Flow Transmitter	Unit	1	$10 000,00	$10 000,00	
B	**Pumping station - CWT2-PMP-001/002**					
	B1 Pumping station					
365	Centrifugal pump,\ Xylen 7030 3 -621 38HP - Flygt	UNIT	3	$92 469,00	$277 407,00	
365	Puimp box	UNIT	2	$140 000,00	$280 000,00	
	B2 Pipeline					
365						
365						
	B3 Electrical Room					
365						
365						
	B4 Ground Preparation					
365						
365						
	B5 Instrumentation					
365						
365						

Schedule of Quantities

702381 SHAAKICHIUWAANAAN - WASTE AND WATER MANAGEMENT - DISCHARGE & DIFFUSER

Item #	Description	UNIT	QUANTITY	UNIT RATE ($) CDN	AMOUNT	
A	**Discharge pipe**					
366	HDPE - DR11 (100 PSI) - 36" - pipe spool - Flange on one side (3x)	m	315	$399,50	$125 842,50	
366	HDPE - DR11 (100 PSI) - 36" - Fittings (3x)	Lot	1	$50 337,00	$50 337,00	
366	HDPE DR21 pipe 36in diameter (3x) pipe spool - Installation					
366	Vent Valve 8in	UNit	1			
B	**Emergency Spillway**					
366						
366						
C	**Flow measurement**					
366	Staff gauge	Unit	1			
366						
D	**Diffuser**					
366	HDPE DR17 pipe 24 in diameter with 6in fused vertical risers. Flange on one side and blind flange at the end	m	300			
366	Reducer and fitting to go from 36in pipe to 24 in pipe	unit	3			
366	Proflex style 730 or tideflex tf-2 elastomeric sleeve type check valve with 300 series stainless steel retaining band(s). (without installation)	Uni	42	$1 250,00	$52 500,00	Quote from Conval Valve, 14.04.2
366	Installation of the diffuser (3x) in the river	Lot	1			
366	Concrete ballast blocks with steel reinforcing rods 270kg/block every 5m	Unit	60			

Schedule of Quantities

702381 SHAAKICHIUWAANAAN - WASTE AND WATER MANAGEMENT - STOCKPILE 001

WBS (Level 3)	Description	UNIT	QUANTITY	UNIT RATE ($) CDN	AMOUNT	Basis of quantities
A	**STOCKPILE 001**					
371	Capital: Remove muskeg, organics, topsoil, overburden and unsuitable soil from stockpile footprint to a nominal depth of 300 mm and stockpile in designated area.	m^2	441 400			Stockpile footprint from AutoCAD model, footprint from engineering design
371	Sustaining: Remove muskeg, organics, topsoil, overburden and unsuitable soil from stockpile footprint to a nominal depth of 300 mm and stockpile in designated area.	m^2	361 100			Stockpile footprint from AutoCAD model, footprint from engineering design
B	**STOCKPILE 001 DITCHES AND PONDS**					
372	Capital, Ditches: Excavate overburden to form ditch to the dimensions and slopes indicated in the drawings. Stockpile excavated material in designated stockpile.	m^3	22 400			Ditch dimensions from AutoCAD model and depth to bedrock as determined by BBA's geotechnical investigation
372	Sustaining, Ditches: Excavate overburden to form ditch to the dimensions and slopes indicated in the drawings. Stockpile excavated material in designated stockpile.	m^3	33 800			Ditch dimensions from AutoCAD model and depth to bedrock as determined by BBA's geotechnical investigation
372	Capital, Ditches: Compact base of ditch to 95% Standard Proctor density	m^2	42 600			Ditch dimensions from AutoCAD model, spec. from engineering best practice
372	Sustaining, Ditches: Compact base of ditch to 95% Standard Proctor density	m^2	53 600			Ditch dimensions from AutoCAD model, spec. from engineering best practice
372	Capital, Ditches: Construct ditch embankments with Zone 8 Sand/Silt (Overburden), where required and as indicated in the drawings. Rate to include selection, loading, transport, offloading, spreading or backfilling, final grading, compaction, disposal of spoil. (Sourced from overburden stockpiles or on-site borrow pits)	m^3	14 000			Ditch dimensions from AutoCAD model, spec. from engineering best practice
372	Sustaining, Ditches: Construct ditch embankments with Zone 8 Sand/Silt (Overburden), where required and as indicated in the drawings. Rate to include selection, loading, transport, offloading, spreading or backfilling, final grading, compaction, disposal of spoil. (Sourced from overburden stockpiles or on-site borrow pits)	m^3	10 900			Ditch dimensions from AutoCAD model, spec. from engineering best practice
372	Capital, Ditches: Supply and install 500g/m2 non-woven needle punched geotextile in ditch below rip-rap for erosion protection including anchoring as per detail. Rate to include allowance for wasteage, overlap, stitching of seams etc.	m^2	12 600			Ditch dimensions from AutoCAD model, spec. from engineering best practice
372	Sustaining, Ditches: Supply and install 500g/m2 non-woven needle punched geotextile in ditch below rip-rap for erosion protection including anchoring as per detail. Rate to include allowance for wasteage, overlap, stitching of seams etc.	m^2	18 200			Ditch dimensions from AutoCAD model, spec. from engineering best practice
372	Capital, Ditches: Install Zone 7a Rip-Rap Erosion Protection with D50 = 200 mm and place in 300 mm thick layer on geotextile in base of ditch and sideslopes. Rate to include excavation, selection, loading, transport, offloading, spreading or backfilling, water, compaction, final grading, complying with required tolerances, providing for testing, and disposal of spoil. (Sourced from open pit development or stockpiles as identified by Owner)	m^3	3 410			Ditch dimensions from AutoCAD model, spec. and thickness from engineering best practice
372	Sustaining, Ditches: Install Zone 7a Rip-Rap Erosion Protection with D50 = 200 mm and place in 300 mm thick layer on geotextile in base of ditch and sideslopes. Rate to include excavation, selection, loading, transport, offloading, spreading or backfilling, water, compaction, final grading, complying with required tolerances, providing for testing, and disposal of spoil. (Sourced from open pit development or stockpiles as identified by Owner)	m^3	4 950			Ditch dimensions from AutoCAD model, spec. and thickness from engineering best practice
372	Capital, Ditches: Supply and install Zone 4 Granular B Type II 300 mm thick wearing course alongside ditch for vehicular access. Rate to include excavation, selection, loading, transport, offloading, spreading or backfilling, water, compaction, final grading, complying with required tolerances, providing for testing, and disposal of spoil. (Material sourced from processed material temporary stockpiles)	m^3	2 270			Ditch dimensions from AutoCAD model, spec. and thickness from engineering best practice
372	Sustaining, Ditches: Supply and install Zone 4 Granular B Type II 300 mm thick wearing course alongside ditch for vehicular access. Rate to include excavation, selection, loading, transport, offloading, spreading or backfilling, water, compaction, final grading, complying with required tolerances, providing for testing, and disposal of spoil. (Material sourced from processed material temporary stockpiles)	m^3	3 250			Ditch dimensions from AutoCAD model, spec. and thickness from engineering best practice
372	Capital, Ditches, Culvert: Excavate trench for culvert installation (1x 2 m wide and minimum 2 m deep with 2H:1V side slopes) with a longitudinal slope as per detail. Stockpile excavated material in designated stockpile.	m^3	250			Ditch dimensions from AutoCAD model, spec. from engineering best practice
372	Sustaining, Ditches, Culvert: Excavate trench for culvert installation (1x 2 m wide and minimum 2 m deep with 2H:1V side slopes) with a longitudinal slope as per detail. Stockpile excavated material in designated stockpile.	m^3	-			Ditch dimensions from AutoCAD model, spec. from engineering best practice
372	Capital, Ditches, Culvert: Supply and install 800 mm diameter CSP culvert with 1.6 mm wall thickness, 68x13 mm corrugation profile and light galvanised Z275 with couplings suppled by manufacturer. Rate to include transport, offloading, installation, allowance for wasteage.	m	20			Ditch dimensions from AutoCAD model, spec. from engineering best practice

372	Sustaining, Ditches, Culvert: Supply and install 800 mm diameter CSP culvert with 1.6 mm wall thickness, 68x13 mm corrugation profile and light galvanised Z275 with couplings suppled by manufacturer. Rate to include transport, offloading, installation, allowance for wasteage.	m	-			Ditch dimensions from AutoCAD model, spec. from engineering best practice
372	Capital, Ditches, Culvert: Supply and install Zone 4 Granular B Type II for pipe bedding and trench backfill and place in layers of 200mm thick and compact to 90% standard Proctor density. Rate to include excavation, selection, loading, transport, offloading, spreading or backfilling, water, compaction, final grading, complying with required tolerances, providing for testing, and disposal of spoil. (Material sourced from processed material temporary stockpiles).	m^3	190			Ditch dimensions from AutoCAD model, spec. and thickness from engineering best practice
372	Sustaining, Ditches, Culvert: Supply and install Zone 4 Granular B Type II for pipe bedding and trench backfill and place in layers of 200mm thick and compact to 90% standard Proctor density. Rate to include excavation, selection, loading, transport, offloading, spreading or backfilling, water, compaction, final grading, complying with required tolerances, providing for testing, and disposal of spoil. (Material sourced from processed material temporary stockpiles).	m^3	-			Ditch dimensions from AutoCAD model, spec. and thickness from engineering best practice
372	Capital, Pond: Excavate overburden to form base of pond to the dimensions and slopes indicated in the drawings. Stockpile excavated material in designated stockpile.	m^3	62 700			Pond dimensions from AutoCAD model, design based on pond volumes
372	Sustaining, Pond: Excavate overburden to form base of pond to the dimensions and slopes indicated in the drawings. Stockpile excavated material in designated stockpile.	m^3	45 900			Pond dimensions from AutoCAD model, design based on pond volumes
372	Capital, Pond: Rip base of embankment and pond foundation to a depth of 200 mm and compact to 95% Standard Proctor density	m^2	74 500			Pond dimensions from AutoCAD model, spec. and thickness from engineering best practice
372	Sustaining, Pond: Rip base of embankment and pond foundation to a depth of 200 mm and compact to 95% Standard Proctor density	m^2	46 000			Pond dimensions from AutoCAD model, spec. and thickness from engineering best practice
372	Capital, Pond: Construct embankment with Zone 2 Waste Rock (-450 mm). Rate to include excavation, selection, loading, transport, offloading, spreading or backfilling, water, compaction, final grading, complying with required tolerances, providing for testing, and disposal of spoil. (Material sourced from pit development, quarry or stockpiles as identified by Owner)	m^3	46 200			Embankment dimensions from AutoCAD model, spec. from engineering best practice and volumes from engineering design
372	Sustaining, Pond: Construct embankment with Zone 2 Waste Rock (-450 mm). Rate to include excavation, selection, loading, transport, offloading, spreading or backfilling, water, compaction, final grading, complying with required tolerances, providing for testing, and disposal of spoil. (Material sourced from pit development, quarry or stockpiles as identified by Owner)	m^3	36 600			Embankment dimensions from AutoCAD model, spec. from engineering best practice and volumes from engineering design
372	Capital, Pond: Construct upstream embankment Zone 6 Transition Sand and Gravel (-26.5 mm) layer 0.3 m thick. Rate to include excavation, selection, loading, transport, offloading, spreading or backfilling, water, compaction, final grading, complying with required tolerances, providing for testing, and disposal of spoil. (Material sourced from processed material temporary stockpiles)	m^3	2 450			Embankment dimensions from AutoCAD model, spec. from engineering best practice and volumes from engineering design
372	Sustaining, Pond: Construct upstream embankment Zone 6 Transition Sand and Gravel (-26.5 mm) layer 0.3 m thick. Rate to include excavation, selection, loading, transport, offloading, spreading or backfilling, water, compaction, final grading, complying with required tolerances, providing for testing, and disposal of spoil. (Material sourced from processed material temporary stockpiles)	m^3	2 320			Embankment dimensions from AutoCAD model, spec. from engineering best practice and volumes from engineering design
372	Capital, Pond: Construct upstream embankment Zone 5 Filter/Bedding Sand (-4.75 mm) layer 0.3 m thick. Rate to include excavation, selection, loading, transport, offloading, spreading or backfilling, water, compaction, final grading, complying with required tolerances, providing for testing, and disposal of spoil. (Material sourced from processed material temporary stockpiles)	m^3	3 190			Embankment dimensions from AutoCAD model, spec. from engineering best practice and volumes from engineering design
372	Sustaining, Pond: Construct upstream embankment Zone 5 Filter/Bedding Sand (-4.75 mm) layer 0.3 m thick. Rate to include excavation, selection, loading, transport, offloading, spreading or backfilling, water, compaction, final grading, complying with required tolerances, providing for testing, and disposal of spoil. (Material sourced from processed material temporary stockpiles)	m^3	2 970			Embankment dimensions from AutoCAD model, spec. from engineering best practice and volumes from engineering design
372	Capital, Pond: Supply and install 1.5 mm double textured LLDPE geomembrane on upstream slopes of embankments and anchor at toe, crest and abutments as shown in drawings. Rate to include allowance for wasteage, overlap, welding of seams etc.	m^2	12 300			Embankment dimensions from AutoCAD model, spec. from engineering best practice
372	Sustaining, Pond: Supply and install 1.5 mm double textured LLDPE geomembrane on upstream slopes of embankments and anchor at toe, crest and abutments as shown in drawings. Rate to include allowance for wasteage, overlap, welding of seams etc.	m^2	11 200			Embankment dimensions from AutoCAD model, spec. from engineering best practice
372	Capital, Pond: Backfill geomembrane anchor with Zone 3 Till/Sand Bentonite Cement Fill	m^3	2 900			Embankment dimensions from AutoCAD model, spec. from engineering best practice and volumes from engineering design
372	Sustaining, Pond: Backfill geomembrane anchor with Zone 3 Till/Sand Bentonite Cement Fill	m^3	2 380			Embankment dimensions from AutoCAD model, spec. from engineering best practice and volumes from engineering design
372	Capital, Pond: Supply and install Zone 4 Granular B Type II 300 mm thick wearing course on crest of dam for vehicular access, including safety berms on dam crest. Rate to include excavation, selection, loading, transport, offloading, spreading or backfilling, water, compaction, final grading, complying with required tolerances, providing for testing, and disposal of spoil. (Material sourced from processed material temporary stockpiles)	m^3	1 780			Embankment dimensions from AutoCAD model, spec. from engineering best practice and volumes from engineering design

372	Sustaining, Pond: Supply and install Zone 4 Granular B Type II 300 mm thick wearing course on crest of dam for vehicular access, including safety berms on dam crest. Rate to include excavation, selection, loading, transport, offloading, spreading or backfilling, water, compaction, final grading, complying with required tolerances, providing for testing, and disposal of spoil. (Material sourced from processed material temporary stockpiles)	m^3	1 620			Embankment dimensions from AutoCAD model, spec. from engineering best practice and volumes from engineering design
372	Capital, Pond, Spillway: Excavate natural ground/embankment to form the required dimensions and slopes indicated in the drawings. Stockpile excavated material in the designated stockpile.	m^3	1 429			Spillway dimensions from AutoCAD model, dimensions from engineering design
372	Sustaining, Pond, Spillway: Excavate natural ground/embankment to form the required dimensions and slopes indicated in the drawings. Stockpile excavated material in the designated stockpile.	m^3	2 765			Spillway dimensions from AutoCAD model, dimensions from engineering design
372	Capital, Pond, Spillway: Excavate 1m wide x 1 m deep trench in spillway at outlet location.	m^3	10			Spillway dimensions from AutoCAD model, dimensions from engineering design
372	Sustaining, Pond, Spillway: Excavate 1m wide x 1 m deep trench in spillway at outlet location.	m^3	8			Spillway dimensions from AutoCAD model, dimensions from engineering design
372	Capital, Pond, Spillway: Backfill 1m wide x 1m deep trench in spillway with 20 MPa mass concrete to fix spillway invert level. Rate to include transport, backfilling, complying with required tolerances, providing for testing, and disposal of spoil.	m^3	10			Spillway dimensions from AutoCAD model, dimensions from engineering design
372	Sustaining, Pond, Spillway: Backfill 1m wide x 1m deep trench in spillway with 20 MPa mass concrete to fix spillway invert level. Rate to include transport, backfilling, complying with required tolerances, providing for testing, and disposal of spoil.	m^3	8			Spillway dimensions from AutoCAD model, dimensions from engineering design
372	Capital, Pond, Spillway: Supply and install 500 g/m2 nonwoven needle punched geotextile below riprap for erosion protection and separation in spillway, including anchoring, as per detail. Rate to include allowance for wasteage, overlap, stitching of seams etc.	m^2	1 510			Spillway dimensions from AutoCAD model, spec. from engineering best practice
372	Sustaining, Pond, Spillway: Supply and install 500 g/m2 nonwoven needle punched geotextile below riprap for erosion protection and separation in spillway, including anchoring, as per detail. Rate to include allowance for wasteage, overlap, stitching of seams etc.	m^2	3 090			Spillway dimensions from AutoCAD model, spec. from engineering best practice
372	Capital, Ponds, Spillways: Install Zone 7b Rip-Rap Erosion Protection with D50 = 300 mm and place in 600 mm thick layer on geotextile in base and sideslopes spillway chute as per detail. Rate to include excavation, selection, loading, transport, offloading, spreading or backfilling, water, compaction, final grading, complying with required tolerances, providing for testing, and disposal of spoil. (Sourced from open pit development or stockpiles as identified by Owner)	m^3	830			Spillway dimensions from AutoCAD model, spec. from engineering best practice
372	Sustaining, Ponds, Spillways: Install Zone 7b Rip-Rap Erosion Protection with D50 = 300 mm and place in 600 mm thick layer on geotextile in base and sideslopes spillway chute as per detail. Rate to include excavation, selection, loading, transport, offloading, spreading or backfilling, water, compaction, final grading, complying with required tolerances, providing for testing, and disposal of spoil. (Sourced from open pit development or stockpiles as identified by Owner)	m^3	1 740			Spillway dimensions from AutoCAD model, spec. from engineering best practice
372	Capital, Ponds, Spillways: Install Zone 7a Rip-Rap Erosion Protection with D50 = 200 mm and place in 300 mm thick layer on geotextile in base and sideslopes of spillway weir as per detail. Rate to include excavation, selection, loading, transport, offloading, spreading or backfilling, water, compaction, final grading, complying with required tolerances, providing for testing, and disposal of spoil. (Sourced from open pit development or stockpiles as identified by Owner)	m^3	30			Spillway dimensions from AutoCAD model, spec. from engineering best practice
372	Sustaining, Ponds, Spillways: Install Zone 7a Rip-Rap Erosion Protection with D50 = 200 mm and place in 300 mm thick layer on geotextile in base and sideslopes of spillway weir as per detail. Rate to include excavation, selection, loading, transport, offloading, spreading or backfilling, water, compaction, final grading, complying with required tolerances, providing for testing, and disposal of spoil. (Sourced from open pit development or stockpiles as identified by Owner)	m^3	30			Spillway dimensions from AutoCAD model, spec. from engineering best practice
	Subtotal					
	TOTAL COST					

Schedule of Quantities

702381 SHAAKICHIUWAANAAN - WASTE AND WATER MANAGEMENT - STOCKPILE 001

WBS (Level 3)	Description	UNIT	QUANTITY	UNIT RATE ($) CDN	AMOUNT	Basis of quantities
A	**STOCKPILE 002**					
374	Capital: Remove muskeg, organics, topsoil, overburden and unsuitable soil from stockpile footprint to a nominal depth of 300 mm and stockpile in designated area	m^2	759 400			Stockpile footprint from AutoCAD model, dimensions from engineering design
374	Sustaining: Remove muskeg, organics, topsoil, overburden and unsuitable soil from stockpile footprint to a nominal depth of 300 mm and stockpile in designated area	m^2	1 424 100			Stockpile footprint from AutoCAD model, dimensions from engineering design
374	Capital: Rip base of Stockpile 002 to a depth of 200 mm and compact via proof-rolling	m^2	759 400			Stockpile footprint from AutoCAD model, dimensions from engineering design
374	Sustaining: Rip base of Stockpile 002 to a depth of 200 mm and compact via proof-rolling	m^2	1 424 100			Stockpile footprint from AutoCAD model, dimensions from engineering design
374	Capital: Supply and install sand cushion layer at base of Stockpile to a minimum thickness of 200 mm in locations as required (assume 30% of footprint). Rate to include selection, loading, transport, offloading, spreading or backfilling, final grading, disposal of spoil. (Material sourced from on-site borrow pit or stockpiles as identified by Owner)	m^3	45 600			Stockpile footprint from AutoCAD model, dimensions from engineering design, spec. from engineering best practice
374	Sustaining: Supply and install sand cushion layer at base of Stockpile to a minimum thickness of 200 mm in locations as required (assume 30% of footprint). Rate to include selection, loading, transport, offloading, spreading or backfilling, final grading, disposal of spoil. (Material sourced from on-site borrow pit or stockpiles as identified by Owner)	m^3	85 500			Stockpile footprint from AutoCAD model, dimensions from engineering design, spec. from engineering best practice
374	Capital: Construct Starter Dam around footprint of Tailings portion of the stockpile using Zone 2 Waste Rock (-450 mm) to a height of 3 m with 3H:1V side slopes and a 5 m crest. Rate to include selection, loading, transport, offloading, spreading, final grading, compaction, disposal of spoil. (Material sourced from pit development, quarry or stockpiles as identified by Owner)	m^3	50 900			Stockpile footprint from AutoCAD model, dimensions from engineering design, spec. from engineering best practice
374	Sustaining: Construct Starter Dam around footprint of Tailings portion of the stockpile using Zone 2 Waste Rock (-450 mm) to a height of 3 m with 3H:1V side slopes and a 5 m crest. Rate to include selection, loading, transport, offloading, spreading, final grading, compaction, disposal of spoil. (Material sourced from pit development, quarry or stockpiles as identified by Owner)	m^3	105 500			Stockpile footprint from AutoCAD model, dimensions from engineering design, spec. from engineering best practice
374	Capital: Install Zone 5 Filter/Bedding Sand (-4.75 mm) cushion layer below Starter Dam, 0.3 m thick. Rate to include excavation, selection, loading, transport, offloading, spreading or backfilling, water, compaction, final grading, complying with required tolerances, providing for testing, and disposal of spoil (material sourced from processed material temporary stockpiles).	m^3	8 400			Stockpile footprint from AutoCAD model, dimensions from engineering design, spec. from engineering best practice
374	Sustaining: Install Zone 5 Filter/Bedding Sand (-4.75 mm) cushion layer below Starter Dam, 0.3 m thick. Rate to include excavation, selection, loading, transport, offloading, spreading or backfilling, water, compaction, final grading, complying with required tolerances, providing for testing, and disposal of spoil (material sourced from processed material temporary stockpiles).	m^3	17 400			Stockpile footprint from AutoCAD model, dimensions from engineering design, spec. from engineering best practice
374	Capital: Construct Zone 6 Transition Sand and Gravel (-26.5 mm) layer 0.3 m thick on upstream slope of Starter Dam. Rate to include excavation, selection, loading, transport, offloading, spreading or backfilling, water, compaction, final grading, complying with required tolerances, providing for testing, and disposal of spoil. (Material sourced from processed material temporary stockpiles)	m^3	3 500			Stockpile footprint from AutoCAD model, dimensions from engineering design, spec. from engineering best practice
374	Sustaining: Construct Zone 6 Transition Sand and Gravel (-26.5 mm) layer 0.3 m thick on upstream slope of Starter Dam. Rate to include excavation, selection, loading, transport, offloading, spreading or backfilling, water, compaction, final grading, complying with required tolerances, providing for testing, and disposal of spoil. (Material sourced from processed material temporary stockpiles)	m^3	7 200			Stockpile footprint from AutoCAD model, dimensions from engineering design, spec. from engineering best practice
374	Capital: Construct Zone 5 Filter/Bedding Sand (-4.75 mm) 0.3 m thick on upstream slope of starter dam. Rate to include excavation, selection, loading, transport, offloading, spreading or backfilling, water, compaction, final grading, complying with required tolerances, providing for testing, and disposal of spoil. (Material sourced from processed material temporary stockpiles)	m^3	3 500			Stockpile footprint from AutoCAD model, dimensions from engineering design, spec. from engineering best practice
374	Sustaining: Construct Zone 5 Filter/Bedding Sand (-4.75 mm) 0.3 m thick on upstream slope of starter dam. Rate to include excavation, selection, loading, transport, offloading, spreading or backfilling, water, compaction, final grading, complying with required tolerances, providing for testing, and disposal of spoil. (Material sourced from processed material temporary stockpiles)	m^3	7 200			Stockpile footprint from AutoCAD model, dimensions from engineering design, spec. from engineering best practice
374	Capital: Supply and install 1.5 mm double textured LLDPE geomembrane including anchoring as per detail (footprint of PAG/Tailings portion of the stockpile). Rate to include allowance for wasteage, overlap, welding of seams etc.	m^2	774 400			Stockpile footprint from AutoCAD model, PAG/Tailings footprint from engineering design, spec. from engineering best practice
374	Sustaining: Supply and install 1.5 mm double textured LLDPE geomembrane including anchoring as per detail (footprint of PAG/Tailings portion of the stockpile). Rate to include allowance for wasteage, overlap, welding of seams etc.	m^2	1 435 500			Stockpile footprint from AutoCAD model, PAG/Tailings footprint from engineering design, spec. from engineering best practice
374	Capital: Supply and install 500g/m2 non-woven needle punched geotextile cushion layer over geomembrane including anchoring (footprint of PAG/Tailings portion of the stockpile). Rate to include allowance for wasteage, overlap, stitching of seams etc.	m^2	774 400			Stockpile footprint from AutoCAD model, PAG/Tailings footprint from engineering design, spec. from engineering best practice

374	Sustaining: Supply and install 500g/m2 non-woven needle punched geotextile cushion layer over geomembrane including anchoring (footprint of PAG/Tailings portion of the stockpile). Rate to include allowance for wasteage, overlap, stitching of seams etc.	m^2	1 435 500			Stockpile footprint from AutoCAD model, PAG/Tailings footprint from engineering design, spec. from engineering best practice
374	Capital: Backfill stockpile geomembrane anchor with Zone 3 Till/Sand Bentonite Cement Fill (footprint of PAG/Tailings portion of the stockpile)	m^3	7 495			Stockpile footprint from AutoCAD model, PAG/Tailings footprint from engineering design, spec. from engineering best practice
374	Sustaining: Backfill stockpile geomembrane anchor with Zone 3 Till/Sand Bentonite Cement Fill (footprint of PAG/Tailings portion of the stockpile)	m^3	5 705			Stockpile footprint from AutoCAD model, PAG/Tailings footprint from engineering design, spec. from engineering best practice
374	Capital: Install Zone 8 Sand/Silt (Overburden) at base of stockpile over geotextile for protection of geomembrane to a thickness of 1 m. Fill to be placed in layers not exceeding 300 mm, moisture conditioned and compacted to 95% Standard Proctor density. Rate to include selection, loading, transport, offloading, spreading or backfilling, final grading, compaction, disposal of spoil. (Sourced from overburden stockpiles or on-site borrow pits)	m^3	132 500			Stockpile footprint from AutoCAD model, PAG/Tailings footprint from engineering design, spec. from engineering best practice
374	Sustaining: Install Zone 8 Sand/Silt (Overburden) at base of stockpile over geotextile for protection of geomembrane to a thickness of 1 m. Fill to be placed in layers not exceeding 300 mm, moisture conditioned and compacted to 95% Standard Proctor density. Rate to include selection, loading, transport, offloading, spreading or backfilling, final grading, compaction, disposal of spoil. (Sourced from overburden stockpiles or on-site borrow pits)	m^3	-			Stockpile footprint from AutoCAD model, PAG/Tailings footprint from engineering design, spec. from engineering best practice
374	Capital, Instrumentation: Supply and install vibrating wire piezometers (VWP, RST Instruments Part #VW2100, 0.35 MPa) at the toe of the upstream slope of the starter dam. Rate to include transport, offloading, installation, calibration.	No.	4			Spec. from engineering best practice
374	Sustaining, Instrumentation: Supply and install vibrating wire piezometers (VWP, RST Instruments Part #VW2100, 0.35 MPa) at the toe of the upstream slope of the starter dam. Rate to include transport, offloading, installation, calibration.	No.	8			Spec. from engineering best practice
374	Capital, Instrumentation: Supply and install VWP enclosures (4", RST Instruments Part #DT2011-SE) at each VWP location. Rate to include transport, offloading, installation.	No.	4			Spec. from engineering best practice
374	Sustaining, Instrumentation: Supply and install VWP enclosures (4", RST Instruments Part #DT2011-SE) at each VWP location. Rate to include transport, offloading, installation.	No.	8			Spec. from engineering best practice
374	Capital, Instrumentation: Supply and install Single Channel VWP Datalogger (RST Instruments Part #DT2011B) at the crest of the starter dam above each VWP location. Rate to include transport, offloading, installation, calibration.	No.	4			Spec. from engineering best practice
374	Sustaining, Instrumentation: Supply and install Single Channel VWP Datalogger (RST Instruments Part #DT2011B) at the crest of the starter dam above each VWP location. Rate to include transport, offloading, installation, calibration.	No.	8			Spec. from engineering best practice
374	Capital, Instrumentation: Supply and install Cable splice kit (RST Instruments Part #ELSPLICE4) at each VWP location. Rate to include transport, offloading, installation.	No.	4			Spec. from engineering best practice
374	Sustaining, Instrumentation: Supply and install Cable splice kit (RST Instruments Part #ELSPLICE4) at each VWP location. Rate to include transport, offloading, installation.	No.	8			Spec. from engineering best practice
374	Capital, Instrumentation: Supply and install cable to connect each VWP to a data logger. Rate to include transport, offloading, installation, calibration.	m	40			Embankment dimensions from AutoCAD model, spec. from engineering best practice
374	Sustaining, Instrumentation: Supply and install cable to connect each VWP to a data logger. Rate to include transport, offloading, installation, calibration.	m	80			Embankment dimensions from AutoCAD model, spec. from engineering best practice
B	**STOCKPILE 002 DITCHES AND PONDS**					
375	Capital, Ditches: Excavate overburden to form ditch in below-ground sections to the dimensions and slopes indicated in the drawings. Stockpile excavated material in designated stockpile	m^3	95 700			Ditch dimensions from AutoCAD model and depth to bedrock as determined by BBA's geotechnical investigation
375	Sustaining, Ditches: Excavate overburden to form ditch in below-ground sections to the dimensions and slopes indicated in the drawings. Stockpile excavated material in designated stockpile	m^3	171 400			Ditch dimensions from AutoCAD model and depth to bedrock as determined by BBA's geotechnical investigation
375	Capital, Ditches: Compact base of ditch to 95% Standard Proctor density	m^2	85 000			Ditch dimensions from AutoCAD model, spec. from engineering best practice
375	Sustaining, Ditches: Compact base of ditch to 95% Standard Proctor density	m^2	160 500			Ditch dimensions from AutoCAD model, spec. from engineering best practice
375	Capital, Ditches: Construct ditch embankments and sub-grade of vehicular access with Zone 8 Sand/Silt (Overburden), where required and as indicated in the drawings. Rate to include selection, loading, transport, offloading, spreading or backfilling, final grading, compaction, disposal of spoil. (Sourced from overburden stockpiles or on-site borrow pits)	m^3	23 400			Ditch dimensions from AutoCAD model, spec. from engineering best practice
375	Sustaining, Ditches: Construct ditch embankments and sub-grade of vehicular access with Zone 8 Sand/Silt (Overburden), where required and as indicated in the drawings. Rate to include selection, loading, transport, offloading, spreading or backfilling, final grading, compaction, disposal of spoil. (Sourced from overburden stockpiles or on-site borrow pits)	m^3	67 400			Ditch dimensions from AutoCAD model, spec. from engineering best practice
375	Capital, Ditches: Supply and install 1.5 mm double textured LLDPE geomembrane in ditch including anchoring as per detail. Rate to include allowance for wasteage, overlap, welding of seams etc.	m^2	41 000			Ditch dimensions from AutoCAD model, spec. from engineering best practice
375	Sustaining, Ditches: Supply and install 1.5 mm double textured LLDPE geomembrane in ditch including anchoring as per detail. Rate to include allowance for wasteage, overlap, welding of seams etc.	m^2	88 200			Ditch dimensions from AutoCAD model, spec. from engineering best practice
375	Capital, Ditches: Supply and install 500g/m2 non-woven needle punched geotextile below rip-rap for erosion protection in ditch including anchoring as per detail. Rate to include allowance for wasteage, overlap, stitching of seams etc.	m^3	25 400			Ditch dimensions from AutoCAD model, spec. from engineering best practice

375	Sustaining, Ditches: Supply and install 500g/m2 non-woven needle punched geotextile below rip-rap for erosion protection in ditch including anchoring as per detail. Rate to include allowance for wasteage, overlap, stitching of seams etc.	m^3	58 500			Ditch dimensions from AutoCAD model, spec. from engineering best practice
375	Capital, Ditches: Backfill ditch geotextile/geomembrane anchoring with Zone 8 Sand/Silt (Overburden), as per detail. (Material sourced from overburden stockpiles)	m^3	1 200			Ditch dimensions from AutoCAD model, spec. from engineering best practice
375	Sustaining, Ditches: Backfill ditch geotextile/geomembrane anchoring with Zone 8 Sand/Silt (Overburden), as per detail. (Material sourced from overburden stockpiles)	m^3	2 300			Ditch dimensions from AutoCAD model, spec. from engineering best practice
375	Capital, Ditches: Install Zone 7a Rip-Rap Erosion Protection with D_{50} = 200 mm and place in 300 mm thick layer on geotextile in base of ditch and sideslopes as per detail. Rate to include excavation, selection, loading, transport, offloading, spreading or backfilling, water, compaction, final grading, complying with required tolerances, providing for testing, and disposal of spoil. (Sourced from open pit development or stockpiles as identified by Owner)	m^3	7 000			Ditch dimensions from AutoCAD model, spec. from engineering best practice
375	Sustaining, Ditches: Install Zone 7a Rip-Rap Erosion Protection with D_{50} = 200 mm and place in 300 mm thick layer on geotextile in base of ditch and sideslopes as per detail. Rate to include excavation, selection, loading, transport, offloading, spreading or backfilling, water, compaction, final grading, complying with required tolerances, providing for testing, and disposal of spoil. (Sourced from open pit development or stockpiles as identified by Owner)	m^3	18 100			Ditch dimensions from AutoCAD model, spec. from engineering best practice
375	Capital, Ditches: Supply and install Zone 4 Granular B Type II 300 mm thick wearing course alongside ditch for vehicular access as per detail (above and below-ground sections). Rate to include excavation, selection, loading, transport, offloading, spreading or backfilling, water, compaction, final grading, complying with required tolerances, providing for testing, and disposal of spoil. (Material sourced from processed material temporary stockpiles)	m^3	3 400			Ditch dimensions from AutoCAD model, spec. from engineering best practice
375	Sustaining, Ditches: Supply and install Zone 4 Granular B Type II 300 mm thick wearing course alongside ditch for vehicular access as per detail (above and below-ground sections). Rate to include excavation, selection, loading, transport, offloading, spreading or backfilling, water, compaction, final grading, complying with required tolerances, providing for testing, and disposal of spoil. (Material sourced from processed material temporary stockpiles)	m^3	6 400			Ditch dimensions from AutoCAD model, spec. from engineering best practice
375	Capital, Ditches, Culvert: Excavate trenches for culvert installation (1x 2.5 m wide and minimum 2.5 m deep with 3H:1V side slopes) with a longitudinal slope as per detail. Stockpile excavated material in designated stockpile.	m^3	250			Ditch dimensions from AutoCAD model, spec. from engineering best practice
375	Sustaining, Ditches, Culvert: Excavate trenches for culvert installations (2x 2 m wide and minimum 2 m deep with 2H:1V side slopes, 1x 2.5 m wide and minimum 2.5 m deep with 3H:1V side slopes) with a longitudinal slope as per detail. Stockpile excavated material in designated stockpile.	m^3	-		#VALEUR!	Ditch dimensions from AutoCAD model, spec. from engineering best practice
375	Capital, Ditches, Culvert: Supply and install 800 mm diameter CSP culvert with 1.6 mm wall thickness, 68x13 mm corrugation profile and light galvanised Z275 with couplings suppled by manufacturer. Rate to include transport, offloading, installation, allowance for wasteage.	m	20			Ditch dimensions from AutoCAD model, spec. from engineering best practice
375	Sustaining, Ditches, Culvert: Supply and install 800 mm diameter CSP culvert with 1.6 mm wall thickness, 68x13 mm corrugation profile and light galvanised Z275 with couplings suppled by manufacturer. Rate to include transport, offloading, installation, allowance for wasteage.	m	-			Ditch dimensions from AutoCAD model, spec. from engineering best practice
375	Capital, Ditches, Culvert: Supply and install Zone 4 Granular B Type II for pipe bedding and trench backfill and place in layers of 200mm thick and compact to 90% standard Proctor density. Rate to include excavation, selection, loading, transport, offloading, spreading or backfilling, water, compaction, final grading, complying with required tolerances, providing for testing, and disposal of spoil. (Material sourced from processed material temporary stockpiles).	m^3	190			Ditch dimensions from AutoCAD model, spec. from engineering best practice
375	Sustaining, Ditches, Culvert: Supply and install Zone 4 Granular B Type II for pipe bedding and trench backfill and place in layers of 200mm thick and compact to 90% standard Proctor density. Rate to include excavation, selection, loading, transport, offloading, spreading or backfilling, water, compaction, final grading, complying with required tolerances, providing for testing, and disposal of spoil. (Material sourced from processed material temporary stockpiles).	m^3	-			Ditch dimensions from AutoCAD model, spec. from engineering best practice
375	Capital, Clean Water Diversion Channels: Excavate overburden to form ditch in below-ground sections to the dimensions and slopes indicated in the drawings. Stockpile excavated material in designated stockpile	m^3	27 700			
375	Capital, Clean Water Diversion Channels: Compact base of ditch to 95% Standard Proctor density	m^2	51 900			
375	Capital, Clean Water Diversion Channels: Construct ditch embankments and sub-grade of vehicular access with Zone 8 Sand/Silt (Overburden), where required and as indicated in the drawings. Rate to include selection, loading, transport, offloading, spreading or backfilling, final grading, compaction, disposal of spoil. (Sourced from overburden stockpiles or on-site borrow pits)	m^3	11 500			
375	Capital, Clean Water Diversion Channels: Supply and install 500g/m2 non-woven needle punched geotextile below rip-rap for erosion protection in ditch including anchoring as per detail. Rate to include allowance for wasteage, overlap, stitching of seams etc.	m^2	19 300			

375	Capital, Clean Water Diversion Channels: Install Zone 7a Rip-Rap Erosion Protection with D_{50} = 200 mm and place in 300 mm thick layer on geotextile in base of ditch and sideslopes as per detail. Rate to include excavation, selection, loading, transport, offloading, spreading or backfilling, water, compaction, final grading, complying with required tolerances, providing for testing, and disposal of spoil. (Sourced from open pit development or stockpiles as identified by Owner)	m^3	4 900			
375	Capital, Ponds: Excavate overburden to form base of pond to the dimensions and slopes indicated in the drawings. Stockpile excavated material in designated stockpile.	m^3	66 900			Pond dimensions from AutoCAD model, design based on pond volumes
375	Sustaining, Ponds: Excavate overburden to form base of pond to the dimensions and slopes indicated in the drawings. Stockpile excavated material in designated stockpile.	m^3	42 300			Pond dimensions from AutoCAD model, design based on pond volumes
375	Capital, Ponds: Rip base of embankment and pond foundation to a depth of 200 mm and compact to 95% Standard Proctor density	m^2	223 000			Pond dimensions from AutoCAD model, spec. and thickness from engineering best practice
375	Sustaining, Ponds: Rip base of embankment and pond foundation to a depth of 200 mm and compact to 95% Standard Proctor density	m^2	59 000			Pond dimensions from AutoCAD model, spec. and thickness from engineering best practice
375	Capital, Ponds: Construct embankment with Zone 2 Waste Rock (-450 mm). Rate to include excavation, selection, loading, transport, offloading, spreading or backfilling, water, compaction, final grading, complying with required tolerances, providing for testing, and disposal of spoil. (Material sourced from pit development, quarry or stockpiles as identified by Owner)	m^3	136 600			Embankment dimensions from AutoCAD model, spec. from engineering best practice and volumes from engineering design
375	Sustaining, Ponds: Construct embankment with Zone 2 Waste Rock (-450 mm). Rate to include excavation, selection, loading, transport, offloading, spreading or backfilling, water, compaction, final grading, complying with required tolerances, providing for testing, and disposal of spoil. (Material sourced from pit development, quarry or stockpiles as identified by Owner)	m^3	102 300			Embankment dimensions from AutoCAD model, spec. from engineering best practice and volumes from engineering design
375	Capital, Ponds: Construct upstream Zone 6 Transition Sand and Gravel (-26.5 mm) layer 0.3 m thick. Rate to include excavation, selection, loading, transport, offloading, spreading or backfilling, water, compaction, final grading, complying with required tolerances, providing for testing, and disposal of spoil. (Material sourced from processed material temporary stockpiles)	m^3	4 810			Embankment dimensions from AutoCAD model, spec. from engineering best practice and volumes from engineering design
375	Sustaining, Ponds: Construct upstream Zone 6 Transition Sand and Gravel (-26.5 mm) layer 0.3 m thick. Rate to include excavation, selection, loading, transport, offloading, spreading or backfilling, water, compaction, final grading, complying with required tolerances, providing for testing, and disposal of spoil. (Material sourced from processed material temporary stockpiles)	m^3	2 940			Embankment dimensions from AutoCAD model, spec. from engineering best practice and volumes from engineering design
375	Capital, Ponds: Construct upstream Zone 5 Filter/Bedding Sand (-4.75 mm) 0.3 m thick. Rate to include excavation, selection, loading, transport, offloading, spreading or backfilling, water, compaction, final grading, complying with required tolerances, providing for testing, and disposal of spoil. (Material sourced from processed material temporary stockpiles)	m^3	6 220			Embankment dimensions from AutoCAD model, spec. from engineering best practice and volumes from engineering design
375	Sustaining, Ponds: Construct upstream Zone 5 Filter/Bedding Sand (-4.75 mm) 0.3 m thick. Rate to include excavation, selection, loading, transport, offloading, spreading or backfilling, water, compaction, final grading, complying with required tolerances, providing for testing, and disposal of spoil. (Material sourced from processed material temporary stockpiles)	m^3	3 480			Embankment dimensions from AutoCAD model, spec. from engineering best practice and volumes from engineering design
375	Capital, Ponds: Supply and install 1.5 mm double textured LLDPE geomembrane on upstream slopes of embankments and base of pond and anchor at toe, crest and abutments as shown in drawings. Rate to include allowance for wastage, overlap, welding of seams etc.	m^2	202 900			Embankment dimensions from AutoCAD model, spec. from engineering best practice
375	Sustaining, Ponds: Supply and install 1.5 mm double textured LLDPE geomembrane on upstream slopes of embankments and base of pond and anchor at toe, crest and abutments as shown in drawings. Rate to include allowance for wastage, overlap, welding of seams etc.	m^2	46 700			Embankment dimensions from AutoCAD model, spec. from engineering best practice
375	Capital, Pond: Backfill geomembrane anchor with Zone 3 Till/Sand Bentonite Cement Fill	m^3	4 230			Embankment dimensions from AutoCAD model, spec. from engineering best practice and volumes from engineering design
375	Sustaining, Pond: Backfill geomembrane anchor with Zone 3 Till/Sand Bentonite Cement Fill	m^3	1 550			Embankment dimensions from AutoCAD model, spec. from engineering best practice and volumes from engineering design
375	Capital, Ponds: Supply and install Zone 4 Granular B Type II 300 mm thick wearing course on crest of dam for vehicular access, including safety berms on dam crest. Rate to include excavation, selection, loading, transport, offloading, spreading or backfilling, water, compaction, final grading, complying with required tolerances, providing for testing, and disposal of spoil. (Material sourced from processed material temporary stockpiles)	m^3	3 480			Embankment dimensions from AutoCAD model, spec. from engineering best practice and volumes from engineering design
375	Sustaining, Ponds: Supply and install Zone 4 Granular B Type II 300 mm thick wearing course on crest of dam for vehicular access, including safety berms on dam crest. Rate to include excavation, selection, loading, transport, offloading, spreading or backfilling, water, compaction, final grading, complying with required tolerances, providing for testing, and disposal of spoil. (Material sourced from processed material temporary stockpiles)	m^3	1 360			Embankment dimensions from AutoCAD model, spec. from engineering best practice and volumes from engineering design
	Capital, Ponds, Spillways: Excavate natural ground/embankments to form the required dimensions and slopes indicated in the drawings. Stockpile excavated material in the designated stockpile.	m^3	6 501			Spillway dimensions from AutoCAD model, dimensions from engineering design

	Sustaining, Ponds, Spillways: Excavate natural ground/embankments to form the required dimensions and slopes indicated in the drawings. Stockpile excavated material in the designated stockpile.	m^3	5 561			Spillway dimensions from AutoCAD model, dimensions from engineering design
	Capital, Ponds, Spillways: Excavate 1m wide x 1 m deep trench in spillway for geomembrane at spillway outlet location.	m^3	20			Spillway dimensions from AutoCAD model, dimensions from engineering design
	Sustaining, Ponds, Spillways: Excavate 1m wide x 1 m deep trench in spillway for geomembrane at spillway outlet location.	m^3	13			Spillway dimensions from AutoCAD model, dimensions from engineering design
	Capital, Ponds, Spillways: Backfill 1m wide x 1m deep trench in spillway with 20 MPa mass concrete to fix spillway invert level. Rate to include transport, backfilling, complying with required tolerances, providing for testing, and disposal of spoil.	m^3	20			Spillway dimensions from AutoCAD model, dimensions from engineering design
	Sustaining, Ponds, Spillways: Backfill 1m wide x 1m deep trench in spillway with 20 MPa mass concrete to fix spillway invert level. Rate to include transport, backfilling, complying with required tolerances, providing for testing, and disposal of spoil.	m^3	13			Spillway dimensions from AutoCAD model, dimensions from engineering design
	Capital, Ponds, Spillways: Supply and install 500 g/m2 nonwoven needle punched geotextile below riprap for erosion protection and separation in spillways, including anchoring, as per detail. Rate to include allowance for wasteage, overlap, stitching of seams etc.	m^2	5 960			Spillway dimensions from AutoCAD model, spec. from engineering best practice
	Sustaining, Ponds, Spillways: Supply and install 500 g/m2 nonwoven needle punched geotextile below riprap for erosion protection and separation in spillways, including anchoring, as per detail. Rate to include allowance for wasteage, overlap, stitching of seams etc.	m^2	5 240			Spillway dimensions from AutoCAD model, spec. from engineering best practice
	Capital, Ponds, Spillways: Install Zone 7b Rip-Rap Erosion Protection with D50 = 300 mm and place in 600 mm thick layer on geotextile in base and sideslopes select spillway chutes (Pond 02 and Pond 04) as per detail. Rate to include excavation, selection, loading, transport, offloading, spreading or backfilling, water, compaction, final grading, complying with required tolerances, providing for testing, and disposal of spoil. (Sourced from open pit development or stockpiles as identified by Owner)	m^3	3 420			Spillway dimensions from AutoCAD model, spec. from engineering best practice
	Sustaining, Ponds, Spillways: Install Zone 7b Rip-Rap Erosion Protection with D50 = 300 mm and place in 600 mm thick layer on geotextile in base and sideslopes select spillway chutes (Pond 02 and Pond 04) as per detail. Rate to include excavation, selection, loading, transport, offloading, spreading or backfilling, water, compaction, final grading, complying with required tolerances, providing for testing, and disposal of spoil. (Sourced from open pit development or stockpiles as identified by Owner)	m^3	2 980			Spillway dimensions from AutoCAD model, spec. from engineering best practice
	Capital, Ponds, Spillways: Install Zone 7a Rip-Rap Erosion Protection with D50 = 200 mm and place in 300 mm thick layer on geotextile in base and sideslopes of spillway weir as per detail. Rate to include excavation, selection, loading, transport, offloading, spreading or backfilling, water, compaction, final grading, complying with required tolerances, providing for testing, and disposal of spoil. (Sourced from open pit development or stockpiles as identified by Owner)	m^3	45			Spillway dimensions from AutoCAD model, spec. from engineering best practice
	Sustaining, Ponds, Spillways: Install Zone 7a Rip-Rap Erosion Protection with D50 = 200 mm and place in 300 mm thick layer on geotextile in base and sideslopes of spillway weir as per detail. Rate to include excavation, selection, loading, transport, offloading, spreading or backfilling, water, compaction, final grading, complying with required tolerances, providing for testing, and disposal of spoil. (Sourced from open pit development or stockpiles as identified by Owner)	m^3	40			Spillway dimensions from AutoCAD model, spec. from engineering best practice
	Capital, Ponds: Excavate 500 mm wide trenches for installation of subsurface drainage system in base of pond to a depth of up to 1 m.	m^3	550			Pond dimensions from AutoCAD model, spec. and dimensions from engineering design
	Sustaining, Ponds: Excavate 500 mm wide trenches for installation of subsurface drainage system in base of pond to a depth of up to 1 m.	m^3	50			Pond dimensions from AutoCAD model, spec. and dimensions from engineering design
	Capital, Ponds: Supply and install 300g/m2 non-woven needle punched geotextile as filter layer in subsurface drainage system trench prior to provision of drainage stone. Geotextile to have minimum 300 mm overlap after placement of perforated pipe and drainage stone. Rate to include allowance for wasteage, overlap, stitching of seams etc.	m^2	550			Pond dimensions from AutoCAD model, spec. and dimensions from engineering design
	Sustaining, Ponds: Supply and install 300g/m2 non-woven needle punched geotextile as filter layer in subsurface drainage system trench prior to provision of drainage stone. Geotextile to have minimum 300 mm overlap after placement of perforated pipe and drainage stone. Rate to include allowance for wasteage, overlap, stitching of seams etc.	m^2	50			Pond dimensions from AutoCAD model, spec. and dimensions from engineering design
	Capital, Ponds: Supply and installl Zone 9 Clear Stone (-19 mm) as drainage medium in subsurface drainage system trench. Rate to include excavation, selection, loading, transport, offloading, spreading or backfilling, final grading, complying with required tolerances, and disposal of spoil, all in accordance with the requirements of the specification. Rate to include excavation, selection, loading, transport, offloading, spreading or backfilling, final grading, complying with required tolerances, and disposal of spoil, all in accordance with the requirements of the specification.	m^3	550			Pond dimensions from AutoCAD model, spec. and dimensions from engineering design
	Sustaining, Ponds: Supply and installl Zone 9 Clear Stone (-19 mm) as drainage medium in subsurface drainage system trench. Rate to include excavation, selection, loading, transport, offloading, spreading or backfilling, final grading, complying with required tolerances, and disposal of spoil, all in accordance with the requirements of the specification. Rate to include excavation, selection, loading, transport, offloading, spreading or backfilling, final grading, complying with required tolerances, and disposal of spoil, all in accordance with the requirements of the specification.	m^3	50			Pond dimensions from AutoCAD model, spec. and dimensions from engineering design

	Capital, Ponds: Supply and install 75 mm ID double walled perforated pipes with smooth bore supplied in 6 m length with push fit couplings in trench for subsurface drainage system. Rate to include transport, offloading, installation, allowance for wasteage.	m	2 330			Pond dimensions from AutoCAD model, spec. and dimensions from engineering design
	Sustaining, Ponds: Supply and install 75 mm ID double walled perforated pipes with smooth bore supplied in 6 m length with push fit couplings in trench for subsurface drainage system. Rate to include transport, offloading, installation, allowance for wasteage.	m	220			Pond dimensions from AutoCAD model, spec. and dimensions from engineering design
	Capital, Ponds: Supply and install 1.5 m diameter concrete manhole with prefabricated concrete rings, base slab, cover slab, concrete lid and internal step irons. Concrete rings to be 500 mm wide and 83 mm thick. For manhole depth of 1 to 2 m. Rate to include transport, offloading, installation, allowance for wasteage.	No.	3			Pond dimensions from AutoCAD model, spec. and dimensions from engineering design
	Sustaining, Ponds: Supply and install 1.5 m diameter concrete manhole with prefabricated concrete rings, base slab, cover slab, concrete lid and internal step irons. Concrete rings to be 500 mm wide and 83 mm thick. For manhole depth of 1 to 2 m. Rate to include transport, offloading, installation, allowance for wasteage.	No.	1			Pond dimensions from AutoCAD model, spec. and dimensions from engineering design
	Capital, Ponds, Instrumentation: Supply and install vibrating wire piezometers (VWP, RST Instruments Part #VW2100, 0.35 MPa) at the toe of the highest portion of the lined pond embankments (1 per embankment). Rate to include transport, offloading, installation, calibration.	No.	1			Spec. from engineering best practice
	Sustaining, Ponds, Instrumentation: Supply and install vibrating wire piezometers (VWP, RST Instruments Part #VW2100, 0.35 MPa) at the toe of the highest portion of the lined pond embankments (1 per embankment). Rate to include transport, offloading, installation, calibration.	No.	1			Spec. from engineering best practice
	Capital, Ponds, Instrumentation: Supply and install VWP enclosures (4", RST Instruments Part #DT2011-SE) at each VWP location. Rate to include transport, offloading, installation.	No.	1			Spec. from engineering best practice
	Sustaining, Ponds, Instrumentation: Supply and install VWP enclosures (4", RST Instruments Part #DT2011-SE) at each VWP location. Rate to include transport, offloading, installation.	No.	1			Spec. from engineering best practice
	Capital, Ponds, Instrumentation: Supply and install Single Channel VWP Datalogger (RST Instruments Part #DT2011B) at the crest of the embankment above each VWP location. Rate to include transport, offloading, installation, calibration.	No.	1			Spec. from engineering best practice
	Sustaining, Ponds, Instrumentation: Supply and install Single Channel VWP Datalogger (RST Instruments Part #DT2011B) at the crest of the embankment above each VWP location. Rate to include transport, offloading, installation, calibration.	No.	1			Spec. from engineering best practice
	Capital, Ponds, Instrumentation: Supply and install Cable splice kit (RST Instruments Part #ELSPLICE4) at each VWP location. Rate to include transport, offloading, installation.	No.	1			Spec. from engineering best practice
	Sustaining, Ponds, Instrumentation: Supply and install Cable splice kit (RST Instruments Part #ELSPLICE4) at each VWP location. Rate to include transport, offloading, installation.	No.	1			Spec. from engineering best practice
	Capital, Ponds, Instrumentation: Supply and install cable to connect each VWP to a data logger. Rate to include transport, offloading, installation, calibration.	m	40			Embankment dimensions from AutoCAD model, spec. from engineering best practice
	Sustaining, Ponds, Instrumentation: Supply and install cable to connect each VWP to a data logger. Rate to include transport, offloading, installation, calibration.	m	40			Embankment dimensions from AutoCAD model, spec. from engineering best practice
	Subtotal					
TOTAL COST						

© AtkinsRéalis sauf indication contraire
ATKINSRÉALIS - Sensible

Annexe I

Études hydrogéologiques

I1. Étude hydrologique de base et modélisation hydrogéologique (Atkins, 2026b)

I2. Étude hydrogéologique (Mailloux, 2025)

I1. Étude hydrologique de base et modélisation hydrogéologique (Atkins, 2026b)

AtkinsRéalis

Hydrogéologie de base et modèle numérique de la Halde 002 – Projet Shaakichiuwaanaan

Patriot Battery Metals Inc.

Février 2026

CASN-A-370-HY-REP-0002_C

702381-3000-4HER-0001_00

Hydrogéologie de base et modèle numérique de la Halde 002 – Projet Shaakichiuwaanaan

Avis au lecteur

Le présent rapport est une traduction de la version anglophone du rapport portant le même numéro. en cas de disparité entre ces deux rapports, la version anglophone prime. Ce document et son contenu ont été préparés et sont destinés uniquement à titre d'information pour Patriot Battery Metals Inc. et pour utilisation dans le cadre de l'étude hydrogéologique. AtkinsRéalis n'assume aucune responsabilité envers toute autre partie concernant ou découlant de ce document et/ou de son contenu.

Le contenu de ce rapport est confidentiel et exclusif. À l'exception de Patriot Battery Metals Inc., il est interdit de copier ou de distribuer ce rapport, ou d'utiliser ou de se fier aux informations qu'il contient, en tout ou en partie, sans l'autorisation écrite expresse de Patriot Battery Metals Inc. et d'AtkinsRéalis. Ce document compte 70 pages, incluant la page couverture.

Liste des révisions

Titre du document: Hydrogéologie de base et modèle numérique de la Halde 002 – Projet Shaakichiuwaanaan

Référence du document: Révision	Description de l'objectif	Préparé	Vérifié	Révisé	Autorisé	Date
PA	Révision interne	MJ	LB	GM	BM	Septembre 2025
PB	Commentaires du client	MJ	LB	GM	BM	Septembre 2025
00	Version finale	MJ	LB	GM	BM	Février 2026

Approbation du client

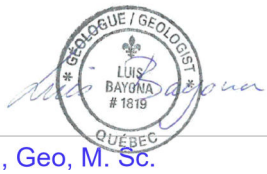
Client	Patriot Battery Metals Inc.
Projet	Hydrogéologie de base et modèle numérique de la Halde 002 – Projet Shaakichiuwaanaan
Numéro de projet	702381
Client signature/date	

Page de signatures

Préparé par :

Miad Jarrahi, Phd, EIT
Modélisateur hydrogéologique
#EIT : 47929 (Manitoba)

Préparé par :



Luis Bayona, Geo, M. Sc.
Modélisateur hydrogéologique sénior
#OGQ :1819

Révisé par :

Geneviève Marchand, *Ing.*, M.Sc., PMP
Directrice Technique – Hydrogéologie minière
#OIQ :127590

Approuvé par :

Bruno Morrissette, Ing.
Directeur de projet
#OIQ :125157

Table des matières

1. Introduction 11

1.1 Contexte 11

1.2 Objectifs 12

1.3 Méthodologie 13

2. Description du site 14

2.1 Localisation du projet 14

2.2 Description du projet 14

3. Données disponibles 15

4. Modèle conceptuel hydrogéologique 16

4.1 Géographie et hydrologie régionales 16

4.2 Climat 16

4.3 Topographie et hydrologie locale 18

4.4 Géologie 19

4.4.1 Mort-terrain 20

4.4.2 Socle rocheux 23

4.5 Propriétés hydrogéologiques et hydrostratigraphie 25

4.5.1 Propriétés hydrogéologiques 25

4.5.2 Hydrostratigraphie 30

4.6 Niveaux d'eau souterraine 32

4.7 Écoulement des eaux souterraines et gradients hydrauliques 32

4.8 Interaction entre les eaux de surface et souterraines 33

4.9 Qualité des eaux souterraines 35

4.10 Infrastructures minières proposées 36

4.10.1 Mine à ciel ouvert et infrastructures souterraines 36

4.10.2 Haldes de résidus, de stériles et de mort-terrain 37

4.10.3 Gestion des eaux 38

4.11 Source potentielle de contaminant 39

4.12 Récepteurs environnementaux potentiels 40

4.13 Modèle conceptuel hydrogéologique 41

5. Modèle numérique 43

5.1 Choix du logiciel 43

5.2 Hypothèses 43

5.3 Construction du modèle et maillage 44

5.4 Calibration 51
5.5 Résultats de l'écoulement souterrain 53
5.5.1 Phase pré-exploitation minière 53
5.5.2 Phase d'exploitation minière 54
5.5.3 Phase de fermeture/post-fermeture 57
5.6 Modèle de transport des contaminants 58
5.6.1 Conditions frontières du modèle de transport de contaminants 59
5.6.2 Propriétés des matériaux 59
5.6.3 Résultats du modèle de transport des contaminants 60
5.7 Analyse de sensibilité 62
5.8 Limitations du modèle hydrogéologique 64
6. Conclusion et Recommandations 66
7. Références 68

Liste des tableaux

Tableau 4-1 Caractéristiques des stations météorologiques 16
Tableau 4-2 Résultats des tests d'infiltration 26
Tableau 4-3 Sommaire des résultats des essais hydrauliques par charge instantanée 28
Tableau 4-4 Sommaire des résultats des essais de pompage 30
Tableau 4-5 Conductivité hydraulique du mort-terrain par géomorphologie 30
Tableau 4-6 Sommaire des résultats des analyses chimiques de l'eau souterraine 36
Tableau 4-7 Taille des matériaux entreposés dans la Halde 002 38
Tableau 4-8 Bassins de gestion des eaux 39
Tableau 4-9 Concentration estimée maximale des contaminants d'intérêt potentiel (Vision, 2025) 40
Tableau 4-10 Récepteurs environnementaux potentiels 41
Tableau 5-1 Caractéristiques du maillage du modèle 47
Tableau 5-2 Unités hydrostratigraphiques du modèle de bas 49
Tableau 5-3 Calibration de la conductivité hydraulique et de la recharge dans le modèle pré-exploitation minière 52
Tableau 5-4 Unités hydrostratigraphiques – Halde 002 55

Tableau 5-5 Paramètres du modèle de transport 60
Tableau 5-6 Concentration maximale simulée aux récepteurs potentiels critiques 62
Tableau 5-7 Analyse de sensibilité sur le modèle d'écoulement en régime permanent 63
Tableau 5-8 Résultats de l'analyse de sensibilité du modèle transitoire de transport de contaminant . 64

Liste des figures

Figure 1-1 Localisation du site du projet Shaakichiuwaanaan 11
Figure 1-2 Plan général du site 12
Figure 4-1 Température quotidienne de 1956 à 2022 (AtkinsRéalis, 2025b) 17
Figure 4-2 Précipitations annuelles (1956 à 2022) (AtkinsRéalis, 2025b) 18
Figure 4-3 Topographie du site 19
Figure 4-4 Géologie de surface (MRNF, 2021) 20
Figure 4-5 Épaisseur du mort-terrain 22
Figure 4-6 Géologie régionale du socle rocheux 23
Figure 4-7 Géologie régionale et couloirs minéralisés (PB Metals, 2024) 24
Figure 4-8 Élévation du roc et localisation des forages 25
Figure 4-9 Résultats des essais Lugeon en fonction de la profondeur 27
Figure 4-10 Intervalle des essais par charge instantanée en fonction de la profondeur dans le roc ... 28
Figure 4-11 Conductivité hydraulique dans le roc en fonction de la profondeur 31
Figure 4-12 Piézométrie dans le roc entre juin et octobre 2024 33
Figure 4-13 Lacs et cours d'eau dans le secteur du projet 35
Figure 4-14 Concentration d'arsenic dans le temps (Vision, 2025) 39
Figure 5-1 Vue en plan du maillage 46
Figure 5-2 Vue en plan des limites du modèle pré-exploitation minière à la couche 1 50
Figure 5-3 Courbe de calibration des charges hydrauliques du modèle de base 52

Figure 5-4 Élévation simulée du niveau d’eau souterraine en régime permanent pendant la phase pré-exploitation minière 54

Figure 5-5 Élévation simulée du niveau d’eau souterraine pendant la phase d’exploitation minière 56

Figure 5-6 Élévation du niveau d’eau souterraine 200 ans après le début de l’exploitation minière. 58

Figure 5-7 Distribution des concentrations en arsenic simulées après 200 ans 61

Sommaire Executif

AtkinsRéalis a été mandatée par Patriot Battery Metals (PB Metals) pour établir les conditions hydrogéologiques de base du Projet Shaakichiuwaanaan, évaluer l'évolution des conditions d'eaux souterraines associées au développement des aires d'entreposage (stériles et résidus) et de la fosse, et apprécier, au moyen d'un modèle numérique 3D, l'efficacité des mesures de mitigation proposées afin de prévenir toute dégradation significative de la qualité des eaux souterraines liée aux la percolation des eaux issues de la Halde 002, conformément à la Directive 019 (MELCCFP, 2025), pour appuyer les décisions de conception de l'aire d'entreposage. Le présent rapport traite spécifiquement de l'élaboration du modèle conceptuel hydrogéologique fondé sur les données de référence, du développement du modèle numérique, de sa calibration et des scénarios prédictifs.

Les conditions hydrogéologiques de base ont été établies à partir d'informations publiques et d'investigations de terrain. Deux unités hydrostratigraphiques ont été identifiées : le mort-terrain (till) et le substratum rocheux. Le mort-terrain, généralement discontinu et d'épaisseur moyenne de ~8 m lorsqu'il est présent, n'est pas considéré comme un aquifère à grande échelle. Le massif rocheux est un peu plus perméable dans sa portion supérieure altérée (~15 m), mais demeure globalement moins perméable que le mort-terrain. L'écoulement des eaux souterraines dans le mort-terrain et le roc superficiel suit la topographie, des hauts vers les bas, en direction des lacs et milieux humides.

L'eau souterraine est de type bicarbonaté magnésien et présente des dépassements des critères d'eau de consommation (EC) pour l'arsenic, le manganèse, le molybdène et l'antimoine, ainsi que des dépassements des critères de résurgence vers les eaux de surface (RES) pour le cuivre. Des dépassements des critères EC ont également été observés pour l'azote ammoniacal et les sulfures.

La Halde 002, située au nord-est de la fosse et des infrastructures minières projetées, recevra une partie des résidus et des stériles. Selon Vision Geochemistry (2025), les matériaux entreposés dans la Halde 002 présentent un risque de lixiviation des métaux, notamment l'arsenic, et un potentiel de génération d'acide. Conformément à la Directive 019, un modèle hydrogéologique doit être développé afin de démontrer que les mesures de contrôle de la percolation des eaux sous l'aire 002 préviennent toute dégradation de la qualité de l'eau souterraine.

Un modèle numérique 3D a été développé pour évaluer les conditions d'écoulement et l'efficacité des mesures autour de la Halde 002. Le modèle pré-exploitation minière représente l'état actuel du site et a servi à la calibration. La phase d'exploitation minière suppose la Halde 002 et la fosse pleinement développées dès l'année 1 jusqu'à la fin des opérations, puis la phase de fermeture/post-fermeture (sur 180 ans) considère une fosse remise en eau et la Halde 002 recouverte.

Les mesures de mitigation évaluées comprennent l'installation d'une géomembrane sous la Halde 002 durant l'exploitation minière, suivie d'une couverture imperméable à la fermeture. Les résultats d'écoulement montrent que la géomembrane modifie les directions d'écoulement vers le sud et le sud-ouest (lac L01 et fosse). Cet effet persiste à la fermeture/post-fermeture.

Le modèle de transport simule la percolation des contaminants (notamment l'arsenic) depuis la Halde 002, à travers la géomembrane sous-jacente, vers l'environnement. Les résultats du modèle de transport des contaminants indiquent que le lac L02 constitue le récepteur le plus à risque vis-à-vis les percolations d'eau en provenance de la Halde 002, en raison de sa proximité et de sa position en aval hydraulique de la halde. Toutefois, le système de mitigation s'avère efficace, les concentrations de contaminants

atteignant les récepteurs environnementaux demeurant inférieures aux critères applicables après 200 ans.

Recommandations :

- Assurer un contrôle et une assurance de la qualité efficaces (CQ/AQ) lors de l'installation de la géomembrane afin de minimiser le nombre de défauts et, par conséquent, de réduire les taux de percolation à travers la géomembrane;
- Mettre en place un programme de suivi des eaux souterraines afin de surveiller la qualité des eaux souterraines à proximité de la Halde 002, incluant des campagnes d'échantillonnage périodiques et l'établissement de seuils d'alerte appropriés conformes aux objectifs de protection de la qualité des eaux souterraines;
- Comparer les résultats des simulations de l'étude de modélisation hydrogéologique aux résultats de suivi des eaux souterraines recueillis sur le terrain. L'étude de modélisation hydrogéologique devrait être mise à jour et recalibrée, au besoin, en fonction des données de terrain afin d'affiner les prédictions.

Acronymes

Acronyme	Définition
PB Metals	Patriot Battery Metals Inc
asl	Au-dessus du niveau de la mer
bgs	En dessous du niveau du sol
CBJNQ	Convention de la Baie-James et du Nord Québécois
LOM	Durée de la vie de la mine (life of mine)
MELCCFP	Ministère de l'Environnement, de la Lutte contre les changements climatiques, de la Faune et des Parcs
MELCC	Ministère de l'Environnement et de la Lutte contre les changements climatiques
MRNF	Ministère des Ressources naturelles et des Forêts
NRCAN	Ressources naturelles Canada
SIGÉOM	Système d'information géominière
3D	Trois dimensions

1. Introduction

1.1 Contexte

Le projet Shaakichiuwaanaan (anciennement connu sous le nom de projet Corvette) est un projet de lithium appartenant à Patriot Battery Metals Inc. (PB Metals), situé dans la région d'Eeyou Istchee Baie-James, au Québec, Canada (**Figure** 1-1). Le projet minera le spodumène issu d'un gisement de pegmatite au moyen d'une méthode hybride combinant l'exploitation à ciel ouvert et l'exploitation souterraine. La mine comprendra également une usine de traitement du minerai, une halde mixe pour les stériles et les résidus, une halde dédiée aux stériles, deux haldes de mort-terrain, une halde de matières organiques, une usine de traitement de l'eau ainsi que diverses infrastructures minières. La durée de vie prévue du projet est actuellement estimée à 19 ans, excluant la phase de construction.

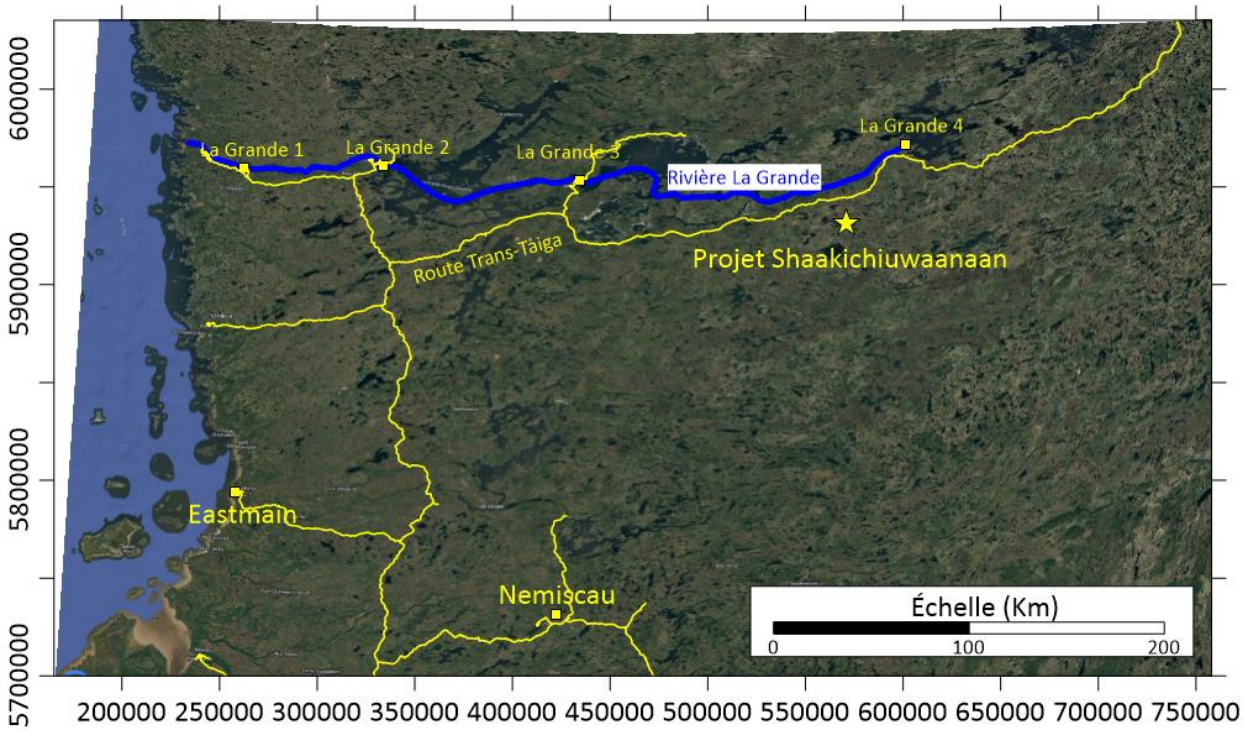


Figure 1-1 Localisation du site du projet Shaakichiuwaanaan

Deux sites ont été sélectionnés pour l'entreposage des résidus et des stériles, comme illustré à la **Figure 1-2**. La Halde 001, située au nord-ouest de l'usine, sera entièrement dédiée à l'entreposage des stériles, en raison de sa proximité avec la fosse à ciel ouvert. En revanche, la Halde 002, située au nord-est de l'usine, est destinée à accueillir à la fois des stériles et des résidus.

Selon l'évaluation géochimique réalisée par Vision Geochemistry (2025) concernant les matériaux entreposés dans la Halde 002, ceux-ci ont été jugés susceptibles de présenter un risque de lixivier des métaux, notamment l'arsenic, et présente également un potentiel de génération d'acidité. Sur la base de cette évaluation et des exigences de la Directive 019, un modèle hydrogéologique doit être développé afin de démontrer que les mesures de mitigation qui seront mises en place permettront d'éviter toute

dégradation significative de la qualité des eaux souterraines causée par le drainage minier en provenance des résidus et stériles miniers entreposés dans la Halde 002.

Dans le cadre de l'étude de faisabilité, PB Metals a mandaté AtkinsRéalis pour réaliser l'étude hydrogéologique de base, évaluer la nécessité de mener une étude pour la protection des eaux souterraines pour la Halde 002 et effectuer cette étude le cas échéant, conformément à la Directive 019 (MELCCFP, 2025).

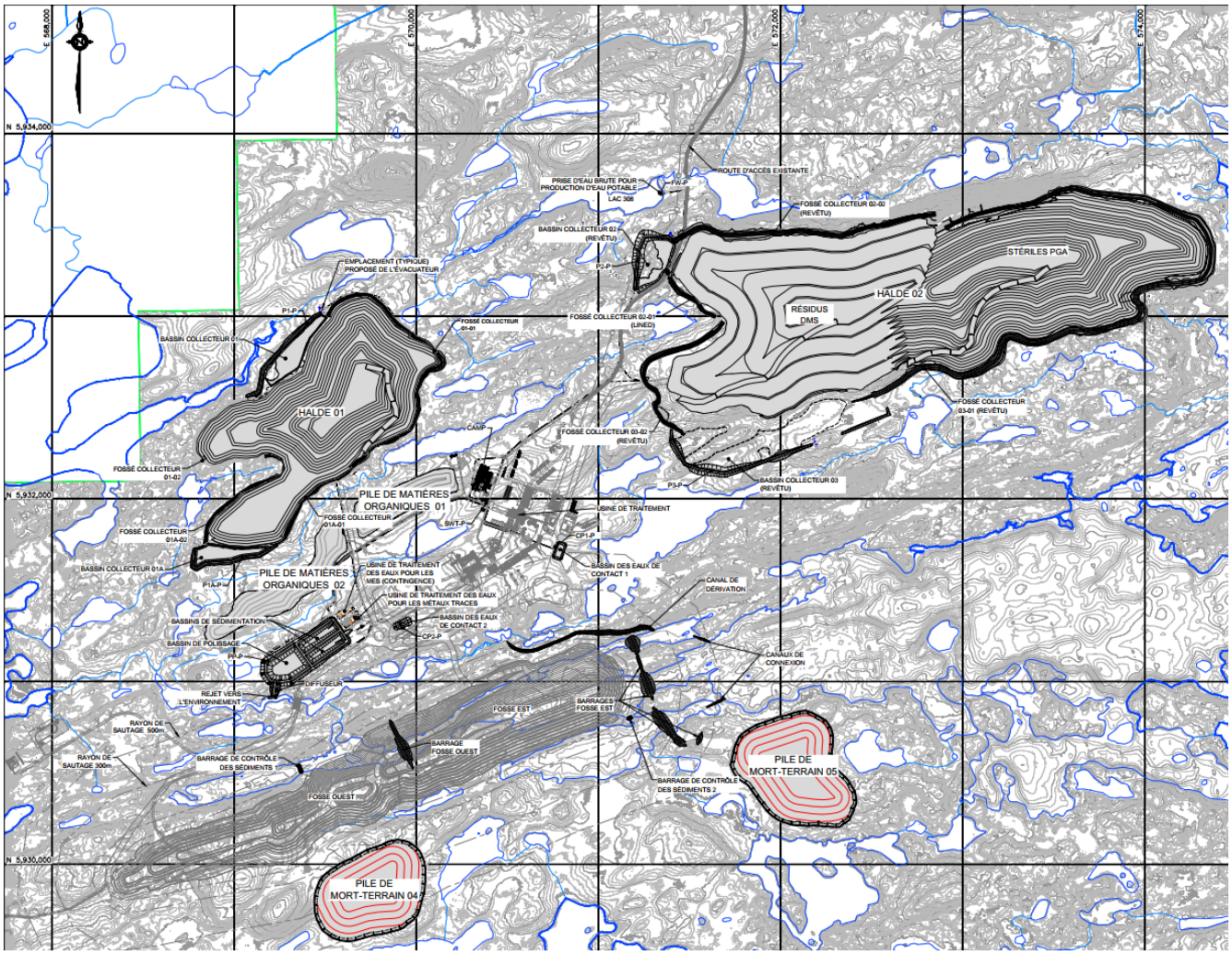


Figure 1-2 Plan général du site

1.2 Objectifs

La présente étude vise à établir les conditions hydrogéologiques de base du site, à évaluer l'évolution du régime des eaux souterraines associée au développement des haldes et de la fosse, et à analyser — au moyen d'un modèle numérique 3D — l'efficacité des mesures de mitigation proposées pour prévenir toute dégradation significative de la qualité des eaux souterraines due au drainage minier en provenance de la Halde 002, en lien avec la Directive 019 (MELCCFP, 2025).

1.3 Méthodologie

Pour atteindre ces objectifs, les tâches suivantes ont été réalisées et sont détaillées dans le présent rapport :

- Examiner l'ensemble des informations hydrogéologiques, géologiques, hydrologiques et géotechniques disponibles afin de développer une bonne compréhension des conditions du site;
- Développer un modèle conceptuel hydrogéologique décrivant les conditions des eaux souterraines sur le site;
- À partir du modèle conceptuel, élaborer un modèle numérique 3D représentant les conditions actuelles du site;
- À partir du plan minier, évaluer les conditions hydrogéologiques après le développement minier, en portant une attention particulière à la Halde 002 et aux mesures de mitigation proposées;
- À l'aide du modèle numérique 3D, analyser le potentiel de lixiviation de la Halde 002 avec les mesures de mitigation prévues vers le système d'eaux souterraines, ainsi que les impacts potentiels sur les récepteurs environnementaux;
- Confirmer la pertinence des mesures de mitigation proposées ou recommander des mesures supplémentaires pour protéger les récepteurs environnementaux si ceux-ci ne sont pas adéquats.

2. Description du site

2.1 Localisation du projet

Le projet Shaakichiuwaanaan (le Site) est situé dans la région d'Eeyou Istchee Baie-James, au Québec, Canada, aux coordonnées approximatives 5 932 147 mètres de latitude et 571 107 mètres de longitude (NAD83(CSRS98) / UTM zone 18N). Il se trouve à environ 220 km à l'est de Radisson et à environ 240 km au nord-nord-est du site minier Nemaska. L'accès au Site se fait en empruntant la route Trans-Taïga jusqu'au km 270, puis en suivant un chemin secondaire sur environ 14 km. La **Figure** 1-1 illustre la localisation du site du projet Shaakichiuwaanaan. Le site couvre une superficie d'environ 23 710 hectares (ha) et comprend 463 titres miniers.

Le projet est situé sur des terres de Catégorie III du territoire cri d'Eeyou Istchee, conformément à la Convention de la Baie-James et du Nord québécois (CBJNQ). Cette entente établit un cadre structuré pour la gestion et le développement des ressources, incluant des mécanismes de consultation avec les peuples autochtones (PB Metals, 2025).

2.2 Description du projet

Le projet vise à développer une mine de lithium combinant une fosse à ciel ouvert et une exploitation souterraine. Il comprendra notamment une usine de traitement du minerai, une usine de traitement de l'eau, un camp pour les travailleurs, des zones d'entreposage pour les stériles, les résidus, le minerai, le mort-terrain et les matières organiques. La **Figure** 1-2 présente la configuration générale des installations. La durée de vie de la mine est estimée à environ 19 ans (G Mining, 2025a).).

3. Données disponibles

Plusieurs documents ont été examinés afin d'élaborer un modèle conceptuel hydrogéologique complet ainsi qu'un modèle numérique permettant d'atteindre les objectifs de la présente étude. La liste suivante présente les documents consultés :

- Analysis and Interpretation of the CV5 Static and Kinetic Geochemistry Characterization Results – Rapport technique soumis par BBA le 23 mai 2024. Référence 7535001-000500-4E-ERA-0001 R00;
- Geochemical Modelling of Arsenic Leaching Risk for CV5 Waste Rock Stockpiles – Rapport technique soumis par BBA le 3 juillet 2024. Référence 7535001-003200-4E-ERA-0001-R00;
- PEA Highlights Shaakichiuwaanaan Project as a Potential North American Lithium Raw Materials Supply Base. Patriots Battery Metals Inc. Août 2024;
- Water Management Plan and Water Diversion – Rapport technique soumis par BBA le 11 septembre 2024. Référence 7535006-014000-41-ERA-0002-R00;
- Hydrogeological Baseline Study – Future Open Pit CV5, Corvette Lithium property – Rapport technique soumis par BBA le 23 septembre 2024. Référence 7535001-001900-41-ERA-0002-R00;
- Geotechnical Campaign for Phase 2 (factual) – Rapport technique soumis par BBA le 17 avril 2025. Référence 7535009-020001-4G-ERA-0003-R00 D;
- Hydrogeological Characterisation – CV5 mining site Shaakichiuwaanaan Lithium Property - Rapport technique soumis par BBA le 4 juillet 2025. Référence 753019-000000-41-ERA-0002-R00;
- Packer Testing Factual Report – Rapport technique soumis par BBA le 9 juillet 2025. Référence 7535019-000000-41-ERA-0001-R00;
- Hydrogeological characterisation – Water supply well, Shaakichiuwaanaan Lithium Property - Rapport technique soumis par BBA le 9 juillet 2025. Référence 20257535019-000000-41-ERA-0003-R00;
- Baseline Hydrology –Note technique soumise par AtkinsRéalis le 15 août 2025. Référence CASN-A-370-HY-REP-001;
- Geochemical Characterization of Mine Waste Materials & Modelling of Waste Rock Stockpiles for the Shaakichiuwaanaan Project (CV5 Pegmatite): Feasibility Study Update. Rapport soumis par Vision Geochemistry le 12 novembre 2025. Référence 2405007-TR1;
- La bathymétrie du Lac L01 fournis par PB Metals le 23 octobre 2024;
- Modèle géologique fourni par PB Metals le 6 novembre 2024;
- La fosse ultime et la mine souterraine projetée ont été fournies par G Mining le 5 mai 2025;
- Conception des haldes 001 et 002 par AtkinsRéalis fournie le 23 mai 2025;
- Géologie structurelle (failles, joints, et autres structures) fournie avec le modèle géologique par PB Metals le 25 janvier 2025. La nature hydrogéologique de ces failles et joints a été déterminée à l'aide des valeurs de RQD et la description géologique;
- Lidar, bathymétrie et modèle numérique de terrain régional du Canada (MNEMR) (NRCAN, 2011).

Un examen approfondi de la documentation existante disponible a été réalisé, et une analyse des écarts a été effectuée par AtkinsRéalis pour l'hydrogéologie de base et pour le développement du modèle numérique 3D (AtkinsRéalis, 2025a). L'analyse des écarts a permis d'identifier les données disponibles, de mettre en évidence les lacunes, ainsi que l'ensemble des hypothèses utilisées pour l'évaluation de base, le développement du modèle conceptuel et du modèle numérique.

4. Modèle conceptuel hydrogéologique

Le modèle conceptuel décrit dans cette section représente notre compréhension des conditions hydrogéologiques actuelles du site. AtkinsRéalis n'a réalisé aucun travail de terrain hydrogéologique sur le site; par conséquent, toutes les informations présentées ci-dessous sont basées sur les données recueillies sur le terrain par d'autres consultants.

4.1 Géographie et hydrologie régionales

La topographie régionale est caractérisée par un relief accidenté et un couvert forestier dense, typiques du Bouclier canadien. L'altitude au site varie de manière significative, allant d'environ 250 mètres à 450 mètres au-dessus du niveau de la mer (m asl).

Le projet se situe dans une région comprenant plusieurs plans d'eau importants qui jouent un rôle essentiel dans l'hydrologie locale et l'écosystème. Le Lac Shaakichiuwaanaan (Lac L01 sur la **Figure** 4-3) est situé à l'intérieur de la zone du projet et constitue un élément majeur du paysage local. La rivière La Grande, située à environ 50 km au nord du site, est l'un des principaux cours d'eau de la région. Elle fait partie du complexe hydroélectrique de La Grande, qui comprend plusieurs grands réservoirs et barrages.

4.2 Climat

Le climat de la province naturelle des Basses collines de la Grande Rivière, où se situe la zone d'étude, est caractérisé par des étés frais et des hivers très froids (Environnement Canada, 2023).

Les données climatiques ont été obtenues à partir de quatre stations d'Environnement et Changement climatique Canada (ECCC), telles que présentées au **Tableau 4-1**. Au total, 53 années de données quotidiennes sur les précipitations, les pluies, les chutes de neige et les températures ont été compilées et reconstituées. Les années comportant plus de 10 jours de données manquantes ont été exclues de l'analyse afin d'assurer la fiabilité des résultats. Pour l'enneigement, l'ensemble de données reconstitué comprend 63 années d'observations.

Tableau 4-1 Caractéristiques des stations météorologiques

Nom	Station ID	Distance du site (km)	Latitude Nord	Longitude Ouest	Altitude (m)	Années disponibles
Nitchequon	7095480	202	53°12'00,0"	70°54'00,0"	536,1	1942 - 1985
La Grande IV A	7093GJ3	32	53°45'26,0"	73°40'45,0"	306,3	1985 - 2018
La Grande IV	7093GJ5	32	53°45'26,0"	73°40'43,0"	302,8	2005 - 2024
La Grande 4 A	7093714	32	53°45'17,0"	73°40'31,0"	306,3	2011 - 2024

Selon l'analyse des données climatiques, la température annuelle moyenne est de –3,1 °C, avec une température moyenne estivale de 12,5 °C et une température moyenne hivernale de –20,6 °C (**Figure** 4-1) (AtkinsRéalis, 2025b). Les précipitations annuelles moyennes varient entre 579 mm et 1 143 mm, pour une moyenne annuelle de 722 mm (**Figure** 4-2) (AtkinsRéalis, 2025b).

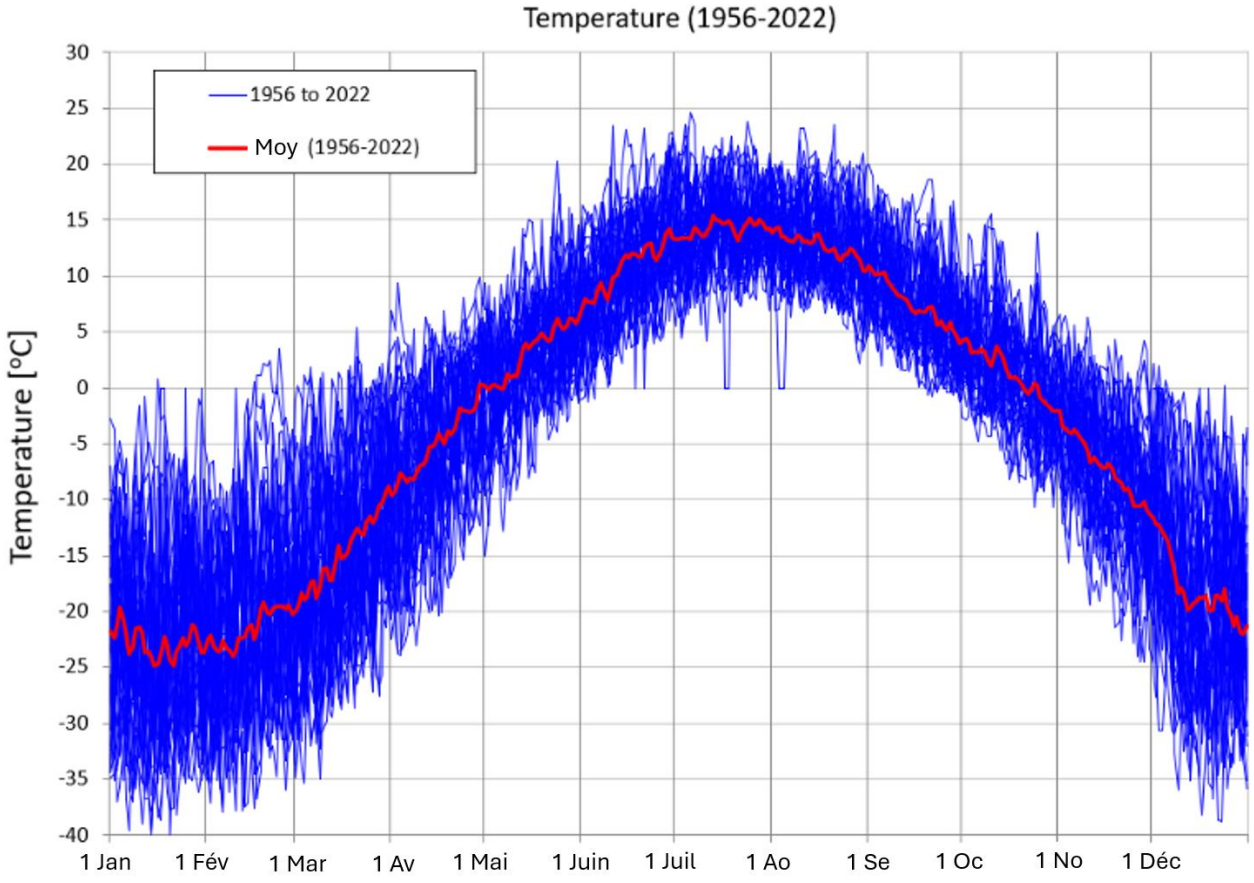


Figure 4-1 Température quotidienne de 1956 à 2022 (AtkinsRéalis, 2025b)

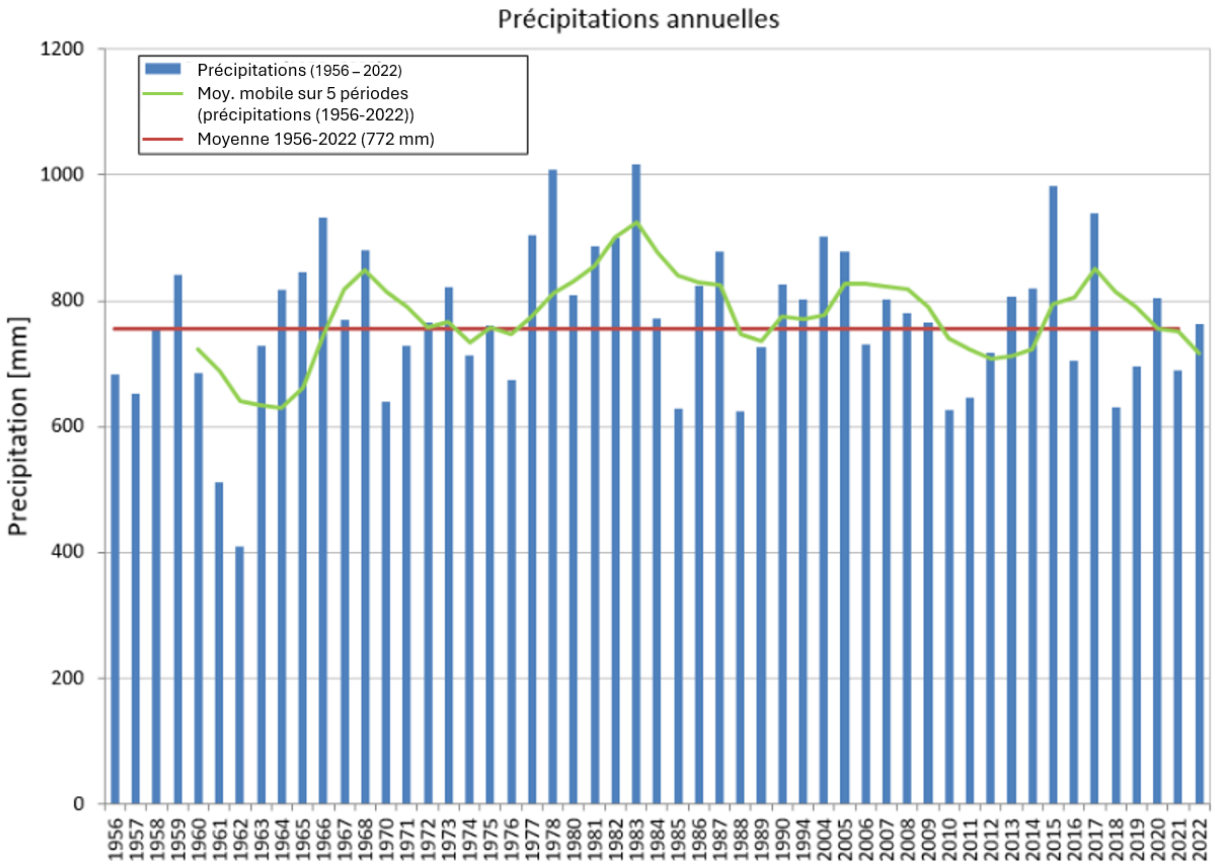


Figure 4-2 Précipitations annuelles (1956 à 2022) (AtkinsRéalis, 2025b)

4.3 Topographie et hydrologie locale

La topographie du site a été définie en combinant les données LiDAR haute résolution de la zone du projet (1 m × 1 m) et les données bathymétriques (1 m × 1 m) avec le modèle numérique de terrain régional du Canada (20 m × 20 m) (RNCan, 2011). La topographie résultant de la combinaison de ces jeux de données est présentée à la **Figure** 4-3, avec des altitudes qui varient entre 346 m asl et 460 m asl autour du site, les points les plus bas correspondant généralement aux lacs.

La fosse proposée CV5 et la mine souterraine sont situées sous le Lac L01 et sont entourées de plusieurs plans d'eau (sans nom) ainsi que de zones marécageuses. L'altitude des lacs varie entre 353 m asl et 382 m asl (le Lac L01 se trouvant à 373,9 m asl) et leur drainage s'oriente du nord vers le sud et d'est en ouest.

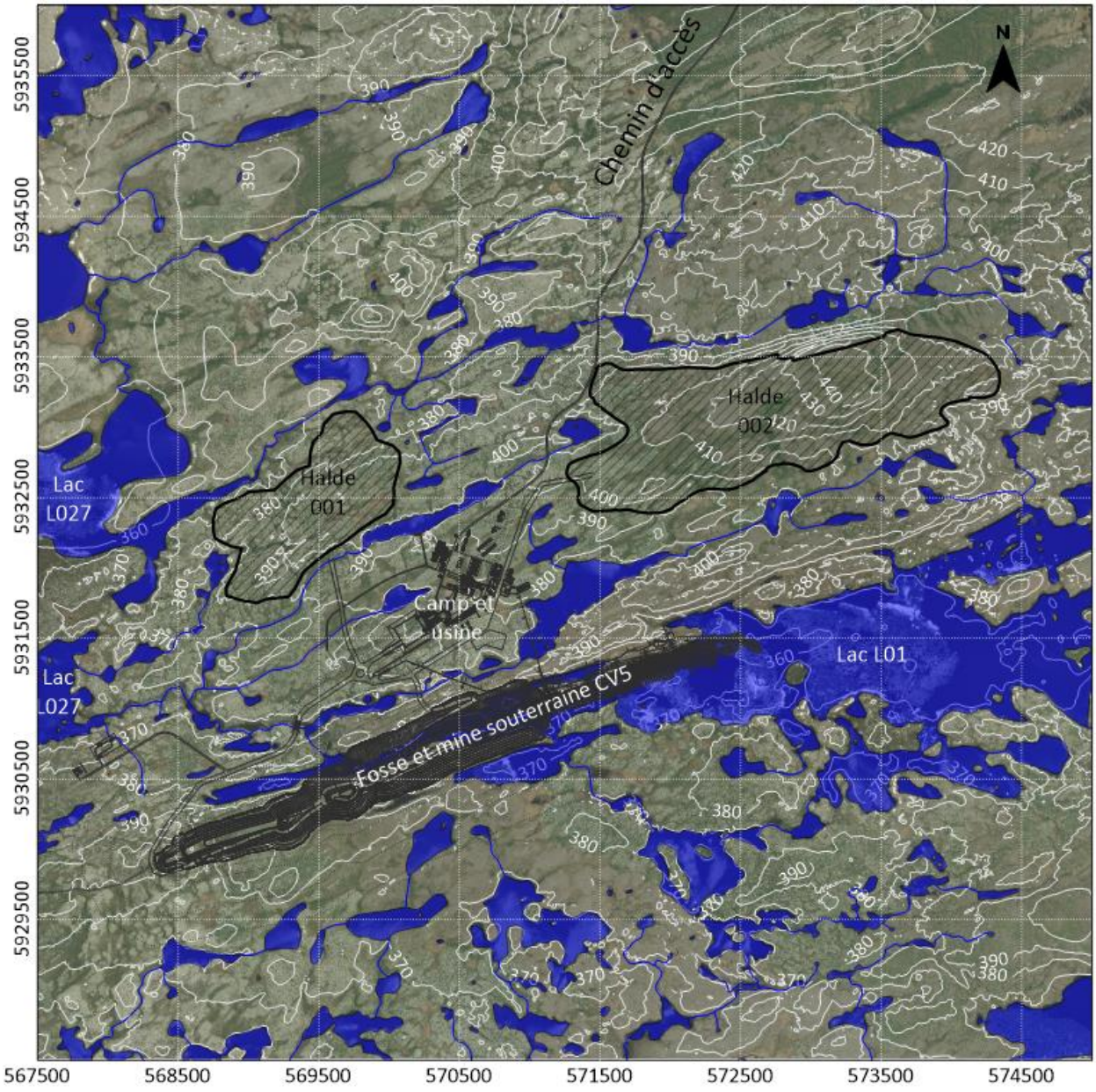


Figure 4-3 Topographie du site

4.4 Géologie

La propriété Shaakichiuwaanaan est située dans une région géologiquement complexe, caractérisée par un assemblage de formations rocheuses ignées et métamorphiques, recouvertes de dépôts glaciaires. La géologie de la zone d'étude a été interprétée à partir des données de cartographie géologique du Système d'information géominière (SIGÉOM) (MRNF, 2021), la base de données géoscientifique du gouvernement du Québec, ainsi que des données de forage recueillies par PB Metals et leurs consultants.

4.4.1 Mort-terrain

Le mort-terrain de la région est discontinu, interrompu fréquemment par des affleurements rocheux, et est principalement composé de till recouvert de sols organiques. Les sols organiques présents en surface ont une épaisseur d'environ 0,15 m, mais varient entre 0,07 m et 1,04 m dans la zone de la Halde 002 (BBA, 2025a).

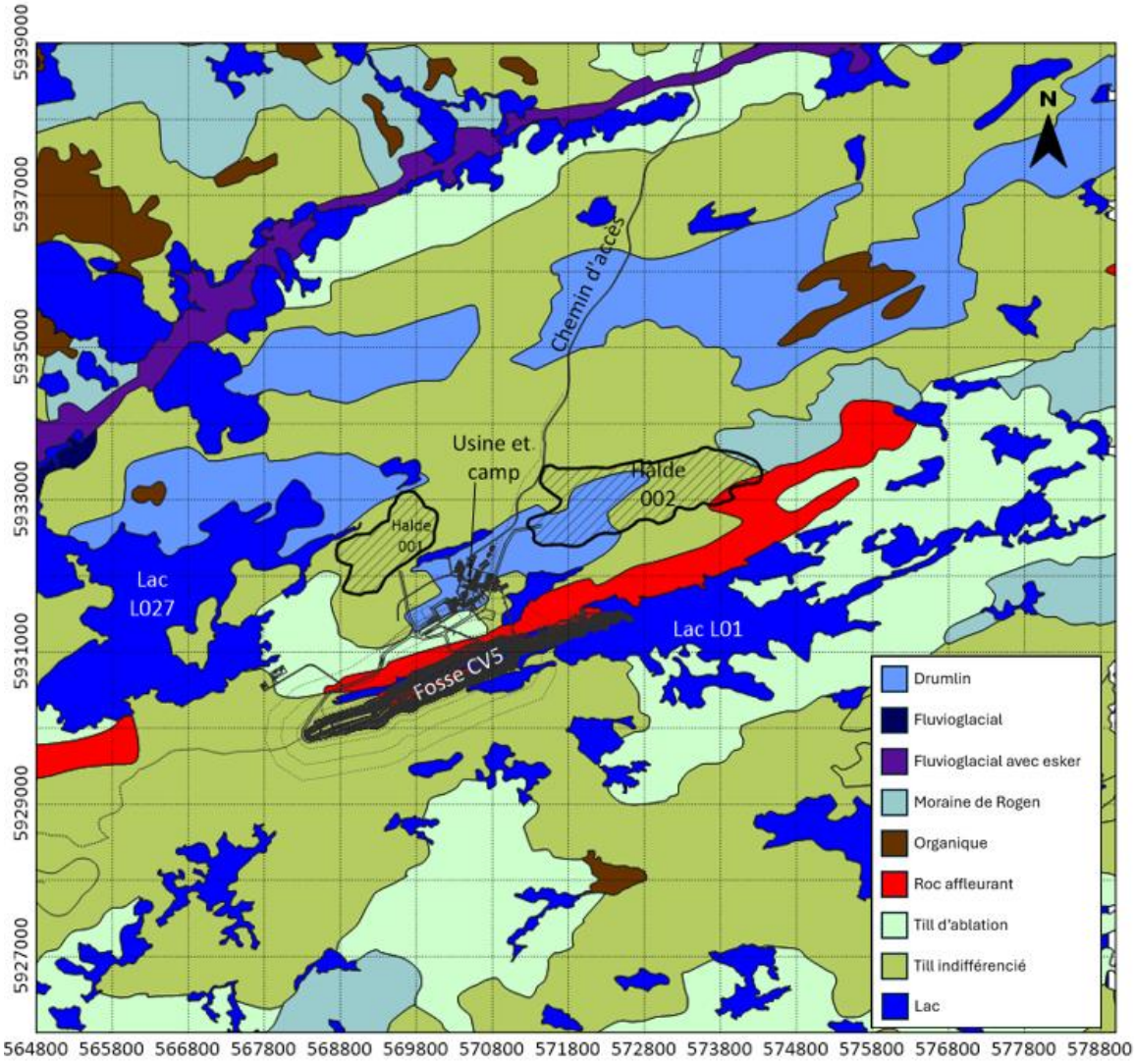


Figure 4-4 Géologie de surface (MRNF, 2021)

Sous les matériaux organiques, le mort-terrain est constitué de till. Le till est un sédiment déposé directement par les glaciers. Il est généralement hétérogène et composé de proportions variables d'argile, de silt, de sable, de gravier, de galets et de blocs, Le till de la région est subdivisé en plusieurs unités géomorphologiques dans le SIGÉOM (MRNF, 2021) (**Figure** 4-4) :

- Drumlins : Formes profilées caractérisées par des crêtes allongées, rectilignes et de faible élévation, créées par l'action glaciaire sur un till meuble sous-jacent;

- Moraine de Rogen : Type de moraine formée sous-glaciairement et constituée de matériaux glaciaires, le plus souvent du till. Elle se manifeste sous forme de grandes crêtes ondulées orientées transversalement à la direction d'écoulement de la glace;
- Till d'ablation : Till déposé à l'extrémité d'un glacier durant les processus d'ablation, généralement constitué de diamicton avec une matrice meuble ou lavée. Sa surface présente habituellement de nombreux cailloux et blocs;
- Till indifférencié : Till dont la genèse ne peut être déterminée.

La géomorphologie du site est principalement caractérisée par des drumlins et des tills indifférenciés, avec une petite portion de la Halde 002 située sur une moraine de Rogen. Le till présent sur le site est généralement composé de sable silteux, de silt ou de sable, avec du gravier occasionnel et de faibles teneurs en argile, devenant plus graveleux avec la profondeur. À l'interface du roc, le mort-terrain devient plus grossier, et s'apparente plus à une couche de galets, de blocs et de gravier avec des traces de matériaux sableux (BBA, 2025a).

L'épaisseur du mort-terrain dans la zone du projet a été estimée grâce à l'interprétation des données de 892 forages. L'épaisseur de cette unité, lorsqu'elle est présente, varie entre 0,11 m (CH24-098) et 48 m (CV24-650). Les zones présentant les épaisseurs les plus importantes correspondent généralement aux drumlins. La variation de l'épaisseur du mort-terrain à travers le site a été interpolée entre les forages et est illustrée à la **Figure** 4-5.

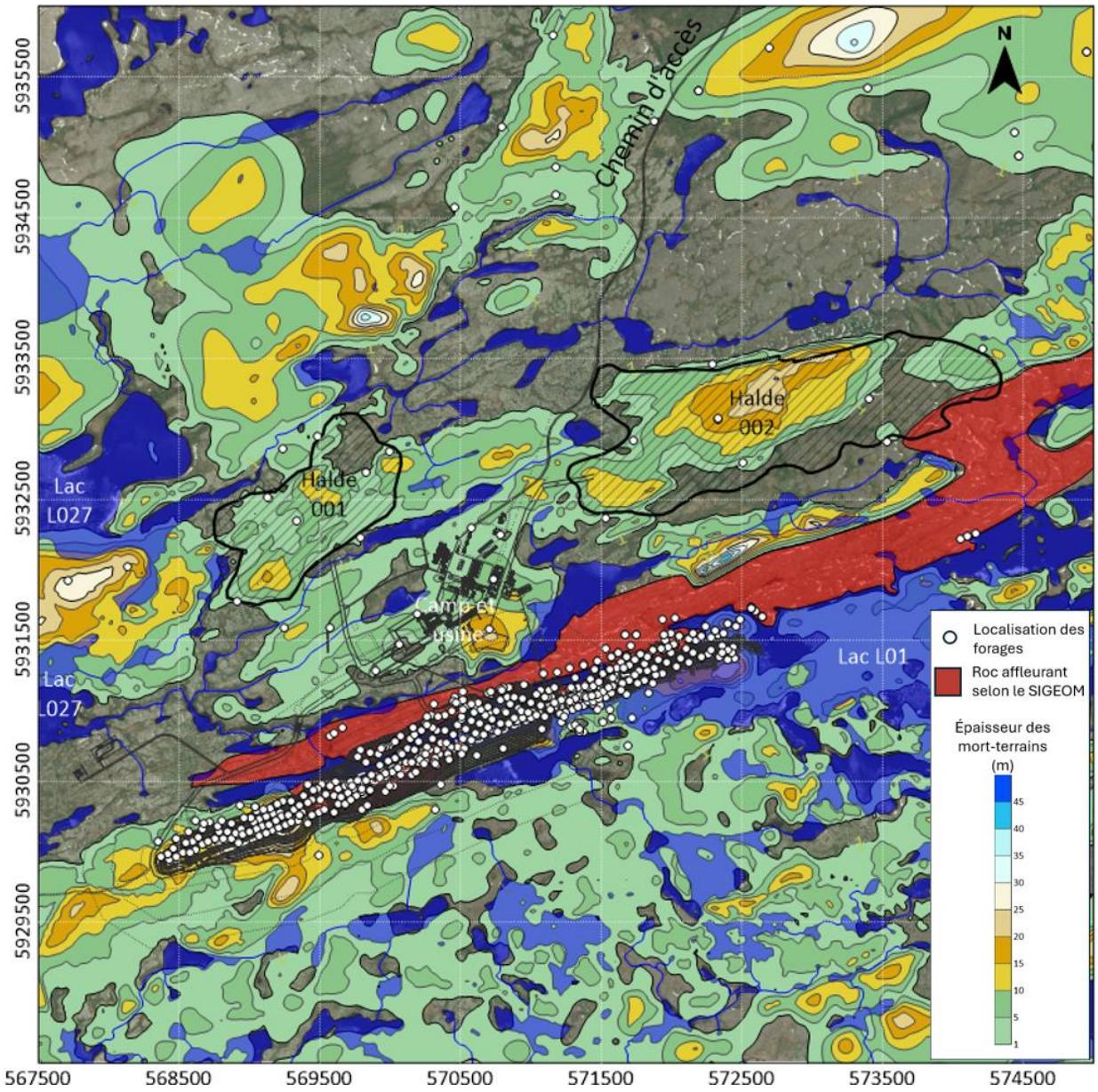


Figure 4-5 Épaisseur du mort-terrain

Une investigation géotechnique réalisée par BBA en 2024 (BBA, 2025a) a montré que la zone de la Halde 002 repose principalement sur une couche organique suivie d'une unité généralement très lâche à très dense de sable silteux. Cette unité est composée principalement de silt et de sable avec du gravier occasionnel et de faibles teneurs en argile, jusqu'à des profondeurs atteignant 4,88 m sous la surface à certains endroits.

Sous le sable silteux se trouve une couche lâche à très dense de matériaux graveleux, mélangés à du sable, du silt et de l'argile, avec une épaisseur qui varie entre 0,36 m et 9,14 m lorsqu'elle est présente. Trois forages ont mis en évidence une couche de galets, blocs et gravier située à l'interface entre le roc et le mort-terrain, avec une épaisseur qui varie entre 0,62 m et 6,02 m (BBA, 2025a).

4.4.2 Socle rocheux

La géologie régionale du projet est caractéristique de la Province du Supérieur du Bouclier canadien. Au Québec, cette province géologique est subdivisée en quatre sous-provinces : métasédimentaire, métamorphique, volcano-plutonique et plutonique. La propriété se trouve principalement au-dessus de la ceinture de roches vertes du lac Guyer, considérée comme faisant partie de la plus vaste ceinture de roches vertes de la rivière La Grande. Elle est dominée par des roches volcaniques métamorphisées au faciès amphibolite. Les roches du Groupe de Guyer (amphibolites, formations de fer, roches volcaniques intermédiaires à mafiques, péridotite, pyroxénite, komatiite ainsi que des volcanites felsiques) constituent la majorité du substratum rocheux sous-jacent à la propriété (PB Metals, 2024a). Cette sous-province abrite une minéralisation significative en lithium, notamment dans les pegmatites à spodumène CV5 et CV13 (PB Metals, 2024a). La géologie régionale est présentée à la **Figure** 4-6.

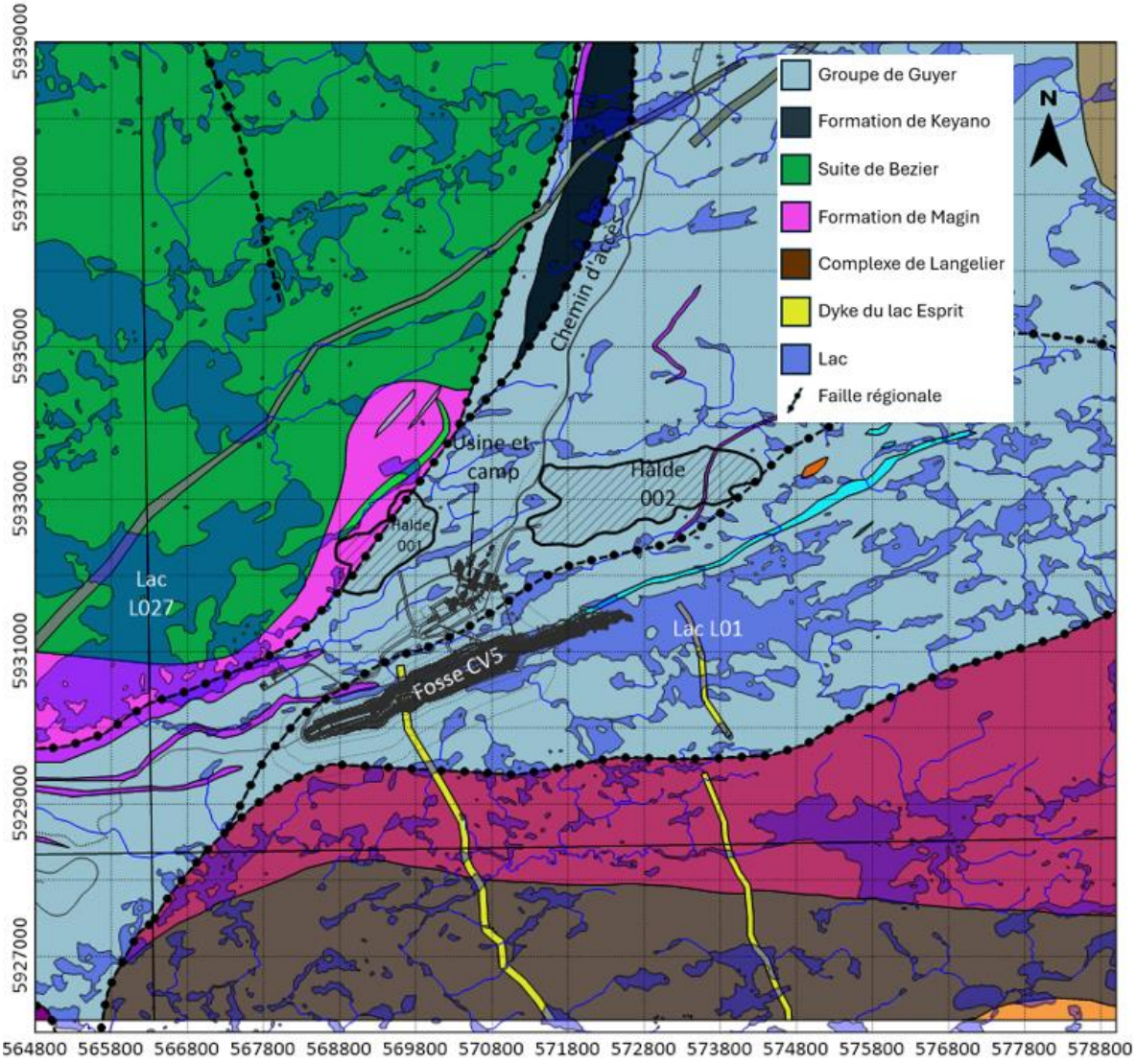


Figure 4-6 Géologie régionale du socle rocheux

Sur le site, le socle rocheux a été caractérisé à partir de 892 forages (PB Metals, 2024b). Selon les données de forage, le socle rocheux est généralement composé d'une alternance d'amphibolite gris à vert, de wacke (Guyer) et d'intrusions de pegmatite blanc à noir (**Figure** 4-7, BBA, 2024a).

La qualité de la roche a été évaluée comme généralement bonne, avec des zones de fractures de faible intensité, selon les valeurs de RQD se situant généralement entre 90 % et 100 %.

L'élévation de la surface du roc varie entre 342 m asl et 446 m asl sur l'ensemble du site, et entre environ 391 m asl et 446 m asl dans la zone de la Halde 002 (**Figure** 4-8). Le roc affleure à certains endroits et peut être rencontré jusqu'à 48 m de profondeur dans d'autres secteurs.

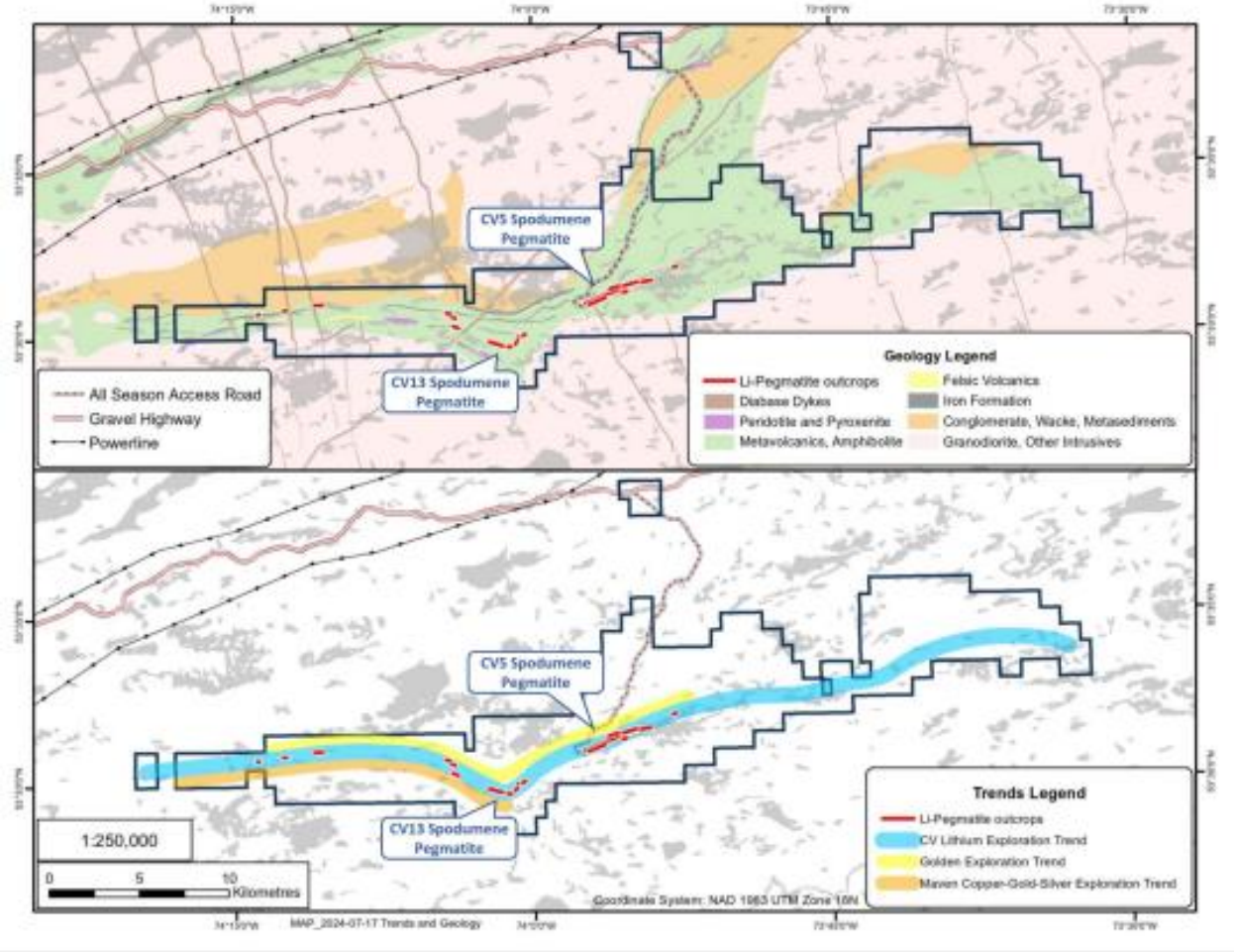


Figure 4-7 Géologie régionale et couloirs minéralisés (PB Metals, 2024)

La zone d'étude est située entre deux failles régionales orientées sud-ouest – nord-est. L'une de ces failles traverse l'emplacement prévu de la Halde 001, tandis que l'autre faille passe à environ 275 m au sud de la Halde 002. La localisation de ces failles est présentée à la **Figure** 4-6.

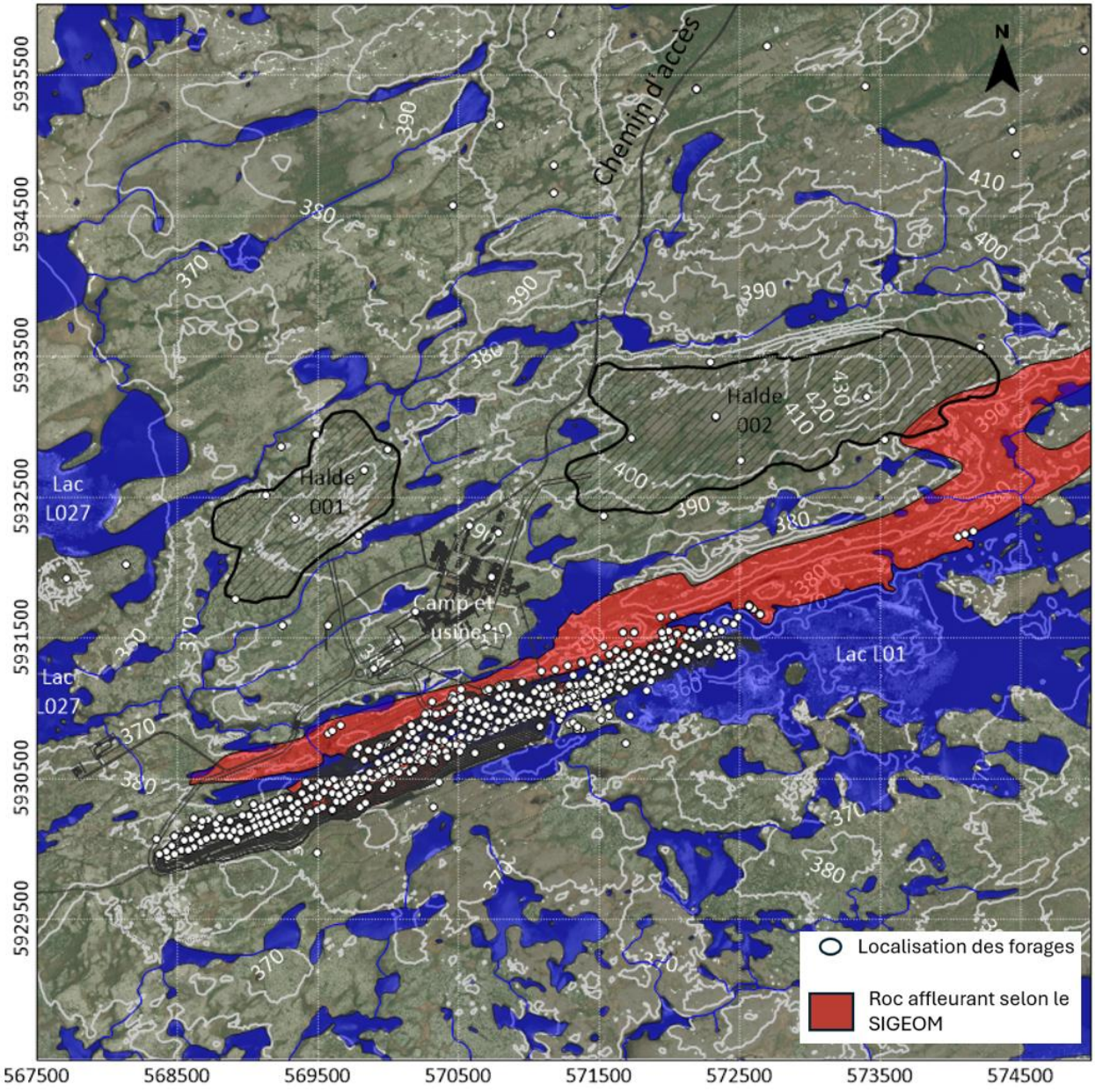


Figure 4-8 Élévation du roc et localisation des forages

4.5 Propriétés hydrogéologiques et hydrostratigraphie

4.5.1 Propriétés hydrogéologiques

La conductivité hydraulique (K) a été évaluée à l'aide de plusieurs méthodes d'essais in situ, incluant des essais d'infiltration, des essais avec obturateurs (lugeons), des essais de perméabilité in situ à charge

instantanée (slug tests) et essais de pompage, réalisés en 2023 et 2024 (BBA, 2024a; BBA, 2025b; BBA, 2025c). Chaque type d'essai fournit des valeurs de conductivité hydraulique à des échelles spatiales et dans des conditions différentes, permettant ainsi une évaluation exhaustive des caractéristiques d'écoulement en subsurface. La storativité a également été estimée à partir des données issues des essais de pompage.

Essais d'infiltration

L'essai d'infiltration mesure la vitesse d'infiltration de l'eau dans un sol non saturé sous l'effet de la gravité. Cet essai a permis d'obtenir des valeurs de conductivité hydraulique à huit emplacements afin de caractériser la conductivité hydraulique de la zone vadose.

Les résultats indiquent une plage de conductivités hydrauliques saturées variant entre $1,6 \times 10^{-6}$ m/s et $4,1 \times 10^{-5}$ m/s, les valeurs les plus élevées ayant été observées dans les unités de till indifférencié et de moraine de Rogen (BBA, 2025b, **Tableau 4-2**).

Ces essais de conductivité hydraulique ont été réalisés pour caractériser le matériau sous les emplacements potentiels des haldes, où le mort-terrain se trouve parfois en condition non saturée. Pour les sols argileux, la conductivité hydraulique saturée mesurée sur le terrain est généralement égale à la moitié ou au quart de la conductivité hydraulique saturée mesurée en laboratoire (ASTM, 2016).

Tableau 4-2 Résultats des tests d'infiltration

Géomorphologie	N	Conductivité hydraulique Moy. Géo. (m/s)	Conductivité hydraulique minimum (m/s)	Conductivité hydraulique maximum (m/s)
Drumlin	3	$5,2 \times 10^{-5}$	$3,6 \times 10^{-6}$	$7,4 \times 10^{-6}$
Moraine de Rogen	1	$4,1 \times 10^{-5}$	$4,1 \times 10^{-5}$	$4,1 \times 10^{-5}$
Till indifférencié	5	$1,9 \times 10^{-5}$	$1,6 \times 10^{-6}$	$4,1 \times 10^{-5}$

BBA, 2025b

Essais Lugeon (essais réalisés à l'aide d'obturateurs)

Des essais de type Lugeon ont été réalisés dans 12 forages autour de l'emplacement proposé de la fosse CV5 afin d'évaluer la conductivité hydraulique du roc à différentes profondeurs, en ciblant des zones discrètes au sein de la roche saturée. Cette méthode isole des sections d'essai à l'aide d'obturateurs (packers) gonflables et applique une pression constante ou variable pour déterminer la perméabilité de la formation. Les valeurs de conductivité hydraulique estimées varient entre $8,6 \times 10^{-10}$ m/s et $3,7 \times 10^{-7}$ m/s, avec une moyenne géométrique de $2,3 \times 10^{-8}$ m/s (BBA, 2025c). Les résultats des essais Lugeon suggèrent que la conductivité hydraulique diminue avec la profondeur, les valeurs de $1,0 \times 10^{-7}$ m/s étant généralement observées à moins de 100 m sous la surface (BBA, 2025c). Un résumé des résultats des essais Lugeon, par intervalle de profondeur, est présenté à la **Figure** 4-9.

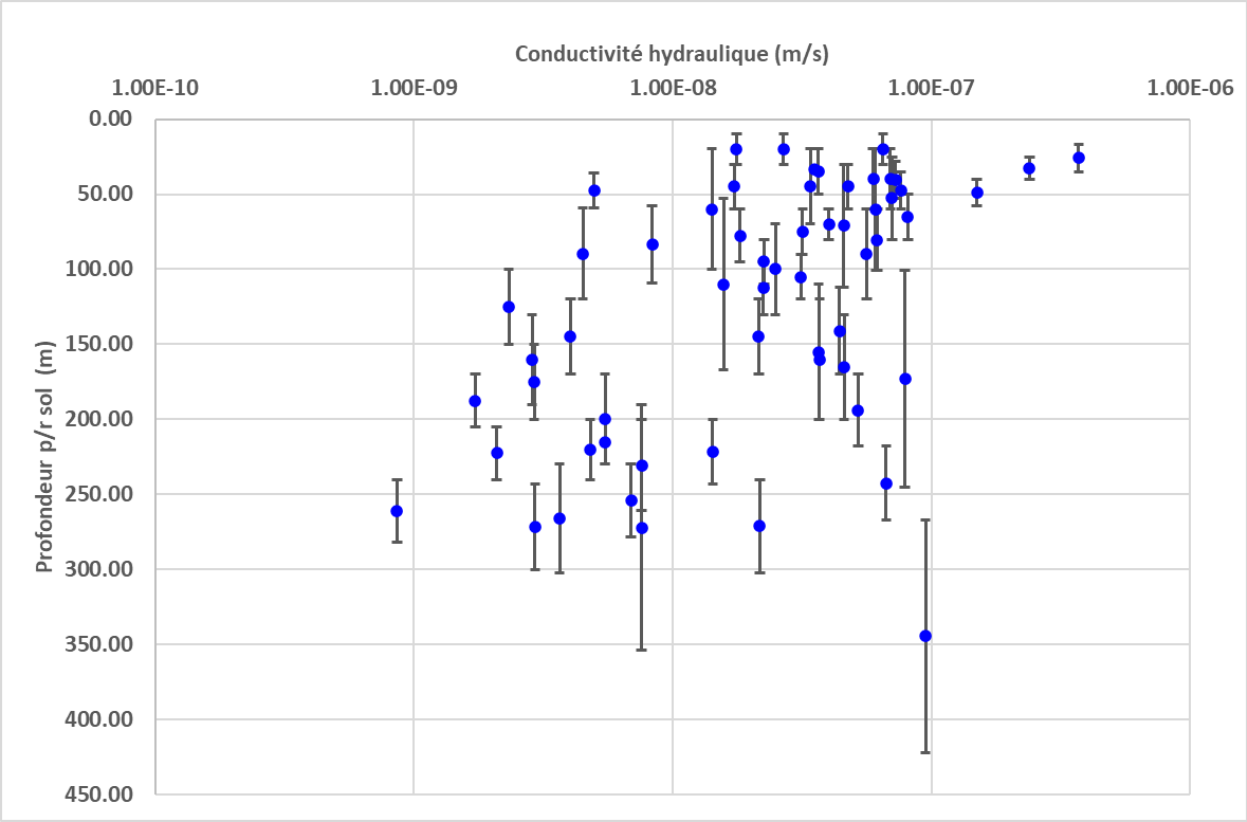


Figure 4-9 Résultats des essais Lugeon en fonction de la profondeur

Essais hydrauliques par charge instantanée (slug tests)

Des essais hydrauliques par charge instantanée (slug tests) ont été réalisés dans 31 puits d'observation afin d'évaluer la conductivité hydraulique du mort-terrain (8 puits) et du roc (23 puits). Les résultats de ces essais indiquent que la conductivité hydraulique du mort-terrain varie entre 2,9 × 10^{-8} m/s et 3,9 × 10^{-6} m/s, avec une moyenne géométrique de 1,1 × 10^{-6} m/s. Le **Tableau 4-3** présente un résumé des résultats des essais dans le mort-terrain, subdivisés selon la géomorphologie du till où chaque essai a été effectué.

Tableau 4-3 Sommaire des résultats des essais hydrauliques par charge instantanée

Géomorphologie	N	Conductivité hydraulique – Moy. Géo. (m/s)	Conductivité hydraulique – Minimum (m/s)	Conductivité hydraulique – Maximum (m/s)
Drumlin	5	$1,3 \times 10^{-6}$	$2,2 \times 10^{-7}$	$3,6 \times 10^{-6}$
Till indifférencié	3	$7,4 \times 10^{-7}$	$2,9 \times 10^{-8}$	$3,9 \times 10^{-6}$
Tout type de till	8	$1,1 \times 10^{-6}$	$2,9 \times 10^{-8}$	$3,9 \times 10^{-6}$

La conductivité hydraulique estimée pour le roc varie entre $4,3 \times 10^{-9}$ m/s et $2,1 \times 10^{-6}$ m/s, avec une moyenne géométrique de $2,0 \times 10^{-7}$ m/s. De façon similaire aux résultats des essais Lugeon, les valeurs obtenues pour le roc à partir des essais par charge instantanée suggèrent une diminution de la conductivité hydraulique avec la profondeur (BBA, 2025b).

Les résultats des essais par charge instantanée indiquent la présence d'un roc plus perméable en surface (moins de 15 m de profondeur), reposant sur un roc plus faiblement perméable en profondeur. La conductivité hydraulique de la portion superficielle du roc est d'un ordre de grandeur plus élevée que celle du roc profond (**Figure** 4-10).

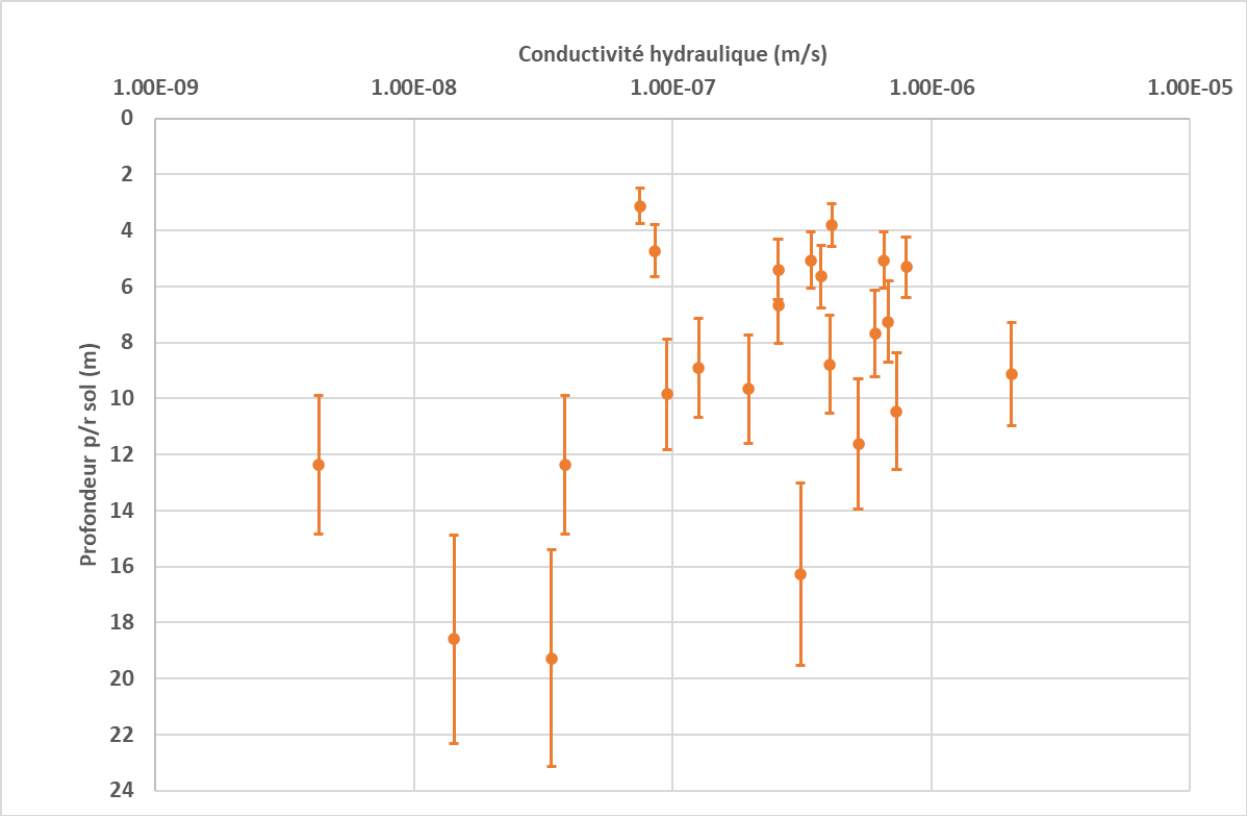


Figure 4-10 Intervalle des essais par charge instantanée en fonction de la profondeur dans le roc

Essais de pompage

Des essais de pompage ont été réalisés dans trois puits de pompage — CV24-580, CV24-696 et CV24-729 — installés dans le roc. Les conductivités hydrauliques obtenues à partir de ces essais varient entre 3,5 × 10^{-8} m/s et 5,2 × 10^{-8} m/s, avec une moyenne géométrique de 4,2 × 10^{-8} m/s (BBA, 2025b; BBA, 2025d). Les conductivités hydrauliques dérivées des essais de pompage sont cohérentes avec celles obtenues lors des essais Lugeon et les essais à charge instantanée, ce qui confirme la validité du modèle conceptuel hydrogéologique.

Une valeur de storativité a également été estimée à partir des données recueillies lors de l'essai de pompage du puits CV24-696, avec une valeur estimée de 4,54. Cette storativité n'est toutefois pas considérée représentative de la roche en place. La littérature indique une plage de valeurs typiques entre 0,01 et 0,3 pour un aquifère non confiné, comme celui rencontré dans le puits CV24-696 (Freeze et Cherry, 1979).

Les résultats des analyses des essais de pompage sont présentés dans le **Tableau 4-4**.

Tableau 4-4 Sommaire des résultats des essais de pompage

Puits de pompage	Interval crépiné (m bgs)	Conductivité hydraulique (m/s)	Référence
CV24-580	10-100	4,1 x 10^{-8}	BBA, 2025d
CV24-696	4-100	5,2 x 10^{-8}	BBA, 2025b
CV24-729	15-139	3,5 x 10^{-8}	BBA, 2025d

4.5.2 Hydrostratigraphie

Les principales unités hydrostratigraphiques présentes dans la zone du projet sont le mort-terrain (till) et le roc. La section suivante présente une description de chacune de ces unités ainsi que leurs caractéristiques.

4.5.2.1 Mort-terrain (Till)

La majeure partie du mort-terrain est constituée de till déposé dans divers environnements glaciaires (drumlins, moraines, etc.,), et dont l'épaisseur varie entre 0 et 48 m dans la zone du site. Le till est composé de proportions variables de sable, de limon et de gravier, avec la présence de blocs et de galets. Son niveau de compaction varie également selon son mode de déposition, ce qui entraîne des propriétés hydrauliques variables.

La conductivité hydraulique des tills, estimée à l'aide des essais par charge instantanée présentés à la Section 4.5.1, varie entre 2,9 × 10^{-8} m/s et 3,9 × 10^{-6} m/s, avec une moyenne géométrique de 1,1 × 10^{-6} m/s (**Tableau 4-5**).

La conductivité hydraulique du till dans la zone du projet a également été analysée selon la géomorphologie. Cette analyse indique que le till indifférencié présente une variabilité plus élevée et une conductivité hydraulique moyenne plus faible que les drumlins.

Tableau 4-5 Conductivité hydraulique du mort-terrain par géomorphologie

Géomorphologie	Nombre d'essais	Conductivité hydraulique – Moy. Géo. (m/s)	Conductivité hydraulique – Minimum (m/s)	Conductivité hydraulique – Maximum (m/s)
Drumlin	5	1,3 x 10^{-6}	2,2 x 10^{-7}	3,6 x 10^{-6}
Till indifférencié	3	7,4 x 10^{-7}	2,9 x 10^{-8}	3,9 x 10^{-6}
Tout type de till	5	1,1 x 10^{-6}	2,9 x 10^{-8}	3,9 x 10^{-6}

4.5.2.2 Socle rocheux

Le socle rocheux est généralement constitué d'une alternance d'amphibolite gris et vert, de wacke, ainsi que d'intrusions pegmatitiques. Les valeurs de RQD indiquent que la roche est généralement de bonne qualité, avec un faible degré de fracturation.

La conductivité hydraulique géométrique moyenne du roc, tenant compte des résultats des essais Lugeon, des essais par charge instantanée et des essais de pompage, est de 5,8 × 10^{-8} m/s, avec une valeur maximale de 2,0 × 10^{-6} m/s obtenue lors des essais par charge instantanée et une valeur minimale de 8,6 × 10^{-10} m/s mesurée lors des essais Lugeon. La variabilité observée reflète les différences dans les propriétés de l'aquifère soit, des conductivités plus élevées dans le roc superficiel plus perméable et des conductivités plus faibles dans le roc plus profond, moins perméable. Des études antérieures ont souligné l'absence de corrélation entre le RQD et la conductivité hydraulique (BBA, 2025c), suggérant ainsi que l'écoulement dans la roche est dominé par des discontinuités ou structures localisées qui ne sont pas captées par la méthodologie RQD. Les résultats des slug tests et des essais au packer indiquent une diminution de la conductivité hydraulique avec la profondeur, comme présentée à la **Figure** 4-11.

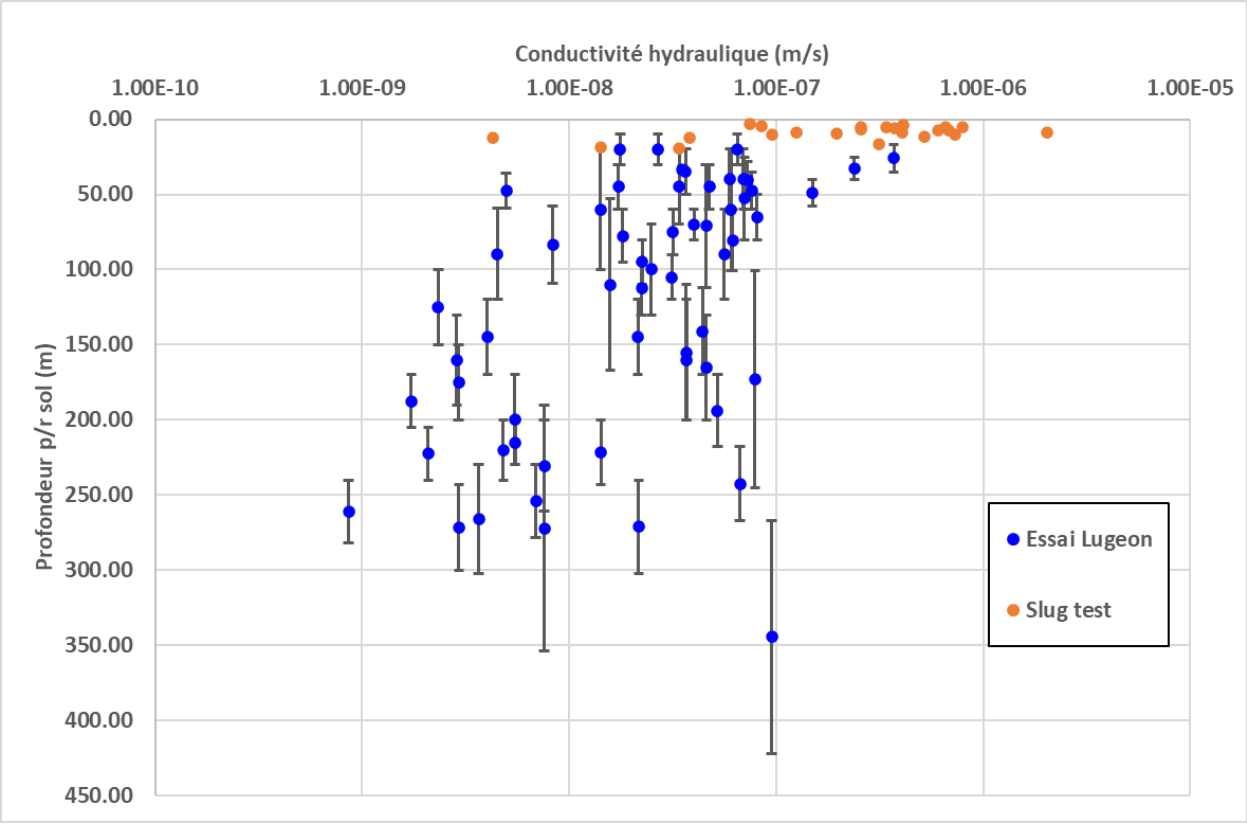


Figure 4-11 Conductivité hydraulique dans le roc en fonction de la profondeur

4.6 Niveaux d'eau souterraine

Le suivi des niveaux d'eau souterraine sur le site a été réalisé en 2023 et 2024. La plus récente campagne a été menée entre juin et octobre 2024 dans 39 puits d'observation, dont 34 dans le roc et 5 dans le mort-terrain (BBA, 2025b). Les résultats de 2024 montrent que les niveaux d'eau souterraine suivent généralement la topographie.

Dans le roc, le niveau d'eau souterraine variait entre 0,11 m et 7,34 m sous la surface (bgs) sur l'ensemble du site, tandis que dans le mort-terrain, il variait entre 0,13 m et 2,67 m bgs.

Dans la zone de la Halde 002, les niveaux d'eau souterraine mesurés dans les quatre puits dans le roc variaient entre 1,20 m et 2,86 m bgs. Un seul puits d'observation (CV24-640) a été installé dans le mort-terrain sous l'empreinte de cette halde, et le niveau d'eau à ce puits était de 3,07 m bgs.

Les niveaux d'eau mesurés dans les forages installés sous le lac L01 correspondaient approximativement au niveau du lac, soit entre 373,05 m et 374,51 m asl.

Un suivi de longue durée a également été réalisé dans trois puits d'observation afin d'évaluer les variations saisonnières des niveaux d'eau souterraine, entre avril 2023 et juillet 2024 dans les puits CV24-166A et CV23-186 et entre avril 2023 et septembre 2023 dans le puits CV23-159, tous installés dans le roc. L'un des puits (CV24-166A), situé le plus éloigné du lac L01, a montré des variations de niveau d'eau pouvant atteindre 2,3 m durant la période enregistrée. Les niveaux d'eau les plus élevés ont été mesurés en mai 2024, lors de la crue printanière.

4.7 Écoulement des eaux souterraines et gradients hydrauliques

Les niveaux d'eau souterraine mesurés dans les cinq puits d'observation installés dans le mort-terrain indiquent que l'écoulement des eaux souterraines dans le mort-terrain se fait généralement à partir des zones topographiques élevées, qui agissent comme zones de recharge, vers les lacs et milieux humides situés dans les dépressions topographiques (BBA, 2025b). L'emplacement proposé de la Halde 002 se situe sur une élévation topographique, laquelle est interprétée comme la ligne de partage des eaux souterraines dans le mort-terrain. À partir de la ligne de partage des eaux, les eaux souterraines s'écoulent naturellement vers le nord, l'ouest et le sud.

L'écoulement des eaux souterraines dans le roc a été interpolé à partir des niveaux d'eau mesurés dans 34 puits d'observation entre juin et octobre 2024. Comme pour l'écoulement inféré dans le mort-terrain, on observe que les eaux souterraines dans le roc s'écoulent des hautes terres topographiques vers les zones plus basses, où se trouvent les milieux humides et les lacs. Ainsi, l'écoulement souterrain se fait principalement des zones élevées situées au nord-est vers les lacs L01 et L027, situés respectivement au sud et à l'ouest. La piézométrie interpolée pour l'unité de roche en place est présentée à la **Figure 4-12**.

Le gradient hydraulique vertical a été estimé à l'aide de trois nids de puits installés respectivement dans le mort-terrain et dans le roc : CV24-611 / CV24-611A, CV24-633 / CV24-633A, CV24-640 / CV24-640A. Les gradients estimés montrent un gradient descendant au nid de puits CV24-640/CV24-640A, situés dans l'empreinte de la Halde 002, au sommet d'une élévation topographique et des gradients ascendants aux deux autres nids de puits (CV24-611/CV24-611A et CV24-633/CV24-633A), situés respectivement au pied d'une élévation topographique près de la route de transport et dans une vallée (BBA, 2025b). Le gradient

descendant observé à la paire CV24-640/CV24-640A indique que la zone où se situe la Halde 002 correspond à une zone de recharge des eaux souterraines.

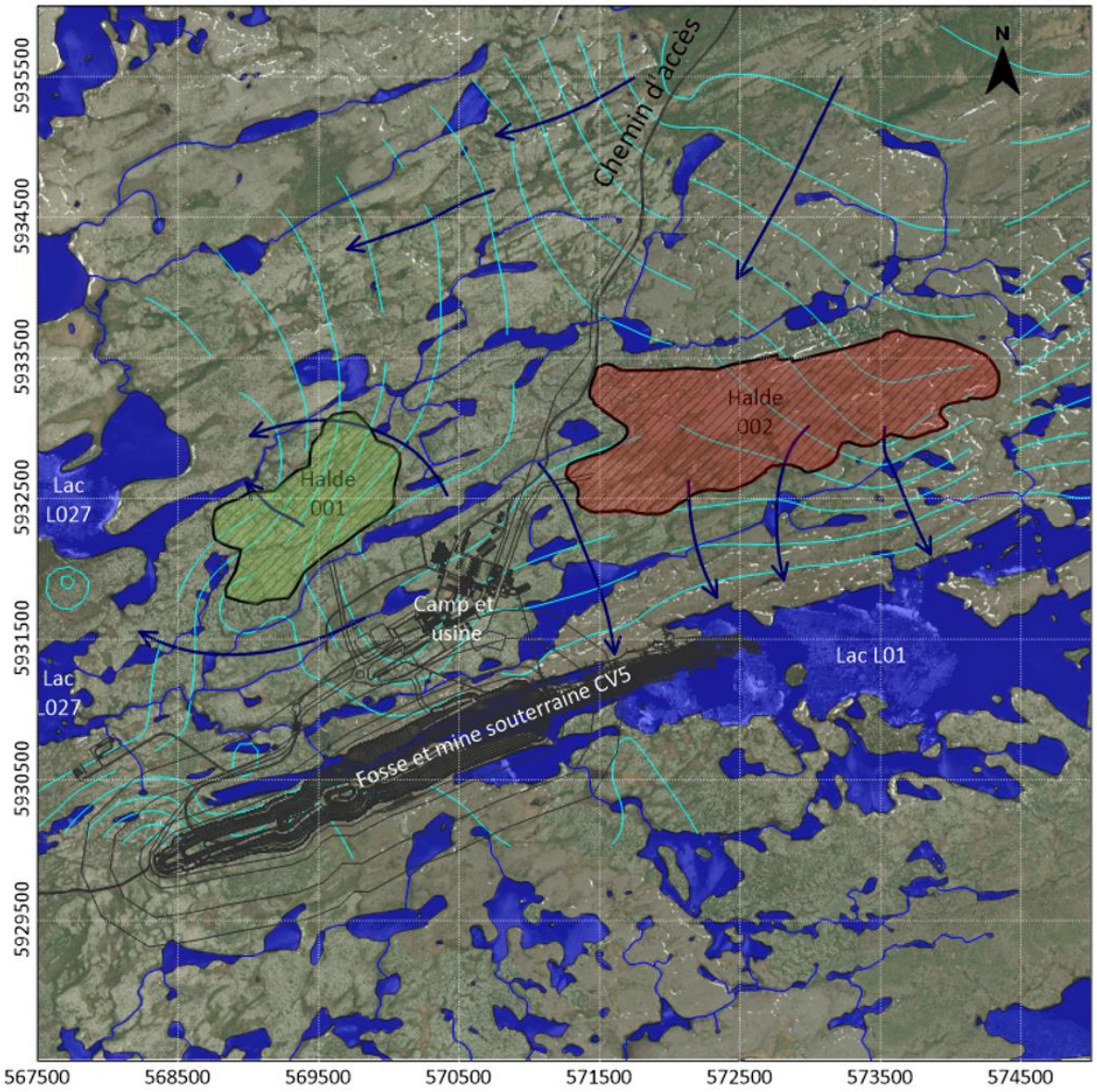


Figure 4-12 Piézométrie dans le roc entre juin et octobre 2024

4.8 Interaction entre les eaux de surface et souterraines

Les interactions entre les eaux souterraines et les eaux de surface dans la zone du projet peuvent être variées et complexes, car les lacs peuvent parfois être perchés ou, au contraire, être alimentés par les

eaux souterraines. Les lacs perchés sont des lacs déconnectés du système d'eaux souterraines en raison de la faible conductivité hydraulique des unités hydrostratigraphiques sous-jacentes.

Les lacs situés au sud de la Halde 002, identifiés comme L018, L110 et L224 à L228 (**Figure** 4-13), sont considérés comme étant des lacs perchés, selon leur élévation comparée à la surface piézométrique interpolée du roc, laquelle se situe entre 3,1 m et 13,0 m sous la surface. De plus, ces lacs sont présumés être relativement peu profonds (1 à 2 m de profondeur) d'après la topographie locale et leur taille, bien qu'aucune donnée bathymétrique ne soit actuellement disponible.

Les forages réalisés dans le lac L01 (Figure 4-8), à l'emplacement de la future fosse, ont montré des niveaux d'eau souterraine égaux ou supérieurs à l'élévation du niveau d'eau du lac, ce qui suggère que ce lac constitue un point de décharge des eaux souterraines. Le lac L027 est également considéré comme un point de décharge. Par conséquent, ces deux lacs sont des récepteurs des eaux souterraines, particulièrement le lac L027 puisqu'il représente le point topographique le plus bas de la zone du projet.

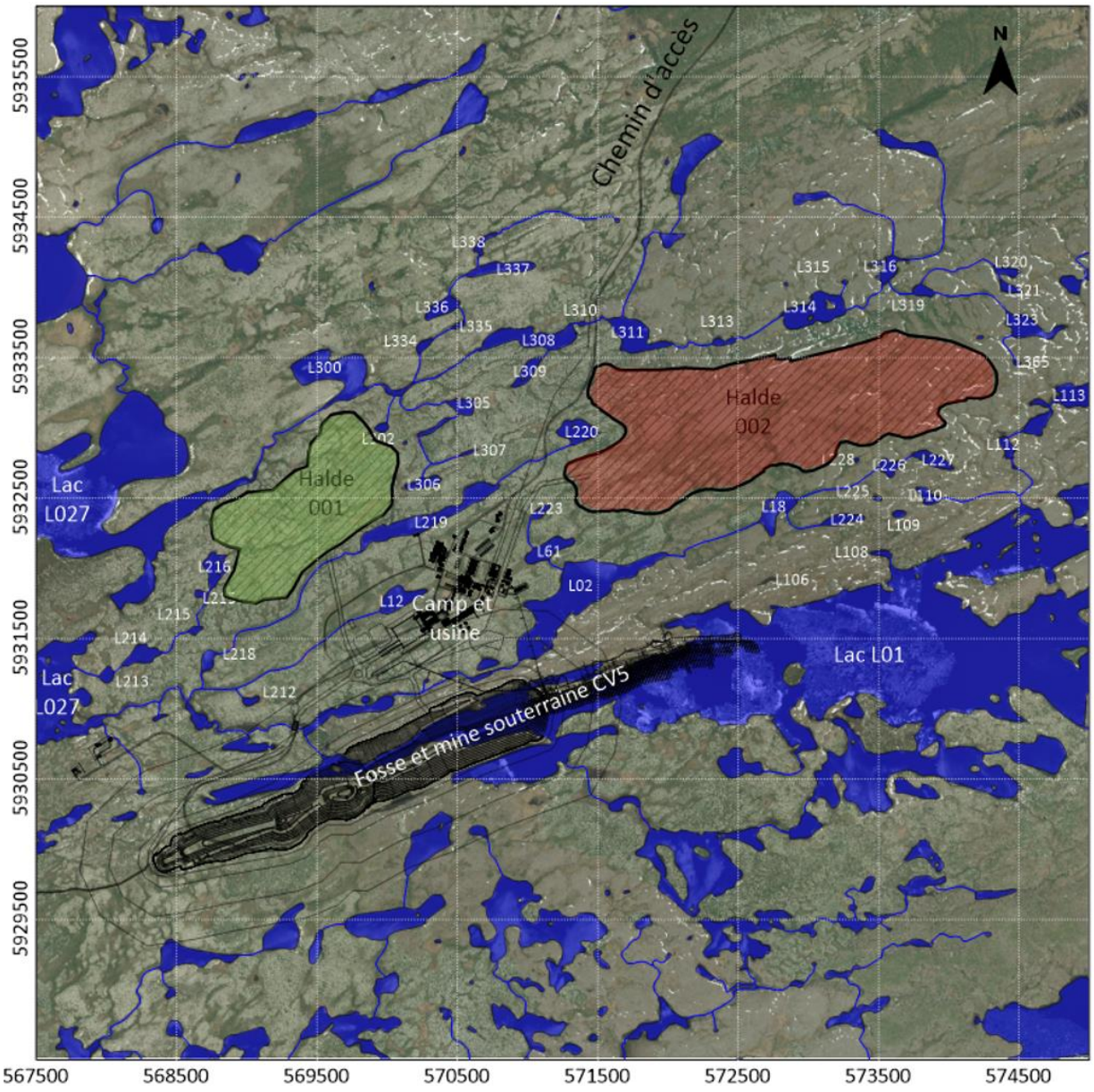


Figure 4-13 Lacs et cours d'eau dans le secteur du projet

4.9 Qualité des eaux souterraines

Des échantillons ont été prélevés dans 6 puits d'observation situés dans les zones proposées pour la fosse CV5 et la mine souterraine, ainsi que dans 15 puits d'observation situés dans les zones prévues pour les futures haldes, le camp et l'usine (BBA, 2025b). L'eau peut être définie comme étant de type bicarbonaté magnésien.

Les résultats analytiques sont résumés dans le **Tableau 4-6**. La teneur de fond des eaux souterraines a été comparée aux critères de qualité du Guide d'intervention – Protection des sols et réhabilitation des terrains contaminés (Beaulieu, 2021) pour la consommation en eau et les résurgences dans les eaux de surface. Il est important de noter que des dépassements en arsenic n'ont été mesurés que dans les puits

dans le roc. Aucun des puits installés dans le mort-terrain n'a présenté de dépassement des critères sélectionnés pour ces paramètres.

Tableau 4-6 Sommaire des résultats des analyses chimiques de l'eau souterraine

Paramètre	> Eau de consommation (EC)*	> Résurgence dans l'eau de surface (RES)*
Composés inorganiques	0	0
Hydrocarbures pétroliers C_{10}-C_{50}	0	0
Métaux	As: 16, Mn:13, Mo: 1, Sb: 1(2023 seulement)	Cu: 3
Azote ammoniacal	11	0
Sulfures	6	0

Note:
Critère du Guide d'intervention – Protection des sols et réhabilitation des terrains contaminés (Beaulieu, 2021)

4.10 Infrastructures minières proposées

Les infrastructures minières proposées comprennent :

- Usine de traitement du minerai ;
- Usine de traitement des eaux ;
- Mine à ciel ouvert CV5 ;
- Mine souterraine CV5 ;
- Haldes de résidus et de stériles (Haldes 001 et 002) ;
- Halde de matières organiques ;
- Haldes de mort-terrain (Haldes 004 et 005).

L'emplacement des différentes composantes des infrastructures minières est présenté à la **Figure** 1-2.

4.10.1 Mine à ciel ouvert et infrastructures souterraines

Sur le site, le gisement de pegmatite CV5 sera exploité au moyen d'une combinaison de méthodes à ciel ouvert et souterraines. Les détails relatifs aux différentes phases de la fosse et à la conception finale sont résumés dans G Mining, 2025b.

La fosse à ciel ouvert proposée aura environ 2 800 m de longueur, 425 m de largeur et une profondeur maximale de 200 m. Pour permettre le développement de la fosse, une portion du lac L01 sera drainée entre la première et la deuxième année d'exploitation minière, et un barrage sera construit entre le lac L01 et la fosse. L'eau du lac L01 sera ensuite dérivée vers le lac L05.

La mine souterraine devrait atteindre une profondeur de 435 m. Elle sera accessible par une rampe d'accès construite au nord du gisement CV5.

4.10.2 Haldes de résidus, de stériles et de mort-terrain

Deux haldes de stériles, deux haldes de mort-terrain et une halde de matières organiques ont été conceptuellement définies afin d'entreposer les volumes de matériaux prévus sur la durée de vie de la mine (19 ans), soit (G Mining, 2025) :

- Résidus : 71,1 Mt;
- Stériles : 154,1 Mt;
- Stériles non lixiviables et non générateurs d'acide (faible risque) : 73,1 Mt;
- Stériles potentiellement lixiviables et générateurs d'acide (PAG): 81,0 Mt;
- Mort-terrain : 16,9 Mt;
- Organique : 3,2 Mt.

Les haldes de mort-terrain sont situées au sud-ouest et au sud-est de la fosse planifiée, et les haldes d'organiques sont situées au sud de la Halde 001 et au nord de la zone industrielle.

La Halde 001, située au nord de la fosse à ciel ouvert et des infrastructures minières, sera utilisée pour l'entreposage des stériles non lixiviables et non générateurs d'acide (43,5 Mt). Cette halde couvrira une superficie de 80 ha et devrait atteindre une élévation maximale de 380 m asl, soit une hauteur d'environ 85 m. Le volume restant de stériles non lixiviables (29,6 Mt) sera déposé dans la Phase 1 de la fosse.

La Halde 002, située à l'est de la Halde 001 et au nord-est de la fosse CV5 et des infrastructures, sera utilisée pour entreposer une portion des résidus, 54 Mt, et 81 Mt de stériles potentiellement lixiviables et générateurs d'acide (PAG). Le reste des résidus (17,1 Mt) sera utilisé comme remblai en pâte (paste backfill). La Halde 002 couvrira une superficie de 218 ha et devrait atteindre une élévation maximale de 510 m asl, soit une hauteur d'environ 120 m. La base de cette halde sera pourvue d'une géomembrane en LDPE double texture de 1,5 mm, comme mesure de mitigation pour limiter la percolation de l'eau de contact vers les eaux souterraines (AtkinsRéalis, 2025c). À la fermeture, la halde sera recouverte d'un recouvrement imperméable (géomembrane ou matériaux naturels) afin de réduire l'infiltration des précipitations (AtkinsRéalis, 2026). Les granulométries estimées (AtkinsRéalis, 2025d) des matériaux stockés dans la Halde 002 sont présentées dans le **Tableau 4-7**. À partir des granulométries projetées, une conductivité hydraulique du matériau entreposé dans la Halde 002 a été estimée à 5×10^{-4} m/s, en utilisant HydrogeoSieveXL (Devlin, 2015), un outil Excel permettant d'estimer la conductivité hydraulique à partir d'analyses granulométriques.

Tableau 4-7 Taille des matériaux entreposés dans la Halde 002

	Flottant DMS grossier primaire	Flottant DMS fin	Flottant DMS ultrafin	Flottant DMS après rebroyage	Rejet magnétique CRIMMs	Gâteau du filtre à bande
Taille maximale des particules (mm)	9,50	3,30	1,50	3,30	6,30	0,65
Taille minimale des particules (mm)	3,30	1,50	0,65	0,65	0,65	0,01
Gravité spécifique	2,68	2,73	2,71	2,66	2,90	2,75
Teneur en eau (%w/w)	10 %	12 %	20 %	15 %	5 %	12 %
Débit de traitement (TPH humide)	120	57	29	31	10	74

4.10.3 Gestion des eaux

De nombreuses infrastructures de gestion de l'eau sont prévues sur le site afin de séparer les eaux de contact des eaux non impactées par les opérations, conformément aux exigences de la Directive 019 (MELCCFP, 2025).

L'eau de contact collectée à partir de la Halde 001, qui ne contiendra que des stériles inertes, sera captée par des fossés périphériques et dirigée vers deux bassins de ruissellement situés au pied de la halde. Des stations de pompage transféreront ensuite ces eaux vers le bassin de polissage. Les eaux de contact traitées provenant des bassins de sédimentation et du système de traitement des eaux seront également rejetées dans le bassin de polissage, permettant ainsi de maintenir un point de rejet unique conformément à la réglementation. La réutilisation de l'eau sera optimisée en puisant l'eau de procédé directement dans le bassin de polissage.

L'eau de contact provenant de la Halde 002, qui contiendra des résidus ainsi que des stériles susceptibles de lixivier des métaux et PAG, sera collectée par quatre fossés périphériques. Ceux-ci dirigeront l'eau vers deux bassins de collecte (bassins 002 et 003). Les fossés et les bassins utilisés pour gérer l'eau de contact de la Halde 002 seront pourvus d'une géomembrane en LDPE de 1,5 mm, afin de limiter la percolation dans les eaux souterraines. L'eau provenant des bassins de collecte sera pompée vers un système de traitement des eaux, puis transférée vers le bassin de polissage.

Les caractéristiques des différents bassins sont présentées dans le **Tableau 4-8**.

Tableau 4-8 Bassins de gestion des eaux

Bassin	Élévation du fond (m asl)	Matériel sous-jacent	Localisation
Bassin de collecte 1	368,0	Mort-terrain/Roc fracturé	Halde 001
Bassin de collecte 1A	374,0	Roc profond	Halde 001
Bassin de collecte 2	382,0	Roc profond	Halde 002
Bassin de collecte 4	381,0	Roc profond	Halde 002

4.11 Source potentielle de contaminant

Selon l'évaluation géochimique réalisée par Vision Geochemistry (Vision, 2025), les matériaux qui seront entreposés dans la Halde 001 seront inertes et ne sont donc pas considérés comme des sources potentielles de contaminants. La Halde 002, quant à elle, contiendra tous les matériaux lixiviables et PAG, incluant les stériles et les résidus.

Selon Vision Geochemistry, l'élément le plus susceptible de dépasser les critères de résurgence dans les eaux de surface (RES) du MELCCFP (Beaulieu, 2021) aux récepteurs est l'arsenic. L'évolution de la concentration dans le temps a été estimée par Vision (2025) et est présentée à la **Figure** 4-14. Le **Tableau 4-9** présente le ratio entre les concentrations maximales modélisées et le critère de référence RES (MELCCFP, 2023), sous conditions neutres et acides (Vision, 2025).

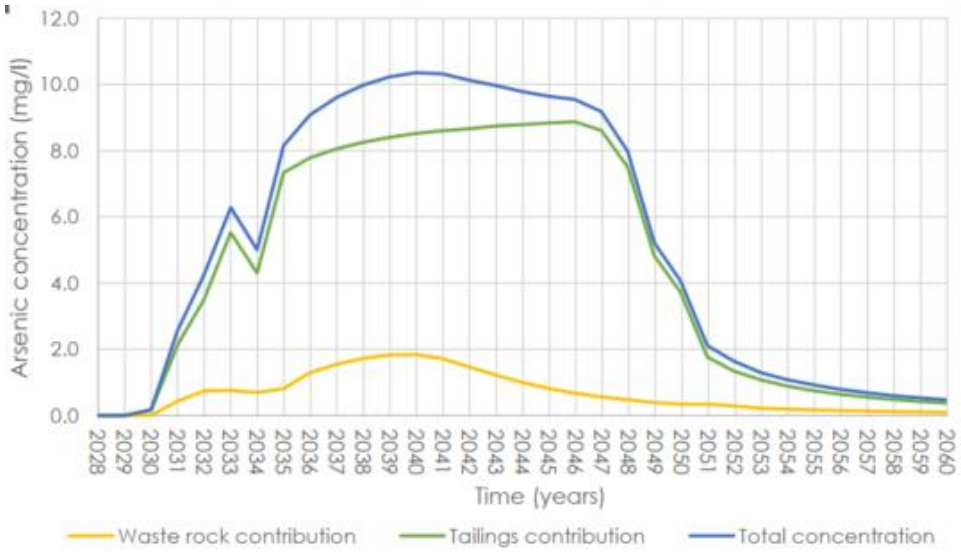


Figure 4-14 Concentration d'arsenic dans le temps (Vision, 2025)

Tableau 4-9 Concentration estimée maximale des contaminants d'intérêt potentiel (Vision, 2025)

Paramètre	Unité	Critère*	Halde 001		Halde 002			
			Conditions neutres		Conditions neutres		Conditions acides	
			Concentration	Ratio du critère	Concentration	Ratio du critère	Concentration	Ratio du critère
Aluminium	mg/l	0,28	0,063	0,22	0,116	0,41	0,79	2,8
Béryllium	mg/l	0,0012	0,00002	0,02	0,00003	0,03	0,0002	0,1
Cadmium	mg/l	0,00021	0,0001	0,35	0,00005	0,26	0,0007	3,5
Cuivre	mg/l	0,0016	0,001	0,75	0,0015	0,92	0,015	10
Fer	mg/l	3	0,06	0,019	0,0294	0,01	0,14	0,05
Nickel	mg/l	0,067	0,007	0,11	0,0184	0,27	0,29	4,3
Uranium	mg/l	0,017	0,002	0,09	0,38	22	0,38	22
Arsenic	mg/l	0,34	0,085	0,25	10,42	31	10,42	30,64
Antimoine	mg/l	0,31	0,136	0,44	3,04	9,8	3,04	9,8
Lithium	mg/l	0,91	0,077	0,08	2,23	2,4	2,23	2,45

Note :

Guide d'intervention – Protection des sols et réhabilitation des terrains contaminés (Beaulieu, 2021)

4.12 Récepteurs environnementaux potentiels

Le site est situé dans une zone entourée de divers milieux humides, ruisseaux et lacs. D'après une étude préliminaire d'impact environnemental, les lacs et ruisseaux présentés à la **Figure** 4-13 ont été identifiés comme habitats de poissons. La majorité des lacs de la zone sont présumés être des lacs peu profonds connectés au système d'eaux souterraines du mort-terrain. Les lacs L01 et L027, plus grands et plus profonds, seraient quant à eux connectés à la fois au système d'eaux souterraines du mort-terrain et à celui de la roche en place.

Le lac L01 est un grand lac situé au sud des haldes 001 et 002 et est en contact avec un important affleurement rocheux sur sa rive nord. Le développement de la fosse et des infrastructures souterraines nécessitera de drainer le bras ouest de ce lac. Le lac L027, situé à l'ouest de la zone du projet et à proximité de la Halde 001, n'est donc pas considéré comme un récepteur potentiel du drainage de la Halde 002. Une campagne bathymétrique réalisée au lac L01 a indiqué une profondeur maximale approximative de 19 mètres. Aucune donnée bathymétrique n'est disponible pour le lac L027, mais, étant donné sa taille beaucoup plus grande que celle de L01, il est supposé être au moins aussi profond.

Les principaux récepteurs environnementaux potentiels du drainage provenant de la Halde 002 sont les lacs situés autour de la halde. Le **Tableau 4-10** présente les lacs les plus susceptibles d'être des récepteurs ainsi que leur distance par rapport à la Halde 002.

Tableau 4-10 Récepteurs environnementaux potentiels

Récepteur	Distance à la Halde 002 (m)	Récepteur	Distance à la Halde 002 (m)
L01	750	L227	100
L02	360	L228	85
L18	175	L308	240
L61	200	L309	390
L106	665	L310	330
L108	675	L311	135
L109	510	L313	150
L110	370	L314	210
L112	425	L315	440
L113	425	L316	330
L220	210	L319	300
L223	205	L320	600
L224	355	L321	465
L225	345	L323	240
L226	150	L365	125

4.13 Modèle conceptuel hydrogéologique

Le modèle conceptuel hydrogéologique du projet peut être subdivisé en trois phases :

- Pré-exploitation minière : représente les conditions actuelles, avant le développement de la mine et des infrastructures associées;
- Exploitation minière : période durant laquelle la fosse et la mine souterraine sont dénoyées et où les résidus et stériles sont déposés dans les haldes;
- Fermeture/post-fermeture : période de fermeture et suivant la fermeture finale de la mine, incluant le remplissage de la fosse et l'installation de la couverture sur la Halde 002 afin de limiter la recharge sur la Halde 002 et limiter la percolation d'eau vers les eaux souterraines.

Pré-exploitation minière

Durant la période pré-exploitation minière, les hauteurs topographiques — correspondant aux drumlins ou aux affleurements rocheux — constituent les zones principales de recharge pour les unités hydrostratigraphiques du mort-terrain et de la roche altérée/fracturée. L'eau souterraine peu profonde circule dans ces unités et se décharge dans les zones topographiquement basses, telles que les milieux humides et les lacs, pour finalement atteindre les lacs L01 et L027.

Dans la zone de la Halde 002, l'écoulement des eaux souterraines est superficiel, variant entre 1,2 m et 3,1 m sous la surface. À cet endroit, l'eau pénètre dans le système par percolation, puis s'écoule dans le mort-terrain et le roc superficiel vers le nord et le sud, à partir de la crête topographique, pour finalement atteindre les lacs L027 et L01.

Exploitation minière

Pendant la période d'exploitation minière, la fosse et les travaux souterrains progresseront, tandis que les résidus et stériles seront déposés dans les haldes. À mesure que la mine est approfondie sous le niveau de l'eau des lacs L01 et L027, la mine deviendra le point topographique le plus bas de la région et donc le récepteur final des eaux souterraines. De plus, l'approfondissement de la fosse et des travaux souterrains augmentera le gradient hydraulique en direction de la mine, ce qui augmentera la vitesse d'écoulement des eaux souterraines vers celle-ci.

Fermeture/post-fermeture

Lors de la fermeture, du démantèlement de la mine et de la période post-fermeture, la fosse et les travaux souterrains seront inondés et la Halde 002 sera recouverte d'une couche à faible perméabilité. L'inondation de la fosse permettra un rééquilibre graduelle du gradient hydraulique régional vers son état pré-exploitation minière. La mine ne sera alors plus le point piézométrique le plus bas, ce qui réduira le gradient hydraulique et la vitesse d'écoulement des eaux souterraines vers la fosse. Le recouvrement de la Halde 002 visera à limiter ou éliminer la recharge liée aux précipitations dans les matériaux entreposés, ce qui devrait entraîner une réduction du potentiel de lixiviation des métaux et de génération d'acide et leur percolation vers les eaux souterraines.

5. Modèle numérique

Un modèle numérique tridimensionnel (3D) a été développé afin d'étudier l'écoulement de l'eau souterraine et le transport de contaminants sur le site. Le modèle tient compte des activités influençant l'écoulement, notamment l'exploitation de la fosse et le développement des haldes de stériles et de résidus.

La modélisation du transport des contaminants a été réalisée afin de satisfaire aux exigences de la Directive 019. Celle-ci requiert d'évaluer si le transport des contaminants générés par la Halde 002 pourrait représenter un risque pour les récepteurs environnementaux, puisque cette halde a été identifiée comme une source potentielle de contaminants en raison des matériaux lixiviables et PAG qui y seront entreposés. Lorsqu'une halde contient des résidus ou des stériles présentant un risque pour les eaux souterraines, comme la Halde 002, il doit être démontré au moyen d'un modèle hydrogéologique que les mesures de mitigation mises en place empêcheront toute dégradation significative de la qualité des eaux souterraines.

L'étude de modélisation doit confirmer que les conditions hydrogéologiques présentes sur le site ou les mesures d'étanchéité qui seront mises en place, la nature physicochimique du substrat sur lequel ou dans lequel seront éliminés les résidus miniers, les conditions hydriques qui seront présentes dans l'aire d'accumulation et les caractéristiques attendues des eaux de drainage permettent le respect des objectifs de protection des eaux souterraines de la Directive 019.

5.1 Choix du logiciel

Le modèle numérique a été construit avec FEFLOW v10.0.2 développé par DHIWASY GmbH. Ce logiciel utilise une méthode d'éléments finis pour résoudre les équations d'écoulement en milieux saturés et non saturés, en 2D ou en 3D. Il est largement reconnu dans la communauté scientifique et couramment utilisé par les chercheurs et firmes de génie-conseil pour simuler l'écoulement de l'eau souterraine dans les milieux poreux et fracturés.

5.2 Hypothèses

Un modèle numérique constitue une simplification d'un système hydrogéologique. Les hypothèses suivantes ont été adoptées lors de la construction, de la calibration et des simulations prédictives :

- La géomorphologie du till (drumlins, till indifférencié, till d'ablation) crée des zones distinctes de conductivité hydraulique;
- Le roc comprend un horizon altéré et/ou fracturé, plus conducteur, pouvant atteindre jusqu'à 15 m sous la surface;
- Dans les zones où aucune donnée n'est disponible, les épaisseurs de mort-terrain ont été extrapolées à partir des données existantes;
- Dans le modèle représentant les conditions d'exploitation minière, les haldes 001 et 002 sont construites sur la topographie pré-exploitation minière. De nouvelles couches ont été ajoutées au-dessus de la topographie pré-exploitation minière pour représenter le profil topographique des haldes. Dans les autres zones, l'élévation a été réglée à 0,1 mètre au-dessus de la topographie pré-exploitation minière et ces éléments ont été désactivés afin d'assurer un impact négligeable sur la topographie globale du site;
- La mine souterraine n'a pas été incluse dans les modèles d'exploitation minière et de fermeture/post-fermeture. Il est considéré que l'effet du rabaissement de la piézométrie associé à la mine

souterraine est minimal en surface comparativement à celui de la fosse, et que son effet sur le transport des contaminants est négligeable;

- Dans le modèle d'exploitation minière, il est supposé que la fosse et les haldes sont complètement développées dès le début de l'exploitation. Aucune mise en place progressive des matériaux sur les haldes ni aucun développement progressif de la mine ne sont simulés, et l'écoulement des eaux souterraines est modélisé en considérant que le dénoyage s'effectue dans une fosse entièrement développée. Cette hypothèse conduira à une estimation conservative, puisque les conditions d'écoulement des eaux souterraines présentes à la fin de la durée de vie de la mine sont considérées exister pendant toute la période d'exploitation. Cette hypothèse entraîne immédiatement un gradient hydraulique maximal vers la fosse à partir de la Halde 002, ce qui conduit à une surestimation des débits de percolation issus de cette halde;
- Pendant la phase d'exploitation minière, il est supposé que le fossé périphérique de collecte des eaux de la Halde 002 ainsi que les bassins de collecte environnants interceptent et retirent l'ensemble de la masse de contaminants qui y percolent. Cette situation se poursuivra pendant quatre ans suivant la fin de l'exploitation minière et la fermeture, conformément aux options préliminaires de fermeture de la mine indiquant que les eaux de percolation continueront d'être collectées et traitées durant quatre années après la fermeture (AtkinsRéalis, 2026);
- Dans la phase d'exploitation minière et de fermeture/post-fermeture, les haldes 001 et 002 comptent 18 couches verticales pour raffiner la modélisation du transport des contaminants;
- Dans la phase d'exploitation minière et de fermeture/post-fermeture, la conductivité hydraulique du matériau de la Halde 002 est fixée à 5×10^{-4} m/s, représentant les résidus et les stériles PAG;
- Dans la phase d'exploitation minière et de fermeture/post-fermeture, il est considéré qu'une géomembrane couvre la totalité de la base de la Halde 002, ses fossés périphériques et ses bassins de collecte;
- Dans la phase d'exploitation minière et de fermeture/post-fermeture, la conductivité hydraulique de la géomembrane est fixée à 3×10^{-11} m/s, représentant une géomembrane de 1,5 mm avec cinq perforations de 1 cm² chacun par hectare (Giroud et Bonaparte, 1989). La conductivité hydraulique a été estimée à l'aide d'un modèle numérique 2D dans FEFLOW afin de simuler un cas avec perforations, jusqu'à l'obtention d'une conductivité hydraulique équivalente pour l'ensemble de la géomembrane;
- Dans la phase de fermeture/post-fermeture, il est considéré que la fosse est remplie jusqu'au niveau du lac L01, et les conditions de surface libre dans la fosse sont désactivées pour permettre la remontée de la nappe;
- Dans la phase de fermeture/post-fermeture, la recharge sur la Halde 002 est réduite pour représenter la couche de faible perméabilité recouvrant la Halde 002 à la fermeture.

5.3 Construction du modèle et maillage

Deux modèles ont été construits pour représenter les trois phases du développement minier :

1. Le modèle pré-exploitation minière est basé sur le modèle conceptuel hydrogéologique. Il représente les conditions hydrogéologiques actuelles et non perturbées, en s'appuyant sur la topographie actuelle, et fournit ainsi une compréhension fondamentale du comportement des écoulements de l'eau souterraine. Le modèle a été calibré à l'aide de 39 puits d'observation, assurant la concordance entre les niveaux simulés et mesurés.
2. Modèle d'exploitation minière et de fermeture/post-fermeture de la mine intègre au modèle pré-exploitation minière calibré les infrastructures minières, comme la fosse, les haldes, les fossés périphériques des haldes et les bassins de collecte. Ce modèle a été simulé en régime permanent afin d'obtenir les conditions d'écoulement de l'eau souterraine, la distribution des charges et les gradients hydrauliques durant la phase d'exploitation minière, en considérant une fosse et des haldes entièrement développées. Le modèle a ensuite été utilisé pour simuler, en régime transitoire, le

transport des contaminants provenant de la Halde 002 vers les différents récepteurs environnementaux durant les phases d'exploitation minière et de fermeture/post-fermeture du projet.

Les deux modèles couvrent une superficie d'environ 115 km² (**Figure** 5-1), délimitée par des limites hydrologiques et topographiques (ligne de partage des eaux, piézométrie, rivières et lacs),

Le maillage du modèle est constitué d'éléments prismatiques triangulaires de tailles variables, avec un raffinement accru au droit des haldes, de la fosse, des failles et des étangs de collecte, afin d'améliorer la précision des simulations. Le **Tableau 5-1** présente les caractéristiques détaillées du maillage utilisé dans les modèles.

Le modèle intègre également un système de failles au sein du socle rocheux (MRNF, 2021), lequel joue un rôle significatif dans la dynamique de l'écoulement des eaux souterraines. Afin de représenter adéquatement ces structures géologiques, des éléments à caractéristiques discrètes ont été utilisés pour définir les propriétés des failles, notamment leur épaisseur et leur conductivité hydraulique. Le maillage du modèle a été raffiné à l'extension de chacune des failles afin d'améliorer la précision des calculs et d'assurer une représentation réaliste de la connexion hydraulique entre les zones faillées et la matrice rocheuse environnante. Ce raffinement permet au modèle de mieux reproduire les variations locales d'écoulement ainsi que l'influence des failles sur le régime régional d'écoulement de l'eau souterraine.

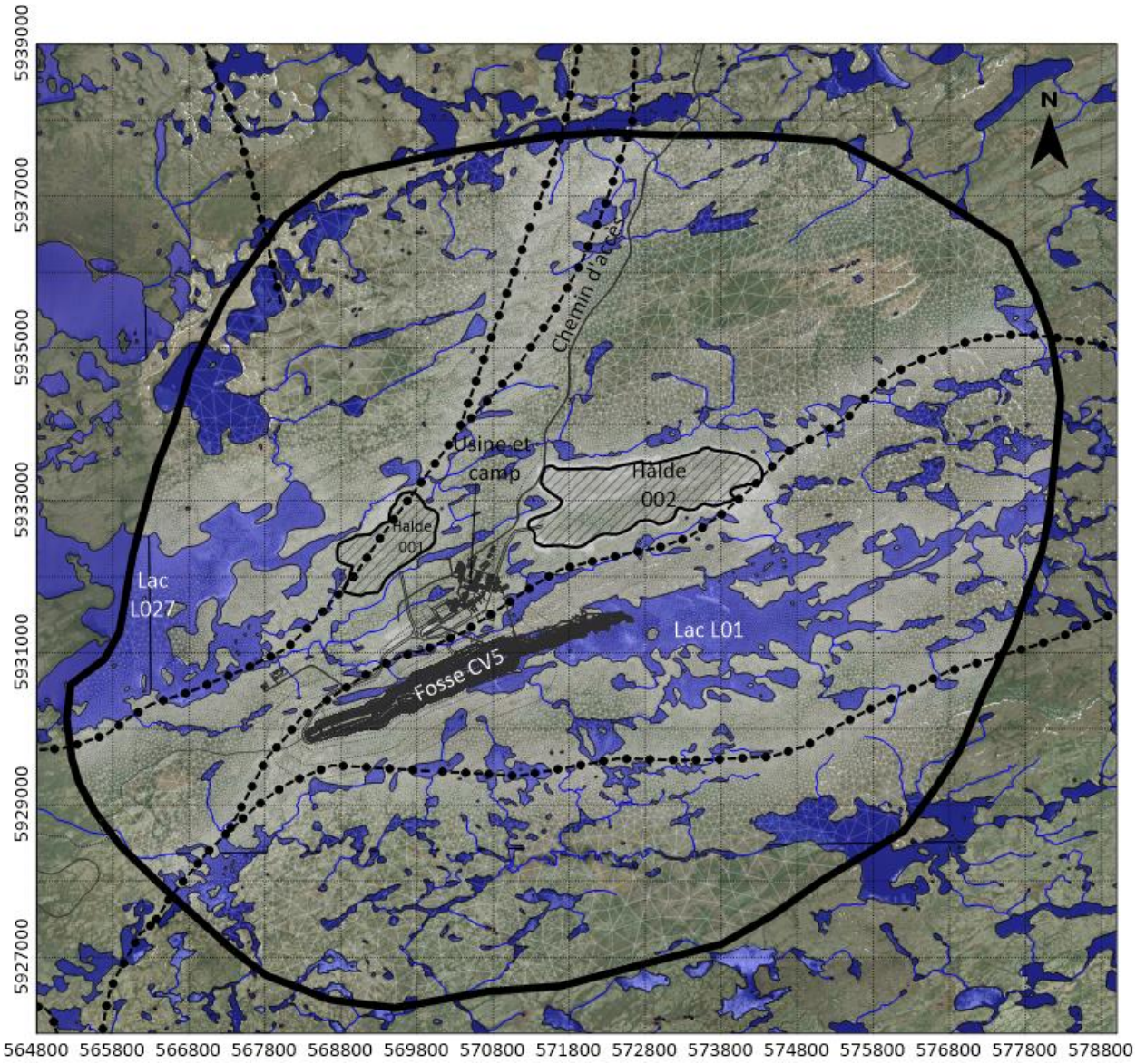


Figure 5-1 Vue en plan du maillage

Tableau 5-1 Caractéristiques du maillage du modèle

Phase de minage	Superficie du modèle (km^2)	Nombre d'éléments	Nombre de couches	Dimension minimale des éléments (m)	Dimension maximale des éléments (m)
Conditions actuelles (pré-exploitation minière)	115,17	4,500,000	34	15	400
Exploitation minière et fermeture/post-fermeture	115,17	8,855,000	53	5	400

Les unités hydrostratigraphiques (UHS) représentées dans le modèle correspondent aux unités définies dans le modèle conceptuel et dans la Section 4.5. Des paramètres hydrogéologiques distincts ont été attribués aux différentes unités du mort-terrain, et le roc a été subdivisé en deux horizons : une unité superficielle plus perméable (roc fracturé) et une unité sous-jacente potentiellement moins perméable (roc profond). Deux UHS supplémentaires ont été considérées dans les modèles d'exploitation minière et de fermeture/post-fermeture, soit la géomembrane et les résidus et stériles. Ces unités sont présentées à la Section 4.10.2.

Le système hydrogéologique a été conceptualisé dans le modèle comme suit :

- La surface du modèle a été définie par la topographie régionale. Cette surface a été générée en combinant les données LiDAR haute résolution recueillies dans la zone minière avec le modèle numérique d'élévation canadien de résolution moyenne pour les secteurs non couverts par le LiDAR;
- La base du modèle a été fixée à une élévation constante de 50 masl, permettant au modèle d'inclure la fosse projetée;
- Les limites horizontales du modèle correspondent à des limites hydrogéologiques et topographiques situées suffisamment loin de la fosse et des haldes pour éviter toute influence sur les résultats;
- Chaque UHS est discrétisée en plusieurs couches, comme présenté au

- **Tableau** 5-2. Dans le modèle pré-exploitation minière, le mort-terrain est divisé en trois couches pour améliorer la précision de la simulation de l'écoulement dans les zones saturées et non saturées;
- La géométrie attribuée à chaque UHS a été estimée par une méthode de krigeage, basée sur les épaisseurs et élévations observées dans les forages, ainsi que sur les zones d'affleurement définies dans la géologie de surface SIGÉOM (MRNF, 2021).

Le modèle pré-exploitation minière simule l'écoulement des eaux souterraines en régime permanent, avec une recharge uniforme dans le temps appliquée à chaque UHS située en surface. Cela suppose que le système hydrogéologique est en équilibre. À l'inverse, le modèle d'exploitation minière et de fermeture/post-fermeture simule les changements hydrogéologiques se produisant tout au long de la durée de vie de la mine (LOM) et durant la fermeture/post-fermeture, en utilisant des conditions transitoires afin d'évaluer l'évolution de l'écoulement et du transport des contaminants au fil du temps.

Tableau 5-2 Unités hydrostratigraphiques du modèle de bas

UHS	Composition	Couche	
		Conditions actuelles (pré-exploitation minièremine)	Exploitation minière et fermeture/post-fermeture
Till indifférencié	Sable et gravier, présence de silt	1 à 3	1 à 21
Till d'ablation	Diamicton à matrice sableuse-silteuse à silto-argileuse d'origine glaciaire	1 à 3	1 à 21
Drumlin	Sable silteux, avec présence de gravier et traces d'argile	1 à 3	1 à 21
Dépôt fluvioglaciaire avec esker	Sable, sable silteux et gravier	1 à 3	1 à 21
Moraine de Rogen	Crêtes sous-glaciaires composées de diamicton, gravier, sable et de faibles quantités de silt et d'argile	1 à 3	1 à 21
Dépôts organiques	Tourbe décomposée déposée dans les milieux marécageux et les plans d'eau ouverts	1 à 3	1 à 21
Roc superficiel	Affleurement rocheux recouvert d'une mince couche de sédiments (épaisseur inférieure à 30 cm) jusqu'à une profondeur d'au moins 15 m sous la surface du sol	1 à 4	1 à 23
Roc profond	Socle rocheux situé sous 15 m de profondeur sous la surface du sol	5 à 34	24 à 53
Failles	Vide dans le socle rocheux	5 à 34	22 à 53
Géomembrane	Matériau à faible perméabilité	Absent	14 à 18
Stériles miniers et résidus miniers	Stériles miniers et résidus miniers	Absent	1 à 18

Le modèle pré-exploitation minière a été créé afin de reproduire les conditions hydrogéologiques naturelles et non perturbées, à des fins de calibration. La vue en plan de la première couche du modèle, ainsi que les conditions aux frontières sont présentées à la **Figure** 5-2. Les conditions frontières suivantes ont été appliquées au modèle :

- Une condition de flux nul a été appliquée aux limites du périmètre du domaine où aucun plan d'eau n'est présent, ainsi qu'à la base du modèle;
- Une condition de charge fixée (Dirichlet de 1er type) a été utilisée pour représenter les principaux éléments du réseau hydrographique. Les valeurs assignées à ces éléments sont basées sur les élévations mesurées par LiDAR (RNCan, 2011). Pour les lacs L01 et L27, la condition de charge fixée s'étend de la surface du terrain jusqu'à l'unité du roc.

Des conditions de drainage de surface (seepage face), correspondant à une charge constante avec contrainte de flux, ont été utilisées pour représenter les ruisseaux secondaires et intermittents ainsi que les

lacs supposés perchés. De plus, ces conditions sont utilisées pour simuler la fosse, les bassins d'eau de contact et les fossés périphériques dans les modèles d'exploitation minière et de fermeture/post-fermeture.

Une condition flux entrant est appliquée sur la première couche du modèle afin de représenter la recharge, comme présentée à la **Figure** 5-2. Les taux de recharge calibrés pour chaque type de sol sont résumés dans le **Tableau 5-3**.

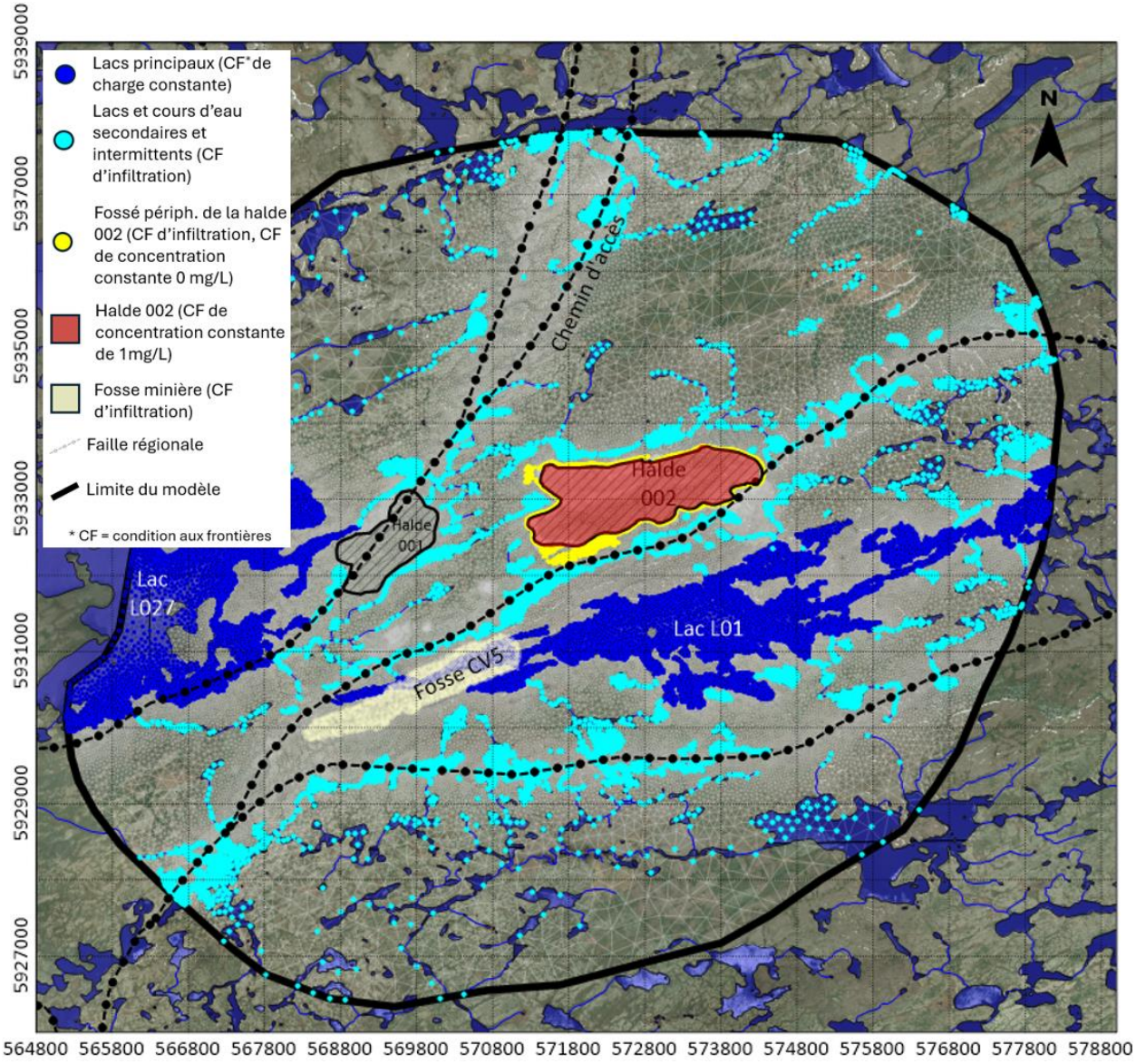


Figure 5-2 Vue en plan des limites du modèle pré-exploitation minière à la couche 1

5.4 Calibration

Dans le processus de calibration statique, le modèle de base est ajusté en faisant varier les paramètres hydrogéologiques existants (conductivités hydrauliques et recharge) afin de reproduire adéquatement les directions d'écoulement des eaux souterraines et les niveaux d'eau souterraine mesurés, en l'absence de pompage (ASTM D5981-96, 2008).

Le critère de calibration statique choisi pour l'étude est le NRMSE (Normalized Root Mean Square Error ou erreur quadratique normalisée), calculé à l'aide de l'équation ci-dessous. Une valeur de NRMSE inférieure à 10 % est généralement acceptée par l'industrie et représente un seuil de calibration adéquat (Robertson GeoConsultants Inc, & SRK Consulting, 2012).

Le NRMSE est défini comme suit :

$$NRMSE(\%) = \frac{1}{h_{max} - h_{min}} \times \sqrt{\frac{1}{N}\sum_{i=1}^{N}(h_s - h_m)^2}$$

N: nombre total d'observations;
h_s: niveau d'eau simulé [m];
h_m: niveau d'eau mesuré [m];
h_{max}: niveau d'eau mesuré maximal [m];
h_{min}: niveau d'eau mesuré minimal [m].

Dans cette étude, la calibration a été effectuée à partir des niveaux piézométriques de 2024, incluant les puits récemment installés ainsi que les puits existants. L'ensemble des données couvre 39 puits d'observation, dont 34 crépinés dans le roc et 5 crépinés dans le mort-terrain. Les résultats de calibration ont été tracés sur une droite de calibration comparant les niveaux d'eau mesurés et simulés, et sont présentés à la **Figure** 5-3. Le NRMSE obtenu à la fin du processus de calibration est de 9,0 %, soit inférieur à l'objectif de 10 % (Robertson GeoConsultants Inc, & SRK Consulting, 2012). Pour les puits d'observation situés dans la zone des haldes et de la fosse, un NRMSE de 6,46 % a été obtenu, indiquant une meilleure précision dans les zones d'intérêt de cette étude.

Le **Tableau 5-3** présente les valeurs calibrées des conductivités hydrauliques horizontales et verticales (Kh et Kv) ainsi que les valeurs de recharge appliquées dans le modèle hydrogéologique.

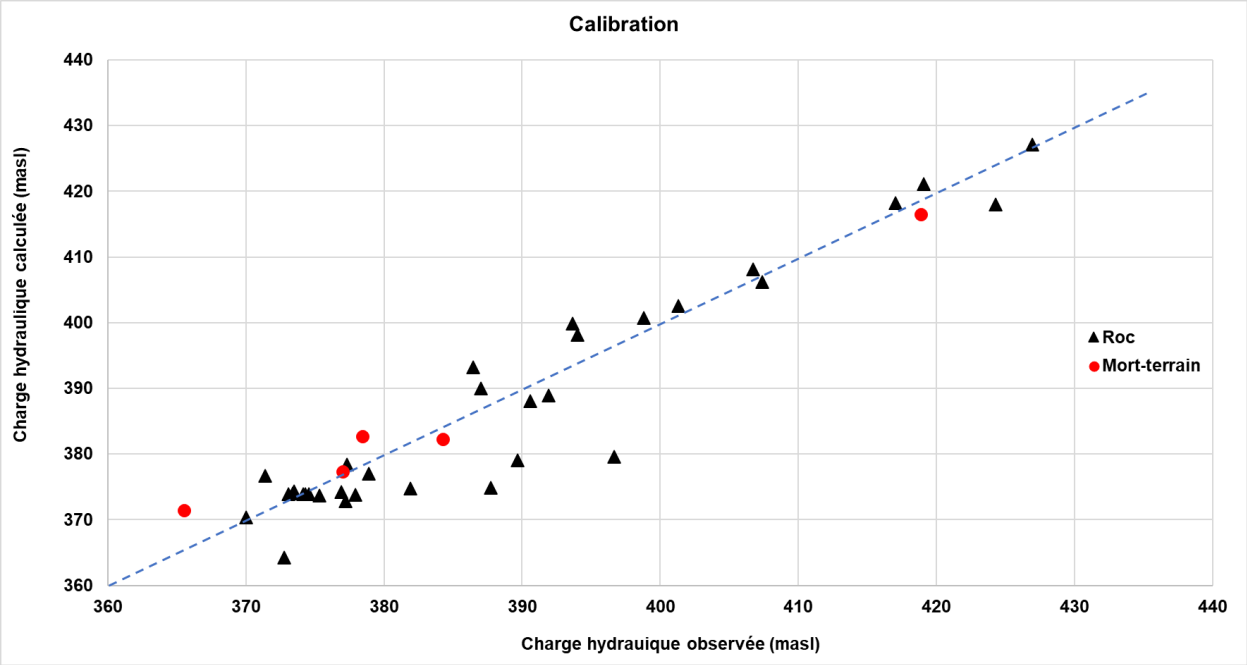


Figure 5-3 Courbe de calibration des charges hydrauliques du modèle de base

Tableau 5-3 Calibration de la conductivité hydraulique et de la recharge dans le modèle pré-exploitation minière

UHS	K_H calibré (m/s)	K_V calibré (m/s)	Recharge calibrée (mm/year)
Till indifférencié	5.50×10^{-6}	5.50×10^{-7}	35
Till d'ablation	6.60×10^{-6}	6.60×10^{-7}	35
Drumlin	1.76×10^{-7}	1.76×10^{-9}	25
Dépôt fluvioglaciaire avec esker	5.50×10^{-5}	5.50×10^{-6}	45
Moraine de Rogen	3.85×10^{-6}	3.85×10^{-7}	40
Dépôts organiques	6.60×10^{-5}	6.60×10^{-6}	40
Roc superficiel (< 15 m bgs)	7.00×10^{-7}	3.50×10^{-7}	28
Roc profond (> 15 m bgs)	4.00×10^{-8}	4.00×10^{-8}	-
Failles	1.00×10^{-6}		-

5.5 Résultats de l’écoulement souterrain

Les résultats du modèle d’écoulement des eaux souterraines sont présentés pour la fin des trois phases d’exploitation minière suivantes :

1. La phase pré-exploitation minière, qui représente les conditions actuelles du site ;
2. La phase d’exploitation minière, qui simule l’effet de la fosse entièrement développée ainsi que des haldes 001 et 002 ;
3. La phase de fermeture/post-fermeture, qui représente les conditions une fois que les activités de dénoyage de la fosse ont cessé et que la Halde 002 a été recouverte,

5.5.1 Phase pré-exploitation minière

La piézométrie simulée est dérivée de l’interpolation des charges hydrauliques calculées aux nœuds du modèle, comme présenté à la **Figure** 5-4. La piézométrie montrée dans cette figure correspond à l’élévation de la nappe phréatique (pression = 0) simulée sur l’ensemble du domaine du modèle. Cette figure montre une bonne concordance entre la piézométrie modélisée et la piézométrie interpolée observée (**Figure** 4-12).

Les charges hydrauliques calibrées du modèle d’écoulement en régime permanent de la phase pré-exploitation minière représentent les conditions actuelles, avec un niveau d’eau souterraine maximal de 445 m asl situé à environ 2 600 m au nord-est de la future Halde 002. Le niveau d’eau minimal, d’environ 346 m asl, est estimé au lac L027. Le gradient hydraulique moyen, simulé à 0,0097, est comparable à celui déduit des lignes piézométriques observées et indique un écoulement des eaux souterraines du nord-est vers les lacs L01 et L027. La distribution des niveaux piézométriques montre une forte corrélation entre la topographie et la piézométrie,

L’écoulement simulé par le modèle dans la zone prévue pour la Halde 002 suggère que l’eau souterraine s’écoule à partir du point haut piézométrique, situé dans la partie est du futur site d’entreposage, vers les différents cours d’eau et lacs entourant ce sommet topographique, avant d’atteindre finalement les lacs L01 et L027.

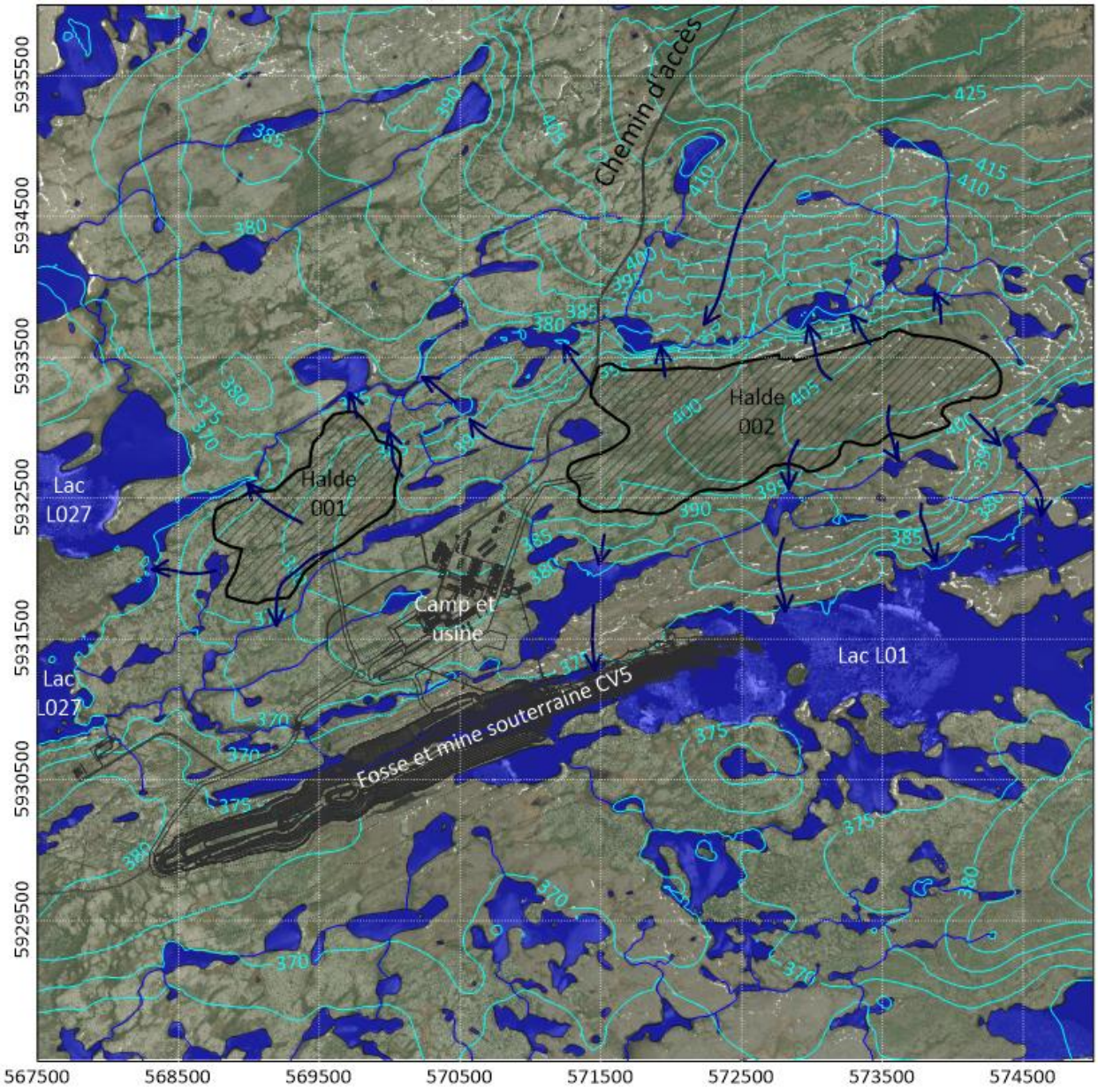


Figure 5-4 Élévation simulée du niveau d'eau souterraine en régime permanent pendant la phase pré-exploitation minière

5.5.2 Phase d'exploitation minière

Le modèle d'écoulement de l'eau souterraine en phase d'exploitation minière simule les conditions hydrogéologiques lorsque la fosse et les haldes sont entièrement développées.

Ce modèle a été construit en modifiant le modèle pré-exploitation minière calibré, en y ajoutant 18 couches supplémentaires pour représenter les haldes de stériles et de résidus, ainsi que leurs fossés périphériques de collecte d'eau de contact, et les bassins associés. La fosse projetée à la fin de la vie de la mine a ensuite

été intégrée au modèle en assignant une condition de drain (seepage face node), représentant les activités de dénoyage de la mine. Les haldes reçoivent une recharge de 250 mm/an, en raison de la forte conductivité hydraulique du mélange de stériles et résidus (5 × 10^{-4} m/s). La géomembrane sous-jacente à la Halde 002 a été simulée comme une unité d'épaisseur 1 m, ayant une conductivité hydraulique de 3×10^{-11} m/s. Cette conductivité hydraulique est équivalente à celle d'une géomembrane LDPE de 1,5 mm comportant cinq défauts de 1 cm² chacun par hectare (Giroud & Bonaparte, 1989). Cette conductivité équivalente a été estimée à l'aide d'un modèle numérique 2D. Les fossés et bassins associés aux haldes ont également été représentés par une condition de drain, et sont eux aussi installés au-dessus d'une géomembrane. Les propriétés attribuées à ces UHS sont présentées dans le **Tableau 5-4**.

Tableau 5-4 Unités hydrostratigraphiques – Halde 002

UHS	Conductivité hydraulique (m/s)	Recharge (mm/yr)	
		Exploitation minière	Fermeture/post-fermeture
Stériles miniers et résidus miniers	5 x 10^{-4}	250	4
Géomembrane	3 x 10^{-11}	-	-

L'élévation de la nappe phréatique simulée pour la phase d'exploitation minière est présentée à la **Figure** 5-5.

Les résultats du modèle indiquent que le niveau de l'eau souterraine dans la zone d'étude est considérablement affecté par le développement de la fosse, de la Halde 001 et de la Halde 002. Au niveau de la fosse, la nappe phréatique diminue d'environ 375 m asl à 170 m asl, soit la profondeur finale de la fosse.

Au niveau de la Halde 002, le niveau des eaux souterraines diminue jusqu'à 20 m dans sa portion la plus élevée due à l'installation de la géomembrane réduisant la recharge au-dessus de la halde et la collecte du débit de drainage par les fossés périphériques. Cette diminution du niveau d'eau entraîne également une réduction du gradient hydraulique et la disparition du haut piezométrique présent avant l'installation de la géomembrane. En l'absence de ce haut piézométrique, l'écoulement des eaux souterraines s'oriente désormais vers le sud et le sud-ouest, en direction du lac L01 et de la fosse.

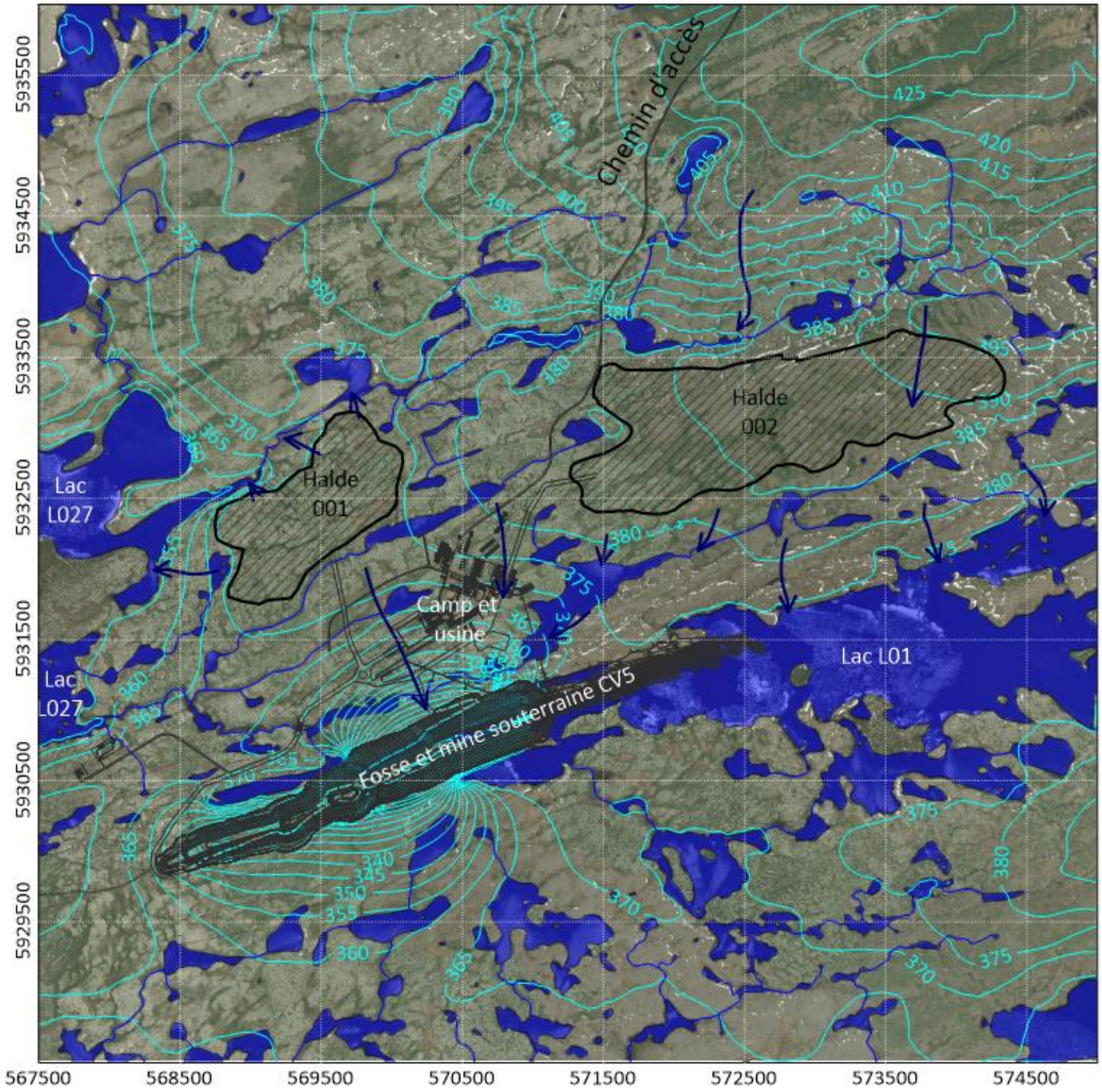


Figure 5-5 Élévation simulée du niveau d'eau souterraine pendant la phase d'exploitation minière

L'estimation du taux de percolation provenant de la Halde 002 vers les eaux souterraines, par unité de surface, est de 0,0031 L/m²/j, en considérant une superficie de 2,2 km² pour la Halde 002. Cette analyse confirme que la conception du système de drainage prévient la percolation de l'eau de contact de la Halde 002 vers les eaux souterraines et favorise un écoulement latéral vers les fossés et ultimement vers les bassins de collecte pour traitement.

5.5.3 Phase de fermeture/post-fermeture

Le modèle d'exploitation minière considère 19 années d'opération avant de passer à la phase de fermeture/post-fermeture. À l'année 20, l'installation d'un recouvrement imperméable sur la Halde 002 débute. Le modèle simule une réduction linéaire de la recharge, passant de 250 mm/an à 4 mm/an sur une période de 4 ans. Ce taux de recharge réduit est maintenu jusqu'au dernier pas de temps du modèle (année 200). Durant la fermeture/post-fermeture, les conditions frontières de drainage sont retirées pour la fosse, les fossés et les bassins puisque ceux-ci deviennent inactifs. La fosse se remplit progressivement jusqu'à être en équilibre avec les conditions hydrogéologiques régionales.

L'élévation simulée de la nappe phréatique après 200 ans est présentée à la **Figure** 5-6. À ce stade, la fosse est entièrement remplie et le système hydrogéologique a retrouvé un état d'équilibre. Toutefois, les niveaux d'eau sous la Halde 002 demeurent inférieurs aux niveaux de pré-exploitation minière, et le haut piézométrique correspondant à la crête topographique ne réapparaît pas. En considérant une superficie de 2,2 km² pour la Halde 002, le taux de recharge vers les eaux souterraines est réduit à 0,0024 L/m²/j attribuable à la présence d'un recouvrement imperméable. Cette analyse confirme que la conception d'un recouvrement imperméable et du drainage de la Halde 002 empêche efficacement la percolation de l'eau de contact de la Halde 002 vers les eaux souterraines.

Selon le modèle, l'écoulement général des eaux souterraines provenant de la Halde 002, à ce stade, se dirige vers le sud et le sud-ouest, en direction des lacs L01, L02, L18, L61, L112, L224, L225, L226, L227 et L228. Certains de ces lacs (L02, L18, L61, L224, L226, L227) se déversent ensuite dans le lac L027, qui constitue le récepteur final.

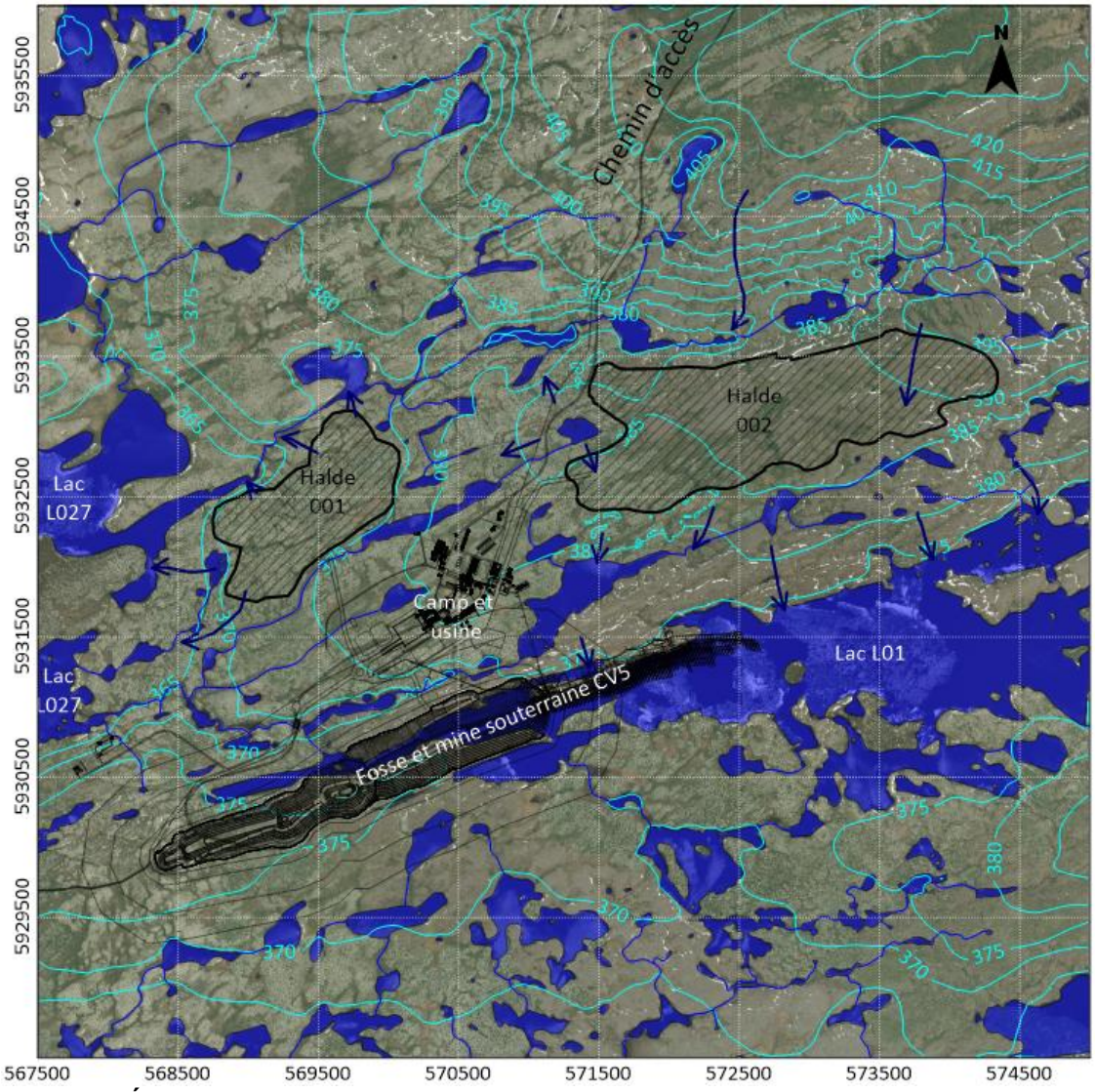


Figure 5-6 Élévation du niveau d'eau souterraine 200 ans après le début de l'exploitation minière.

5.6 Modèle de transport des contaminants

Le modèle d'exploitation minière et de fermeture/post-fermeture a été utilisé pour simuler le transport de contaminant en provenance de la Halde 002, laquelle a été identifiée comme la principale source potentielle de contaminants par Vision Geochemistry (Vision, 2025). Vision a déterminé que les stériles entreposés dans la Halde 002 sont lixiviables en arsenic, mais présentent des concentrations inférieures aux critères de haut risque du *Guide de caractérisation des résidus miniers et du minerai* (MELCC, 2020).

Bien que d'autres métaux soient également présents dans le lixiviat (Tableau 4-9, Vision, 2025), l'arsenic a été sélectionné comme contaminant représentatif dans cet exercice de modélisation, puisqu'il présente la plus forte concentration lixiviable, et le plus haut ratio par rapport au critère de référence RES (Beaulieu, 2021), et ce, en conditions neutres et acides.

Le modèle a été adapté afin d'intégrer les paramètres et conditions frontières nécessaires pour simuler le transport de l'arsenic provenant de la Halde 002. Le transport de contaminant a été simulé durant 19 ans, avec les paramètres suivants :

- La Halde 002 est entièrement construite dès la première année (aucune croissance progressive n'est simulée);
- Une condition de masse constante variable dans le temps, égale aux concentrations d'arsenic estimées dans le lixiviat de Stockpile 002 selon Vision (2025), a été appliquée;
- Une recharge de 250 mm/an est appliquée sur la Halde 002;
- Le drainage est collecté via les fossés et bassins périphériques.

Pendant la phase de fermeture/post-fermeture (années 20 à 200), le taux de recharge sur la Halde 002 est réduit à 4 mm/an, puisque la Halde 002 est recouverte d'un recouvrement imperméable. Les conditions de drainage représentant la fosse, les bassins et les fossés sont désactivées.

Ce modèle sert à évaluer la migration de contaminant et les concentrations aux récepteurs situés en aval. Le contaminant est considéré conservateur, ce qui signifie qu'il ne subit aucune dégradation, ni chimique, ni biologique, ni par retardation (absorption).

5.6.1 Conditions frontières du modèle de transport de contaminants

Les conditions frontières de concentration sont définies comme suit :

- Condition (Type 1, Dirichlet) de concentration variable dans le temps équivalente aux concentrations d'arsenic estimées par Vision (2025) est appliquée sur toute la Halde 002 où les résidus lixiviables et les stériles PAG sont entreposés (**Figure** 4-14**).** Une concentration constante de 580 µg/L est appliquée à partir de l'année 32 (fin des données de Vision) jusqu'à l'année 200;
- Condition de concentration fixe (Type 1, Dirichlet) de 0 mg/L est appliquée aux fossés et bassins de collecte autour de la Halde 002. Cette condition représente l'enlèvement efficace de la masse par les systèmes de gestion des eaux pendant la période d'exploitation minière;
- Condition de concentration fixe (Type 1, Dirichlet) de 0 mg/L aux limites du modèle représentant l'absence d'apport externe en contaminant et assurant qu'aucune autre source de masse n'entre dans le domaine de simulation.

Ces conditions aux limites sont présentées à la **Figure** 5-2.

5.6.2 Propriétés des matériaux

En plus des paramètres d'écoulement présentés à la section 5-5, d'autres paramètres influencent le transport des contaminants. Ils sont présentés dans le **Tableau 5-5**. Les valeurs tirées de la littérature ont été utilisées pour la porosité effective (McWhorter & Sunada, 1977) et la dispersivité longitudinale et transversale a été calculée selon la relation de Xu & Eckstein (1995).

Tableau 5-5 Paramètres du modèle de transport

UHS	Porosité effective (%)	Dispersivité longitudinale (m)	Dispersivité transversale (m)
Stériles et résidus miniers	15	10	1
Géomembrane	1	0,1	0,1
Till indifférencié	15	60	6
Till d'ablation	15	60	6
Drumlin	15	60	6
Dépôt fluvioglaciaire avec esker	15	60	6
Moraine de Rogen	15	60	6
Dépôts organiques	15	60	6
Roc superficiel (< 15 m bgs)	5	60	6
Roc profond (> 15 m bgs)	5	60	6
Failles	5	60	6

5.6.3 Résultats du modèle de transport des contaminants

Le modèle de transport de contaminants pour les phases d'exploitation minière et de fermeture/post-fermeture montre que le panache de contaminant se déplace verticalement à travers les unités non saturées sous la Halde 002, avant d'atteindre la nappe phréatique, puis de migre dans la direction de l'écoulement de l'eau souterraine en direction des récepteurs situés au sud-ouest de la halde.

Compte tenu du gradient hydraulique dominant nord-est vers sud-ouest dans la zone de la Halde 002, la migration des contaminants se dirige vers les récepteurs situés au sud et au sud-ouest, notamment les lacs L02, L61, L112, L220, L226 et L227 (**Figure** 5-7), qui sont identifiés comme récepteurs potentiels critiques. Une migration d'arsenic vers les récepteurs situés au nord et au nord-ouest a également été estimée, notamment vers les lacs L308, L309, L311 et L313.

Le modèle indique que la géomembrane installée sous la Halde 002 comme mesure de mitigation limite efficacement les concentrations d'arsenic atteignant ces récepteurs, les maintenant sous le critère RES de 340 µg/L pour ce paramètre.

La **Figure** 5-7 illustre les concentrations simulées d'arsenic après 200 ans aux récepteurs potentiels critiques situés près de la Halde 002. Parmi ceux-ci, le récepteur L02, le récepteur le plus proche situé au

sud-ouest de la halde, présente la concentration d'arsenic simulée la plus élevée, atteignant 144 µg/L après 200 ans.

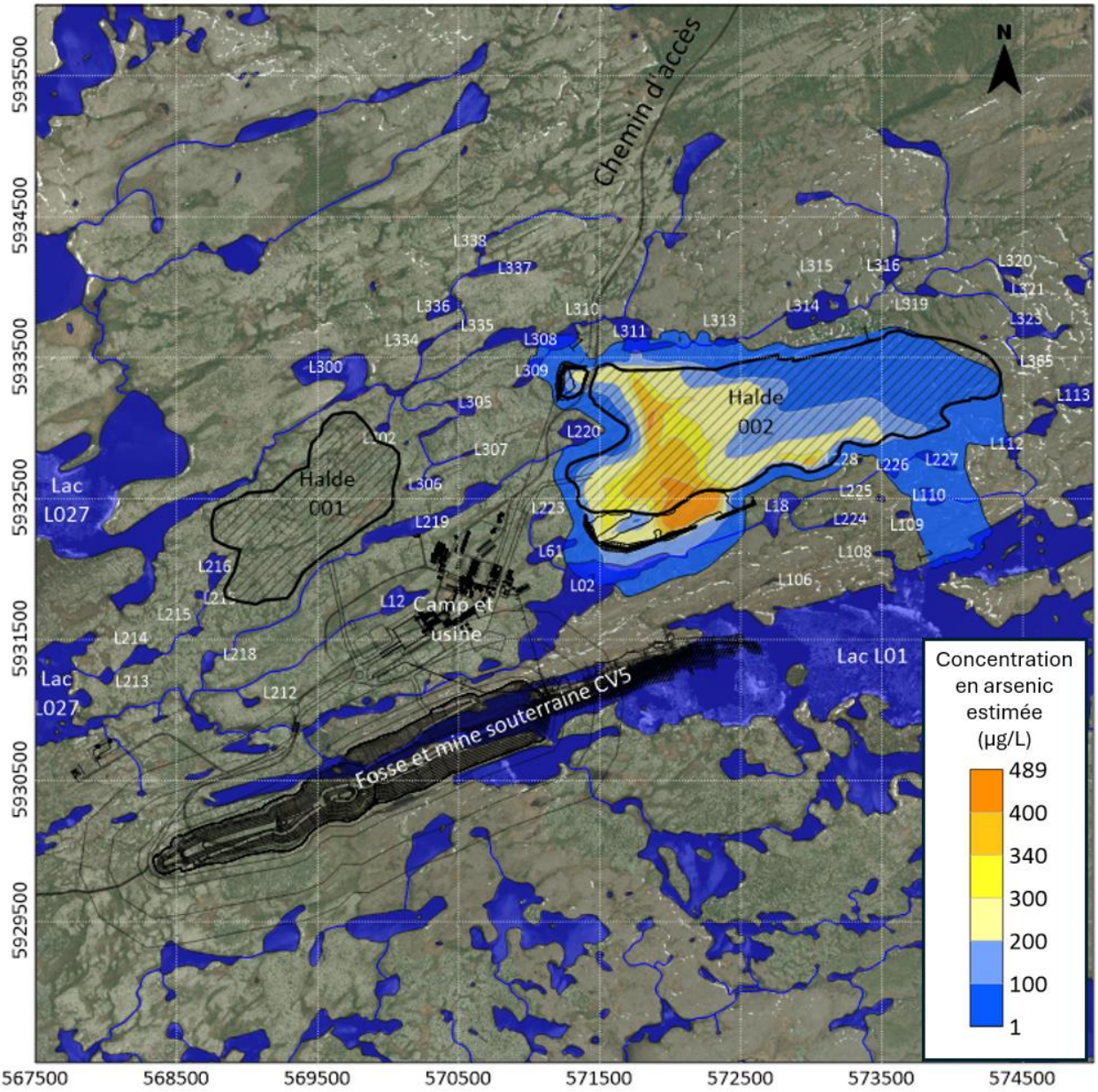


Figure 5-7 Distribution des concentrations en arsenic simulées après 200 ans

La concentration maximale simulée à chacun des récepteurs potentiels critiques après 200 ans est présentée au **Tableau 5-6**.

Tableau 5-6 Concentration maximale simulée aux récepteurs potentiels critiques

Récepteur environnemental	Concentration maximale après 200 ans (ug/L)	Récepteur environnemental	Concentration maximale après 200 ans (ug/L)
L01	5	L226	3
L02	144	L227	40
L61	8	L308	53
L110	18	L309	25
L112	2	L311	116
L220	1	L313	13

Le critère RES (Beaulieu, 2021) a été utilisé pour évaluer les impacts aux récepteurs environnementaux identifiés en provenance de la Halde 002.

Ce modèle d'écoulement et de transport de contaminants est considéré conservateur, car il ne tient pas compte de la progression réelle de la fosse ni de la halde dans le temps, il suppose que la halde continue de lixivier de l'arsenic à une concentration constante de l'année 32 jusqu'à la fin de la période de modélisation (200 ans) et n'inclut aucun processus d'atténuation naturelle, comme la complexation, la précipitation, la biodégradation, l'adsorption ou la retardation, conformément aux exigences de modélisation de la Directive 019 (MELCCFP, 2025). Par conséquent, la simulation de transport est conservatrice et tend probablement à surestimer les concentrations atteignant les récepteurs. Malgré cette approche conservatrice, aucune des concentrations estimées aux récepteurs ne dépasse le critère RES après 200 ans.

5.7 Analyse de sensibilité

Une analyse de sensibilité a été réalisée sur le modèle pré-exploitation minière afin d'évaluer l'influence des paramètres d'entrée sur la calibration du modèle. Les résultats des scénarios évalués sont présentés au **Tableau 5-7**. La recharge a été identifiée comme le paramètre le plus sensible. À l'inverse, réduire la conductivité hydraulique du mort-terrain de moitié a légèrement amélioré la calibration. Toutefois, les valeurs retenues dans le scénario de base proviennent directement des essais sur le terrain, et ont donc été conservées, plutôt que d'utiliser des valeurs qui améliorent artificiellement la calibration, mais qui ne reflètent pas les mesures terrain. Les autres paramètres évalués ont montré un impact limité sur la calibration, indiquant une faible sensibilité du modèle à ces paramètres.

Tableau 5-7 Analyse de sensibilité sur le modèle d'écoulement en régime permanent

No de simulation	Recharge, R	K du mort-terrain	K du roc	RMS (m)	NRMSE (%)
Modèle pré-exploitation minière	R	K	K	5,11	8,3
1	2xR	-	-	7,42	10,6
2	0,5xR	-	-	6,20	9,9
3	-	2xK	-	5,48	8,7
4	-	0,5xK	-	5,07	8,0
5	-	-	2xK	5,71	9,1
6	-	-	0,5xK	6,42	9,6

À la suite de l'analyse de sensibilité effectuée pour le modèle d'écoulement de l'eau souterraine en régime permanent, une analyse de sensibilité a également été réalisée pour le modèle transitoire de transport de contaminants. Cette analyse s'est concentrée sur les paramètres influençant la migration du contaminant, notamment la recharge sur la halde, l'écoulement à travers et les propriétés de la géomembrane située à la base de la Halde 002. La concentration relative maximale au récepteur L02 a été utilisée pour comparer les différents scénarios de sensibilité, tels que résumés au **Tableau 5-8**.

L'analyse de sensibilité du modèle de transport de contaminant révèle une forte sensibilité aux changements dans les propriétés de la géomembrane. Une augmentation de la conductivité hydraulique de la géomembrane entraîne une augmentation de la concentration relative maximale au récepteur L02. Cela met en évidence le rôle critique de la géomembrane dans le contrôle de la migration des contaminants. À l'inverse, le modèle s'est montré moins sensible aux variations de la recharge de la halde, la dispersivité de la géomembrane, et sa porosité.

De manière générale, les résultats démontrent que la conductivité hydraulique de la géomembrane, laquelle dépend du nombre et de la taille des perforations, est le paramètre le plus influent sur les résultats de la modélisation du transport de contaminants.

Tableau 5-8 Résultats de l'analyse de sensibilité du modèle transitoire de transport de contaminant

No de simulation	Recharge sur la halde (avant/après recouvrement) (mm/année)	Conductivité hydraulique de la géomembrane (m/s)	Dispersivité longitudinale et transversale de la géomembrane (m)	Porosité de la géomembrane (%)	Concentration maximale simulée au lac L02 (ug/L)
Exploitation minière et fermeture/post-fermeture	250/4	3×10^{-11}	0,1	1	144
1	R/+0,4R	3×10^{-11}	0,1	1	137
2	R/-0,4R	3×10^{-11}	0,1	1	152
3	250/4	1×10^{-10}	0,1	1	275
4	250/4	3×10^{-11}	0,2	1	150
5	250/4	3×10^{-11}	0,05	1	143
6	250/4	3×10^{-11}	0,1	2	137
7	250/4	3×10^{-11}	0,1	0,5	144

5.8 Limitations du modèle hydrogéologique

Les modèles d'écoulement et de transport développés simulent une représentation conservatrice du système hydrogéologique et reposent sur de nombreuses hypothèses présentées à la Section 5.2. Par conséquent, ils comportent certaines limitations, telles que :

- La définition d'un modèle dépend de la quantité et de la qualité des données disponibles sur le site, un modèle ne peut donc pas être de meilleure qualité que les données utilisées pour le construire;
- Les solutions obtenues par un modèle numérique sont non uniques. Plusieurs combinaisons de paramètres peuvent produire des résultats similaires et une calibration acceptable. Ainsi, une bonne concordance entre les niveaux d'eau mesurés et simulés ne garantit pas que les propriétés du modèle représentent fidèlement celles des matériaux réellement présents sur le site;
- Le modèle développé dépasse la zone pour laquelle des données de terrain sont disponibles. Les secteurs dépourvus de données sont donc représentés à l'aide de nombreuses hypothèses, ce qui ne peut refléter adéquatement les conditions réelles présentes dans ces zones;
- Un modèle numérique est une simplification d'un système hydrogéologique complexe et doit donc être utilisé en complément d'autres sources d'information lors de la prise de décision;
- L'unité de roc est représentée selon l'approche de milieu poreux équivalent. Cette méthode simplifie l'hétérogénéité du réseau de fractures en la représentant comme un milieu poreux dont les propriétés hydrauliques sont équivalentes aux propriétés moyennes du massif rocheux. Cette simplification peut entraîner une surestimation ou sous-estimation des concentrations et des vitesses de migration des contaminants, notamment à plus petite échelle;
- Le modèle de transport des contaminants suppose un contaminant conservateur, non soumis aux processus de dégradation chimique ou biologique, ni aux processus de retardation, de précipitation

ou autres mécanismes d’atténuation. Il s’agit d’une hypothèse conservatrice, étant donné que la majorité des métaux dissous interagissent avec les diverses compositions et environnements de sol, roc et eau souterraine.

En dépit de ces hypothèses et limitations, les résultats du modèle sont jugés suffisamment fiables pour être utilisés comme outil d’aide à la décision.

6. Conclusion et Recommandations

AtkinsRéalis a été mandatée par PB Metals pour établir les conditions hydrogéologiques de base du site, évaluer les changements potentiels du régime des eaux souterraines associés au développement des haldes et de la fosse, et évaluer, à l'aide d'un modèle numérique 3D, l'efficacité des mesures de mitigation proposées afin de prévenir toute dégradation significative de la qualité des eaux souterraines attribuable au drainage provenant de la Halde 002, conformément à la Directive 019 (MELCCFP, 2025).

Les conditions hydrogéologiques de base ont été établies à partir des données publiques disponibles ainsi que des travaux réalisés sur le terrain en 2023 et 2024 (BBA, 2024a; BBA, 2025a; BBA, 2025b; BBA, 2025c; BBA, 2025d). Toutes les données ont été compilées afin d'identifier les unités hydrostratigraphiques, d'évaluer leurs propriétés hydrauliques, de définir la direction d'écoulement des eaux souterraines et d'établir leur qualité.

Deux unités hydrostratigraphiques ont été identifiées. Le mort-terrain, discontinu, avec une épaisseur variant de 0 à 48 m (en moyenne environ 8 m lorsqu'il est présent), composé d'une mince couche organique au-dessus d'un till indifférencié ou d'un drumlin. Il contient de l'eau, mais sa discontinuité fait qu'il n'est pas considéré comme un aquifère régional. Sa conductivité hydraulique moyenne est de $1{,}1 \times 10^{-6}$ m/s. Le roc, plus perméable dans sa portion altérée (ses premiers 15 m), mais généralement moins perméable que le mort-terrain, avec une conductivité hydraulique moyenne de $5{,}8 \times 10^{-8}$ m/s. Aucune corrélation n'a été observée entre le RQD et la conductivité hydraulique, suggérant que l'écoulement dans le roc est dominé par des discontinuités localisées non détectées par les mesures de RQD.

L'écoulement des eaux souterraines dans le mort-terrain et le roc superficiel suit la topographie, des hauts vers les bas, en direction des lacs et milieux humides. Globalement, l'écoulement converge vers les lacs L01 et L027. Les échanges entre les eaux souterraines et les plans d'eau sont complexes : certains lacs sont perchés, tandis que d'autres sont alimentés par les eaux souterraines.

La qualité de l'eau souterraine est de type bicarbonaté magnésien, avec des dépassements des critères EC pour arsenic, manganèse, molybdène et antimoine, ainsi que du critère RES pour le cuivre. Des dépassements ont aussi été observés pour l'azote ammoniacal et les sulfures.

La Halde 002, située au nord-est de la fosse et des infrastructures minières, servira à l'entreposage d'une partie des résidus et des stériles. Selon Vision Geochemistry (2025), le matériel entreposé constitue une source potentielle de lixiviation de métaux, notamment l'arsenic, et est potentiellement générateur d'acide (PAG). Conformément à la Directive 019, un modèle hydrogéologique doit être développé pour évaluer l'efficacité des mesures de mitigation visant à prévenir toute dégradation des eaux souterraines.

Un modèle numérique 3D a été développé pour évaluer les conditions hydrogéologiques et les mesures de mitigation liées à la Halde 002 en simulant trois phases, la phase pré-exploitation minière présentant les conditions naturelles actuelles (calibration), la phase exploitation minière avec la Halde 002 et fosse complètement développée dès l'année 1 et la phase fermeture/post-fermeture où la fosse se remplie d'eau et la Halde 002 est recouverte. La modélisation est effectuée sur 200 ans, soit sur une période de 180 ans post-fermeture.

Les résultats du modèle d'écoulement des eaux souterraines indiquent que l'installation d'une géomembrane sous-jacente à la Halde 002 réduira la recharge dans ce secteur et éliminera ainsi le haut piézométrique actuellement présent à cet emplacement. L'élimination de ce haut piézométrique sous la Halde 002 modifiera les directions d'écoulement des eaux souterraines, lesquelles passeront d'un écoulement provenant du nord, de l'est et du sud à un écoulement orienté vers le sud et le sud-ouest, en direction du lac L01 et de la fosse. Ce régime d'écoulement modifié persiste durant les phases de fermeture et de post-fermeture, les eaux souterraines s'écoulant alors vers le sud et le sud-ouest en direction du

lac L01 et de la fosse remise en eau. Ce modèle est considéré comme conservateur, puisque la progression de la fosse et des haldes pendant l'exploitation n'est pas prise en compte.

Le modèle de transport de contaminants simule la percolation des contaminants à travers la géomembrane et vers le milieu environnant. Ce modèle simule, en régime transitoire, les phases d'exploitation ainsi que de fermeture et de post-fermeture de la mine, en considérant une fosse et des haldes entièrement développées dès le début de la phase d'exploitation. Par la suite, la phase de fermeture et de post-fermeture est simulée par une réduction de la recharge sur la Halde 002 afin de tenir compte de l'installation d'un recouvrement imperméable. Les résultats du modèle de transport des contaminants indiquent que le lac L02 constitue le récepteur le plus à risque vis-à-vis les percolations d'eau en provenance de la Halde 002, en raison de sa proximité et de sa position en aval hydraulique de la halde. Toutefois, le système de mitigation s'avère efficace, les concentrations de contaminants atteignant les récepteurs environnementaux demeurant inférieures aux critères applicables après 200 ans.

Une analyse de sensibilité a été réalisée afin d'évaluer l'effet de différents paramètres sur les résultats du modèle de transport des contaminants. Les résultats de cette analyse indiquent que les propriétés de la géomembrane sous-jacente à la Halde 002 constituent les paramètres les plus influents sur les concentrations atteignant les récepteurs environnementaux, ce qui met en évidence l'importance du processus d'installation afin d'assurer l'intégrité de la géomembrane.

À la suite de la présente étude, il est recommandé de:

- Assurer un contrôle et une assurance de la qualité efficaces (CQ/AQ) lors de l'installation de la géomembrane afin de minimiser le nombre de défauts et, par conséquent, de réduire les taux de percolation à travers la géomembrane;
- Mettre en place un programme de suivi des eaux souterraines afin de surveiller la qualité des eaux souterraines à proximité de la Halde 002, incluant des campagnes d'échantillonnage périodiques et l'établissement de seuils d'alerte appropriés conformes aux objectifs de protection de la qualité des eaux souterraines;
- Comparer les résultats des simulations de l'étude de modélisation hydrogéologique aux résultats de suivi des eaux souterraines recueillis sur le terrain. L'étude de modélisation hydrogéologique devrait être mise à jour et recalibrée, au besoin, en fonction des données de terrain afin d'affiner les prédictions.

7. Références

ASTM International, 2008. Standard Guide for Calibrating a Ground-Water Flow Model Application, D5981-96(2008).

ASTM International, 2016. Standard Guide for Comparison of Field Methods for Determining Hydraulic Conductivity in Vadose Zone.

AtkinsRéalis, 2025a. Gap Analysis Report, Shaakichiuwaanaan project, prepared for Patriot Battery Metals Inc. Rapport soumis le 12 Février 2025. Document no: CASN-A-370-GE-REP-0001 Rev C.

AtkinsRéalis, 2025b. Baseline Hydrology - Shaakichiuwaanaan project. Rapport soumis le 15 août 2025. Document no: CASN-A-370-HY-REP-0001 Rev C.

AtkinsRéalis, 2025c, Design basis and criteria – Waste and water management. Rapport soumis le 19 août 2025. Document no: CASN-A-370-GT-DCR-0001 Rev C.

AtkinsRéalis, 2025d. Laboratory Geotechnical Tailings Testing Report. Rapport soumis le 29 août 2025. Document no: CASN-A-370-GT-REP-0003 Rev C.

AtkinsRéalis, 2026. Feasibility study for tailings, waste rock and water management. Rapport soumis le 5 février 2026. Document no: CASN-A-370-GT-REP-0001 Rev C.

BBA, 2024a. Hydrogeological Baseline Study – Future Open Pit CV5, Corvette Lithium property. Rapport technique soumis le 23 septembre 2024. Document no: 7535001-001900-41-ERA-0002-R00.

BBA, 2024b. Analysis and Interpretation of the CV5 Static and Kinetic Geochemistry Characterization Results. Rapport technique soumis le 23 mai 2024. Document no: 7535001-000500-4E-ERA-0001 R00.

BBA, 2024c. Geochemical Modelling of Arsenic Leaching Risk for CV5 Waste Rock Stockpiles. Rapport technique soumis le 3 juillet 2024. Document no: 7535001-003200-4E-ERA-0001-R00.

BBA, 2024d. Water Management Plan and Water Diversion. Rapport technique soumis le 11 septembre 2024. Document no: 7535006-014000-41-ERA-0002-R00.

BBA, 2025a, Geotechnical campaign for Phase 2 (factual). Rapport technique soumis le 17 avril 2025. Document no: 7535009-020001-4G-ERA-0003-R00.

BBA, 2025b. Hydrogeological Characterisation – CV5 mining site, Shaakichiuwaanaan Lithium Property. Technical Rapport soumis le 4 juillet 2025. Document no: 535019-000000-41-ERA-0002-R00.

BBA, 2025c. Packer Testing Factual Report – Shaakichiuwaanaan Project, Technical Rapport soumis le 9 juillet 2025. Document no: 7535019-000000-41-ERA-0001-R00.

BBA, 2025d. Hydrogeological characterisation – Water supply well, Shaakichiuwaanaan Lithium Property, Technical Rapport soumis le 9 juillet 2025. Document no: 7535019-000000-41-ERA-0003-R00.

Beaulieu, M, 2021. Guide d'intervention – Protection des sols et réhabilitation des terrains contaminés, Ministère de l'Environnement et de la lutte contre les changements climatiques, Québec, mai 2021, 326 p. [http://www.environnement.gouv.qc.ca/sol/terrains/guide-intervention/guide-intervention-protection-rehab.pdf]

Devlin (2015). HydrogeoSieveXL: an Excel-based tool to estimate hydraulic conductivity from grain-size analysis. Hydrogeology Journal.

Environment and Climate Change Canada (ECCC), 2023. Climate trends and variations bulletin – Annual 2023. Government of Canada. https://www.canada.ca/en/environment-climate-change/services/climate-change/science-research-data/climate-trends-variability/trends-variations/annual-2023-bulletin.html

Freeze, R,A, and J,A, Cherry, 1979. Groundwater. Prentice Hall, Englewood Cliffs, New Jersey, 604p.

Giroud, J,P, et Bonaparte, R, (1989). Leakage through liners constructed with geomembranes, Part I: Geomembrane Liners, Geotextiltes and Geomembranes, 8, 1:27-67.

G Mining, 2025a. Integrated Schedule V3 Mass Balance provided on 23 May 2025.

G Mining, 2025b. Open pit shell and underground mine provided on 5 May 2025.

Mailloux Hydrogéologie Inc,, 2025. Hydrogeological modelling of the planned open pit and underground mine – Shaakichiuwaanaan project feasibility study. Mémorandum technique soumis le 9 juin 2025. Document no: CASN-A-500-HY-MEM-0001.

McWhorter, D, B,, Sunada, D, K,, & Sunada, D, K, (1977). Ground-water hydrology and hydraulics, Water Resources Publication.

Ministère de l'Environnement, de la Lutte contre les changements climatiques, de la Faune et des Parcs (MELCCFP) (2025). Directive 019 sur l'industrie minière.

Ministère de l'Environnement et de la Lutte contre les changements climatiques (MELCC),2020. Guide de caractérisation des résidus miniers et du minerai, http://www.environnement.gouv.qc.ca/Industriel/secteur-minier/guidecaracterisation-minerai.pdf Ministère des Ressources naturelles et des Forêts (MRNF). 2021 - Interactive map. MRNF. Québec; Online products and services - Mines. Interactive Map. https://sigeom.mines.gouv.qc.ca/signet/classes/I1108_afchCarteIntr (Quebec Geomining Information System consulted on December 2. 2021).

NRCAN, 2011. Lidar, Bathymetry and Canadian Digital Elevation Model (DEM).

Patriots Battery Metals Inc, 2024a. PEA Highlights Shaakichiuwaanaan Project as a Potential North American Lithium Raw Materials Supply Base, 21 août 2024.

Patriots Battery Metals Inc, 2024b. Geological database fournis le 6 novembre 2024.

Robertson GeoConsultants Inc, & SRK Consulting, (2012). Groundwater Modelling Guidelines to Assess Impacts of Proposed Natural Resource Development Activities, British Columbia Ministry of Environment, Rapport No 194001.

Vision Geochemistry, 2025. Geochemical Characterization of Mine Waste Materials & Modelling of Waste Rock Stockpiles for the Shaakichiuwaanaan Project (CV5 Pegmatite): Feasibility Study Update, Rapport soumis le 12 novembre 2025. Document no: 2405007-TR1.

Xu, M,, Eckstein, Y, (1995). Use of Weighted Least-Squares Method in Evaluation of the Relationship Between Dispersivity and Field Scale, Groundwater, Volume 33, Issue 6 novembre 1995. Pages 905–908.

AtkinsRéalis

FIN DU DOCUMENT

I2. Étude hydrogéologique (Mailloux, 2025)

23 janvier 2026 Référence 02 NT 16N-2501 Rev0

Mme. Cathryn Moffett
Métaux de batteries Patriot
1801, McGill College, Suite 900
Montréal, QC H3A 1Z4

NOTE TECHNIQUE – ÉVALUATION HYDROGÉOLOGIQUE POUR LE PROJET DE MINE SOUTERRAINE ET DE FOSSE À CIEL OUVERT – PROJET SHAAKICHIUWAANAAN – PMET RESSOURCES

1. INTRODUCTION

Mailloux Hydrogéologie inc. a été mandatée par PMET Ressources (PMET) pour réaliser une évaluation des impacts sur les eaux souterraines du projet de développement d'une mine à ciel ouvert et souterraine pour le projet Shaakichiuwaanaan, situé dans la région de la Baie-James, au Québec, Canada. L'évaluation est basée sur le modèle d'écoulement des eaux souterraines élaboré dans le cadre de l'étude de faisabilité, lequel a servi à analyser les effets des mines à ciel ouvert et souterraine projetées sur les conditions hydrogéologiques. L'évaluation hydrogéologique vise les aspects suivants :

- Infiltration d'eau souterraines dans les ouvertures minières pour le projet de développement d'une mine à ciel ouvert et souterraine.
- Zone de rabattement de la nappe d'eau souterraine causée par le projet de développement d'une mine à ciel ouvert et souterraine.
- Évaluation de la baisse potentielle du débit de base vers les cours d'eau causée par le projet de développement d'une mine à ciel ouvert et souterraine.

2. DONNÉES HYDROGÉOLOGIQUES DISPONIBLES

Le modèle hydrogéologique a été élaboré à partir de données publiques et de données hydrogéologiques recueillies lors des investigations de terrain menées par BBA. Les documents suivants ont été consultés :

- Géologie des dépôts meubles et géologie du socle rocheux (base de données publique SIGÉOM).
- Topographie de surface: levé LiDAR fourni par PMET en octobre 2024.
- Bathymétrie du Lac 001: données provenant d'un levé réalisé en 2022.
- Conductivité hydraulique des dépôts meubles et du socle rocheux obtenue par essais de type « slug test » : rapports de BBA (2024) et BBA (2025).

- Conductivité hydraulique du socle rocheux déterminée à partir d'essais avec obturateurs et d'essais de pompage : rapport de BBA (2025).
- Qualité des eaux souterraines : rapport de BBA (2024).
- Modèle structural : fichiers DXF fournis par BBA en janvier 2025.
- Conception de mines à ciel ouvert et souterraines : fichiers DXF fournis par GMining en avril 2025.

3. CONTEXTE GÉNÉRAL

3.1 Localisation du site

La propriété Shaakichiuwaanaan (la « Propriété ») est située dans la région d'Eeyou Istchee Baie-James, au Québec, Canada, centrée sur les coordonnées 53°32'00" N, 73°55'00" O. Elle se trouve à environ 220 km à l'est de Radisson (Québec) et à 240 km au nord-nord-est de Némiscau (Québec) - (figure 1).

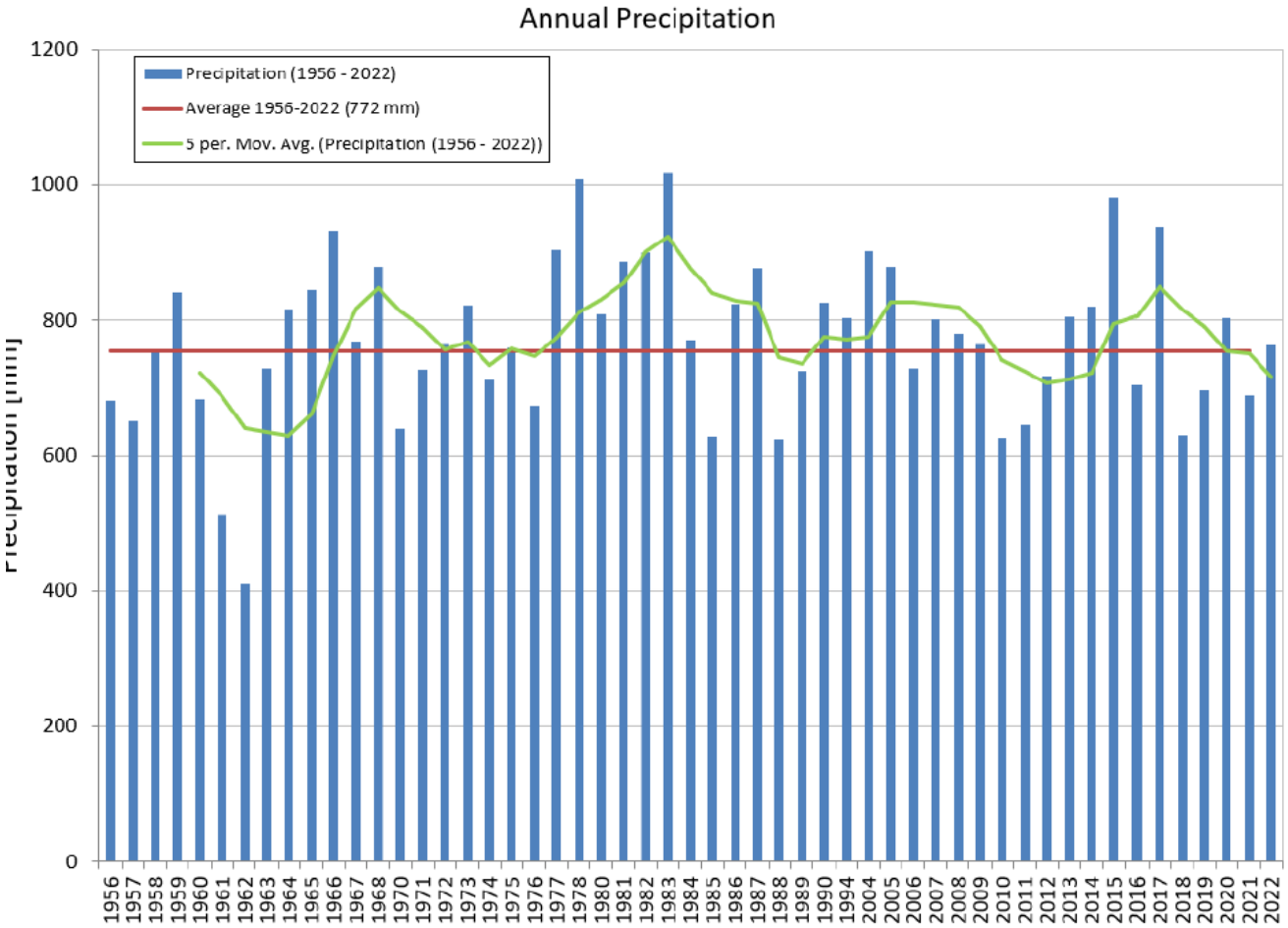
Figure 1 : Carte de localisation du site

3.2 Climat

La précipitation annuelle totale moyenne enregistrée entre 1956 et 2022 est équivalente à 772 mm d'eau par an (Atkins Realis, 2025). La figure 2 présente les précipitations annuelles pour le site. Les précipitations sous forme

de pluie totalisent 518 mm, tandis que les chutes de neige atteignent 254 cm. Les températures mensuelles moyennes varient de 14,3 °C en juillet à -22,5 °C en janvier (Atkins Realis, 2025).

Figure 2 : Précipitation annuelle (Extrait d'Atkins Realis, 2025)

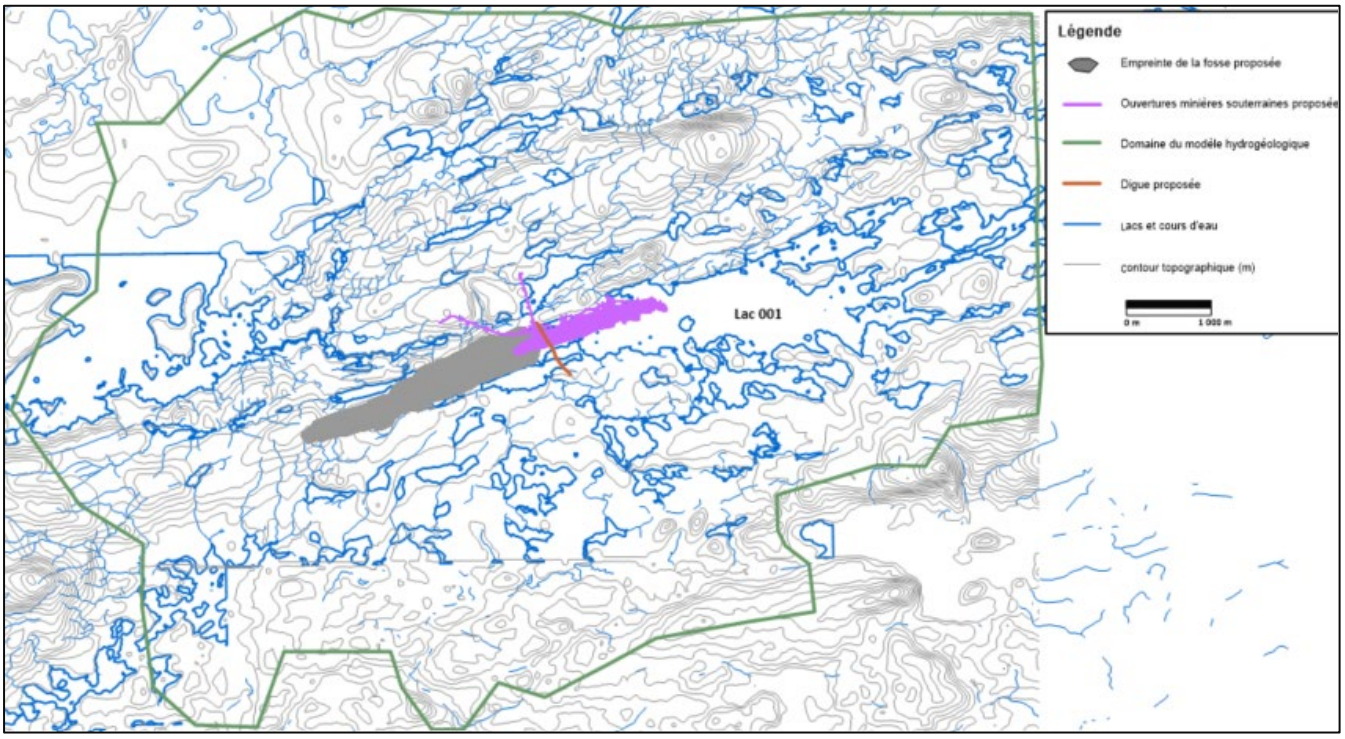


3.3 Hydrographie

Les ouvertures minières planifiées pour le projet sont en partie situées sous le Lac 001 (figure 3). Ce lac présente une élévation moyenne de 373 m (Atkins Realis, 2025a). Plusieurs petits lacs et cours d'eau se trouvent dans la zone à l'étude. Les eaux de surface locales s'écoulent généralement vers l'ouest, en direction de la rivière La Grande, située à environ 35 km au nord-ouest de la propriété.

La topographie est généralement plate, avec une légère inclinaison vers l'ouest. L'altitude du sol varie entre 370 m et 390 m.

Figure 3 : Hydrographie



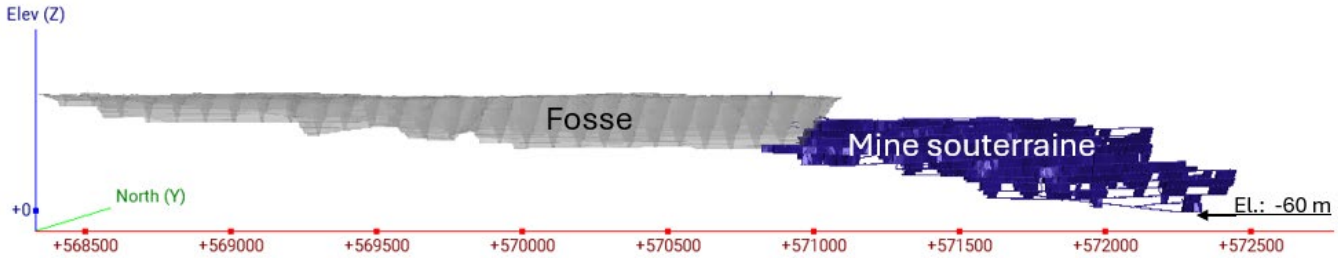
3.4 Mine projetée

La mine projetée comprend une fosse à ciel ouvert et une mine souterraine (figure 3). La fosse mesure 2,8 km de long, 425 m de large à son point le plus large et environ 200 m de profondeur à son point le plus profond.

La fosse à ciel ouvert commencera par une année de préproduction. Le drainage du Lac 001 de la Phase 1 devrait être achevé entre la première et la deuxième année du développement de la fosse. La durée de vie de la mine souterraine s'étendra sur 19 ans.

Les travaux souterrains seront accessibles par une rampe, aménagée depuis le nord du gisement CV5. La profondeur de la mine est de 435 m et l'épaisseur du pilier de couronnement est de 85 m. La figure 4 présente une vue isométrique de la fosse à ciel ouvert proposée et de la mine souterraine planifiée.

Figure 4 : Vue isométrique de la fosse à ciel ouvert proposée pour la mine souterraine planifiée – orientée vers le nord



3. CONDITIONS HYDROGÉOLOGIQUES

4.1 Dépôts meubles

Les dépôts meubles dans le secteur à l'étude sont constitués de till glaciaire (BBA, 2024), composé de sable avec une proportion variable de particules fines (silt et argile). La figure 5 présente la carte de la géologie des dépôts de surface extraite de la base de données SIGEOM.

Selon les rapports de forage préparés par BBA (2024), l'épaisseur des dépôts meubles dans la zone à l'étude varie entre 0,8 et 20,6 mètres.

Des valeurs de conductivité hydraulique allant de $2{,}9 \times 10^{-8}$ à $3{,}9 \times 10^{-6}$ m/s ont été mesurées par BBA (2024) dans des puits d'observation installés dans les dépôts meubles. La moyenne géométrique des valeurs des essais de perméabilité était de $1{,}1 \times 10^{-6}$ m/s (n = 8). Le tableau 1 présente les résultats des essais de type "*slug tests*" réalisés dans les dépôts meubles.

Figure 5 : Géologie des dépôts de surface. Extrait de SIGEOM

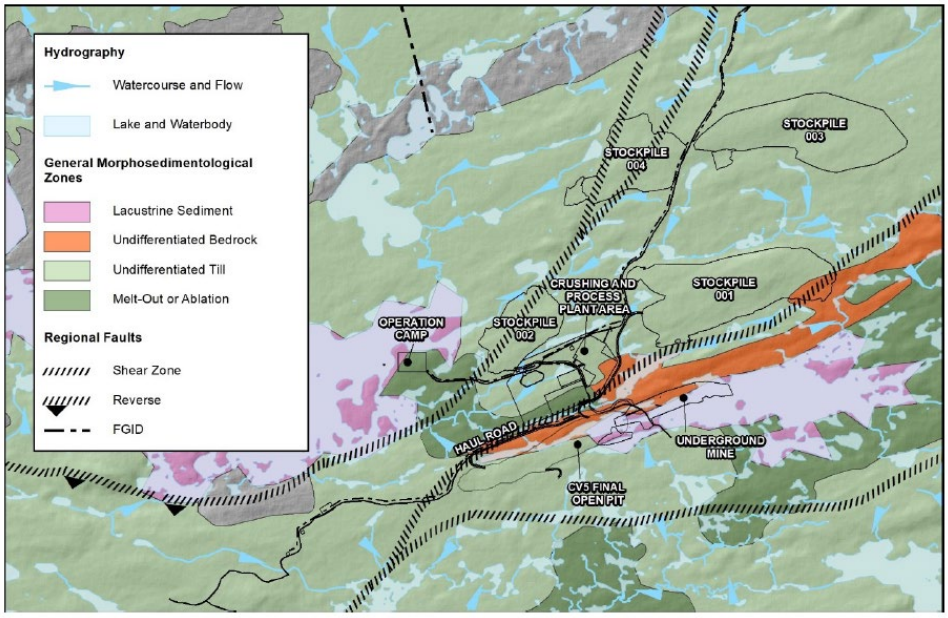


Tableau 1 : Conductivité hydraulique pour les puits d'observation installé dans les dépôts meubles (extrait de BBA, 2024)

Puits d'observation	Profondeur testée (m)	Conductivité hydraulique (m/s)
CV24-611A	5,91 - 12,65	$3{,}6X10^{-6}$
CV24-633A	3,00 - 10,55	$2{,}1X10^{-6}$
CV24-640A	13,56 - 18,75	$2{,}2X10^{-7}$
CV24-657	9,80 - 14,96	$6{,}7X10^{-7}$
CV24-658	1,85 - 4,34	$3{,}9X10^{-6}$
CV24-672	2,00 - 6,02	$3{,}6X10^{-6}$
CV24-673	3,30 - 5,54	$3{,}5X10^{-6}$
CV24-784	7,57 - 23,30	$2{,}9X10^{-8}$

4.2 Sédiments de fond de lac

BBA (2024) a réalisé neuf forages géotechniques sur la glace recouvrant le Lac 001. Chaque forage a été effectué jusqu'au roc, permettant ainsi d'évaluer la stratigraphie des dépôts meubles situés sous le lac aux emplacements forés. La figure 6 présente l'emplacement des forages. Une couche de silt ou d'argile a été observée au début du forage dans huit des neuf forages.

L'épaisseur observée de la couche d'argile ou de silt varie entre 0,1 et 2,44 m. Cette couche repose sur du till. L'épaisseur totale des dépôts meubles au site de forage varie entre 0,8 et 8,8 m (figure 7).

Figure 6 : Épaisseur des sédiments du fond du lac mesurée à partir des forages réalisés par BBA (2024) sur la glace du Lac 001

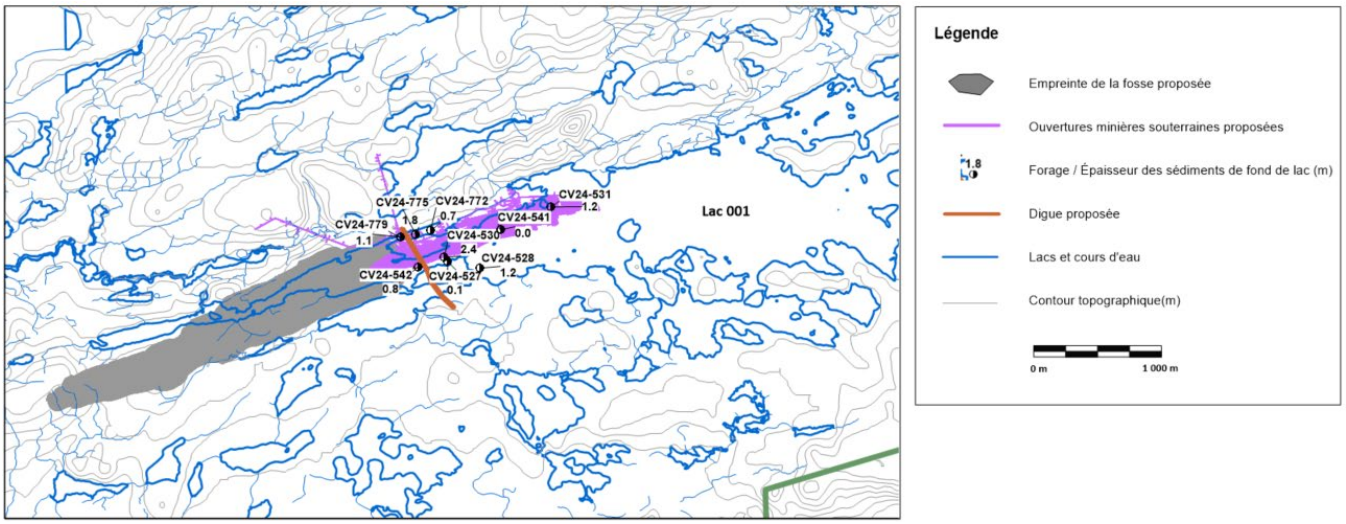
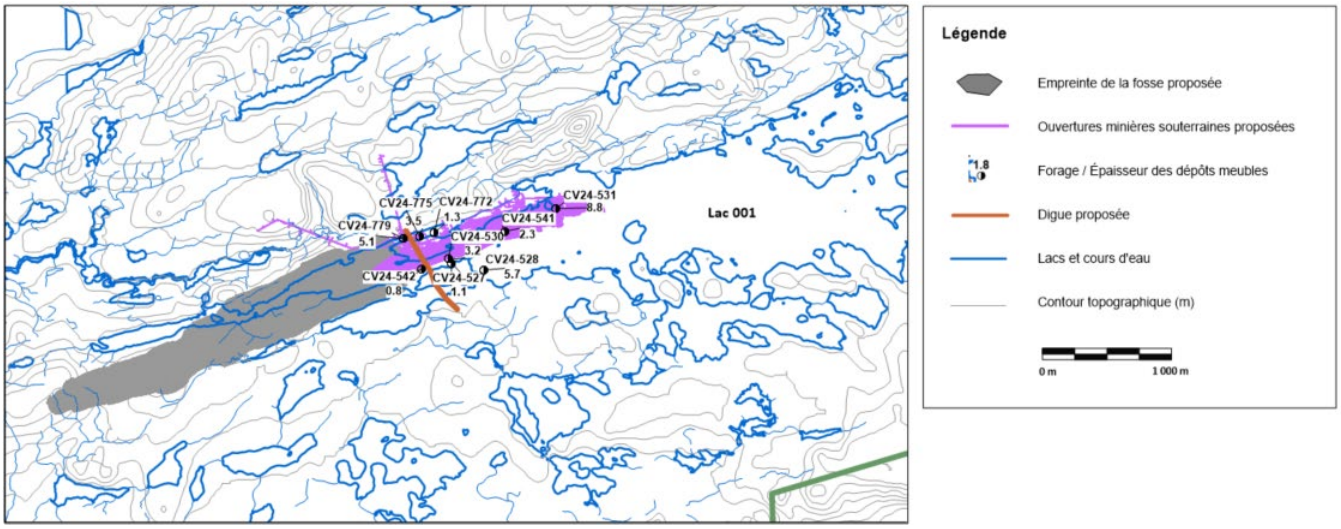


Figure 7 : Épaisseur des dépôts meubles mesurée à partir des forages réalisés par BBA (2024) sur la glace du Lac 001



4.3 Roc

4.3.1 Géologie

La propriété Shaakichiuwaanaan est située dans la Province archéenne du Supérieur du Bouclier canadien, qui s'étend du Manitoba au Québec, couvrant environ 750 000 km² de la province de Québec. Cette province est subdivisée en quatre sous-provinces distincte : Opatica, Nemiscau, Opinaca et La Grande, selon leurs caractéristiques lithologiques, métamorphiques, géophysiques et structurales. La propriété se trouve dans la portion centrale de la sous-province volcano-plutonique de La Grande, près de la limite sud avec la sous-province Opinaca.

Le groupe principal de claims de la propriété est principalement constitué de roches appartenant au Groupe de Guyer, incluant des amphibolites, des formations ferrifères, des roches volcaniques intermédiaires à mafiques, de la péridotite, de la pyroxénite, de la komatiite et des tufs volcaniques felsiques. Plusieurs dykes gabbroïques d'échelle régionale datant du Protérozoïque, tels que les dykes de Lac Spirt et de Senneterre, traversent certaines portions de la propriété. Les pegmatites à lithium, notamment celles des secteurs CV5 et CV13, sont principalement encaissées dans des amphibolites, des métasédiments et des ultramafiques mineurs du Groupe de Guyer.

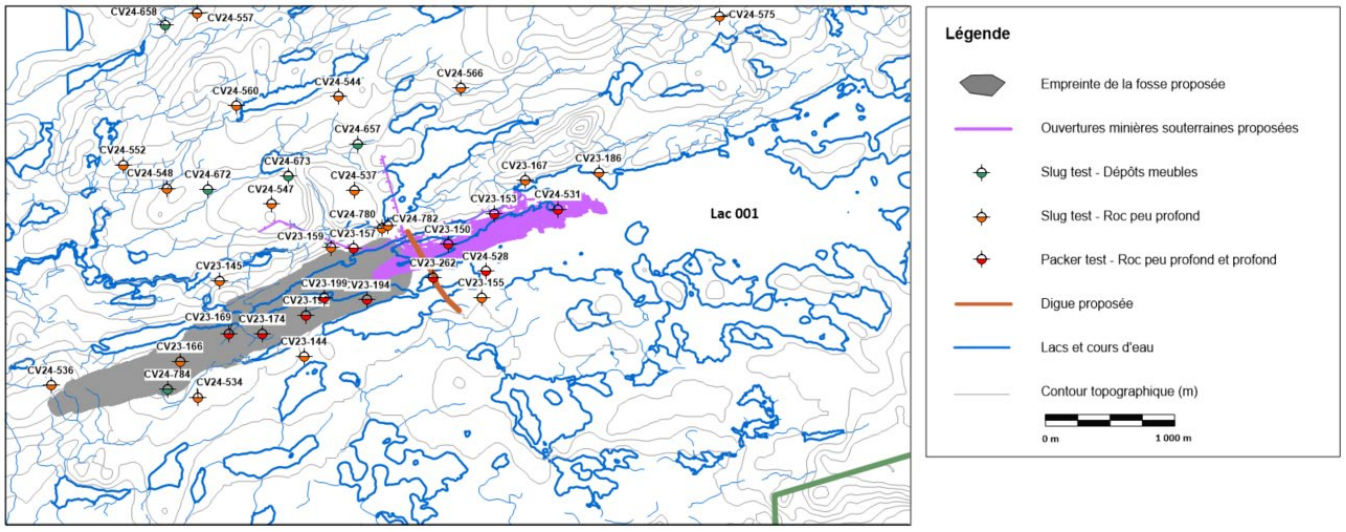
4.3.2 Roc peu profond

Le substratum rocheux peu profond est défini comme les 50 premiers mètres de roc sous le contact avec les dépôts meubles. BBA (2024) a réalisé 25 essais de type *slug test* dans des puits d'observation et des trous ouverts dans le substratum rocheux peu profond (tableau 2 et figure 8). Des valeurs de conductivité hydraulique comprises entre $4{,}3 \times 10^{-9}$ et $2{,}0 \times 10^{-6}$ m/s ont été mesurées dans les puits d'observation installés dans le substratum rocheux peu profond. La moyenne géométrique des valeurs obtenues lors des essais de perméabilité s'élève à $2{,}0 \times 10^{-7}$ m/s (n = 25)

Tableau 2 : Valeurs de conductivité hydraulique mesurées dans les puits d'observation et les trous ouverts installés dans le substratum rocheux peu profond (tiré de BBA, 2024).

Puits d'observation ou forage	Profondeur totale (m)	Conductivité hydraulique (m/s)
CV24-534	3,20 - 6,25	$8,5X10^{-8}$
CV24-536	4,80 - 5,99	$2,6X10^{-7}$
CV24-537	9,80 - 14,96	$4,3X10^{-9}$
CV24-544	9,80 - 14,95	$3,8X10^{-8}$
CV24-547	5,08 - 10,27	$6,1X10^{-7}$
CV24-548	8,42 - 14,84	$5,2X10^{-7}$
CV24-552	5,92 - 11,89	$1,3X10^{-7}$
CV24-553	2,00 - 5,64	$4,1X10^{-7}$
CV24-557	7,54 - 13,38	$7,3X10^{-7}$
CV24-560	1,60 - 4,67	$7,5X10^{-8}$
CV24-566	6,02 - 11,55	$4,0X10^{-7}$
CV24-569	6,92 - 12,78	$9,5X10^{-8}$
CV24-575	4,00 - 10,51	$6,8X10^{-7}$
CV24-588	13,0 -19,52	$3,1X10^{-7}$
CV24-594	2,70 - 7,93	$8,0X10^{-7}$
CV24-601	3,95 - 6,17	$6,6X10^{-7}$
CV24-608	6,05 - 13,29	$2,0X10^{-7}$
CV24-611	3,95 - 6,18	$3,4X10^{-7}$
CV24-624	5,76 - 12,5	$2,0X10^{-6}$
CV24-633	15,2 - 21,97	$1,4X10^{-8}$
CV24-640	16,72 -21,82	$3,4X10^{-8}$
CV24-780	2,18 - 9,12	$3,7X10^{-7}$
CV24-782	3,21 - 10,16	$2,6X10^{-7}$
CV23-167	5,0 – 25	$2,0X10^{-7}$
CV23-159	5,0 – 50	$4,6X10^{-7}$
CV23-145	5,0 – 50	$3,0X10^{-7}$
CV23-166	5,0 – 50	$1,2X10^{-7}$
CV23-144	5,0 – 25	$3,0X10^{-9}$
CV23-155	5,0 – 25	$2,8X10^{-6}$
CV23-186	5,0 – 50	$2,0X10^{-7}$

Figure 8 : Localisation des essais packers et des slug tests



4.3.3 Roc intermédiaire et profond

BBA (2025) a réalisé des profils d'essais avec obturateurs (packer test) dans 12 trous de forage, jusqu'à une profondeur maximale de 420 m sous la surface du sol. Un total de 54 essais a été effectué, et les résultats sont résumés au tableau 3.

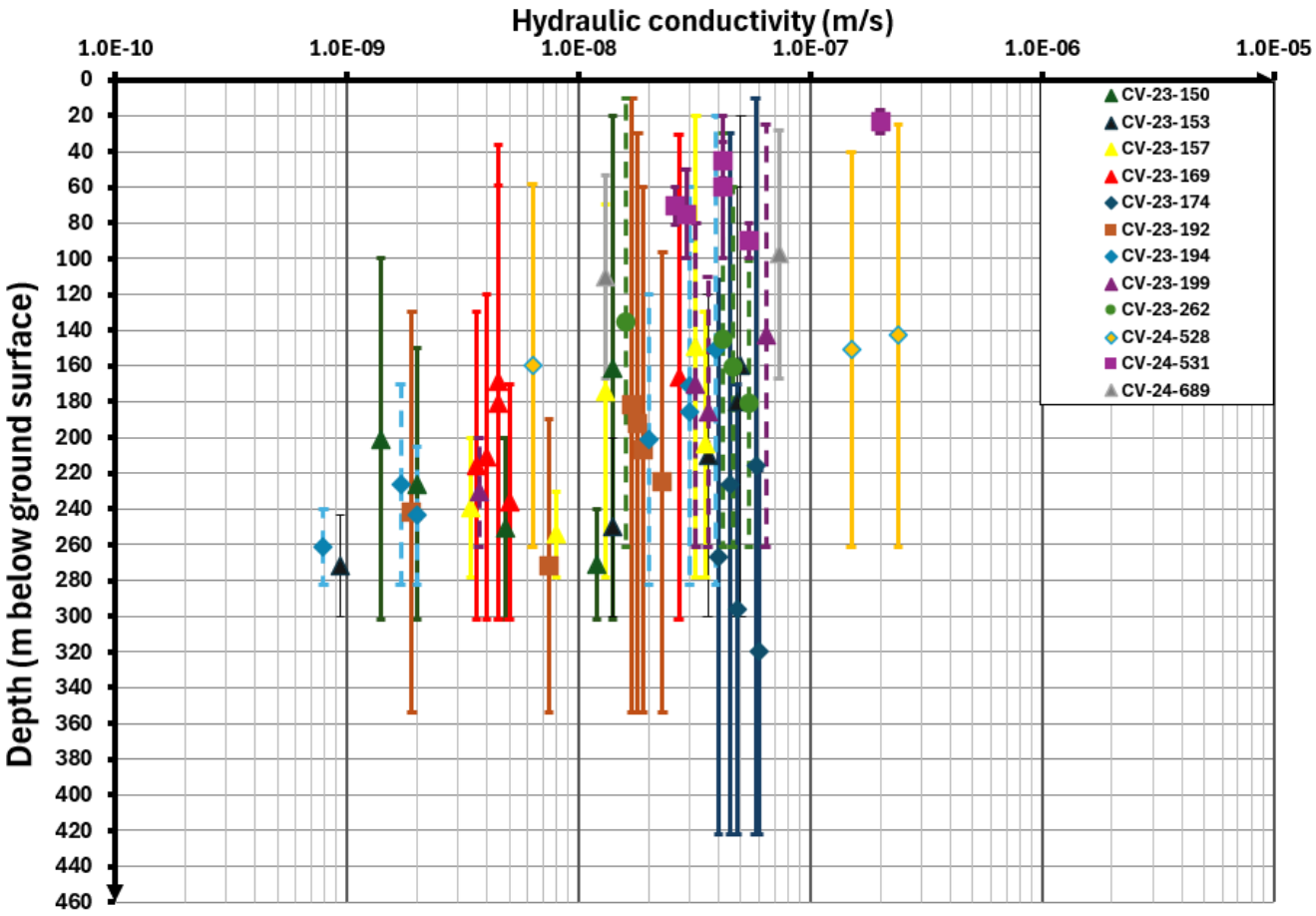
Tableau 3 : Résultats des essais packers (Extrait de BBA, 2024)

Forage	Intervalle (m)	Conductivité hydraulique (m/s)
CV-23-150	20 à 302	$1{,}4X10^{-8}$
CV-23-150	100 à 302	$1{,}4X10^{-9}$
CV-23-150	150 à 302	$2{,}0X10^{-9}$
CV-23-150	200 à 302	$4{,}8X10^{-9}$
CV-23-150	240 à 302	$1{,}2X10^{-8}$
CV-23-153	20 à 300	$5{,}0X10^{-8}$
CV-23-153	60 à 300	$4{,}8X10^{-8}$
CV-23-153	120 à 300	$3{,}6X10^{-8}$
CV-23-153	200 à 300	$1{,}4X10^{-8}$
CV-23-153	243 à 300	$9{,}3X10^{-10}$
CV-23-157	20 à 278	$3{,}4X10^{-8}$
CV-23-157	70 à 278	$2{,}8\ X10^{-8}$
CV-23-157	130 à 278	$3{,}5\ X10^{-8}$
CV-23-157	200 à 278	$4{,}6\ X10^{-9}$
CV-23-157	230 à 278	$5{,}0\ X10^{-9}$
CV-23-192	10 à 354	$1{,}8X10^{-8}$
CV-23-169	31 à 302	$2{,}7X10^{-8}$
CV-23-169	36 à 302	$4{,}5X10^{-9}$
CV-23-169	59 à 302	$4{,}5X10^{-9}$
CV-23-169	120 à 302	$4{,}0X10^{-9}$
CV-23-169	170 à 302	$5{,}0X10^{-9}$
CV-23-169	130 à 302	$3{,}6X10^{-9}$
CV-23-192	30 à 354	$1{,}7\ X10^{-8}$
CV-23-192	60 à 354	$1{,}8\ X10^{-8}$

CV-23-192	86 à 354	2,2 X10^{-8}
CV-23-192	130 à 354	1,9 X10^{-9}
CV-23-192	190 à 354	7,6 X10^{-9}
CV-23-194	20 à 282	3,9 X10^{-8}
CV-23-194	60 à 282	3,0 X10^{-8}
CV-23-194	90 à 282	3,0 X10^{-8}
CV-23-194	120 à 282	2,0 X10^{-8}
CV-23-194	170 à 282	1,7 X10^{-9}
CV-23-194	205 à 282	2,0 X10^{-9}
CV-23-194	240 à 282	7,9 X10^{-10}
CV-23-199	25 à 261	6,4 X10^{-8}
CV-23-199	80 à 261	3,2 X10^{-8}
CV-23-199	110 à 261	3,6 X10^{-8}
CV-23-199	200 à 261	3,7 X10^{-9}
CV-23-262	10 à 261	1,6 X10^{-8}
CV-23-262	30 à 261	4,2 X10^{-8}
CV-23-262	60 à 261	4,6 X10^{-8}
CV-23-262	101 à 261	5,4 X10^{-8}
CV-24-528	25 à 261	2,4 X10^{-7}
CV-24-528	40 à 261	1,5 X10^{-7}
CV-24-528	58 à 261	6,3 X10^{-9}
CV-24-531	16,86 à 30,07	2,0 X10^{-7}
CV-24-531	35 à 55	4,2 X10^{-8}
CV-24-531	60 à 80,7	2,6 X10^{-8}
CV-24-531	80 à 100	5,4 X10^{-8}
CV-24-531	50 à 100	2,9 X10^{-8}
CV-24-531	20 à 100	4,2 X10^{-8}
CV-24-689	28 à 167	7,3 X10^{-8}
CV-24-689	28 à 167	1,3 X10^{-8}

La figure 9 présente les résultats des essais packers en fonction de la profondeur. Il est constaté que les valeurs de conductivité hydraulique diminuent généralement avec la profondeur et demeurent faibles, se situant principalement dans l'ordre de grandeur de 10^{-8} à 10^{-9} m/s. La valeur la plus élevée mesurée est de $2,4 \times 10^{-7}$ m/s.

Figure 9 : Résultats des essais packers en fonction de la profondeur



Le tableau 4 présente les statistiques des essais packers par intervalle de profondeur. La moyenne géométrique de la conductivité hydraulique diminue avec la profondeur. Les moyennes géométriques pour les intervalles intermédiaires, soit entre 50–100 m et 100–150 m, sont respectivement de $2,0 \times 10^{-8}$ m/s et $1,3 \times 10^{-8}$ m/s. Pour les intervalles plus profonds, soit 150–200 m et 200 m et plus, les moyennes géométriques sont plus faibles, atteignant $4,8 \times 10^{-9}$ m/s dans les deux cas.

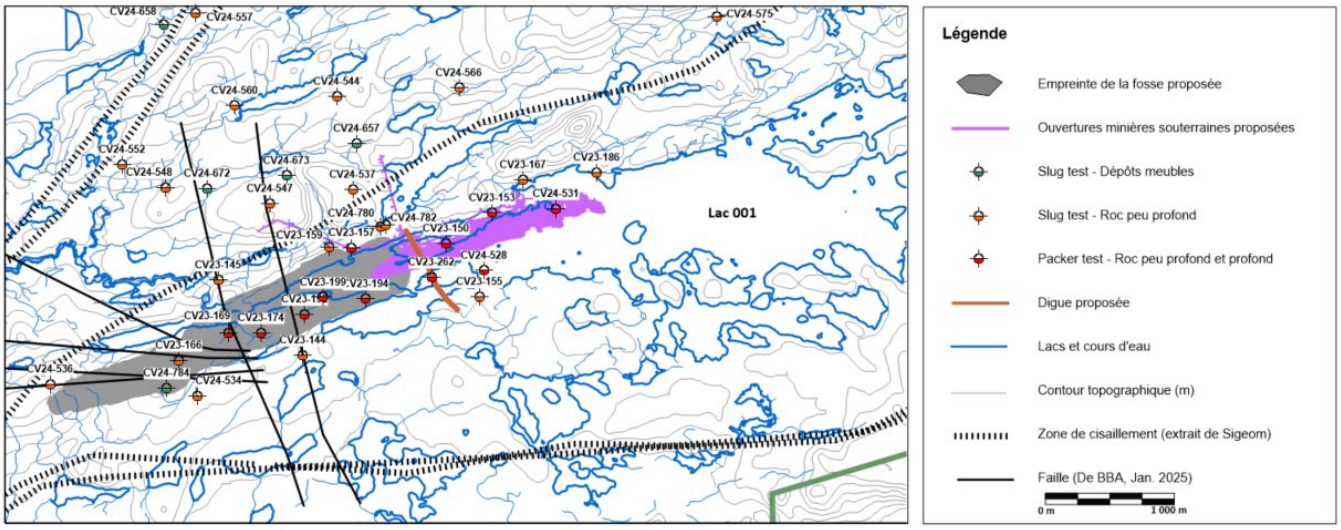
Tableau 4 : Statistiques des valeurs de conductivité hydraulique obtenues lors des essais packers

Intervalle (m)	Moyenne géométrique (m/s)	Valeur minimale (m/s)	Valeur maximale (m/s)	n
0-50 (peu profond)	$3,7 X10^{-8}$	$4,5 X10^{-9}$	$2,4 X10^{-7}$	19
50 – 100 (intermediaire)	$2,0 X10^{-8}$	$1,4 X10^{-9}$	$5,4 X10^{-8}$	14
100 -150 (intermediaire)	$1,3 X10^{-8}$	$1,9 X10^{-9}$	$5,4 X10^{-8}$	10
150 – 200 (profond)	$4,8 X10^{-9}$	$1,7 X10^{-9}$	$4,8 X10^{-8}$	5
200 et plus (profond)	$4,8 X10^{-9}$	$7,9 X10^{-10}$	$6,0 X10^{-8}$	6

4.3.4 Structures

En janvier 2025, BBA a identifié six failles verticales à proximité des fosses et des travaux souterrains. Le tracé de ces failles est présenté à la figure 10. Par ailleurs, trois zones de cisaillement ou failles ont été répertoriées dans la base de données SIGÉOM pour le secteur du projet, dont l'une est située au nord des fosses, comme illustré à la figure 10.

Figure 10 : Failles identifiées dans la zone à l'étude



Cinq essais hydrauliques ont été réalisés à proximité ou directement sur des failles interprétées (CV-23-144, CV-23-145, CV-23-166, CV-23-169 et C24-547). Tous ont révélé des valeurs de conductivité hydraulique faibles (≤ 10^{-7} m/s), en cohérence avec les observations effectuées sur l'ensemble du site. De plus, l'essai de pompage CV23-174, réalisé à l'emplacement d'une structure soupçonnée au moment des tests, a mis en évidence une faible perméabilité du substratum rocheux. Les résultats de cet essai de pompage sont présentés en détail à la section 4.4.

Les failles et zones de cisaillement illustrées à la figure 10 ont représentées dans le modèle en tant que fractures discrètes. Afin d'adopter une approche conservatrice, et ce malgré les résultats d'essais sur le terrain indiquant une faible perméabilité, une conductivité hydraulique équivalente à dix fois la valeur la plus élevée mesurée lors des essais avec obturateurs a été attribuée à ces structures. Par conséquent, une conductivité hydraulique de 2,4X10^{-6} m/s a été assignée aux failles représentées à la figure 10.

4.4 Essai de pompage

Un essai de pompage d'une durée de 6,5 jours a été réalisé par BBA en septembre 2024. Les données factuelles ainsi que l'interprétation de cet essai sont présentées en détail dans le rapport de BBA (2024).

Le forage CV24-696 a été utilisé comme puits de pompage (figure 11). Il s'agit d'un trou ouvert d'un diamètre de 15 cm et d'une profondeur de 100 m. Le débit de pompage a varié entre 26 et 40 L/min. Les niveaux d'eau souterraine ont été mesurés dans cinq forages, comme illustré à la figure 11.

Figure 11 : Localisation du puits de pompage et des puits d'observation

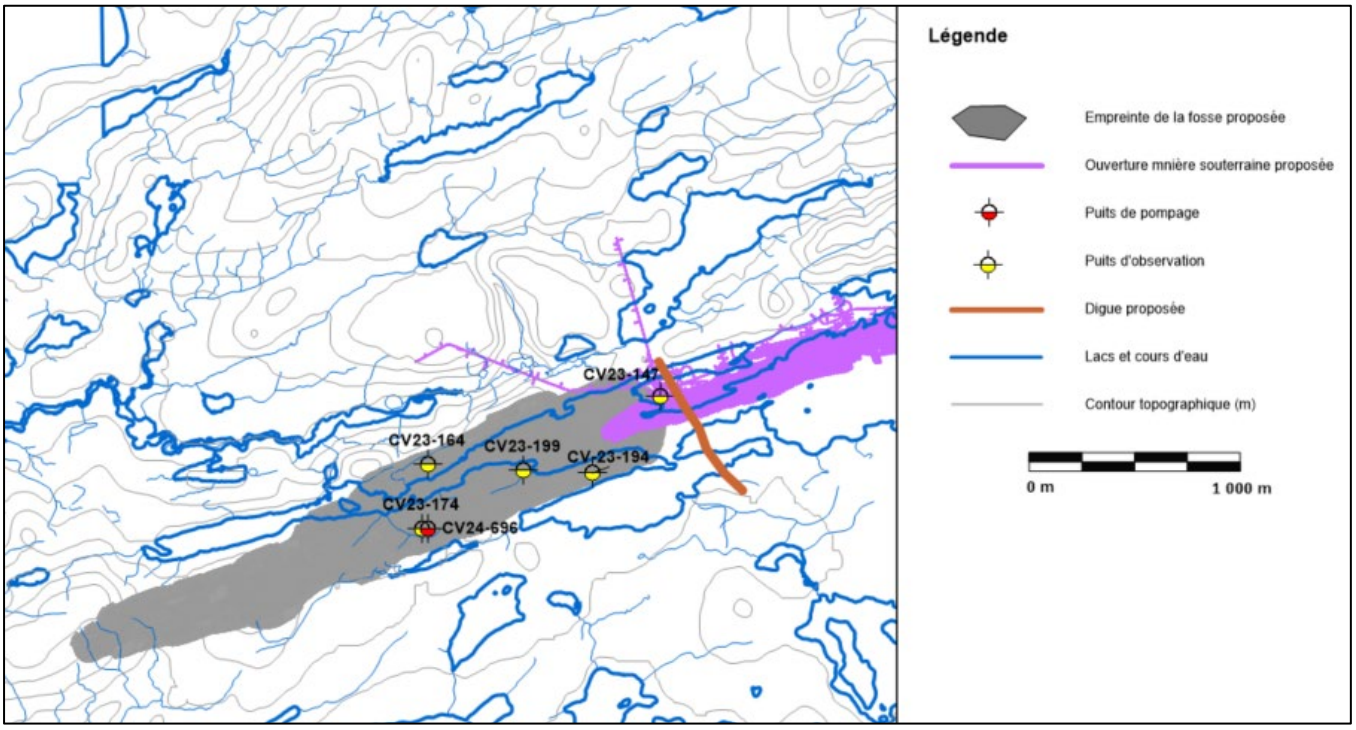


Figure 12 présente le rabattement du niveau d'eau souterraine enregistré au puits de pompage ainsi que le débit de pompage, tandis que la figure 13 illustre les mesures d'élévation de la nappe d'eau souterraine dans les puits d'observation. À la fin de l'essai, le rabattement au puits de pompage a atteint 76,45 m, avec l'apparition d'une limite négative (c'est-à-dire une augmentation du taux de rabattement) après 100 heures de pompage. Le pompage n'a eu un effet sur la nappe qu'au puits d'observation adjacent (CV23-174), où le rabattement mesuré est resté limité à seulement 0,3 m.

Le rabattement important observé au puits de pompage, malgré un débit moyen relativement faible de 30 L/min, combiné à un rayon d'influence limité et à la présence d'une limite négative, indique que la roche testée présente une faible perméabilité et un réseau de fractures peu développé. Les valeurs de transmissivité calculées par BBA (2024) à partir des données de l'essai de pompage varient entre 1,6 et 8,6 × 10^{-6} m²/s, tandis que la conductivité hydraulique est estimée entre 1,6 et 8,6 × 10^{-8} m/s, en considérant une profondeur de 100 m pour le puits de pompage.

Figure 12 : Rabattement aux puits de pompage CV24-696 et débit de pompage

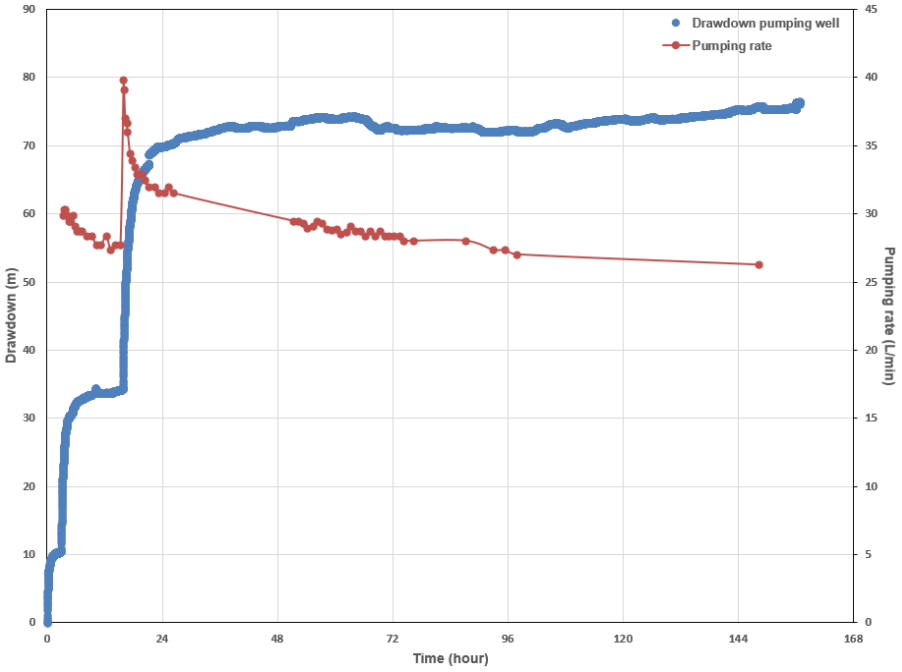
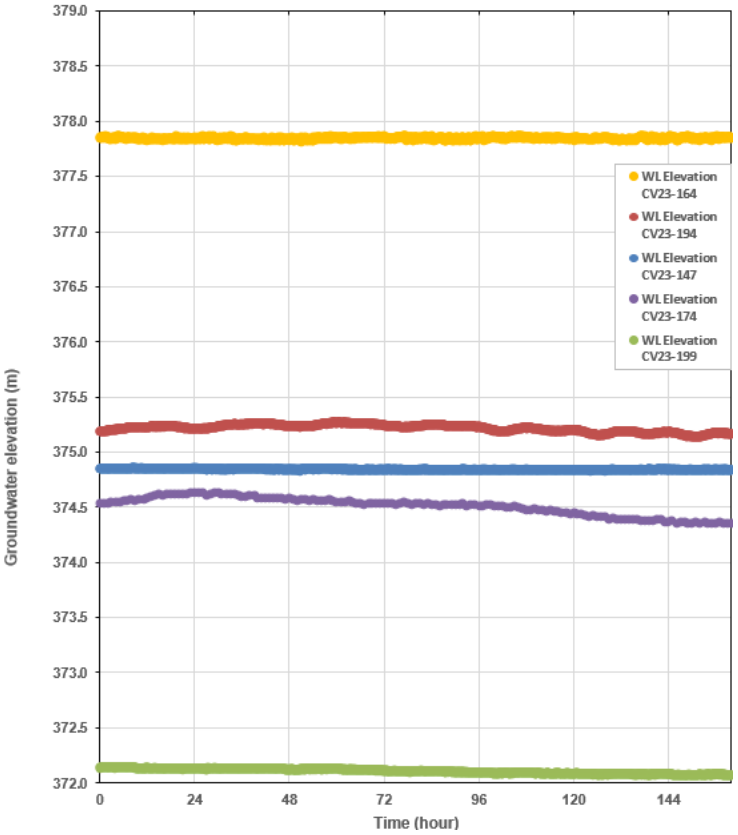


Figure 13 : Élévation de la nappe d'eau souterraine mesurée dans les puits d'observation durant l'essai de pompage

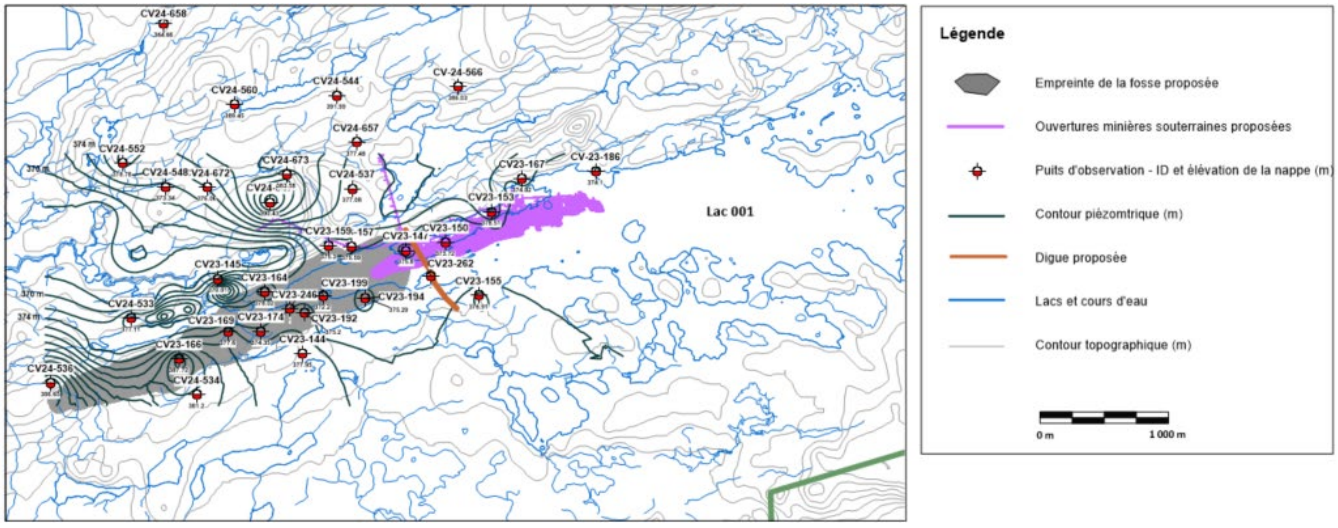


4.5 Conditions d'écoulement de l'eau souterraine

Entre juillet et octobre 2024, les niveaux d'eau souterraine ont été mesurés dans 20 puits d'observation et trous de forage d'exploration dans le secteur à l'étude. La profondeur jusqu'à la nappe d'eau souterraine varie de 0 à 8 mètres.

La figure 14 présente une carte piézométrique du secteur à l'étude. Les directions d'écoulement des eaux souterraines suivent la topographie et convergent vers le lac 001.

Figure 14 : Carte piézométrique du secteur à l'étude. Basée sur des mesures effectuées entre juillet et octobre 2024



4.6 Qualité de l'eau souterraine

BBA suit la qualité des eaux souterraines sur la propriété Shaakichiuwaanaan depuis 2023. La méthodologie détaillée ainsi que les résultats sont présentés dans le rapport de BBA (2024). Le tableau 5 résume les dépassements des critères de qualité des eaux souterraines établis par le MELCCFP. La qualité de l'eau souterraine en conditions de référence dépasse les critères de rejet dans les eaux de surface (RES) uniquement pour le cuivre, observé dans 2 des 23 puits échantillonnés.

Tableau 5 : Dépassements des critères de qualité des eaux souterraines du MELCCFP (en gris)

Paramètre	Critère de resurgence dans les eaux de surface (RES)
Arsenic	
Antimoine	
Cuivre	
Manganèse	
Molybdène	
Azote ammoniacale	
Sulfures	
Fluorures	

4. MODÉLISATION HYDROGÉOLOGIQUE

5.1 Approche

Le débit d'infiltration des eaux souterraines dans la fosse à ciel ouvert et la mine souterraine proposées a été évaluée à l'aide d'un modèle numérique 3D. Ce modèle, conçu pour représenter le système d'écoulement des eaux souterraines du site, repose sur le cadre conceptuel présenté dans les sections précédentes. Élaboré à l'aide du logiciel de simulation d'écoulement souterrain FEFLOW 8.0.4 (Finite Element Subsurface Flow System), développé par WASY Ltd (www.wasy.de), le modèle considère un milieu poreux équivalent pour représenter les dépôts meubles (milieu poreux) ainsi que la matrice rocheuse. Des fractures discrètes ont été intégrées afin de représenter les failles modélisées par BBA et celles documentées dans la base de données SIGÉOM.

Le modèle a été calibré en régime permanent afin de représenter les conditions actuelles d'écoulement des eaux souterraines, en comparant les niveaux d'eau simulés aux niveaux mesurés en 2024 ainsi que les débits d'étiage des cours d'eau calculé par WSP (2025) à partir de relevés de terrain. Les sections suivantes présentent la description du modèle hydrogéologique.

5.2 Maillage et paramètres

5.2.1 Maillage

Le domaine de modélisation couvre environ 8 km dans le sens nord-sud (figure 15) et 11 km dans le sens est-ouest, avec une épaisseur moyenne de 620 m. Il est centré sur l'emplacement du projet minier. Le maillage du domaine a été discrétisé en 518 520 éléments triangulaires répartis sur 11 couches. La taille des éléments triangulaires varie de 50 à 100 m, les plus petits étant concentrés dans les zones correspondant à l'empreinte de la fosse et aux travaux souterrains projetés. Ce raffinement local du maillage améliore la précision numérique et la stabilité dans les régions où des variations importantes du niveau piézométrique sont anticipées, tout en offrant la flexibilité nécessaire pour l'attribution des conditions aux limites. Des éléments de plus grande taille ont été utilisés dans les autres secteurs du modèle, plus éloignés des zones minières projetées et de leurs abords immédiats.

Les données topographiques ont été obtenues à partir du levé LiDAR fourni par Patriot Battery Metals. La figure 16 présente une coupe nord-sud des unités hydrostratigraphiques modélisées dans le secteur de la fosse à ciel ouvert projetée. Les couches 1 et 2 correspondent respectivement aux unités hydrostratigraphiques des dépôts meubles et du roc peu profond. L'épaisseur de la couche 1 a été déterminée à partir des données d'interpolation de l'épaisseur des dépôts de surface, tandis que celle de la couche 2 a été fixée à 50 m. Au-delà de cette profondeur, les résultats des essais packers indiquent une tendance à la baisse de la conductivité hydraulique du roc. Les couches 3 à 5 représentent l'unité de roc intermédiaire, alors que les couches 6 à 11 correspondent à l'unité de roc profond.

Figure 15 : Maillage d'éléments finis et conditions limites

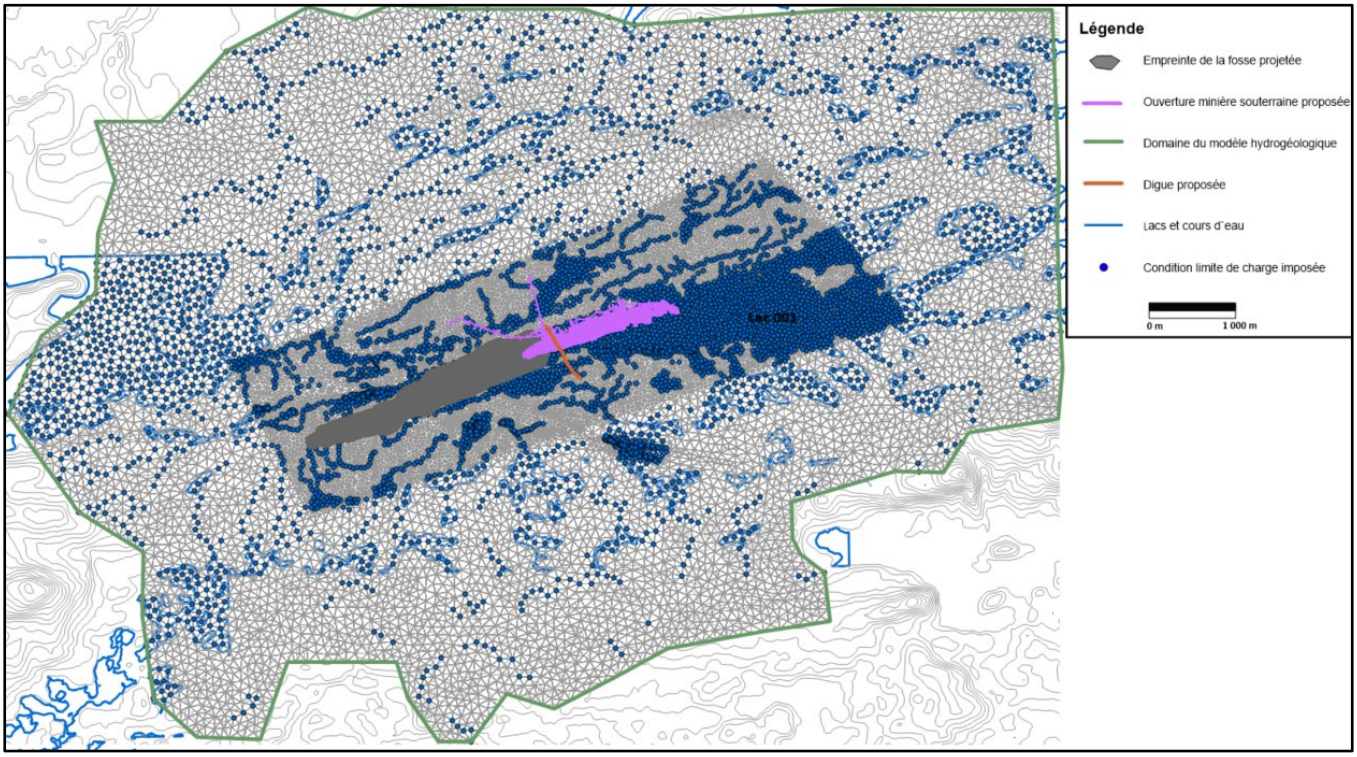
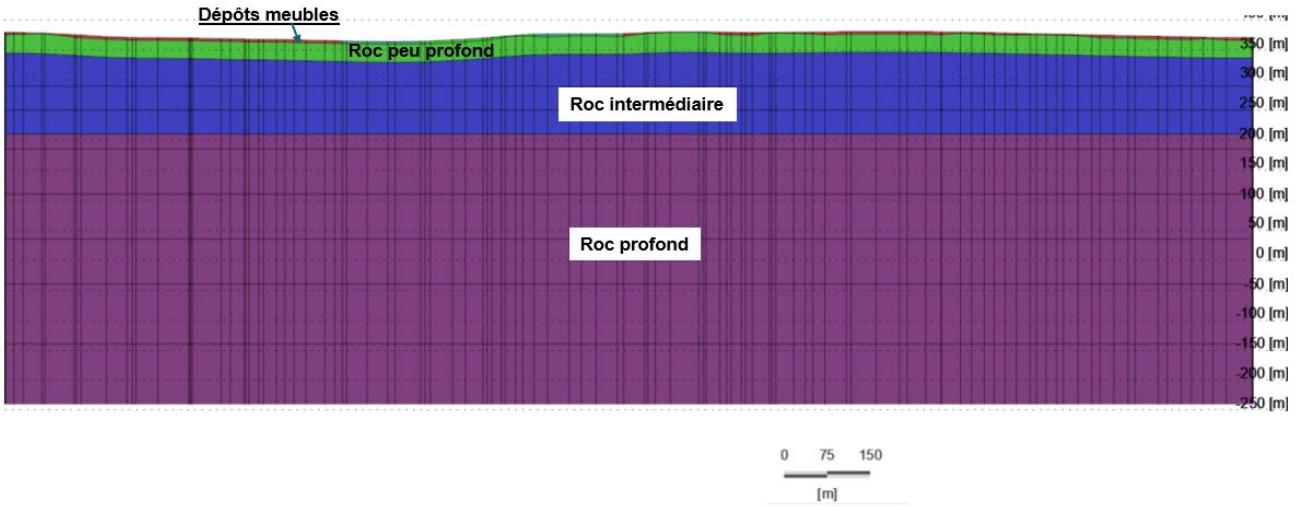


Figure 16 : Vue en coupe nord-sud du maillage par éléments finis dans le secteur de l'empreinte de la fosse à ciel ouvert projetée.



5.2.2 Paramètres

Le tableau 6 présente les paramètres hydrauliques attribués aux unités hydrostratigraphiques pour le cas de base calibré. Ces paramètres incluent la conductivité hydraulique horizontale et verticale, la capacité spécifique d'emmagasinement et la porosité de drainage.

La valeur de conductivité hydraulique horizontale attribuée aux dépôts meubles est de $7{,}5 \times 10^{-6}$ m/s, représentant une valeur intermédiaire dans l'intervalle des mesures. Afin de tenir compte des sédiments de fond de lac composés de limon et d'argile, une conductivité hydraulique de 1×10^{-7} m/s a été appliquée à la première couche du modèle sous les lacs. Cette valeur estimée est représentative de ce type de matériaux.

Les valeurs de conductivité hydraulique du roc ont été attribuées en fonction de la profondeur, sur la base des résultats d'essais packers, d'essais de type slug et d'essais de pompage. Une conductivité hydraulique de $2{,}5 \times 10^{-7}$ m/s a été assignée au roc peu profond (0–50 m à partir du contact avec les dépôts meubles), tandis que le roc intermédiaire (50–150 m) a une valeur de 2×10^{-8} m/s. Pour le roc profond (150 m et plus), une conductivité hydraulique de 6×10^{-9} m/s a été appliquée. Ces valeurs se situent dans l'intervalle des mesures présentées aux sections 4.3.2 et 4.3.3. De plus, une conductivité hydraulique de $2{,}4 \times 10^{-6}$ m/s a été attribuée à toutes les zones de faille identifiées sur le site, soit un ordre de grandeur supérieur à la valeur maximale mesurée lors des essais packers. Cette approche prudente a été adoptée en raison du fait que toutes les zones de faille du site n'ont pas été testées, assurant ainsi une estimation prudente des infiltrations d'eau souterraine vers les ouvertures minières.

Les valeurs typiques de capacité spécifique d'emmagasinement et de porosité de drainage représentatives de ces différentes unités ont été obtenues à partir de la littérature (Todd, 1980 ; Anderson et Woessner, 1991).

Tableau 6 : Paramètres hydrauliques attribués au modèle d'écoulement des eaux souterraines

Unité hydrostratigraphique	Conductivité hydraulique horizontale (Kh m/s)	Conductivité hydraulique verticale (Kv m/s)	Emmagasinement spécifique (1/m)	Porosité de drainage
Sédiments de fond de lac	$1{,}0X10^{-7}$	$1{,}0X10^{-7}$	$1{,}0X10^{-4}$	0,1
Dépôts meubles	$7{,}5X10^{-6}$	$7{,}5X10^{-6}$	$1{,}0X10^{-5}$	0,2
Roc eu profond (intervalle 0-50 m)	$2{,}5X10^{-7}$	$2{,}5X10^{-7}$	$2{,}5X10^{-7}$	0,01
Roc intermédiaire (intervalle 50-150 m)	$2{,}0X10^{-8}$	$2{,}0X10^{-8}$	$5{,}0X10^{-6}$	0,01
Roc profond (150 m et plus bas)	$6{,}0X10^{-9}$	$6{,}0X10^{-9}$	$5{,}0X10^{-6}$	0,01
Failles	$2{,}4X10^{-6}$	$2{,}4X10^{-6}$	$5{,}0X10^{-6}$	0,01

5.2.3 Conditions limites

Recharge

Le taux annuel potentiel de recharge des eaux souterraines pour l'ensemble du secteur a été estimé en fonction de facteurs tels que la pente, les caractéristiques des dépôts meubles et les normales climatiques présentées à la section 3.2, selon l'étude de base hydrologique réalisée par Atkins Réalis (2025), en utilisant la relation suivante

Recharge = Precipitations – Ruissellement –Evapotranspiration réelle

La précipitation annuelle totale est de 772 mm. Le ruissellement, estimé à 13 %, a été calculé à l'aide d'une formule basée sur l'approche décrite dans le *Manuel de conception des ponceaux* (MTQ, 2004), qui attribue des coefficients de ruissellement selon la texture des sols et les applique aux précipitations pour déterminer la composante de ruissellement du bilan hydrique. L'évapotranspiration réelle annuelle moyenne a été déterminée à l'aide de la formule de Thornthwaite, donnant un résultat de 416 mm/an. La recharge annuelle a été estimée à 255 mm/an.

Lacs et cours d'eau

Les lacs, rivières et ruisseaux ont été définis comme des conditions aux limites à charge constante (figure 14). La valeur attribuée à la condition aux limites correspond à l'altitude du sol au nœud représentant le lac, les ruisseaux ou la rivière. L'altitude du Lac 001 a été fixée à 373 m (Atkins Réalis, 2025a).

Limites à flux nul

La base du modèle ainsi que les limites nord et sud ont été définis comme des conditions aux limites à flux nul. Les limites est et ouest correspondent aux lignes de partage des eaux.

Ouvertures minières

La géométrie de la fosse et les travaux de la mine souterraine utilisés dans le modèle pour les simulations prédictives sont basés sur un fichier DXF 3D fourni par GMining en avril 2025. Des conditions aux limites de type

seepage nodes ont été attribuées aux nœuds situés dans le polygone de la fosse à ciel ouvert proposée et dans la mine souterraine afin de tenir compte de l'entrée d'eau souterraine dans ces infrastructures.

5.3 Calibration

Le modèle a été calibré afin de reproduire les mesures piézométriques enregistrées en conditions statiques dans l'ensemble des piézomètres lors de la campagne de 2024 (BBA, 2024). Dans un premier temps, la conductivité hydraulique de chaque unité a été ajustée tout en veillant à ce qu'elle demeure dans l'intervalle des valeurs mesurées sur le terrain. La recharge a ensuite été affinée afin d'améliorer davantage la calibration. Celle-ci a été jugée satisfaisante lorsque les écarts entre les données mesurées et calculées ne pouvaient plus être réduits sans introduire des conditions aux limites dépourvues de justification physique ou interprétative

La figure 17 et le tableau 7 illustrent la corrélation entre les niveaux d'eau souterraine mesurés et ceux calculés par le modèle pour les piézomètres du site. On observe, à partir du graphique ci-dessous, qu'en conditions statiques, les niveaux simulés sont légèrement supérieurs aux niveaux mesurés, avec une erreur moyenne de -0,5 m. Néanmoins, la racine carrée moyenne normalisée (NRMS) de 6,1 % indique que le modèle représente adéquatement les conditions d'écoulement des eaux souterraines. Les statistiques de calibration sont présentées au tableau 8.

Il est normal d'observer des écarts entre les niveaux d'eau souterraine calculés par le modèle et ceux mesurés sur le terrain, puisque le système géologique réel est beaucoup plus complexe que l'idéalisation représentée par le modèle.

Figure 17 : Corrélation entre les niveaux d'eau calculés et les niveaux mesurés en conditions statiques

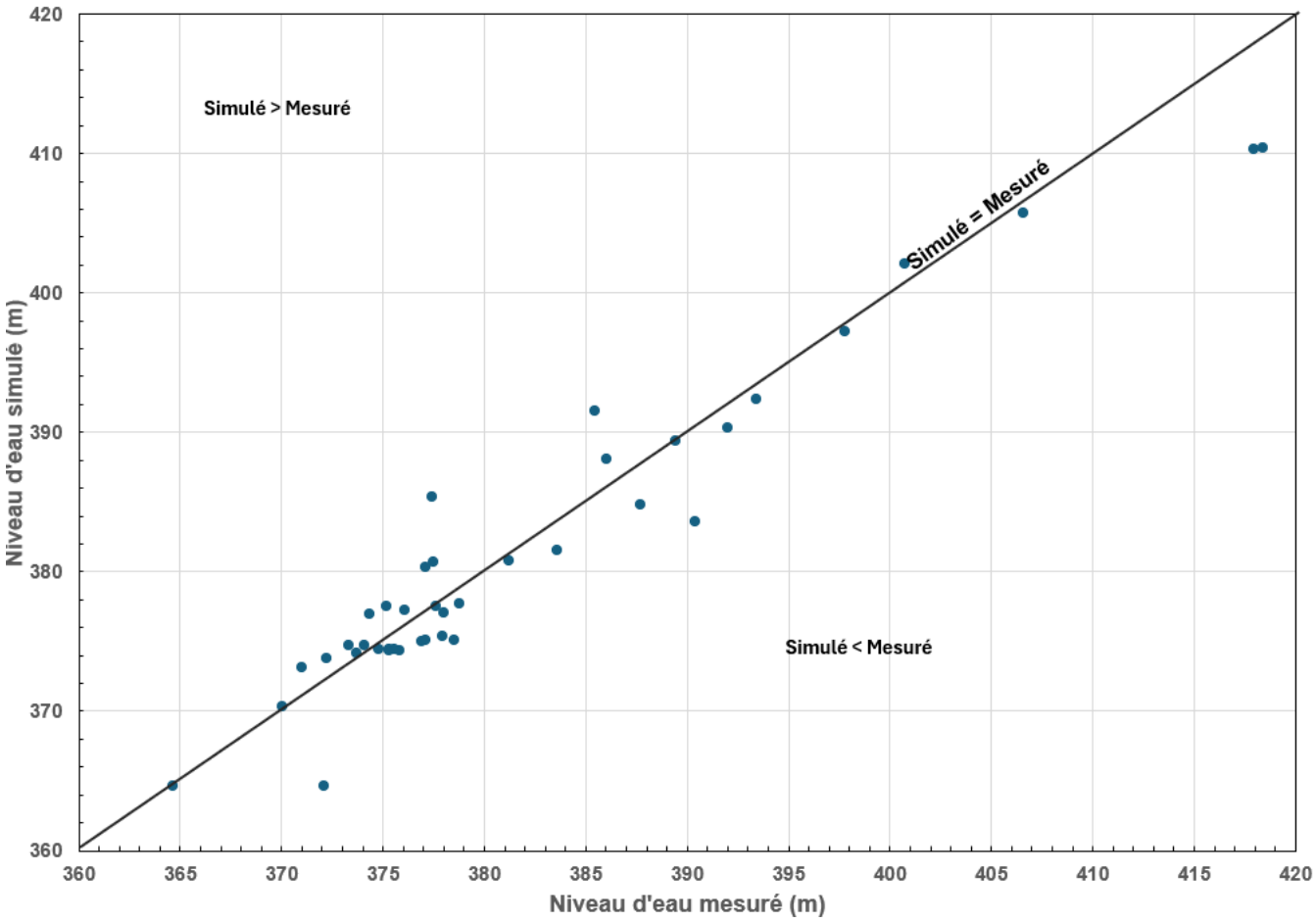


Tableau 7 : Niveaux d'eau calculés et mesurés dans les piézomètres

Puits d'observation	Niveau d'eau mesuré (m)	Niveau d'eau simulé (m)	Puits d'observation	Niveau d'eau mesuré (m)	Niveau d'eau simulé (m)
CV23-153	378,51	375,11	CV24-536	377,4	385,33
CV23-150	373,72	374,19	CV24-537	377,08	380,30
CV23-147	375,80	374,39	CV24-544	391,99	390,33
CV23-194	375,29	374,45	CV24-547	390,43	383,59
CV23-199	372,20	373,80	CV24-548	373,34	374,74
CV23-192	375,20	377,53	CV24-552	378,78	377,74
CV23-174	374,35	376,99	CV24-553	372,08	364,64
CV23-169	377,60	376,97	CV24-557	371,03	373,17
CV23-164	378,02	377,49	CV24-560	389,45	389,34
CV23-157	375,59	377,03	CV-24-566	386,03	388,10
CV23-167	374,82	374,44	CV24-569	393,43	392,38
CV23-159	375,3	374,38	CV24-575	400,77	402,05
CV23-145	370,01	370,30	CV24-588	406,58	405,69
CV23-166	387,72	384,78	CV24-594	397,76	397,24
CV23-144	377,95	375,41	CV24-601	385,48	391,56
CV23-155	376,91	374,98	CV24-640	417,93	410,31
CV-23-186	374,1	374,70	CV24-640A	418,42	410,34
CV24-533	377,11	375,13	CV24-657	377,48	380,70
CV24-534	381,2	380,75	CV24-658	364,66	364,67
CV24-673	383,58	381,49	CV24-672	376,06	377,26

Tableau 8 : Statistiques de calibration

Statistics	Value
Erreur absolue	-0,50 m
Erreur moyenne absolue	2,32 m
Erreur quadratique normalisée (RMS)	3,26 m
RMS normalisé	6,1 %

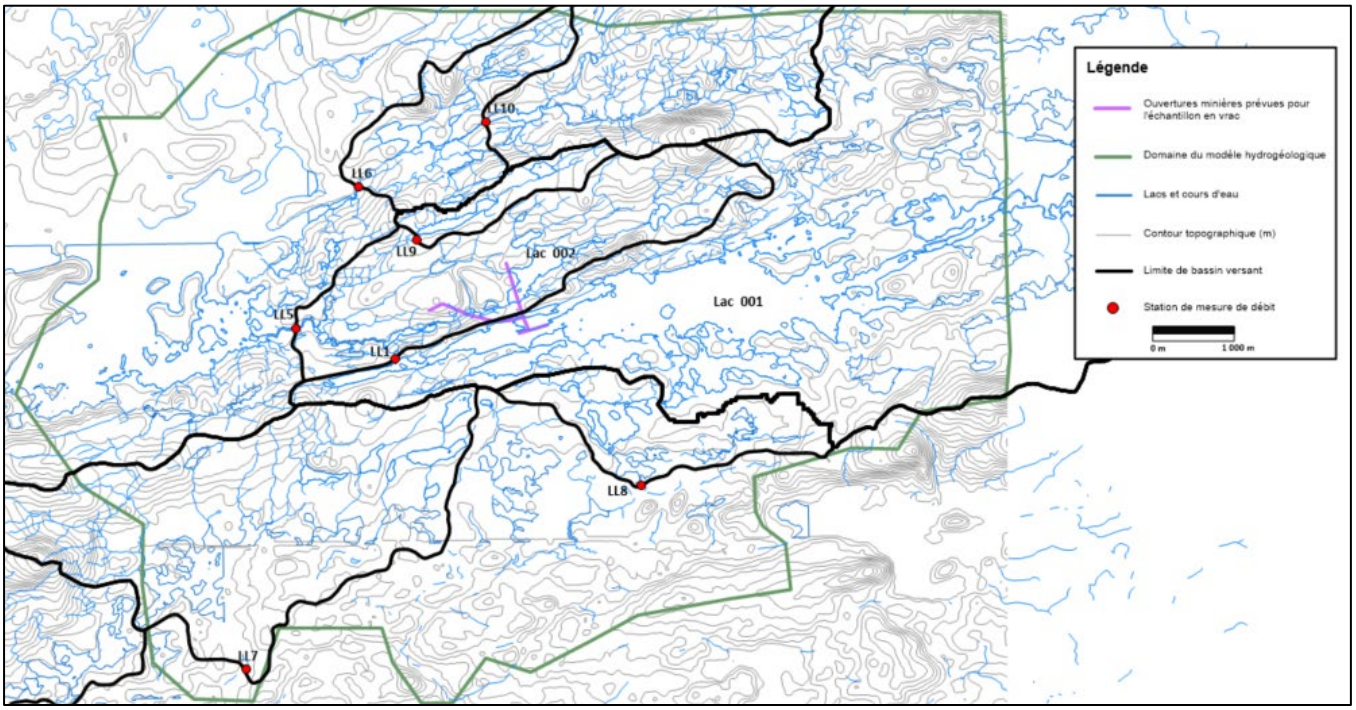
Les débits de base des lacs et des ruisseaux présents sur le site ont été vérifiés et comparés aux données de terrain obtenues pour des périodes de retour de 2 et 5 ans, telles que définies par WSP (2025). Le tableau 9 présente une comparaison entre les apports en eau souterraine simulés (débits de base) vers les plans d'eau et les débits d'étiage annuel et estival calculés par WSP (2025) pour ces mêmes périodes de récurrence. Les valeurs indiquées au tableau 9 sont exprimées en débit par hectare, normalisées en fonction de la superficie du bassin versant, puisque le domaine couvert par le modèle hydrogéologique ne correspond pas à l'intégralité de certains bassins versants, notamment celui du Lac 001.

De manière générale, les apports en eau souterraine simulés vers les lacs et les ruisseaux sont comparables aux plages de valeurs des débits d'étiage calculés.

Tableau 9 : Comparaison entre les débits d'étiage mesurés normalisés par la superficie du bassin versant (WSP, 2025) et les débits de base simulés aux exutoires des lacs du secteur

Station de mesure	Superficie du bassin versant (km^2)	Débit de base simulé normalisé (m^3/j/ha)	Q2-7 normalisé mesuré (m^3/j/ha)	Q10-7 normalisé mesuré (m^3/j/ha)	Q5-30 normalisé mesuré (m^3/j/ha)
LL1 (Lac 01 + cours d'eau amont)	108	1,97	2,50	1,35	1,94
LL5 (Lac 05 + cours d'eau amont)	116	1,97	2,50	1,35	1,94
LL6 (Lac 06 + cours d'eau amont)	12,2	1,62	1,42	0,71	0,92
LL7 (Lac 07 + cours d'eau amont)	11,9	1,40	1,45	0,83	0,94
LL8-B (Lac 08 + cours d'eau amont)	1,63	2,09	1,59	0,53	1,06
LL9 (Lac 09 + cours d'eau amont)	1,01	0	1,71	0,86	0,86

Figure 18 : Limites de bassin versant et station de mesure de débit des cours d'eau (WSP 2025)



5.4 Analyse de sensibilité

Cette section vise à fournir des informations supplémentaires sur les simulations réalisées dans le cadre du processus itératif de calibration du modèle d'écoulement des eaux souterraines. Les résultats sont présentés sous forme d'une analyse de sensibilité des paramètres de conductivité hydraulique du roc et des dépôts meubles, ainsi que de la recharge (tableau 10).

Les résultats de l'analyse de sensibilité réalisée à l'aide du modèle représentant les conditions actuelles sont présentés au tableau 11. Cette analyse démontre que le modèle est sensible aux variations de la conductivité hydraulique du roc encaissante. Parmi les simulations effectuées, l'analyse de sensibilité confirme que l'ensemble de paramètres du modèle calibré offre la meilleure concordance entre les taux d'infiltration mesurés dans la mine et les niveaux d'eau souterraine enregistrés dans les piézomètres du site.

Le scénario de sensibilité 6 a été élaboré afin d'évaluer l'impact des changements climatiques sur les résultats du modèle. Selon le profil climatique préparé par Ouranos, les précipitations annuelles moyennes pourraient augmenter jusqu'à 12 % d'ici 2060 par rapport à la moyenne actuelle. Pour tenir compte de cet impact potentiel, les taux de recharge ont été augmentés de 20 % dans ce scénario, afin d'observer un effet notable sur les résultats du modèle. Les résultats des scénarios de sensibilité 6 et 7 indiquent que les variations des taux de recharge ont un impact limité sur les sorties du modèle.

Tableau 10 : Paramètres considérées lors de l'analyse de sensibilité

Simulation	Paramètres modifiées
Sensibilité 1	K roc encaissant X 5
Sensibilité 2	K roc encaissant X 2
Sensibilité 3	K roc encaissant / 5
Sensibilité 4	K failles X5
Sensibilité 5	K failles /5
Sensibilité 6	Recharge X 20%
Sensibilité 7	Recharge / 20%
Sensibilité 8	K dépôts meubles X 5
Sensibilité 9	K dépôts meubles / 5
Sensibilité 10	K sediments de fond de lac X5

Tableau 11 : Résultats de l'analyse de sensibilité

Simulation	RMS normalisé (%)	Erreur moyenne (m)
Modèle calibré	6,1	-0,50
Sensibilité 1	9,2	-2,12
Sensibilité 2	6,9	-1,03
Sensibilité 3	5,7	0,11
Sensibilité 4	6,0	-0,51
Sensibilité 5	6,1	-0,45
Sensibilité 6	5,8	-0,18
Sensibilité 7	6,5	-0,83
Sensibilité 8	11,2	-2,73
Sensibilité 9	6,2	0,48
Sensibilité 10	6,1	-0,51

4.5 Infiltration d'eau souterraines dans la fosse et la mine souterraine

Des simulations prédictives ont été réalisées afin d'estimer le taux d'infiltration des eaux souterraines dans la fosse à ciel ouvert et la mine souterraine proposées. Les débits présentés dans cette section correspondent à l'infiltration gravitaire des eaux souterraines dans ces ouvertures minières, lesquelles ont été définies à partir d'un fichier DXF fourni en avril 2025.

L'évaluation de l'infiltration des eaux souterraines a été réalisée selon five scénarios:

- **Cas de base**, qui intègre les paramètres calibrés présentés à la section 5.2.2. Les résultats de cette simulation sont considérés comme prudents et les plus appropriés pour la planification de la gestion de l'eau.
- **Simulation de sensibilité 1**: Ne tient pas compte d'une augmentation de la conductivité hydraulique verticale du pilier de surface.
- **Simulation de sensibilité 2**: Sans les failles.
- **Simulation de sensibilité 3**: Dans lequel les taux de recharge ont été augmentés de 20 % afin de représenter cet impact potentiel et d'évaluer son effet sur les résultats du modèle.
- **Simulation de sensibilité 4**: Inclusion d'une faille verticale hypothétique traversant le pilier de surface jusqu'au lac, en conservant les mêmes propriétés que les autres failles prises en compte dans le modèle.

Le tableau 12 présente les résultats du calcul du débit d'infiltration des eaux souterraines dans la fosse proposée et la mine souterraine à différentes périodes. L'infiltration des eaux souterraines dans la fosse augmente progressivement au fil du temps, atteignant 3 200 m³/jour à la fin du projet en 2049. Une tendance similaire est observée pour la mine souterraine, où l'infiltration atteint 4 900 m³/jour en 2049.

Le tableau 13 présente les résultats d'infiltration des eaux souterraines issus de l'analyse de sensibilité. Dans la Simulation de Sensibilité 1, en supposant que la conductivité hydraulique verticale du pilier de surface est équivalente à celle de la roche encaissante environnante, l'infiltration des eaux souterraines dans la mine souterraine diminue de 1 500 m³/jour par rapport au scénario de base. Cela confirme que l'hypothèse d'une augmentation par un facteur 10 de la conductivité hydraulique verticale du pilier de surface dans le scénario de base, s'étendant jusqu'au contact entre la roche mère et les dépôts meubles, constitue une estimation conservatrice.

Dans la Simulation de Sensibilité 2, en supposant que les failles sont hydrauliquement actives dans le modèle, l'infiltration des eaux souterraines dans la fosse diminue à 1 600 m³/jour en 2049 par rapport au scénario de base. Cela confirme que l'hypothèse d'une conductivité hydraulique des failles dix fois supérieure à la valeur la plus élevée mesurée lors des essais au packer constitue une hypothèse conservatrice.

La Simulation de Sensibilité 3, dans laquelle les taux de recharge ont été augmentés de 20 % afin de tenir compte de cet impact potentiel et d'évaluer son effet sur les résultats du modèle, n'indique pas une augmentation significative de l'infiltration des eaux souterraines dans la fosse et les ouvertures minières souterraines.

Enfin, la Simulation de Sensibilité 4 montre que l'inclusion d'une faille verticale traversant le pilier de recouvrement, en conservant les mêmes propriétés que les autres failles prises en compte dans le modèle, entraîne une augmentation de l'infiltration des eaux souterraines dans les ouvertures minières souterraines de 900 m³/jour en 2049.

Tableau 12 : Calcul des infiltrations d'eau souterraines – Cas de base

Année	Infiltration d'eau souterraine dans la fosse (m^3/jour)	Infiltration d'eau souterraine dans la mine souterraine (m^3/jour)
2032	1 200	2 600
2036	1 800	3 200
2040	2 600	4 300
2044	2 900	4 600
2049	3 200	4 900

Tableau 13 : Calcul des infiltrations d'eau souterraines – Analyse de sensibilité

	Infiltration d'eau souterraine dans la fosse (m^3/jour) – année 2049	Infiltration d'eau souterraine dans la mine souterraine (m^3/jour) – année 2049
Cas de base	3 200	4 900
Sensibilité 1	3 300	3 400
Sensibilité 2	1 600	4 500
Sensibilité 3	3 400	5 000
Sensibilité 4	3 200	5 800

5.6 Rabattement de la nappe d'eau souterraine et réduction du débit des cours d'eau

La figure 19 illustre les courbes simulées de rabattement de la nappe d'eau souterraine au contact du roc, à la fin de la période d'exploitation de la fosse et de la mine souterraine en 2049. Les contours de rabattement supérieur à 1 m s'étendent sur 1 300 m vers le sud-est de l'empreinte e la fosse, 1 100 m vers le nord-ouest et vers le sud-est de l'empreinte de la fosse. Les lacs 001, L2, L3, L5, L7, L9, L10, L12, L61, L72, L39, L40, L516, L517, L522 et L523 sont situés à l'intérieur de la zone de rabattement de la nappe d'eau souterraine.

Le modèle numérique a permis d'estimer la diminution potentielle du débit de base des lacs attribuable au rabattement de la nappe d'eau souterraine, tel qu'illustré au tableau 14. Le débit de base correspond aux apports en eau souterraine vers un cours d'eau. Les pourcentages de réduction ont été évalués en fonction des débits de base initiaux ainsi que du débit moyen annuel, selon les conditions simulées à la fin du projet minier (2049).

Pour les lacs situés au nord de la fosse projetée, la réduction du débit moyen se situe entre 0,7 % et 5,7 %. Les lacs dont le bassin versant est de grande superficie (Lacs 01, 7 et 10) présentent une baisse potentielle du débit

de base estimée à 10,3 %, 12,2 % et 12,4 % respectivement. En revanche, les lacs avec un bassin versant plus restreint (Lacs 2, 3, 5, 9, 12 et 61) affichent une diminution potentielle du débit de base allant de 29,1 % à 76,7 %. La diminution du débit de base pour le lac 9, dont le bassin versant est particulièrement petit, pourrait atteindre 100 %.

La diminution potentielle du débit des lacs situés au sud de la fosse projetée (L39, 40, 516, 517, 522 et 523) est plus marquée, car il s'agit de lacs de tête localisés à l'extrémité amont du bassin versant de la station de jaugeage LL7, à l'exception du lac 40, qui appartient au bassin versant adjacent. La réduction estimée du débit moyen pour ces lacs varie entre 8,1 % et 19,2 %, tandis que celle du débit de base se situe entre 82,4 % et 100 %.

Pour analyser les effets potentiels du rabattement de la nappe d'eau souterraine sur les lacs, il faut mettre en perspective la composante eau souterraine par rapport aux autres éléments du bilan hydrologique d'un lac. L'ampleur des effets du rabattement de la nappe sur les lacs dépend de l'importance relative des infiltrations d'eau souterraine par rapport aux autres composantes du bilan hydrologique. Par exemple, les effets du rabattement de la nappe d'eau souterraine sur un lac en condition naturelle pourraient être peu significatifs si le débit d'infiltration d'eau souterraine vers le lac est minime par rapport aux apports en eau de ruissellement et en eau de précipitation directe.

Figure 19 : Zone de rabattement de la nappe d'eau souterraine au toit du roc à la fin du projet minier - 2049

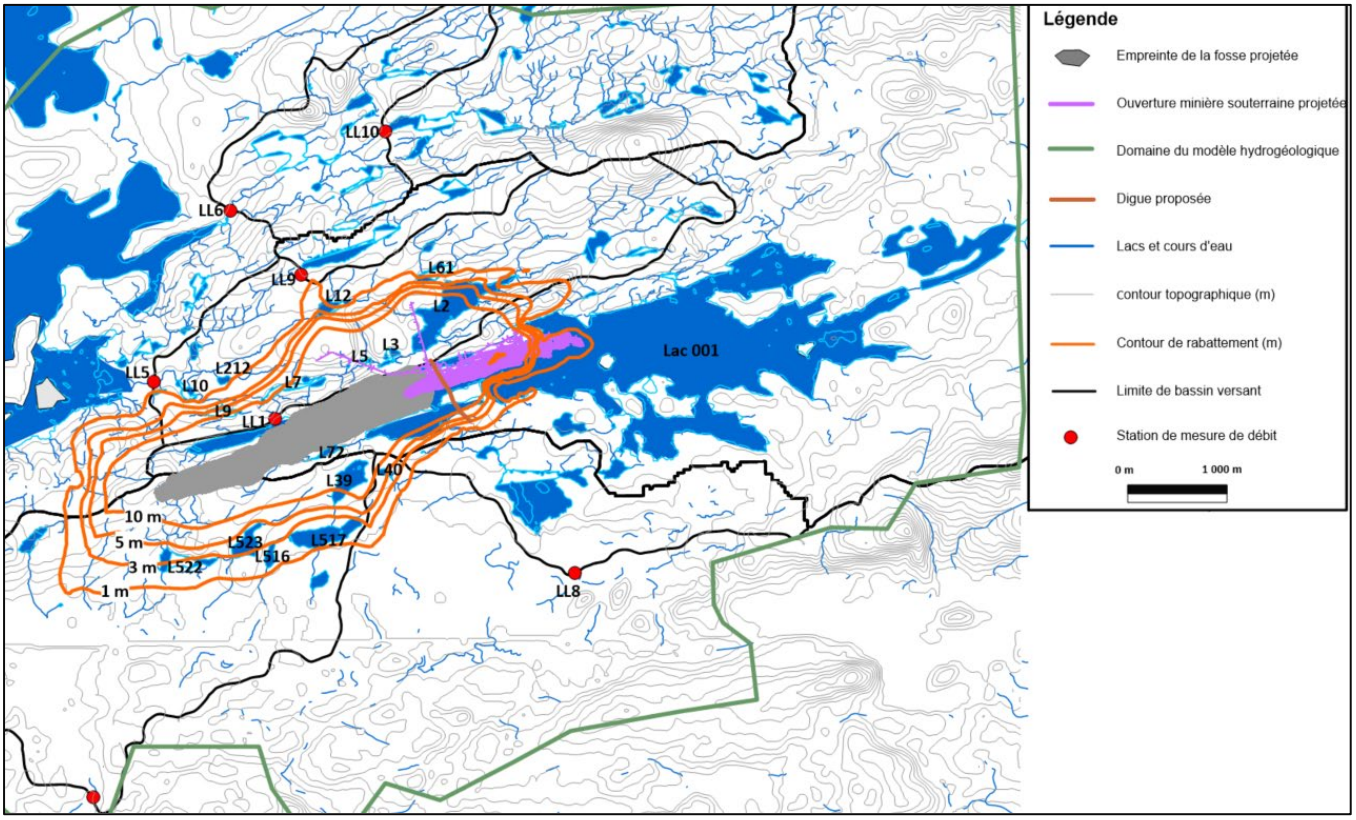


Tableau 14 : Comparaison entre les débits d'étiage mesurés normalisés par la superficie du bassin versant (WSP, 2025) et les débits de base simulés aux exutoires des lacs du secteur

Lac	Superficie du bassin versant (km^2)	% de réduction par rapport au débit de base	% de réduction par rapport au débit moyen
Lac 001	108	10,3	1,9
Lac 2	3,68	40,9	2,0
Lac 3	3,72	42,7	2,1
Lac 5	3,85	45,9	2,4
Lac 7	112	12,2	2,1
Lac 9	0,16	100	4,0
Lac 10	116	12,4	0,7
Lac 12	0,26	76,7	5,7
Lac 61	0,55	29,1	1,2
Lac 39	0,23	100	11,2
Lac 40	0,29	90,2	9,1
Lac 72	0,22	100	18,1
Lac 516	0,59	82,4	8,1
Lac 517	048	100	11,3
Lac 522	0,63	100	19,2
Lac 523	0,46	100	12,5

5.7 Temps d'ennoiement de la fosse et de la mine souterraine projetée

L'évaluation du temps requis pour l'ennoiement de la fosse constitue l'un des intrants permettant d'évaluer l'impact du projet. En effet, lorsque les activités d'exploitation cesseront et que le maintien à sec de la fosse ne sera plus requis, les précipitations, le ruissellement et les exfiltrations souterraines contribueront à ennoyer graduellement la fosse, jusqu'à la formation d'un plan d'eau dont l'élévation est estimée à 373 m, soit l'altitude du Lac 001, et qui se déversera dans le réseau hydrographique local au même endroit que la décharge actuelle du Lac 001.

Un volume de 14,5 M m^3 de stériles est prévu pour être déposé dans la fosse. Le volume des vides associé à ces stériles miniers est directement lié à leur porosité, laquelle est estimée à 25 % du volume des chantiers remblayés avec ce matériau. Cette estimation repose sur la porosité moyenne des stériles miniers telle que mesurée par Neuner et al. (2012).

Tableau 15 : Paramètres pour le calcul du temps d'ennoiement de la fosse

A : Volume de la fosse	80,5 M m^3
B: Volume des stériles	14,5 M m^3
C : Volume de vide des stériles	3,6 M m^3
Volume total des vides de la fosse (A – B + C)	70,0 M m^3
Superficie de la fosse	1,15 M m^2
Précipitation	772 mm/an
Évaporation	427 mm/an
Superficie de la surface pour le ruissellement	0,7 M m^2
Coefficient de ruissellement	0,13
Infiltration d'eau souterraine	3 200 m^3/jour
Temps d'ennoiement	43 ans

Le tableau 15 présente les paramètres utilisés pour le calcul du temps d'ennoiement de la fosse. Le temps d'ennoiement de la fosse est estimé à 43 ans.

Le tableau 16 présente une synthèse du volume des vides dans la mine souterraine. Cette estimation repose sur les volumes des développements miniers (2,5 M m^3) fournis par GMining en 2025. D'après les données fournies, tous les chantiers seront remblayés avec du remblai en pâtes. Les chantiers remblayés par du remblai en pâtes n'ont pas été considérés dans le calcul des vides, car la porosité de ce matériel est jugée faible. En conséquence, le volume total des vides retenu pour l'ensemble de la mine est de 2,5 M m^3. Sur la base des hypothèses utilisées, l'ennoiement complet de la mine souterraine est estimé à une durée de sept ans, en considérant un débit d'infiltration des eaux souterraines de 4 900 m^3/jour.

Tableau 16 : Paramètres pour le calcul du temps d'ennoiement de la mine souterraine

Volume développement	2,5 M m^3
Volume des chantiers	12,7 M m^3
Volume des vides des chantiers	Négligeable car remblayé avec du remblai en pâtes
Volume total des vides	2,5 M m^3
Infiltration d'eau souterraine	4 900 m^3/jour
Temps d'ennoiement	7 ans

5.8 Conditions d'écoulement post ennoiement de la fosse

Tel que discuté précédemment, lorsque les activités d'exploitation prendront fin et que le maintien à sec de la fosse ne sera plus nécessaire, celle-ci commencera à se remplir progressivement sous l'effet des précipitations, du ruissellement et des infiltrations souterraines. Ce processus mènera à la formation d'un plan d'eau dont l'élévation est estimée à 373 m, correspondant à celle du Lac 001, et qui finira par se déverser dans le réseau hydrographique

local. La simulation des conditions d'écoulement des eaux souterraines après l'ennoiement de la fosse a été réalisée en régime permanent, en maintenant le niveau d'eau du lac de fosse à une élévation constante de 373 m. Il est ainsi prévu que la superficie du Lac 001, une fois la fosse entièrement ennoyée, corresponde à sa superficie actuelle augmentée de l'empreinte finale de la fosse.

La figure 20 illustre la piézométrie simulée dans le roc, représentant les conditions d'équilibre après l'ennoiement de la fosse. Les isocontours piézométriques y sont espacés de 5 mètres afin de faciliter la lecture. La figure 21 reprend la même simulation, mais avec des isocontours à intervalles de 2 mètres pour une représentation plus détaillée. Ces figures révèlent que l'écoulement de l'eau souterraine converge généralement vers la fosse et le Lac 001, à l'exception du secteur correspondant au point de décharge actuel du Lac 001, identifié par un rectangle jaune sur les figures 21 et 22. Ce point de décharge est relativement étroit comparativement à la superficie de la fosse.

Figure 20 : Piézométrie simulée une fois la fosse ennoyée – isoncontours piézométriques aux 5 m

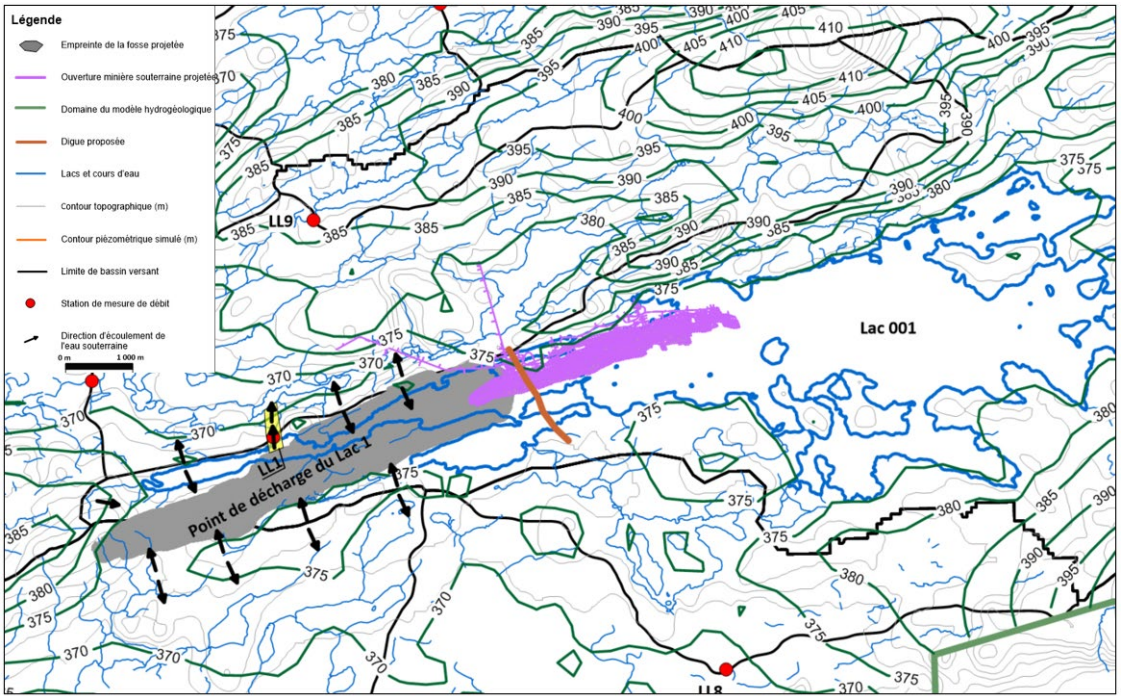
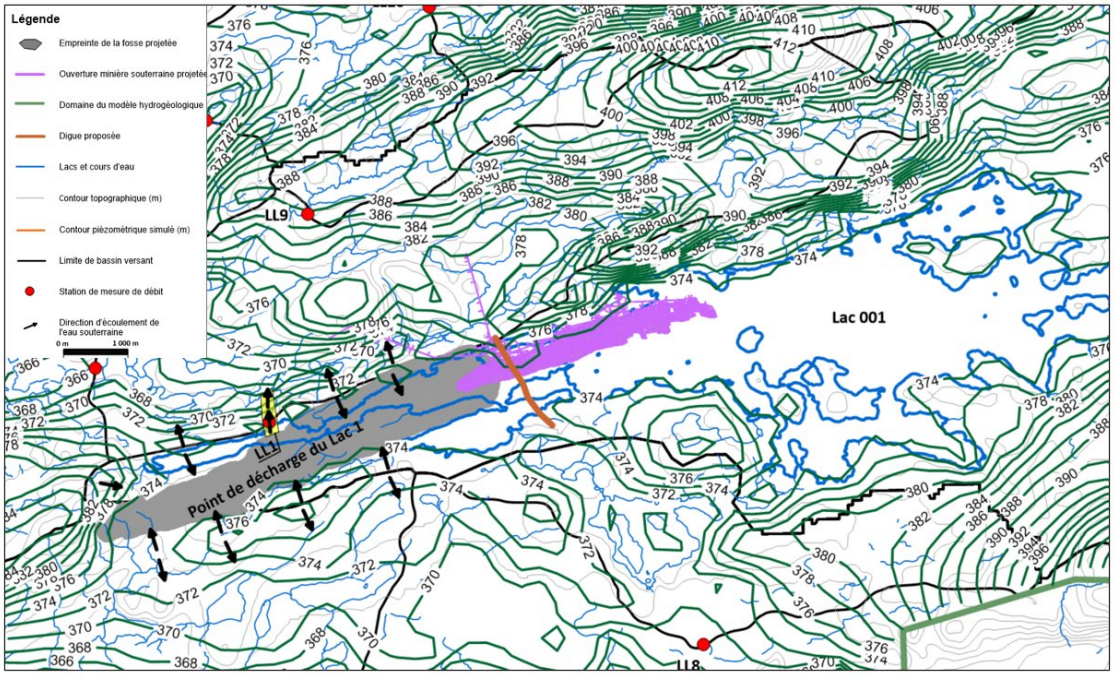


Figure 21 : Piézométrie simulée une fois la fosse ennoyée – isoncontours piézométriques aux 2 m



6 CONCLUSION ET RECOMMANDATION

Mailloux Hydrogéologie inc. a été mandatée par PMET pour réaliser une évaluation des impacts sur les eaux souterraines du projet de développement d'une mine à ciel ouvert et souterraine pour le projet Shaakichiuwaanaan, situé dans la région de la Baie-James, au Québec, Canada. L'évaluation est basée sur le modèle d'écoulement des eaux souterraines élaboré dans le cadre de l'étude de faisabilité, lequel a servi à analyser les effets du projet de mine à ciel ouvert et souterraine sur les conditions hydrogéologiques. L'évaluation hydrogéologique vise les aspects suivants :

- Infiltration d'eau souterraines dans les ouvertures minières pour le projet de développement d'une mine à ciel ouvert et souterraine.
- Zone de rabattement de la nappe d'eau souterraine causée par le projet de développement d'une mine à ciel ouvert et souterraine.
- Évaluation de la baisse potentielle du débit de base vers les cours d'eau causée par le projet de développement d'une mine à ciel ouvert et souterraine.

6.1 Contexte hydrogéologique

La conductivité hydraulique du roc a été évaluée à l'aide de 25 essais de type « slug test », de 12 profils d'essais au packer et d'un essai de pompage réalisés par BBA (2024). Les résultats indiquent que les valeurs de conductivité

hydraulique diminuent généralement avec la profondeur et demeurent faibles, se situant principalement dans la plage de 10^{-8} à 10^{-9} m/s. La valeur la plus élevée mesurée lors des essais au packer est de $2{,}4 \times 10^{-7}$ m/s.

En janvier 2025, BBA a identifié six failles verticales à proximité des fosses et des travaux souterrains. De plus, trois zones de cisaillement ou failles ont été répertoriées dans la base de données SIGEOM pour la zone du projet, dont une située au nord des fosses. Cinq essais hydrauliques réalisés sur ou près de failles interprétées ont tous indiqué des valeurs de conductivité hydraulique faibles (10^{-7} m/s ou moins), ce qui est cohérent avec les observations sur l'ensemble du site. Par ailleurs, un essai de pompage effectué à l'emplacement d'une structure présumée au moment de l'essai a révélé une faible perméabilité du roc. Afin d'adopter une approche conservatrice, malgré les résultats de terrain suggérant une faible perméabilité, la conductivité hydraulique de ces failles a été supposée dix fois supérieure à la valeur la plus élevée mesurée lors des essais avec obturateurs.

6.2 Calcul des infiltrations d'eau souterraine dans la fosse et la mine souterraine projetée

L'infiltration des eaux souterraines dans la fosse à ciel ouvert et la mine souterraine proposées a été évaluée à l'aide d'un modèle numérique 3D représentant le système d'écoulement des eaux souterraines du site, basé sur le cadre conceptuel présenté dans le présent rapport. Le modèle a été calibré en régime permanent afin de refléter l'écoulement actuel des eaux souterraines, en comparant les niveaux piézométriques simulés aux valeurs mesurées en 2024. L'estimation des apports d'eau souterraine dans la fosse et les travaux souterrains repose sur les hypothèses conservatrices suivantes : la conductivité hydraulique des failles a été fixée à une valeur dix fois supérieure à la plus élevée mesurée lors des essais packers, comme mentionné précédemment, et la conductivité hydraulique verticale du pilier de surface a été augmentée d'un facteur 10 pour tenir compte de la possible formation de fractures verticales dans cette zone. Les apports d'eau souterraine dans la fosse et la mine souterraine proposées ont été calculés pour différentes périodes. L'infiltration dans la fosse augmente progressivement au fil du temps, atteignant 3 200 m³/jour à la fin du projet en 2049. Une tendance similaire est observée pour la mine souterraine, où les apports en eau souterraine s'élèvent à 4 900 m³/jour d'ici 2049.

6.3 Rabattement de la nappe d'eau souterraine et impact sur les cours d'eau

Les contours de rabattement de la nappe d'eau souterraine supérieur à 1 m simulée avec le modèle à la fin du projet minier (2049) s'étendent sur 1 300 m vers le sud-est de l'empreinte de la fosse, 1 100 m vers le nord-ouest et vers le sud-est de l'empreinte de la fosse. Les lacs 001, L2, L3, L5, L7, L9, L10, L12, L61, L72, L39, L40, L516, L517, L522 et L523 sont situés à l'intérieur de la zone de rabattement de la nappe d'eau souterraine.

Le modèle numérique a permis d'estimer la diminution potentielle du débit de base des lacs attribuable au rabattement de la nappe d'eau souterraine. Le débit de base correspond aux apports en eau souterraine vers un cours d'eau. Les pourcentages de réduction ont été évalués en fonction des débits de base initiaux ainsi que du débit moyen annuel, selon les conditions simulées à la fin du projet minier (2049).

Pour les lacs situés au nord de la fosse projetée, la réduction du débit moyen se situe entre 0,7 % et 5,7 %. Les lacs dont le bassin versant est de grande superficie (Lacs 01, 7 et 10) présentent une baisse potentielle du débit de base estimée à 10,3 %, 12,2 % et 12,4 % respectivement. En revanche, les lacs avec un bassin versant plus restreint (Lacs 2, 3, 5, 9, 12 et 61) affichent une diminution potentielle du débit de base allant de 29,1 % à 76,7 %. Le lac 9, dont le bassin versant est particulièrement petit, connaît une réduction totale de son débit de base, soit 100 %.

La diminution potentielle du débit des lacs situés au sud de la fosse projetée (L39, 40, 516, 517, 522 et 523) est plus marquée, car il s'agit de lacs de tête localisés à l'extrémité amont du bassin versant de la station de jaugeage LL7, à l'exception du lac 40, qui appartient au bassin versant adjacent. La réduction estimée du débit moyen pour ces lacs varie entre 8,1 % et 19,2 %, tandis que celle du débit de base se situe entre 82,4 % et 100 %.

Pour analyser les effets potentiels du rabattement de la nappe d'eau souterraine sur les lacs, il faut mettre en perspective la composante eau souterraine par rapport aux autres éléments du bilan hydrologique d'un lac. L'ampleur des effets du rabattement de la nappe sur les lacs dépend de l'importance relative des infiltrations d'eau souterraine par rapport aux autres composantes du bilan hydrologique. Par exemple, les effets du rabattement de la nappe d'eau souterraine sur un lac en condition naturelle pourraient être peu significatifs si le débit d'infiltration d'eau souterraine vers le lac est minime par rapport aux apports en eau de ruissellement et en eau de précipitation directe.

6.4 Ennoiement de la fosse et de la mine souterraine

Le temps d'ennoiement de la fosse est estimé à 43 ans alors qu'il est estimé à 7 ans pour la mine souterraine.

À la fin des activités d'exploitation, lorsque le pompage de la fosse ne sera plus requis, celle-ci se remplira progressivement sous l'effet combiné des précipitations, du ruissellement de surface et des infiltrations souterraines. Ce remplissage entraînera la création d'un plan d'eau dont le niveau est estimé à 373 m, soit l'altitude du Lac 001, et qui finira par s'écouler vers le réseau hydrographique local. Il est ainsi anticipé que la superficie du Lac 001, une fois la fosse entièrement ennoyée, corresponde à sa superficie actuelle augmentée de l'empreinte finale de la fosse.

La simulation de la piézométrie en conditions post-ennoiement de la fosse indique que l'écoulement des eaux souterraines converge principalement vers la fosse et le Lac 001. Une exception est observée dans le secteur du point de décharge actuel du Lac 001, mis en évidence par un rectangle jaune sur les figures 21 et 22. Ce point de décharge présente une largeur relativement restreinte en comparaison de l'empreinte de la fosse.

6.5 Recommandation

Pour les prochaines phases du projet, les travaux suivants sont recommandés :

- Poursuivre le suivi des niveaux d'eau souterraine afin d'établir les données de référence.
- Réaliser des essais au packer le long de l'axe prévu de la rampe avant son développement, en particulier aux endroits où des zones de cisaillement ont été identifiées dans la base de données SIGEOM, puisque l'afflux d'eau souterraine dans une rampe peut représenter un défi lors de la construction
- Effectuer des essais au packer sur les failles qui n'ont pas encore été testées afin de valider les hypothèses formulées dans le présent rapport.
- Cartographier les failles en surface après le retrait des dépôts meubles dans la zone de la fosse.

Michel Mailloux, ing., géo., M.Sc.
Hydrogéologue, propriétaire

Références :

Anderson, Mary P., and William W. Woessner. *Applied Groundwater Modelling: Simulation of Flow and Advective Transport.* 1st ed. Academic Press, 1991.

AtkinsRealis (2025). Baseline hydrology. Document 702381-5000-4HEA-0001

AtkinsRealis (2025a). Diversion channel Lake 01 to Lake 05 – Design Options Summary. Powerpoint presentation dated on April 2nd 2025

BBA (2024). Hydrogeological Baseline Study – Future Open Pit / Underground CV5, Shaakichiuwaanaan Lithium Property. Document 7535001-001900-41-ERA-0002-R00, September 23, 2024 – Final

BBA (2025). Packer test factual report. Document no 7535019-000000-41-ERA-0001-R00

Neuner, M., Smith, L., Blowes, D.W., Seho, D.C., LSmith, L.J.D., Fretz, N and Gupton, M. (2012) The Diavik waste rock project: Water flow through mine waste rock in a permafrost terrain. Applied Geochemistry 36 (2013) 222-233.

Todd, K.D, 1980. *Groundwater Hydrology,* Second Edition. John Wiley & Sons.

WSP (2025). Projet minier Shaakichiuwaanaan – Rapport sectoriel – Hydrologie. Document no CA0001724.3318 (Avril 2025)

Annexe J

Étude de faisabilité géomécanique du projet pegmatite CV5 (Alius, 2026)

Avis important
La présente version française est fournie à titre informatif. En cas de divergence d'interprétation entre la version française et la version originale anglaise, **la version anglaise prévaut.**

RAPPORT TECHNIQUE

Étude de faisabilité géomécanique du projet pegmatite CV5

Projet Shaakichiuwaanaan
Québec, Canada

Soumis à	John Drapack, ing., PMP Directeur des études PMET Resources
Date	2 février 2026
Référence	SHA-001-R-20260202-03

alius mine consulting

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Page laissée intentionnellement vierge.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Étude de faisabilité géomécanique du projet pegmatite CV5

Projet Shaakichiuwaanaan Québec, Canada

Client : PMET Resources

2 février 2025

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Avertissement

Le présent document et son contenu sont destinés à l'usage privé et au bénéfice exclusif de PMET Resources (**« PMET »**), pour qui il a été préparé, et aux fins particulières que PMET a précédemment décrites à Alius Mine Consulting Inc (« **Alius** »). Le contenu du présent document ne peut être réutilisé, en tout ou en partie, par ou au profit d'autres personnes, sans adaptation préalable et autorisation écrite expresse d'Alius.

Droits d'auteur

© 2026 Alius Mine Consulting Inc.

Alius désigne Alius Mine Consulting Inc. et ses filiales mondiales. Tous droits réservés.

Contact

Alius Mine Consulting
985, rue du Mont-Saint-Denis Québec
(Québec)
G1S 1B4, Canada

Laboratoire de mécanique des roches Alius
2189, rue Léon-Harmel
Québec, QC
G1N 4N5, Canada

Société constituée au Québec, Canada et en Colombie-Britannique, Canada.

Site Web : www.aliusmining.com
Courriel : info@aliusmining.com

Journal des modifications

Type	Référence Alius	Date	Journal
Version préliminaire 1	SHA-001-R-20251205-01	05/12/2025	Version préliminaire publiée pour examen par le GMS.
Ébauche 2	SHA-001-R-20251215-02	2025-12-15	Version publiée pour examen par le PMET.
Final 1	SHA-001-R-20260202-03	02/02/2026	Version finale. Cette version remplace toutes les versions précédentes.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Signatures

Le présent rapport a été préparé, révisé et approuvé par les personnes suivantes. Tous les auteurs sont membres en règle de *l'Ordre des ingénieurs du Québec* (OIQ).

STÉPHANIE ROBERT CEP, M.A.Sc.

Candidate à la profession d'ingénieur
OIQ n° 6048396

stephanie@aliusmining.com

MAXIME LAMOTHE P. Eng.

Ingénieur principal, Géotechnique
OIQ n° 5040733

maxime@aliusmining.com

Signatures dans la version originale anglaise

SÉBASTIEN GUIDO, ing., M. Sc.

Ingénieur principal, Mécanique des roches
OIQ n° 5067847

sebastien@aliusmining.com www.aliusmining.com

Copies (par ordre alphabétique)

PMET Resources – John Drapack, Jonathan Houle, Frédéric Mercier-Langevin, Darren Smith.

G Mining Services – Pascal Droz, Alex Landry, Carl Michaud, Hind Zniber, Doc Control.

Alius Mine Consulting – **Dossiers**.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Résumé

Introduction

PMET Resources poursuit le développement du projet de pegmatite Shaakichiuwaanaan CV5, un gisement de lithium contenant du spodumène situé dans la propriété Shaakichiuwaanaan, dans la région de la baie James, au Québec, au Canada. La pegmatite à spodumène CV5 se trouve à environ 220 km à l'est de Radisson et à 240 km au nord-nord-est de Nemaska. La conception de la mine à ciel ouvert (OP) Shaakichiuwaanaan CV5 s'étend du sud-ouest au nord-est sur une longueur de 2,8 km et une largeur pouvant atteindre 480 m, avec des profondeurs pouvant atteindre 200 m, en partie sous le lac 001. La mine souterraine (UG) suit l'orientation du gisement de pegmatite CV5 qui s'étend depuis la mine à ciel ouvert à l'est sur près de 1 900 m. La majeure partie de la mine souterraine est située sous le lac 001 et s'étend jusqu'à environ 490 m sous la surface.

Alius Mine Consulting a été mandaté par G Mining Services en septembre 2024 pour fournir un soutien géomécanique dans le cadre de l'étude de faisabilité de la conception minière de ce projet. Ce travail visait à s'appuyer sur les recommandations formulées dans l'évaluation économique préliminaire du projet (BBA, 2024e), qui s'appuyait sur les travaux initialement fournis par BBA (BBA, 2023a ; BBA, 2024d).

La présente étude comprenait une série d'investigations géomécaniques complémentaires, notamment des carottages et des essais en laboratoire basés sur BBA (2024a), BBA (2024b) et Alius Mine Consulting (2025). L'objectif de ces études était de générer un ensemble complet de données géomécaniques afin de soutenir la caractérisation géomécanique et l'élaboration de directives de conception au niveau de l'étude de faisabilité pour la future mine à ciel ouvert et la mine souterraine incluses dans le plan minier.

Plan minier

Le projet Shaakichiuwaanaan comprend à la fois une mine à ciel ouvert et une mine souterraine, avec un taux de production combiné d'environ 5,1 Mtpa (14 000 tpd). La mine à ciel ouvert sera exploitée selon des méthodes conventionnelles, tandis que l'exploitation souterraine fera appel à l'abattage mécanisé à longue trous. La plupart des chantiers (90 à 95 %) suivront une orientation transversale dans les parties les plus larges du gisement, tandis que les chantiers longitudinaux (5 à 10 %) seront utilisés dans les sections plus étroites.

L'accès souterrain se fera par un portail en surface et un système de rampes. Le minerai sera extrait d'une série de sous-niveaux espacés de 30 m, avec plusieurs galeries transversales aménagées pour accéder au gisement.

Comme l'exploitation souterraine se déroulera en même temps que l'exploitation à ciel ouvert, on s'attend à ce qu'il y ait une interaction entre les deux, qui a été évaluée dans cette étude.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Caractérisation du site

Toutes les informations disponibles ont été examinées et consolidées afin de mettre à jour la caractérisation géotechnique et géomécanique des sols et des masses rocheuses associés au projet. Les principales conclusions sont résumées ci-dessous (une discussion détaillée est fournie aux sections 4 et 5) :

01. Sols

→ Les sols à proximité de la mine à ciel ouvert n'ont pas fait l'objet d'une étude approfondie.

→ Les sols résiduels sont principalement à grains grossiers, avec des couches minces localisées de limon, de sable et de gravier.

→ Compte tenu de la nature granuleuse et meuble du matériau, la résistance au cisaillement a été évaluée uniquement à l'aide d'essais de pénétration standard (SPT) ; aucun essai de résistance en laboratoire n'a été effectué.

02. Unités rocheuses / lithologies

→ Quatre (4) lithologies principales ont été prises en compte pour la caractérisation de la masse rocheuse : amphibolite (AMP), métasédiments (META), ultramafique indifférencié (UMU) et pegmatite (PEG).

→ Les parois de la mine à ciel ouvert exposeront principalement de l'amphibolite et des métasédiments, avec des affleurements localisés de roches ultramafiques et de pegmatite.

→ Les excavations souterraines, en particulier les surfaces des chantiers, devraient exposer la pegmatite, l'AMP, la META et l'UMU formant le mur et le pied.

03. Domaines géomécaniques

→ Les données structurelles et la caractérisation des discontinuités ont été utilisées pour définir des domaines géomécaniques représentatifs pour la mine à ciel ouvert. Seize (16) domaines géomécaniques ont été identifiés (section 6).

→ Pour la mine souterraine, quatre (4) domaines géomécaniques ont été définis, chacun correspondant aux principales unités lithologiques. Une subdivision spatiale supplémentaire n'était pas nécessaire en raison des conditions relativement uniformes de la masse rocheuse.

04. Orientations des discontinuités

→ Les discontinuités – y compris les joints, la foliation, les failles, les cisaillements et les contacts – ont été enregistrées pour déterminer leur espacement, leur rugosité, leur altération et leur remplissage. Des essais de cisaillement direct sur 21 discontinuités ont permis d'obtenir les paramètres de résistance au cisaillement maximale et résiduelle.

→ Des données structurelles à haute résolution provenant de soixante-cinq (65) levés par téléviseur ont été intégrées (quarante-quatre pour les évaluations à ciel ouvert, vingt-six pour les évaluations souterraines).

→ La variabilité spatiale dans l'orientation des joints a été évaluée en subdivisant la mine à ciel ouvert en huit (8) zones structurelles ; les métasédiments ont été subdivisés davantage dans l'espace par rapport à l'intrusion pegmatitique.

→ Les ensembles de joints ont été interprétés à l'aide de stéréogrammes pour chaque domaine géomécanique.

→ La foliation au sein de l'AMP, du META et de l'UMU est l'une des caractéristiques structurelles dominantes, avec une inclinaison modérée à forte vers le sud-sud-est.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

05. Qualité de la masse rocheuse

→ La qualité de la masse rocheuse a été évaluée à l'aide de quatorze (14) forages géomécaniques. Les classifications RMR_{76} , Q', Q et GSI ont été appliquées en utilisant les premier et deuxième quartiles pour encadrer la variabilité.

→ Dans les quatre principales lithologies, les conditions de la masse rocheuse varient de PASSABLE à BONNE, tant dans les zones à ciel ouvert que souterraines.

→ Les 315 forages enregistrés par Dahrouge Geological présentent des distributions Q' qui correspondent à celles obtenues à partir des enregistrements géomécaniques réalisés par Alius.

06. Modèle structurel à grande échelle

→ La zone du projet CV5 a connu de multiples événements tectoniques ; la structure régionale du groupe Guyer présente généralement un pendage modéré à raide vers le sud, tandis que la pegmatite CV5 est non concordante et présente un pendage raide vers le nord. Aucune déformation significative de la pegmatite n'a été observée (voir section 2.2.3).

→ Six failles subverticales recoupent la mine à ciel ouvert, la faille FLT_1025 (orientation NW-SE, fosse centrale) présentant le déplacement le plus important.

→ La caractérisation des failles est limitée par l'orientation prédominante des trous de forage.

→ La modélisation structurelle à grande échelle n'a été réalisée que pour la mine à ciel ouvert ; aucun modèle n'est encore disponible pour la mine souterraine.

Directives de conception

Des lignes directrices de conception à l'appui de l'étude de faisabilité mise à jour ont été fournies dans un certain nombre de domaines clés. Un résumé est présenté ci-dessous.

01. Mine à ciel ouvert – Directives de conception

Des analyses à l'échelle du banc d'essai et à l'échelle globale ont été réalisées pour dix secteurs de conception à l'aide d'une interprétation stéréographique, d'une analyse cinématique, d'une modélisation probabiliste à l'échelle du banc d'essai et d'une modélisation numérique en 3D. Voici les principales conclusions :

→ Les angles des fronts de taille varient entre 40 et 75°, en fonction de la lithologie et de la configuration structurelle.

→ Le double bancage (hauteur de banc de 20 m) est réalisable dans la plupart des secteurs en raison des bonnes conditions de la masse rocheuse.

→ Des largeurs de gradins comprises entre 8,5 et 12 m sont nécessaires pour retenir, dans la plupart des cas, plus de 70 % des débordements potentiels.

→ Les angles entre les rampes varient entre 32 et 55°, en fonction du domaine géomécanique et de l'emplacement des parois.

→ Des bermes géotechniques (16 m de large) sont recommandées pour les parois dépassant 160 m de hauteur, commençant 80 m sous la surface et se terminant 80 m au-dessus du fond de la fosse.

→ Les résultats de la modélisation 3D confirment des coefficients de sécurité supérieurs à 1,5 pour toutes les parois de la fosse dans la roche fraîche. Les dommages localisés peu profonds près des transitions abruptes des parois et des zones où l'UMU est exposée doivent être surveillés pendant les opérations.

→ Des angles inter-rampes de 36° sont recommandés dans les sols.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

02. Sous-sol – Conception des chantiers et estimations de dilution

La stabilité des chantiers a été évaluée à l'aide du diagramme de stabilité de Potvin et de l'ELOS (Equivalent Linear Overbreak/Slough). Principaux résultats :

→ Une conception uniforme des chantiers est recommandée :

- Chambres transversales 17 mL × 25 mW × 30–36 mH
- Chambres longitudinales 17 mL × 7 mW × 30–36 mH

→ Les parois des chantiers doivent être boulonnées afin de limiter l'instabilité et la dilution.

→ La dilution prévue (ELOS) pour les surfaces transversales et longitudinales des chambres est la suivante :

- Paroi suspendue 0,75 m
- Mur de soutènement 1,25 m / 0,50 m
- Arrière Aucun (ancrage par câbles)
- Parois d'extrémité Aucun (minerai)
- Remblai 0,50 m

03. Sous terre – Séquence d'exploitation

→ Environ 90 à 95 % des chantiers sont transversaux, suivant une séquence primaire-secondaire ; 5 à 10 % sont exploités selon une séquence de recul longitudinal.

→ La modélisation numérique 3D de la séquence complète (années 2031-2049) indique que la redistribution des contraintes entraîne principalement un fléchissement localisé à proximité des chantiers miniers, sans instabilité à grande échelle prévue dans le cadre de la séquence prévue.

→ Il est recommandé de continuer à affiner la séquence au fur et à mesure de l'avancement de la conception, en particulier dans les zones d'exploitation supérieures où se produisent des interactions entre les piliers de couronne.

04. Sous-sol – Remblayage

Une combinaison de méthodes empiriques et de modélisation numérique a été utilisée pour définir la résistance du remblayage à la pâte de ciment (CPB) :

→ Des résistances du CPB comprises entre 210 et 540 kPa sont généralement requises, en fonction du type de chambre et de la séquence.

→ Un coefficient de sécurité plus élevé (FoS = 2,0) est recommandé au début de la durée de vie de la mine, puis ramené à 1,5 au fil du temps, à mesure que l'expérience opérationnelle s'accroît.

→ Le soutènement par abattage sous main nécessite une résistance de remblayage conservatrice à ce stade (1,2 à 1,6 MPa) et doit être réduit au minimum, dans la mesure du possible.

→ Les chantiers situés à moins de 100 m des parois exposées de la mine à ciel ouvert nécessitent une résistance de 2,0 MPa (section 8.10).

05. Sous terre – Pilier de couronne

Un pilier de couronne en surface recouvre les travaux souterrains, sous le lac 001. Une hauteur de pilier de 85 m a été évaluée à l'aide de la méthode empirique Scaled Span et d'une modélisation numérique 3D.

→ Les résultats empiriques estiment une probabilité moyenne de rupture d'environ 1,5 %, ce qui se situe dans la fourchette des piliers de classe F (long terme).

→ La modélisation numérique indique l'apparition d'une déformation plastique mineure à la fin de la séquence d'exploitation (années 2047-2049), ce qui suggère la nécessité d'affiner le séquençage.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

→ Des systèmes de surveillance et des contrôles opérationnels (instrumentation et TARP) seront nécessaires.

Remarque réglementaire importante : Bien que les évaluations empiriques et numériques indiquent qu'un pilier de 85 m peut répondre aux exigences de stabilité avec une surveillance et des contrôles séquentiels appropriés, le plan minier n'est actuellement pas conforme à l'article 77 du Règlement sur la santé et la sécurité au travail dans les mines (RSSTM) du Québec. Ce règlement précise que lorsqu'un pilier de couronne a une épaisseur inférieure à 100 m et est situé sous un plan d'eau, des études techniques spécifiques doivent être réalisées, études qui n'ont pas encore été entreprises à ce stade du projet.

Par conséquent, la valeur de 85 m doit être considérée comme une évaluation préliminaire visant à assurer la flexibilité de la planification minière, plutôt que comme une conception conforme à la réglementation. Des études supplémentaires seront nécessaires au cours de la prochaine phase du projet afin d'établir une conception de pilier de couronne entièrement conforme.

06. Sous-sol – Conception du soutènement

Les recommandations relatives au soutènement ont été élaborées à l'aide de tableaux de conception empiriques, d'avis techniques et d'outils d'analyse internes.

→ Le développement latéral type (<7,5 m de portée) nécessite des barres d'armature de 2,4 m (20 mm) sur une surface de 1,2 ×

Modèle de 1,2 m, avec des ensembles divisés de 1,5 m dans les rangées secondaires, complétés par un treillis métallique soudé galvanisé de calibre 6 (ouverture de 4 pouces).

→ Les intersections typiques nécessitent des boulons de câble de 6 m selon un motif de 2 × 2 m.

→ Les parois et les fronts de taille nécessitent des boulons de câble (6 m, motif 2 × 2 m).

→ La conception du portail et des principaux supports d'infrastructure devra être achevée lors de l'ingénierie détaillée.

07. Sous-sol – Portail (coupe en caisson)

Le portail est situé à un endroit où l'épaisseur des morts-terrains est d'environ 5 m, avec des données géomécaniques locales limitées.

→ Des pentes de recouvrement de 2H:1V sont recommandées.

→ Les angles de pente du portail sont contrôlés par le joint principal (JS1), qui nécessite une inclinaison de 50° sur la paroi nord ; la paroi sud peut rester plus raide (80°).

→ Un pilier de couronne de 10 mètres d'épaisseur au-dessus du portail a été évalué à l'aide de Scaled Span, montrant un PoF acceptable (2,4 %) avec un soutien.

08. Sous-sol – Infrastructures

La stabilité des infrastructures souterraines, notamment les galeries de transport, les passages de minerai, les points de traction et les rampes d'accès, a été évaluée à l'aide d'un modèle numérique 3D *FLAC3D* intégrant la mine à ciel ouvert et les chantiers souterrains :

→ Le rendement et la déformation sont limités aux zones entourant immédiatement les chantiers, les points de traction et certaines galeries de développement.

→ Aucune zone de déformation à grande échelle ni aucune instabilité globale n'ont été identifiées.

→ La stabilité des infrastructures devrait être réexaminée à mesure que des données géotechniques et séquentielles supplémentaires seront disponibles au cours de l'ingénierie détaillée.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

09. Interaction entre la mine à ciel ouvert et la mine souterraine

Des analyses d'équilibre limite en 2D (diapositive 2) ont été utilisées pour évaluer la stabilité des parois de la fosse où les chantiers souterrains sont à ciel ouvert, suivies d'une validation par modélisation numérique en 3D :

→ Le remblai exposé sur la paroi de la fosse nécessite une résistance minimale de 2,0 MPa.

→ Une zone de pâte renforcée s'étendant sur 100 m derrière la paroi de la fosse est nécessaire pour atteindre un FoS global > 1,5.

→ Cela correspond au renforcement d'une largeur d'environ six chantiers à partir de l'interface entre la fosse et le sous-sol.

Limites des directives de conception

Sur la base des analyses réalisées et des informations actuellement disponibles, les limites suivantes doivent être prises en compte lors de l'application des directives de conception.

01. Modèle lithostructurel

→ Les contacts lithologiques ont été modélisés sur la base des interprétations actuelles et de la densité de forage ; des révisions sont à prévoir à mesure que l'exploitation minière progresse.

→ L'emplacement et la continuité des structures principales (par exemple, FLT_1525, dyke de diabase) restent incertains dans les zones où les forages sont rares, en particulier près de la tranchée du portail.

→ Le modèle structurel ne couvre que la zone à ciel ouvert ; les conditions structurelles de la mine souterraine n'ont pas été modélisées.

→ L'unité UMU est relativement peu caractérisée, ce qui réduit la fiabilité des paramètres de conception là où cette lithologie est exposée.

→ L'orientation de la foliation varie le long de la fosse et peut différer localement des ensembles moyens supposés. Bien que cela ait été pris en compte en définissant plusieurs domaines géomécaniques, la variabilité réelle peut être plus importante et devrait être confirmée à mesure que les affleurements se développent.

02. Caractérisation géotechnique

→ Aucun essai en laboratoire n'a été effectué sur les sols ; les enveloppes de résistance des morts-terrains reposent uniquement sur les résultats du SPT et des corrélations empiriques.

→ Les forages autour de la fosse à ciel ouvert sont limités, en particulier près du portail et des limites de la fosse, ce qui augmente l'incertitude quant à l'épaisseur et aux propriétés du sol.

03. Caractérisation géomécanique

→ Les valeurs de persistance des joints sont supposées être de 15 m jusqu'à ce qu'elles soient validées par des mesures sur le terrain (par exemple, cartographie des parois de la fosse, LiDAR).

→ Les paramètres de résistance des plans de foliation restent incertains.

→ Les ensembles de joints observés sur la paroi sud sont considérés comme moins restrictifs par rapport aux critères de conception que ceux de la paroi nord, en raison de leur espacement plus large.

→ Les excavations ont été supposées sèches ou avec un afflux mineur ; les pressions des eaux souterraines n'ont pas été explicitement prises en compte dans la classification ou la modélisation.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

04. Conception de la fosse à ciel ouvert

→ Les facteurs de perturbation de la masse rocheuse (dommages causés par les explosions, relâchement des contraintes) n'ont pas été pris en compte dans les enveloppes de stabilité.

→ Pour obtenir les largeurs de gradins recommandées, il est nécessaire de contrôler le forage et le dynamitage ; un effondrement excessif peut réduire la capacité des gradins de réception.

→ Les structures à grande échelle n'ont pas été incluses dans les modèles numériques ; les instabilités potentielles associées à ces caractéristiques ne sont donc pas prises en compte.

→ Les conditions hydrogéologiques ont été considérées comme ayant un impact limité sur la base des données actuelles ; les pressions interstitielles n'ont pas été incluses dans les analyses numériques.

→ Les directives s'appliquent uniquement aux géométries et lithologies évaluées ; tout écart peut nécessiter une réévaluation.

05. Conception des mines souterraines

→ Les structures à grande échelle n'ont pas été incluses dans les modèles numériques continus, ce qui limite l'évaluation des mécanismes de rupture contrôlés par la structure.

→ Les hypothèses relatives aux contraintes in situ introduisent une incertitude ; les variations de l'orientation ou de l'amplitude des contraintes principales peuvent affecter la stabilité des chantiers et les performances des piliers de toit.

→ Les effets hydrogéologiques n'ont pas été explicitement modélisés ; les pressions hydrauliques peuvent affecter la stabilité de l'excavation.

→ Le risque sismique n'a pas été évalué en raison de la profondeur relativement faible de la mine, mais des concentrations de contraintes localisées peuvent néanmoins se développer à proximité des chantiers ou dans les piliers.

→ La zone du portail manque de forages géotechniques et nécessite des investigations supplémentaires avant la conception finale et l'exécution.

→ La stabilité des grandes infrastructures souterraines n'a pas été évaluée.

→ L'épaisseur actuelle du pilier de couronne de 85 m ne répond pas aux exigences réglementaires de l'article 77 du RSSTM du Québec et doit être réévaluée au moyen des études techniques requises avant que l'exploitation minière (ou le développement) sous le plan d'eau puisse commencer.

06. Variabilité opérationnelle

→ Les performances des pentes dépendent fortement de la précision du forage, de la qualité du dynamitage et des pratiques de nivellement. Les bonnes pratiques ont été prises en compte tout au long des évaluations.

→ Une perte excessive de crête ou un surcreusement peuvent réduire la largeur effective des bancs de retenue en dessous des hypothèses de conception.

→ Les écarts opérationnels peuvent réduire la stabilité et nécessiter des modifications de la conception.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Recommandations pour les travaux futurs

Sur la base des analyses réalisées dans le cadre de cette étude, les travaux suivants sont recommandés afin de faire avancer le projet vers la phase d'ingénierie détaillée et d'exécution.

01. Modèle lithostructurel

→ Améliorer la définition des contacts lithologiques, en particulier ceux dont l'orientation est défavorable.

→ Acquérir des données structurelles supplémentaires (cartographie de surface, carottes orientées) dans les secteurs clés des parois de la fosse.

→ Mettre à jour le modèle structurel afin de mieux définir les structures à grande échelle, en particulier dans les zones où la couverture de forage est limitée (par exemple, l'empreinte de la mine souterraine).

→ Mener un programme de caractérisation ciblé du site pour la zone du portail. Cette étude devrait confirmer la profondeur des morts-terrains près de la tranchée et le long de l'axe de la rampe, ainsi que les pentes de sol et de roche à utiliser dans la conception.

02. Caractérisation géotechnique

→ Développer un modèle géotechnique spécifique au site pour les morts-terrains dans les zones du portail et de la périphérie de la fosse.

→ Planifier une campagne d'études géotechniques afin d'augmenter la densité des données et d'améliorer la compréhension de la stratigraphie des sols autour de la fosse à ciel ouvert.

→ Effectuer des essais en laboratoire sur des sols représentatifs afin d'établir des enveloppes de résistance au cisaillement appropriées.

03. Caractérisation géomécanique

→ Donner la priorité à la collecte de données pour l'unité UMU, qui présente actuellement le plus grand degré d'incertitude.

→ Étendre les essais en laboratoire (résistance intacte, résistance au cisaillement) pour l'UMU, la pegmatite, les zones altérées et les plans de foliation.

04. Conception de la fosse à ciel ouvert

→ Mettre à jour les modèles numériques 3D à mesure que les interprétations lithostructurales sont affinées.

→ Réévaluer les hypothèses de persistance structurelle (actuellement 15 m) une fois que les parois exposées de la fosse permettront une mesure directe (par exemple, balayage LiDAR).

→ Pour le secteur F-2, évaluer les failles observées et les joints ouverts par rapport au modèle structurel mis à jour afin de confirmer leur impact potentiel sur les paramètres de conception.

→ À mesure que l'exploitation minière expose les parois sud, évaluer plus en détail l'impact réel des ensembles de joints inclinés vers le nord sur l'intégrité des parois à l'échelle des gradins, et revoir l'hypothèse selon laquelle ces joints n'influencent pas de manière significative l'IRA prévu.

05. Conception de la mine souterraine

→ Mettre à jour les modèles numériques 3D à mesure que de nouvelles informations lithostructurales deviennent disponibles.

→ Intégrer les structures principales dans les évaluations de stabilité souterraine une fois leur géométrie confirmée.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

→ L'épaisseur actuelle de 85 m du pilier de couronne **n'**est **pas** conforme à l'article 77 du RSSTM du Québec pour l'exploitation minière sous un plan d'eau. Des études techniques supplémentaires (hydrogéologie, mécanique des sols, géomécanique) sont légalement requises avant l'obtention de l'autorisation. Ces études doivent être soumises à la CNESST avant toute excavation sous l'influence du plan d'eau.

→ Pour la conception du portail, forer au moins trois (3) trous de forage supplémentaires (environ 90 m au total) afin de confirmer les conditions de la masse rocheuse à l'emplacement du portail.

→ Envisager d'effectuer des mesures de contrainte in situ (par exemple, test Doorstopper) dès le début du développement afin de valider le tenseur de contrainte en champ lointain.

06. Surveillance et contrôles opérationnels

→ Élaborer un plan de gestion du contrôle du sol (GCMP) spécifique au site qui formalise les exigences en matière de surveillance géotechnique, la fréquence d'examen des données et les protocoles de prise de décision.

→ Élaborer des plans d'intervention en cas de déclenchement (TARP) pour les opérations à ciel ouvert et souterraines, en définissant les niveaux d'action et les réponses requises en cas de changements dans le déplacement, la pression interstitielle ou les conditions du sol observées.

→ Mettre à jour le GCMP et les TARP en fonction des observations opérationnelles et des résultats de la surveillance.

→ Mettre en œuvre des systèmes de surveillance en temps réel (prismes, radar, LiDAR) dans les secteurs influencés par des structures importantes ou des géométries de fosse sensibles.

→ Mettre en œuvre un programme de surveillance hydrogéologique afin de suivre les niveaux des eaux souterraines et les pressions interstitielles dans les mines à ciel ouvert et souterraines :

- Installer des piézomètres à corde vibrante (VWP) à des endroits clés, notamment sur les parois de la fosse, le pilier central et les zones où l'afflux d'eau souterraine pourrait influencer la stabilité.
- Mettre en place un système automatisé d'enregistrement des données et de seuils d'alarme afin de détecter rapidement toute tendance anormale de la pression interstitielle.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Table des matières

Signatures v
Copies v
Résumé vi
Table des matières xvii
Liste des annexes xviii
Liste des figures xxiv
Liste des tableaux xxviii
1 Introduction 29
1.1 Description et état d'avancement du projet 29
1.2 Étendue des travaux 30
1.3 Informations disponibles 31
2 Contexte général et conditions du site 32
2.1 Description du site 32
2.2 Conditions géologiques 36
2.2.1 Géologie régionale de l' 36
2.2.2 Géologie locale 37
2.2.3 Géologie structurale 39
2.3 Hydrogéologie 40
3 Campagnes d'enquête 41
3.1 Programmes géotechniques 41
3.1.1 Travail sur le terrain 41
3.1.2 Essais en laboratoire 42
3.2 Programmes géomécaniques 42
3.2.1 Travail de terrain d' 43
3.2.2 Essais en laboratoire 49

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

4 Caractérisation géotechnique 50
4.1 Unités stratigraphiques 50
4.2 Essais in situ. 51
4.3 Essais en laboratoire 53
4.4 Paramètres de conception géotechnique 53

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

5 Caractérisation géomécanique 54
5.1 Caractérisation de la masse rocheuse 54
5.1.1 Propriétés des roches intactes 54
5.1.2 Classification des masses rocheuses 63
5.1.3 Structures rocheuses. 70
5.1.4 Propriétés du massif rocheux. 80
5,2 In Situ Conditions de stress 83
6 Domaines géotechniques et géomécaniques 85
6.1 À ciel ouvert 85
6.2 Mine souterraine 87
7 Directives de conception des mines à ciel ouvert 88
7.1 Terminologie et définitions 88
7.2 Critères d'acceptation de la conception 91
7.3 Méthodologie 93
7.4 Évaluation de la stabilité des morts-terrains 97
7.4.1 Méthodes de conception 97
7.4.2 Résultats 97
7.5 Évaluation de la stabilité du banc 99
7.5.1 Méthodes de conception 99
7.5.2 Sectorisation à ciel ouvert 99
7.5.3 Résultats 102
7.6 Stabilité inter-rampes et stabilité globale des pentes 108
7.6.1 Méthodes de conception 108
7.6.2 Modèle numérique 108
7.6.3 Résultats 113
7.7 Directives pour la conception des mines à ciel ouvert 113
8 Directives relatives à la conception des mines souterraines 115
8.1 Terminologie et paramètres d'entrée 115
8.2 Modèle numérique 117
8.3 Dimensions de la chambre et dilution 118
8.3.1 Méthodes de conception 118
8.3.2 Tableaux de stabilité des chantiers à ciel ouvert 118

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

8.3.3 Tableau de dilution (ELOS) 126
8.3.4 Directives 130
8.4 Séquence minière 131
8.4.1 Séquence de développement et de taille 131
8.4.2 Résultats de la modélisation numérique 132
8.5 Remblayage 135
8.5.1 Méthodes de conception 135
8.5.2 Résultats 137
8.5.3 Directives 138
8.6 Pilier de la Couronne 140
8.6.1 Méthodes de conception 140
8.6.2 Résultats 142
8.6.3 Directives 146
8.7 Conception du support au sol 147
8.7.1 Méthodes de conception 147
8.7.2 Lignes directrices 148
8.8 Portail (coupe en boîte) 150
8.8.1 Directives 156
8.9 Infrastructures 157
8.10 Interaction entre les exploitations à ciel ouvert et souterraines 158
9 Considérations opérationnelles 161
9.1 Pentes de recouvrement 161
9.2 Exploitation à ciel ouvert 162
9.3 Exploitation minière souterraine 164
10 Conclusion 166
11 Recommandations et limites 167
11.1 Recommandations relatives à la conception au niveau de la faisabilité 167
11.2 Limites des directives de conception 169
11.3 Recommandations pour les travaux futurs 170

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Liste des annexes

Annexe A. Facteurs de conversion PLT vers UCS

Annexe B. Projections stéréographiques

Annexe C. Caractérisation structurelle détaillée des mines à ciel

ouvert Annexe D. Directives relatives aux mines à ciel ouvert – Mise à jour

2025 Annexe E. Évaluations détaillées à l'échelle du banc

Annexe F. Analyses de la stabilité et de la dilution des chantiers à ciel ouvert

(ELOS) Annexe G. Évaluation de la résistance du remblai cimenté

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Liste des figures

Figure 1. Emplacement général de la propriété Shaakichiuwaanaan (BBA, 2024e).....29
Figure 2. Étendue approximative de la mine à ciel ouvert et de la mine souterraine avec les lacs environnants. 32
Figure 3. Conceptions des mines à ciel ouvert fournies par GMS – Vues en plan. 34
Figure 4. Conceptions de mines souterraines fournies par GMS – Vues en plan. 35
Figure 5. Conceptions de mines souterraines fournies par GMS – Conception FS. 36
Figure 6. Géologie régionale entourant le projet Shaakichiuwaanaan (BBA, 2024e).....37
Figure 7. Enveloppe ultime de la fosse colorée en fonction des lithologies exposées dans les parois. 39
Figure 8. Emplacement des six failles subverticales qui traversent la fosse à ciel ouvert. 40
Figure 9. Vue en plan de la mine à ciel ouvert FS et des trous de forage géotechniques dans le sol.....41
Figure 10. Emplacement des forages géomécaniques et des levés par téléviseur sur la conception de la mine à ciel ouvert et de la mine souterraine FS.....45
Figure 11. Répartition des lithologies enregistrées. 47
Figure 12. Longueur lithologique enregistrée par trou. 48
Figure 13. Répartition des types de défaillance lors des essais de charge ponctuelle.....57
Figure 14. Enveloppes de rupture Hoek-Brown pour roche intacte. 62
Figure 15. Distribution Q' évaluée à partir des trous forés par Dahrouge.....67
Figure 16. Zones modélisées à faible RQD (<40 %) par rapport à la conception de la mine à ciel ouvert PEA. 69
Figure 17. Zones modélisées à faible RQD (<40 %) dans la zone minière souterraine.....69
Figure 18. Résultats des essais de cisaillement direct pour les ruptures maximales (vert) et résiduelles (bleu). 71
Figure 19. Foliation visible sur l'image du carottage de différents types de roches. 74
Figure 20. Caractérisation des discontinuités par lithologie 75
Figure 21. Zones à ciel ouvert utilisées pour la définition du domaine géomécanique. 76
Figure 22. Division générale de la zone à ciel ouvert. 77
Figure 23. Enveloppes de rupture de la masse rocheuse. 82
Figure 24. Comparaison du rapport k (σ_H / σ_v) obtenu à une profondeur de 400 mètres avec celui de deux sites voisins et celui indiqué dans la littérature. 84

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Figure 25. Terminologie relative aux parois de la fosse utilisée dans le rapport (modifiée d'après Read et Stacey, 2009). ...88

Figure 26. Organigramme d'optimisation de la conception à l'échelle du banc d'essai. ...95

Figure 27. Matrices de risques types. ...96

Figure 28. Résultats des analyses de stabilité pour un talus de recouvrement type. ...98

Figure 29. Secteurs de conception à ciel ouvert. ...100

Figure 30. Résultats des analyses de stabilité à l'échelle du banc d'essai - Secteur A AMP ...103

Figure 31. Représentation des risques pour les secteurs de conception par rapport aux critères de conception. ...107

Figure 32. Vue de l' du maillage structuré (octree) du modèle numérique à ciel ouvert. ...109

Figure 33. Termes et définitions associés à un matériau à déformation plastique. ...110

Figure 34. Projection du facteur de sécurité et des dommages (SLOSS) sur la mine à ciel ouvert prévue. ...111

Figure 35. Déplacement total sur la section A-A'. ...112

Figure 36. Déplacement total sur la section B-B' avec unité ultramafique voisine. ...112

Figure 37. Résumé des directives relatives au secteur à ciel ouvert d' (basé sur la conception de la fosse de mars 2025). 114

Figure 38. Terminologie utilisée dans le rapport pour désigner les chantiers (non à l'échelle). ...115

Figure 39. Vue du maillage structuré (octree) du modèle numérique global. ...117

Figure 40. Tableau de stabilité des chantiers à ciel ouvert de Potvin (reproduit à partir de Potvin, 1988). ...119

Figure 41. Vue schématique en plan de la séquence transversale des chantiers. ...122

Figure 42. Exemple d'évaluation d'un diagramme de stabilité d'une chambre à grignoter selon Potvin. Dans cet exemple, le HW et FW sont respectivement considérés comme de la pegmatite et du remblai ...124

Figure 43. Pourcentage de chambres stables par rapport aux dimensions des chambres. ...126

Figure 44. Tableau de stabilité des chantiers ouverts ELOS (reproduit à partir de Potvin, 1988 et Clark, 1998). ...127

Figure 45. Exemple d'évaluation ELOS. Dans cet exemple, les paramètres HW et FW sont pris en compte. respectivement de la pegmatite et du remblai ...128

Figure 46. Vue isométrique de la séquence d'exploitation minière proposée. ...132

Figure 47. Déformation plastique et endommagement de la masse rocheuse (Sloss) à l'aide de deux isosurfaces. ...133

Figure 48. Contrainte principale majeure présentée sur une vue en plan et des isosurfaces de dommages à la masse rocheuse. ...134

Figure 49. Configuration de la chambre adoptée pour l'évaluation des exigences en matière de résistance du remblai (reproduit à partir de Li et Aubertin, 2012). ...135

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Figure 50. Vue longitudinale des résultats de la modélisation numérique pour l'exploitation souterraine sous une chambre ou un panneau remblayé. 137

Figure 51. Tableau de stabilité à l'échelle avec les données proposées pour le pilier de couronne....144

Figure 52. Évolution de la déformation plastique dans le pilier de couronne pour la période 2031-2049. Les années 2047 et 2049 incluent une contrainte principale mineure (S3). 145

Figure 53. Exemple de soutènement pour une intersection type de 10 m (à trois voies). 147

Figure 54. Représentation schématique du soutènement pour les chantiers (non à l'échelle). 148

Figure 55. Terminologie relative à l'infrastructure générale d'un portail (non à l'échelle).....150

Figure 56. Emplacement prévu du portail.....151

Figure 57. Vue en plan (à gauche) et vue en coupe (à droite) du portail principal.....152

Figure 58. Projections stéréographiques des discontinuités dans les métasédiments pris en compte dans l'analyse du portail et ensembles de joints interprétés.....153

Figure 59. Tableau de stabilité des travées à l'échelle avec les données proposées pour le pilier de surface du portail ..155

Figure 60. Contrainte principale mineure (S3) et dommages subis par la masse rocheuse autour du puits de ventilation L305. 157

Figure 61. Contrainte principale mineure (S3) et dommages subis par la masse rocheuse autour de la rampe principale située le plus près de la fosse.....158

Figure 62. Modélisation 2D de l'interaction OP-UG – rupture non circulaire dans la masse rocheuse et le remblai. 159

Figure 63. Modélisation 3D de l'interaction OP-UG – Isosurfaces des dommages et des déplacements de la masse rocheuse.....160

Figure 64. Projections stéréographiques des discontinuités GMD WAll-AMP dans l'amphibolite et ensembles de joints interprétés pour la zone ouest (paroi nord et paroi sud).....177

Figure 65. Projections stéréographiques des discontinuités GMD WW-APU dans toutes les lithologies pour la zone ouest (paroi ouest). 178

Figure 66. Projections stéréographiques des discontinuités GMD WS-META dans les métasédiments et interprété les ensembles communs pour la zone ouest (mur sud).....178

Figure 67. Projections stéréographiques des discontinuités GMD CN-UMU dans les roches ultramafiques et ensembles de joints interprétés pour la zone centrale (paroi nord). 179

Figure 68. Projections stéréographiques des discontinuités GMD CN-META dans les métasédiments et ensembles de joints interprétés pour la zone centrale (paroi nord). 179

Figure 69. Projections stéréographiques des discontinuités GMD CN-AMP dans l'amphibolite et ensembles de joints interprétés pour la zone centrale (paroi nord).....180

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Figure 70. Projections stéréographiques des discontinuités GMD CS-META dans les métasédiments et interprété les ensembles communs pour la zone centrale (mur sud). 180

Figure 71. Projections stéréographiques des discontinuités GMD CS-AMP dans l'amphibolite et ensembles de joints interprétés pour la zone centrale (paroi sud). 181

Figure 72. Projections stéréographiques des discontinuités GMD EN-UMU dans les roches ultramafiques et ensembles de joints interprétés pour la zone est (paroi nord). 181

Figure 73. Projections stéréographiques des discontinuités GMD EN-META dans les métasédiments et ensembles de joints interprétés pour la zone est (paroi nord). 182

Figure 74. Projections stéréographiques des discontinuités GMD EE-AMPU dans toutes les lithologies pour la zone est (paroi est). 182

Figure 75. Projections stéréographiques des discontinuités GMD ES-META dans les métasédiments et ensembles de joints interprétés pour la zone est (paroi sud). 183

Figure 76. Projections stéréographiques des discontinuités GMD EAll-AMP dans l'amphibolite et ensembles de joints interprétés pour la zone est (paroi nord et paroi sud). 183

Figure 77. Projections stéréographiques des discontinuités GMD WCE-PEG dans la pegmatite et ensembles de joints interprétés pour les zones ouest, centrale et est. 184

Figure 78. Projections stéréographiques des discontinuités dans l'amphibolite dans la zone minière souterraine et ensembles de joints interprétés. 185

Figure 79. Projections stéréographiques des discontinuités dans la pegmatite dans la zone souterraine et ensembles de joints interprétés. 185

Figure 80. Projections stéréographiques des discontinuités dans les métasédiments dans la zone minière souterraine et ensembles de joints interprétés. 186

Figure 81. Projections stéréographiques des discontinuités dans la roche ultramafique de la zone minière souterraine et ensembles de joints interprétés. 186

Figure 82. Stéréogramme des zones 1 à 8 de la mine à ciel ouvert - Amphibolite 188

Figure 83. Stéréogramme pour les zones 1 à 8 de la mine à ciel ouvert - Pegmatite 188

Figure 84. Stéréogramme des zones 1 à 8 de la mine à ciel ouvert - Métasédiments (Guyer) 188

Figure 85. Stéréogramme des zones 1 à 8 de la mine à ciel ouvert - Métasédiments (Marbot) 188

Figure 86. Stéréogramme des zones 1 à 8 de la mine à ciel ouvert - Ultramafique 189

Figure 87. Stéréogramme des zones 1 à 8 de la mine à ciel ouvert - Métasédiments (Guyer) - Nord 189

Figure 88. Stéréogramme des zones 1 à 8 de la mine à ciel ouvert - Métasédiments (Marbot) - Nord 189

Figure 89. Stéréogramme des zones 1 à 8 de la mine à ciel ouvert - Métasédiments (Guyer) - Sud 189

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Figure 90. Stéréogramme des zones 1 à 8 de la mine à ciel ouvert - Métasédiments (Marbot) - Sud 190
Figure 91. Conception FS de la mine à ciel ouvert fournie par GMS en mars 2025.....192
Figure 92. Secteurs de la mine à ciel ouvert basés sur la conception de la mine de mars 2025.....193
Figure 93. Résultats des analyses de stabilité à l'échelle du banc – Secteur A (AMP).....195
Figure 94. Résultats des analyses de stabilité à l'échelle du banc – Secteur B (AMP, PEG, UMU). 197
Figure 95. Résultats des analyses de stabilité à l'échelle du banc d'essai – Secteur C-1 (AMP).....199
Figure 96. Résultats des analyses de stabilité à l'échelle du banc d'essai – Secteur C-2 (META). 201
Figure 97. Résultats des analyses de stabilité à l'échelle du laboratoire – Secteur D (AMP). 203
Figure 98. Résultats des analyses de stabilité à l'échelle du laboratoire – Secteur E-1 (META).....205
Figure 99. Résultats des analyses de stabilité à l'échelle du banc d'essai – Secteur E-2 (UMU). 207
Figure 100. Résultats des analyses de stabilité à l'échelle du banc d'essai – Secteur F-1 (AMP). 209
Figure 101. Résultats des analyses de stabilité à l'échelle du banc d'essai – Secteur F-2 (META). 211
Figure 102. Résultats des analyses de stabilité à l'échelle du banc d'essai – Secteur G-1 (AMP). 213
Figure 103. Résultats des analyses de stabilité à l'échelle du laboratoire – Secteur G-2 (META). 215
Figure 104. Résultats des analyses de stabilité à l'échelle du banc d'essai – Secteur H (UMU).....217
Figure 105. Résultats des analyses de stabilité à l'échelle du banc d'essai – Secteur I (AMP, PEG, UMU, META).....219
Figure 106. Résultats des analyses de stabilité à l'échelle du banc d'essai – Secteur J-1 (AMP).....221
Figure 107. Résultats des analyses de stabilité à l'échelle du banc d'essai – Secteur J-2 (META).....223
Figure 108. Tableau de stabilité de la chambre à ciel ouvert Potvin – HW : pegmatite ; FW : pegmatite. 225
Figure 109. Graphique de stabilité de la chambre ouverte Potvin – HW : pegmatite (90°) ; FW : pegmatite. 226
Figure 110. Tableau de stabilité des chantiers à ciel ouvert de Potvin – HW : pegmatite ; FW : remblai. 227
Figure 111. Tableau de stabilité des chantiers à ciel ouvert de Potvin – HW : pegmatite (90°) ; FW : remblai.....228
Figure 112. Tableau de stabilité des chantiers à ciel ouvert de Potvin – HW : pegmatite ; FW : amphibolite ou métasédiments. 229
Figure 113. Tableau de stabilité des chantiers à ciel ouvert de Potvin – HW : pegmatite (90°) ; FW : amphibolite ou métasédiments.....230
Figure 114. Tableau de stabilité des chantiers à ciel ouvert de Potvin – HW : pegmatite (90°) ; FW : ultramafique indifférencié. 231

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Figure 115. Tableau de stabilité des chantiers à ciel ouvert de Potvin – HW : amphibolite ou métasédiments ; FW : remblai. 232

Figure 116. Tableau de stabilité des chantiers à ciel ouvert de Potvin – HW : amphibolite ou métasédiments ; FW : pegmatite. 233

Figure 117. Tableau de stabilité des chantiers à ciel ouvert de Potvin – HW : ultramafique indifférencié ; FW : remblai. 234

Figure 118. Tableau de stabilité des chantiers à ciel ouvert de Potvin – HW : ultramafique indifférencié ; FW : ultramafique indifférencié. 235

Figure 119. Tableau de stabilité des chantiers à ciel ouvert de Potvin – HW : amphibolite ou métasédiments ; FW : amphibolite ou métasédiments. 236

Figure 120. Tableau ELOS – HW : pegmatite ; FW : pegmatite. 237

Figure 121. Graphique ELOS – HW : pegmatite (90°) ; FW : pegmatite. 238

Figure 122. Carte ELOS – HW : pegmatite ; FW : remblai. 239

Figure 123. Graphique ELOS – HW : pegmatite (90°) ; FW : remblai. 240

Figure 124. Carte ELOS – HW : pegmatite ; FW : amphibolite ou métasédiments. 241

Figure 125. Carte ELOS – HW : pegmatite (90°) ; FW : amphibolite ou métasédiments. 242

Figure 126. Carte ELOS – HW : pegmatite (90°) ; FW : ultramafique indifférencié. 243

Figure 127. Carte ELOS – HW : amphibolite ou métasédiments ; FW : remblai. 244

Figure 128. Tableau ELOS – HW : amphibolite ou métasédiments ; FW : pegmatite. 245

Figure 129. Tableau ELOS – HW : ultramafique indifférencié ; FW : remblai. 246

Figure 130. Tableau ELOS – HW : ultramafique indifférencié ; FW : ultramafique indifférencié. 247

Figure 131. Carte ELOS – HW : amphibolite ou métasédiments ; FW : amphibolite ou métasédiments. 248

Figure 132. Configuration de la chambre adoptée pour l'évaluation des exigences en matière de résistance du remblai (reproduit à partir de Li et Aubertin (2012)). 249

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Liste des tableaux

Tableau 1. Codes des principales lithologies. 38
Tableau 2. Détails géotechniques des trous de forage. 42
Tableau 3. Détails géomécaniques des trous de forage. 44
Tableau 4. Longueurs géomécaniques enregistrées par trou. 46
Tableau 5. Longueurs enregistrées par type de lithologie. 46
Tableau 6. Résumé des fréquences des essais en laboratoire sur des échantillons de roches par lithologie 49
Tableau 7. Informations sur l'emplacement et la profondeur maximale de chaque unité stratigraphique dans les forages géotechniques. 50
Tableau 8. Épaisseur de chaque unité stratigraphique dans les forages géotechniques. 51
Tableau 9. Épaisseur moyenne de chaque unité stratigraphique dans les forages géotechniques. 51
Tableau 10. Nombre de SPT réalisés dans chaque unité stratigraphique par forage géotechnique et valeurs N moyennes. 52
Tableau 11. Corrélation entre l'angle de frottement et la valeur N (adapté de Terzaghi et al., 1996 et Day, 2005). 52
Tableau 12. Paramètres de résistance des unités stratigraphiques. 53
Tableau 13. Résumé des propriétés du sol utilisées pour les analyses de stabilité. 53
Tableau 14. Résumé de la densité moyenne et du poids unitaire par lithologie 55
Tableau 15. Facteurs de conversion PLT en UCS. 56
Tableau 16. Résistance à la compression uniaxiale obtenue à partir d'essais de charge ponctuelle sur site. 56
Tableau 17. Résumé des résistances à la compression uniaxiale – Tous types de rupture. 57
Tableau 18. Résumé des résistances à la compression uniaxiale – Types de rupture intacts et combinés. 58
Tableau 19. Répartition de la résistance à la compression uniaxiale à partir d'essais en laboratoire – Types de rupture intacts et combinés. 58
Tableau 20. Résumé des essais de résistance à la compression triaxiale. 59
Tableau 21. Résumé des essais de résistance à la traction brésilienne – Tous types de rupture. 60
Tableau 22. Résumé de la résistance à la traction brésilienne – Types de rupture intacts. 60
Tableau 23. Résumé des propriétés élastiques. 61
Tableau 24. Résumé des propriétés de résistance des roches intactes des principales lithologies. 63

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Tableau 25. Résumé des trous de forage utilisés dans l'évaluation de la qualité de la masse rocheuse des mines à ciel ouvert et souterraines. 63
Tableau 26. Résumé du RQD – Mine à ciel ouvert. 65
Tableau 27. Classification des masses rocheuses – Mine à ciel ouvert. 65
Tableau 28. Cotes de classification des masses rocheuses – Mine à ciel ouvert. 66
Tableau 29. Résumé du RQD – Mine souterraine. 66
Tableau 30. Classification des masses rocheuses – Mine souterraine. 66
Tableau 31. Classification des roches – Mine souterraine. 67
Tableau 32. Résumé des propriétés de résistance au cisaillement. 72
Tableau 33. Résumé des levés télévisuels utilisés pour l'analyse structurelle des secteurs à ciel ouvert et souterrains. 72
Tableau 34. Résumé des données structurelles disponibles par type de discontinuité. 73
Tableau 35. Résumé des données structurelles disponibles pour le type lithologique principal. 73
Tableau 36. Ensembles de joints interprétés par domaine géomécanique – Mine à ciel ouvert. 79
Tableau 37. Ensembles de joints interprétés par domaine géomécanique – Mine souterraine. 80
Tableau 38. Résumé des propriétés de résistance des masses rocheuses des principales lithologies. 83
Tableau 39. Hypothèses relatives à l'état de contrainte in situ. 84
Tableau 40. Domaines géotechniques et géomécaniques à ciel ouvert. 86
Tableau 41. Domaines géomécaniques des mines souterraines. 87
Tableau 42. Critères d'acceptation de la conception (reproduit à partir de Read et Stacey, 2009). 91
Tableau 43. Résumé des critères de conception et des hypothèses adoptés pour les bancs d'essai. 92
Tableau 44. Directives de conception pour les morts-terrains. 98
Tableau 45. Analyse de rupture en coin – Combinaisons de joints. 99
Tableau 46. Caractéristiques du secteur de conception des fosses. 101
Tableau 47. Paramètres d'optimisation de la conception des gradins – Secteur A (AMP) 104
Tableau 48. Propriétés des matériaux du modèle numérique à ciel ouvert. 110
Tableau 49. Résumé des directives de conception de la mine à ciel ouvert. 114
Tableau 50. Propriétés des matériaux du modèle numérique global. 118

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Tableau 51. Détails sur les roches exposées et les types de matériaux pour les chantiers transversaux et longitudinaux. . 121 Tableau 52. Orientations de la surface des chantiers. 122
Tableau 53. Dimensions optimisées des chambres transversales et limites. 125
Tableau 54. Dimensions optimisées et limites des chambres longitudinales. 125
Tableau 55. Évaluation de la dilution (ELOS) pour les galeries transversales. 129
Tableau 56. Évaluation de la dilution (ELOS) pour les chantiers longitudinaux. 129
Tableau 57. Directives de conception des chantiers. 130
Tableau 58. Résumé des hypothèses ELOS simplifiées à des fins de planification. 130
Tableau 59. Comparaison des exigences de résistance CPB obtenues à partir d'analyses empiriques. 137
Tableau 60. Résumé des exigences en matière de résistance du remblai en pâte cimentée. 138
Tableau 61. Exigences en matière de résistance du remblai en pâte cimentée pendant la durée de vie de la mine. 139
Tableau 62. Lignes directrices relatives à l'exposition acceptable au risque. Reproduit à partir de Carter et Miller (1995). 143
Tableau 63. Résumé des lignes directrices relatives au soutien au sol. 149
Tableau 64. Hypothèses et données utilisées pour la conception de la tranchée en caisson. 152
Tableau 65. Ensembles de joints interprétés dans les métasédiments – Secteur principal du portail 153
Tableau 66. Évaluation du glissement plan des pentes du portail. 154
Tableau 67. Évaluation du glissement en coin des pentes des portails. 154
Tableau 68. Dimensions et configuration de la conception de la tranchée en encorbellement. 156
Tableau 69. Directives pour la conception des pentes à ciel ouvert. 194
Tableau 70. Paramètres d'optimisation de la conception des gradins – Secteur A (AMP) 196
Tableau 71. Paramètres d'optimisation de la conception du banc – Secteur B (AMP, PEG, UMU) 198
Tableau 72. Paramètres d'optimisation de la conception du banc d'essai – Secteur C-1 (AMP) 200
Tableau 73. Paramètres d'optimisation de la conception du banc – Secteur C-2 (META) 202
Tableau 74. Paramètres d'optimisation de la conception du banc – Secteur D (AMP) 204
Tableau 75. Paramètres d'optimisation de la conception du banc – Secteur E-1 (META) 206
Tableau 76. Paramètres d'optimisation de la conception du banc – Secteur E-2 (UMU) 208
Tableau 77. Paramètres d'optimisation de la conception des bancs – Secteur F-1 (AMP) 210

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Tableau 78. Paramètres d'optimisation de la conception du banc – Secteur F-2 (META) 212
Tableau 79. Paramètres d'optimisation de la conception du banc – Secteur G-1 (AMP) 214
Tableau 80. Paramètres d'optimisation de la conception du banc – Secteur G-2 (META) 216
Tableau 81. Paramètres d'optimisation de la conception du banc – Secteur H (UMU) 218
Tableau 82. Paramètres d'optimisation de la conception du banc – Secteur I (AMP, PEG, UMU, META) 220
Tableau 83. Paramètres d'optimisation de la conception du banc – Secteur J-1 (AMP) 222
Tableau 84. Paramètres d'optimisation de la conception du banc – Secteur J-2 (META) 224

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

1 Introduction

1.1 Description et état d'avancement du projet

En 2024, Alius Mine Consulting (« **Alius** ») a été mandatée par G Mining Services (« **GMS** ») pour réaliser l'étude géomécanique de faisabilité (« **FS** ») du projet Shaakichiuwaanaan CV5 (**« Shaakichiuwaanaan »** ou **« projet »**) pour PMET Resources (« **PMET** »), situé dans la région de la baie James au Québec, au Canada. L'objectif de ce mandat est de formuler des recommandations géomécaniques à l'appui de l'étude de faisabilité NI 43-101 préparée par GMS. Dans le cadre de ce travail, Alius a réalisé des carottages géomécaniques complémentaires, des essais en laboratoire et élaboré des recommandations en matière de directives de conception pour la mine à ciel ouvert et la mine souterraine.

La pegmatite spodumène CV5 fait partie de la propriété Shaakichiuwaanaan, située à environ 220 km à l'est de Radisson et à 240 km au nord-nord-est de Nemaska, dans la province de Québec, comme le montre la figure 1.

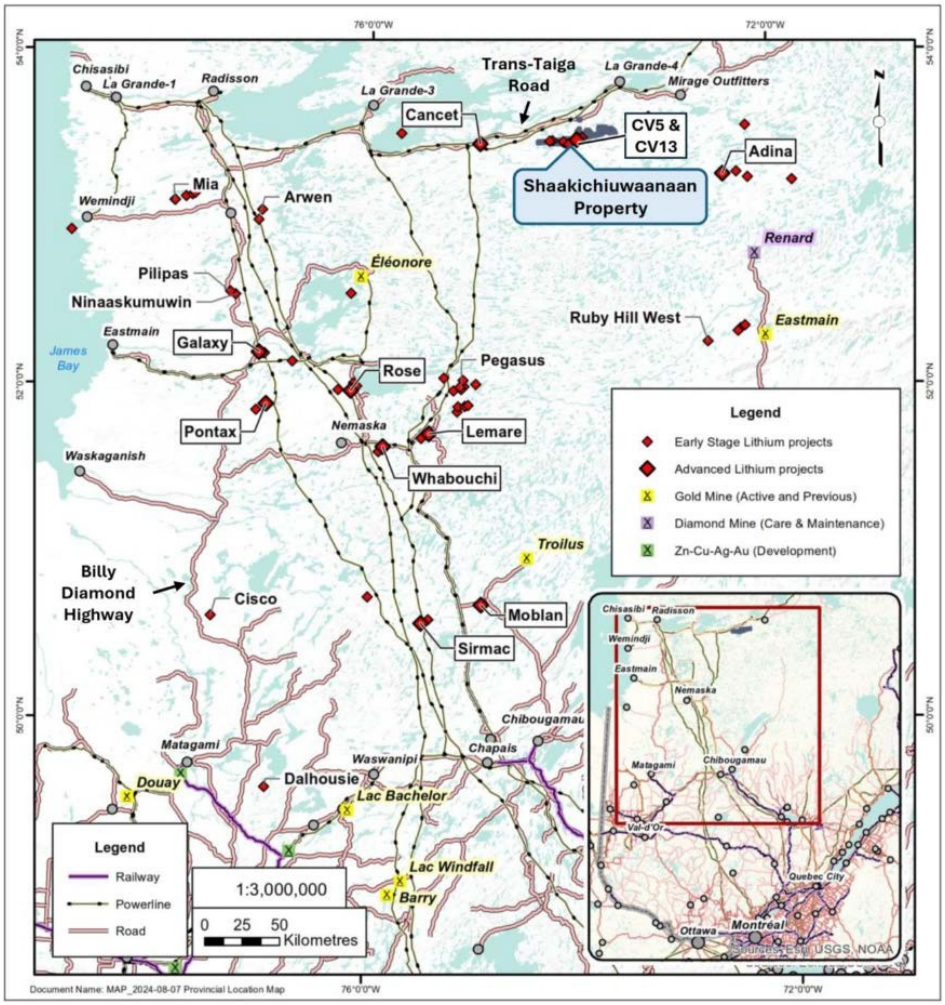


Figure 1. Emplacement général de la propriété Shaakichiuwaanaan (BBA, 2024e).

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Selon le cadre de développement de projet présenté par Read et Stacey (2009), la phase actuelle du projet et ses objectifs généraux sont définis comme suit :

> *Étape 3 – Conception de faisabilité*
>
> *L'objectif de cette étape est d'établir une image claire des coûts prévus pour le développement et l'exploitation de la mine. À l'issue de l'étude, d'autres interprétations peuvent être possibles, mais selon l'avis d'une « personne compétente », celles-ci ne devraient pas affecter la viabilité économique potentielle du projet. Pour atteindre ce niveau de précision, des conceptions globales de pentes de l'ordre de ±5° sont nécessaires.*

Les principaux objectifs de ce rapport technique sont donc de fournir des critères de conception pour les mines à ciel ouvert et souterraines proposées, d'identifier et d'évaluer les principaux risques et opportunités géomécaniques qui influencent l'analyse de rentabilité et de recommander des travaux supplémentaires afin d'accroître encore la confiance dans la conception.

1.2 Étendue des travaux

La portée des travaux comprend :

- → La planification et l'exécution d'une campagne complémentaire de forages géomécaniques, la réalisation d'essais de roches en laboratoire et la confirmation que les données disponibles sont suffisantes pour fournir des recommandations de niveau FS.
- → La mise à jour des définitions des domaines géotechnique et géomécanique.
- → Fournir des directives de conception des pentes en matière d'ingénierie des sols et des roches au niveau FS pour la mine à ciel ouvert (OP) sur la base d'analyses cinématiques, d'analyses d'équilibre limite et de modélisation numérique. Les recommandations doivent couvrir les configurations des gradins, des rampes intermédiaires et des pentes globales.
- → Fournir des directives de conception géotechnique au niveau FS pour la mine souterraine (UG) basées sur des méthodes empiriques et une modélisation numérique, couvrant :
  - Conception des chantiers et dilution
  - Exigences en matière de remblayage
  - Séquence d'exploitation
  - Le soutènement
  - Conception des piliers
  - Portail principal
  - Infrastructures souterraines
  - Interaction avec la mine à ciel ouvert

Ce rapport présente des recommandations de conception pour les mines à ciel ouvert et souterraines. Les détails de l'étude géomécanique complémentaire sont fournis dans un rapport factuel distinct (Alius Mine Consulting, 2025).

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

1.3 Informations disponibles

L'étude s'appuie sur les sources d'information suivantes :

01. Modèle géologique

→ Les unités lithologiques comprennent l'amphibolite (composée d'Amphibolite 01 à 03), le groupe des métasédiments, l'ultramafique indifférencié et la pegmatite (composée des solides nommés Pegmatite, Pegmatite CV et Pegmatite Feldspar). Des unités plus petites de diabase et de formation ferrifère (Marbot et grenat + Fe-ox) sont également présentes.

→ Dernier modèle lithologique reçu le 29 janvier 2025.

→ Modèle structurel CV5 (c'est-à-dire les failles) reçu le 27 janvier 2025 (modélisé uniquement dans la zone à ciel ouvert).

→ Modèles filaires RQD reçus le 23 décembre 2024.

02. Études et caractérisation géotechniques et géomécaniques

→ Géotechnique :

- Campagne d'études de phase 2 (BBA, 2024c)

→ Géomécanique :

- Caractérisation géomécanique au niveau PEA (BBA, 2023a).
- Campagnes supplémentaires d'études géomécaniques (BBA, 2024a ; BBA, 2024b).

03. Conception de la mine à ciel ouvert

→ Conception de la fosse PEA (figure 3a) pour l'évaluation des directives de conception.

→ Conception finale de la mine à ciel ouvert (figure 3b) reçue le 17 mars 2025, utilisée pour la modélisation numérique.

04. Conception de la mine souterraine

→ Conception de la mine souterraine PEA (figure 4a) utilisée pour l'évaluation des directives de conception.

→ Conception des chantiers intermédiaires (figure 4b) basée sur le modèle en blocs de juillet 2024 (ressources présumées et indiquées), à l'exclusion des chantiers situés au sud de la zone principale.

→ Conception souterraine finale de l'étude de faisabilité (figure 5) reçue le 5 mars 2025, utilisée pour la modélisation numérique.

Sauf indication contraire, les directives de conception présentées dans ce rapport sont basées sur la PEA ou les conceptions intermédiaires, tandis que la modélisation numérique intègre les conceptions finales de l'étude de faisabilité qui comprennent les recommandations mises à jour concernant les pentes et les chantiers.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

2 Contexte général et conditions du site

Cette section fournit une description du site et une description des conditions géologiques.

2.1 Description du site

Le site du projet est situé dans une région au climat subarctique. Les données climatiques de l'aéroport de La Grande Rivière (LG2), près de Radisson, au Québec, à environ 220 km à l'ouest du site, indiquent des températures annuelles variant entre -27 et 20 °C, avec des extrêmes occasionnels de -35 et 26 °C. Les précipitations atteignent leur maximum à la fin août et au début septembre, avec une moyenne mensuelle maximale d'environ 90 mm, tandis que la couverture neigeuse persiste généralement de la mi-octobre à la fin mai (BBA, 2024e).

Le terrain dans la région de Shaakichiuwaanaan est constitué de collines boisées légèrement vallonnées, entrecoupées de ruisseaux et de zones humides, dont l'altitude varie entre environ 260 et 350 m, ce qui est caractéristique de la région de la baie James. La zone du futur projet est partiellement située au-dessus d'un lac et est entourée de nombreux plans d'eau, comme le montre la figure 2.

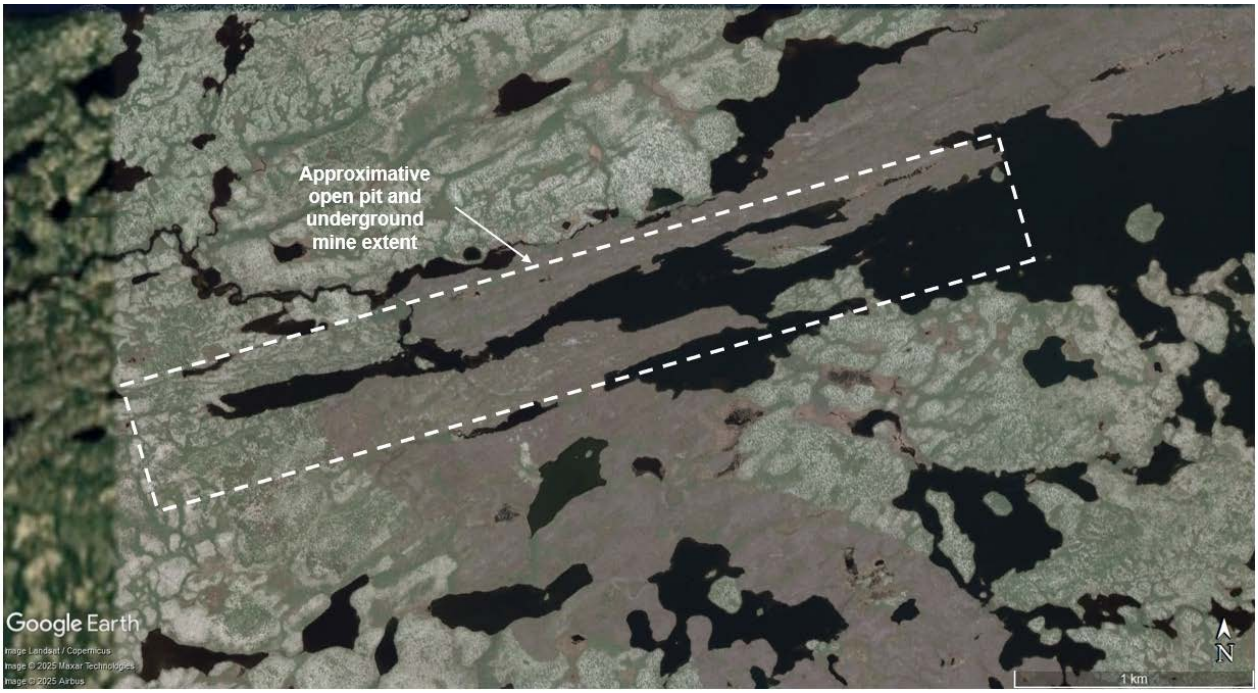


Figure 2. Étendue approximative de la mine à ciel ouvert et de la mine souterraine avec les lacs environnants.

Le gisement du projet se compose d'un grand dyke pegmatitique principal (CV5), accompagné de plusieurs dykes plus petits orientés approximativement est-ouest. Les opérations minières prévues comprendront à la fois l'exploitation à ciel ouvert conventionnelle et l'abattage mécanisé à longs trous pour la mine souterraine. Les dykes pegmatitiques ont une inclinaison d'environ 80° vers le nord. Le gisement s'étend sur une longueur d'environ 4,6 km, avec une minéralisation modélisée de la surface jusqu'à une profondeur de 650 m.

Selon la conception de l'EEP illustrée à la figure 3a, l'orientation de la mine à ciel ouvert est sud-ouest-nord-est

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

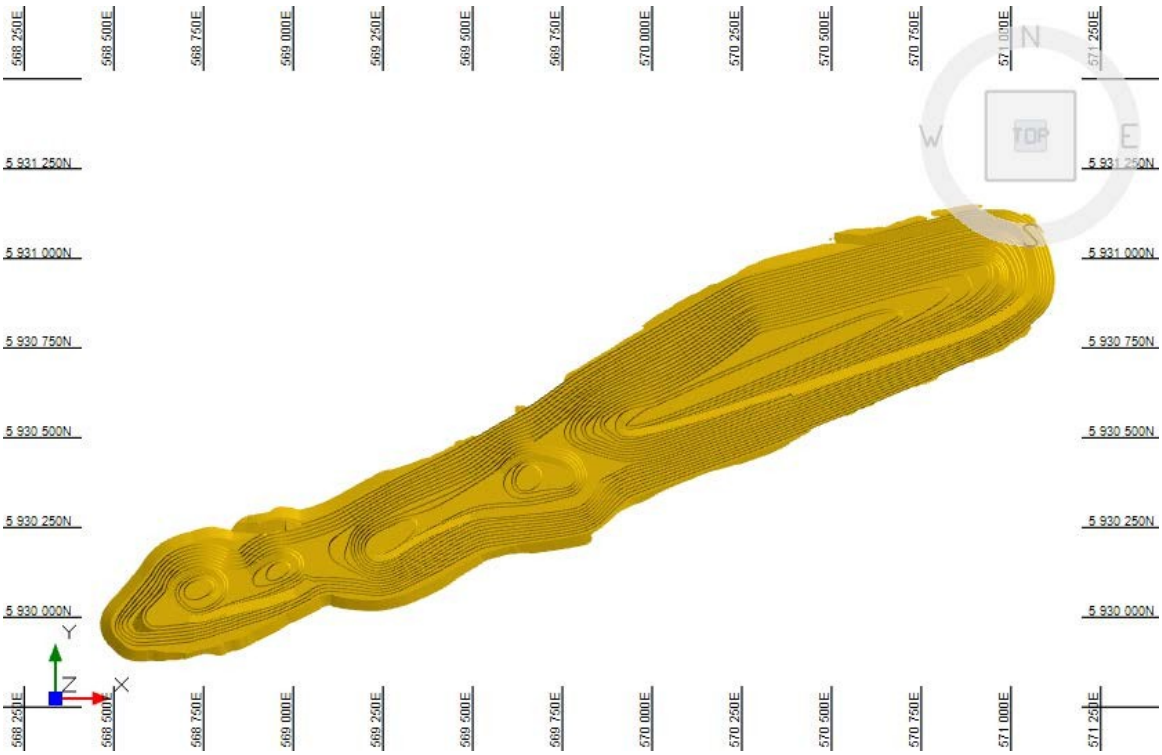
Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

et mesure environ 2,8 km de long et jusqu'à 480 m de large. La zone sud-ouest de la fosse a une profondeur d'environ 70 à 150 m, tandis que la zone nord-est est plus large et plus profonde, atteignant une profondeur d'environ 200 m. Comme indiqué précédemment, une partie importante du gisement se trouve sous le lac 001 et devra donc être asséchée pour permettre l'exploitation à ciel ouvert. Étant donné que les eaux de surface s'écoulent généralement vers l'ouest, le détournement et la gestion de l'eau seront des aspects importants du projet.

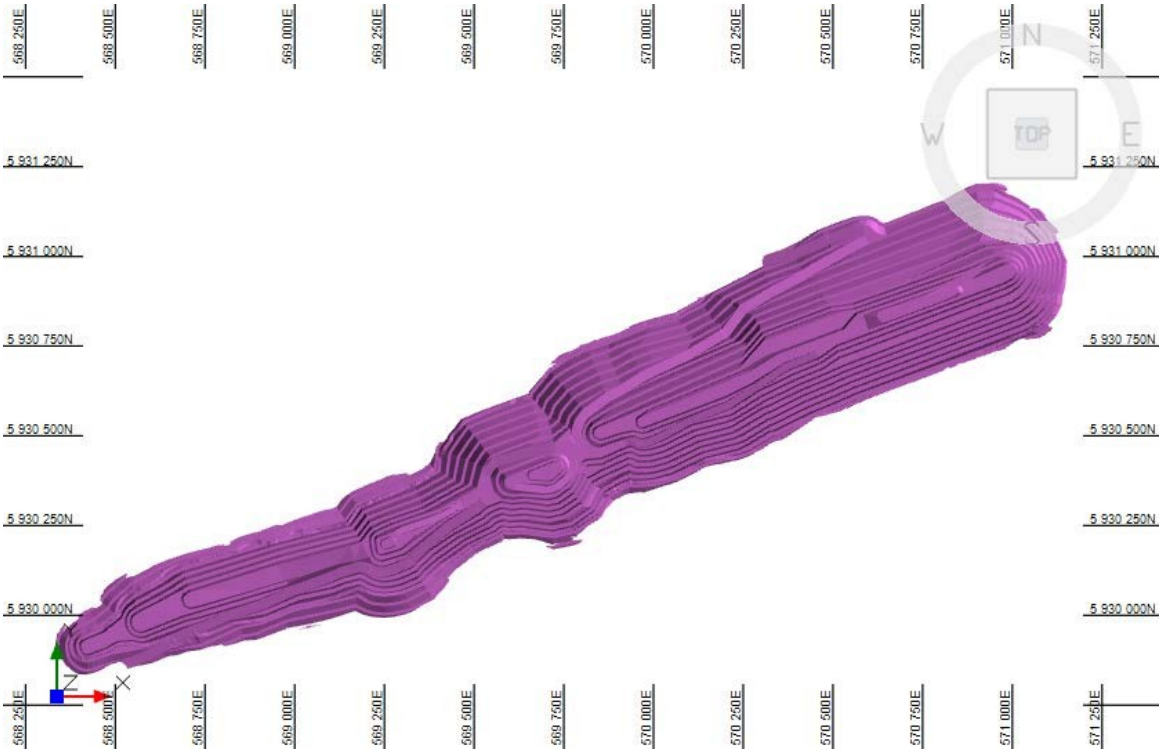
Selon la conception souterraine PEA illustrée à la figure 4a, la mine souterraine est située à l'extrémité nord-est de la fosse et s'étend jusqu'à une profondeur d'environ 490 m sous la surface.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification



(a) Conception PEA.

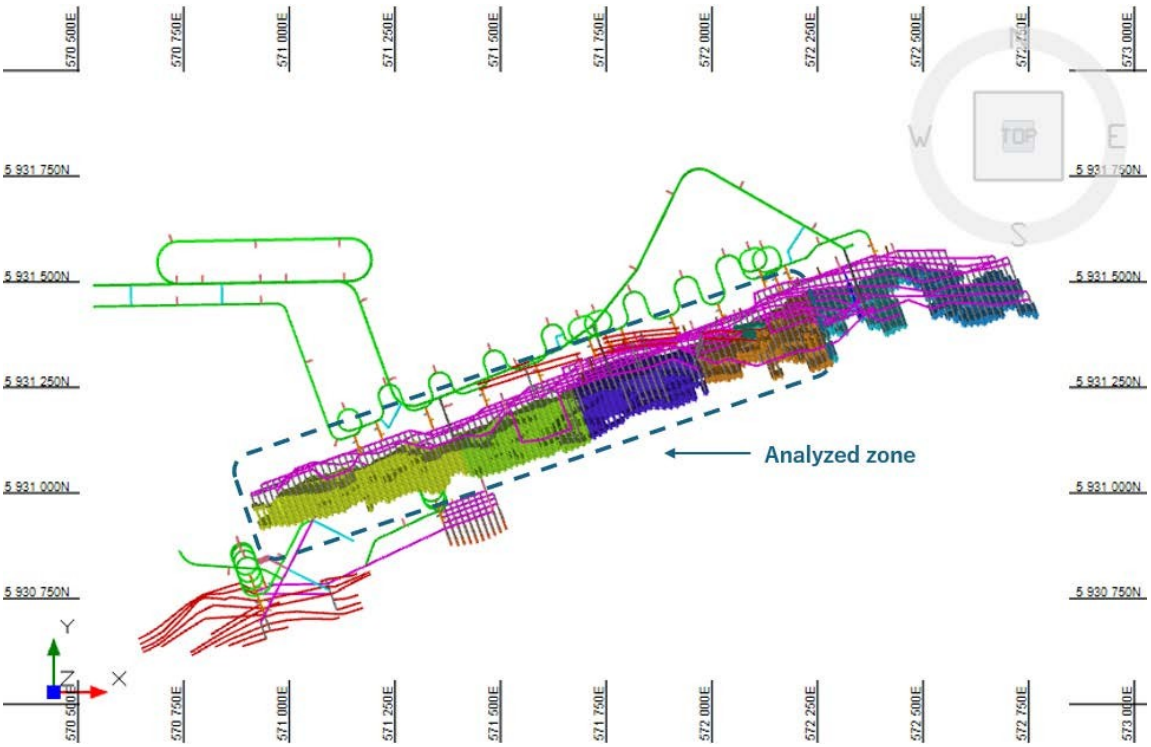


(b) Conception FS.

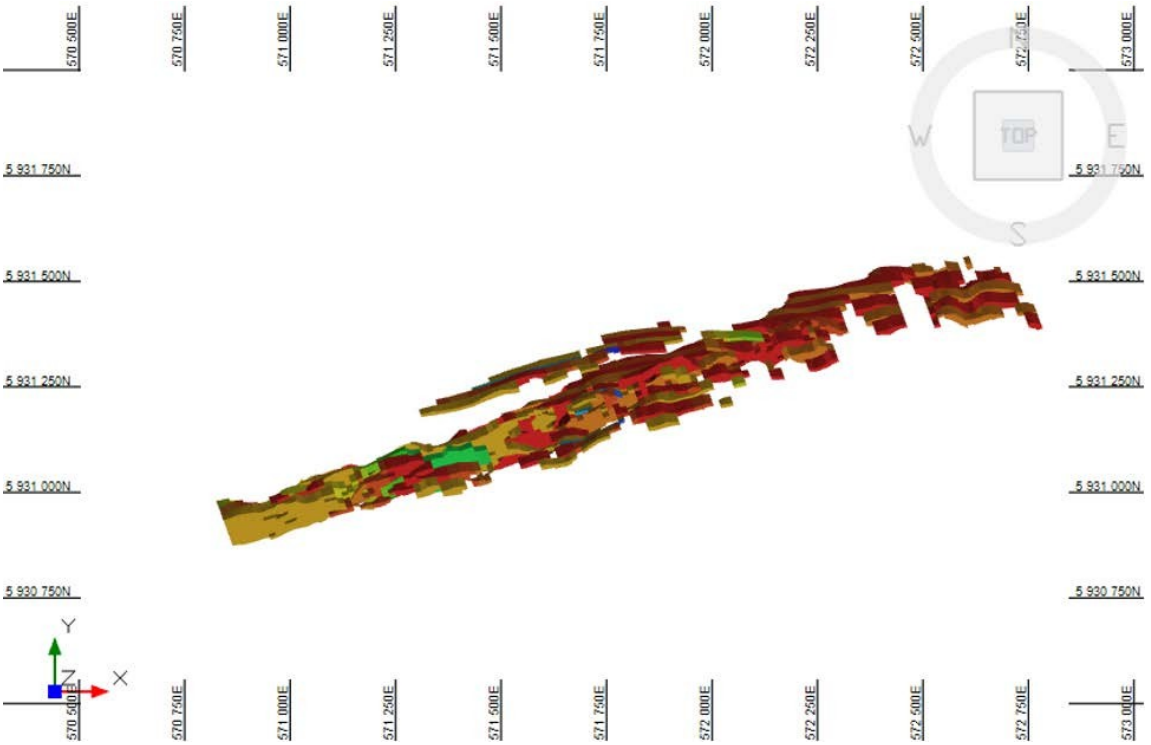
Figure 3. Conceptions à ciel ouvert fournies par GMS – Vues en plan.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification



(a) Conception PEA.



(b) Conception intermédiaire (basée sur le modèle de blocs de juillet 2024).

Figure 4. Conceptions de mines souterraines fournies par GMS – Vues en plan.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

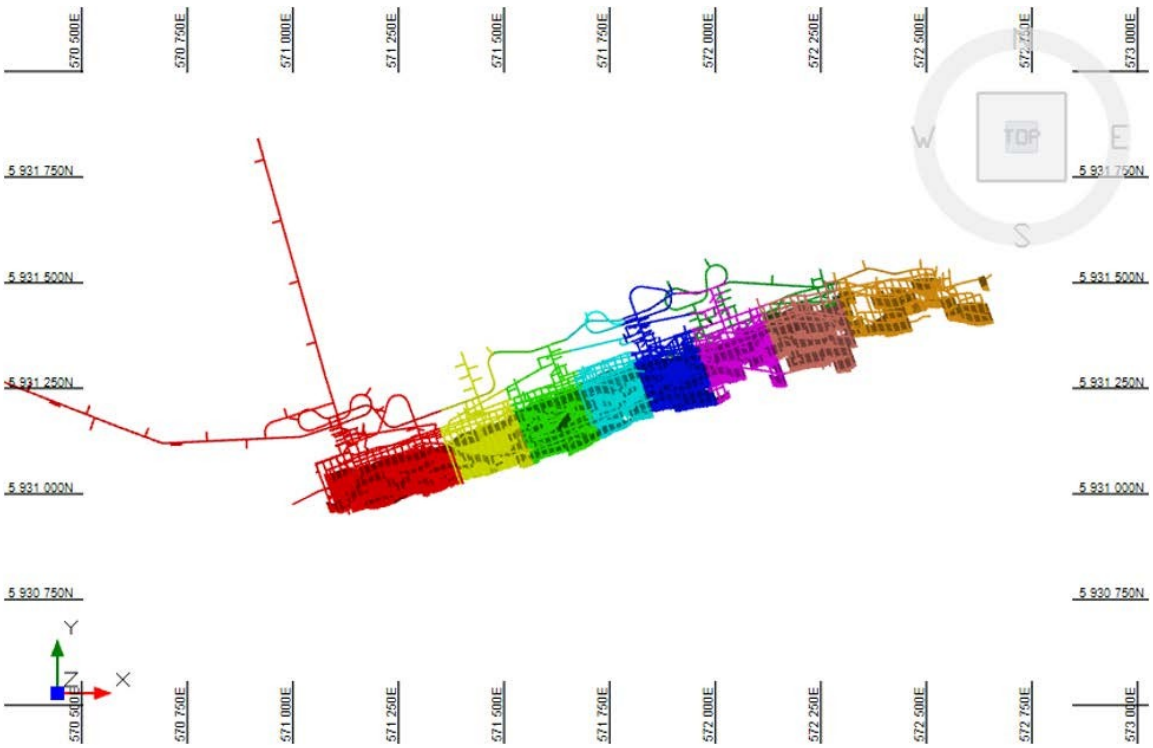


Figure 5. Conceptions de la mine souterraine fournies par GMS – Conception FS.

2.2 Conditions géologiques

2.2.1 Géologie régionale

Au niveau régional, le gisement de pegmatite CV5 est situé dans la sous-province La Grande de la province archéenne du Supérieur, dans le Bouclier canadien, comme le montre la figure 6 (BBA, 2024e). La zone du projet se trouve dans la ceinture de roches vertes de La Grande, un assemblage volcanique-sédimentaire dominé par des roches volcaniques basaltiques à felsiques intercalées avec des unités métasédimentaires qui ont été métamorphosées en faciès amphibolite.

La sous-province La Grande s'étend parallèlement au corridor structural Wemindji-Caniapiscau et est délimitée au sud par la sous-province Opinaca. La zone de transition entre La Grande et Opinaca abrite plusieurs pegmatites contenant du spodumène, dont la pegmatite CV5.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

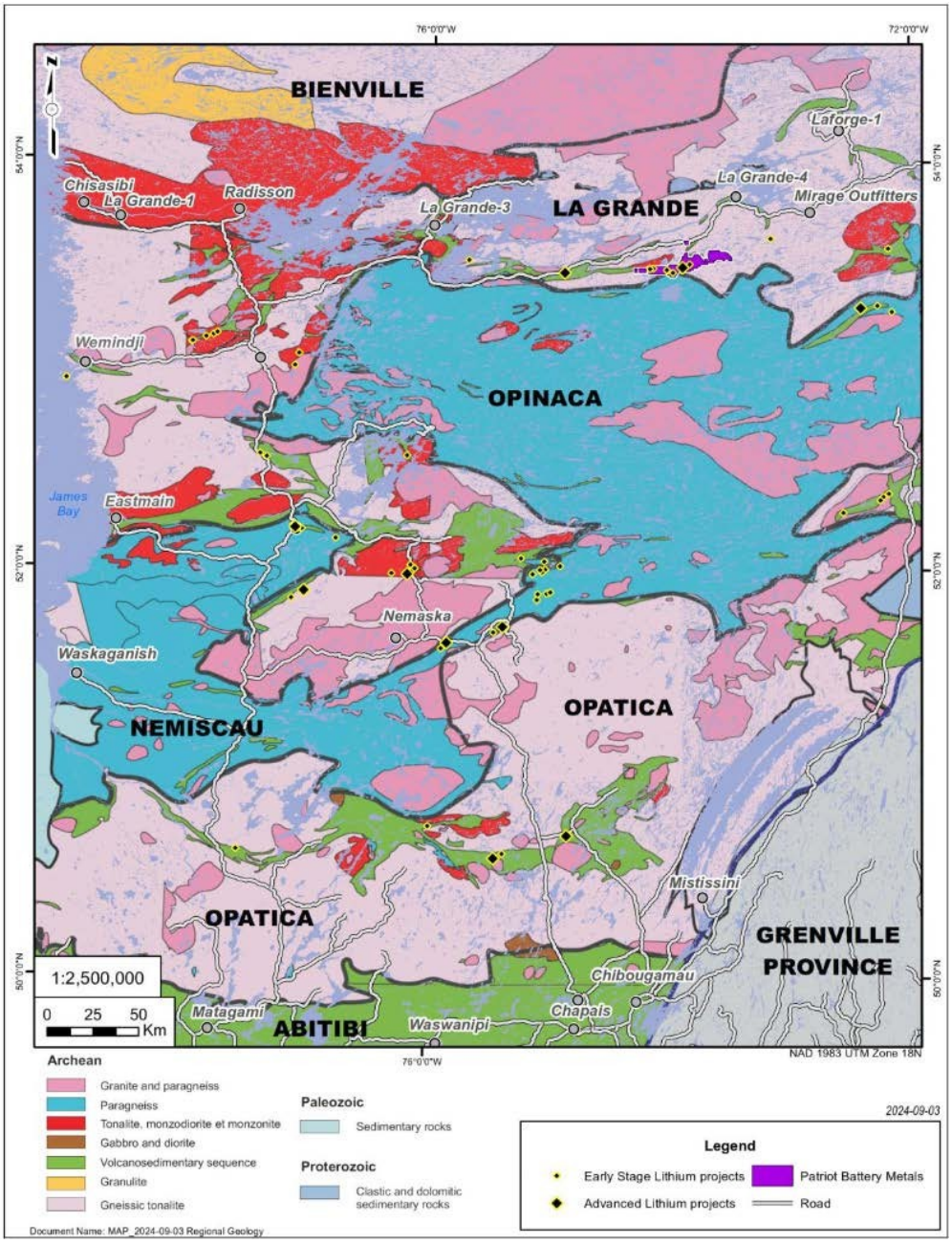


Figure 6. Géologie régionale d' autour du projet Shaakichiuwaanaan (BBA, 2024e).

2.2.2 Géologie locale

Au niveau local, le gisement de pegmatite CV5 se trouve dans le groupe Guyer de la ceinture de roches vertes du lac Guyer, qui fait partie de la ceinture de roches vertes plus large de la rivière La Grande (BBA, 2024e). Le groupe Guyer se compose d'une séquence volcanique-sédimentaire dominée par des amphibolites, des roches métasédimentaires et des roches volcaniques intermédiaires à mafiques, ainsi que par des unités ultramafiques mineures telles que des péridotites, des pyroxénites et des komatiites, et des tufs volcaniques felsiques. Ces unités s'étendent généralement d'est en ouest

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

et présentent un pendage modéré à raide vers le sud. Le groupe Guyer est délimité au nord par la formation Magin et au sud par des intrusions de tonalite, de granodiorite et de diorite, ainsi que par les roches métasédimentaires du groupe Marbot. Des dykes gabbroïques protérozoïques des essaims Lac Spirt et Senneterre s'intruisent localement dans ces unités.

La pegmatite CV5 se trouve dans le corridor CV Lithium Pegmatite Trend, un corridor est-ouest d'environ 1 km de large et de plus de 25 km de long qui abrite des pegmatites lithinifères Li-Cs-Ta (LCT). Le dyke CV5 a une longueur approximative de 4,6 km et se trouve principalement dans des roches amphibolites et métasédimentaires. En surface, la pegmatite apparaît soit sous forme d'affleurements en relief élevé en forme de « dos de baleine », soit sous forme d'affleurements plats en relief faible.

Sur la base du modèle lithologique de janvier 2025, les codes des principales unités lithologiques sont présentés dans le tableau 1, ainsi que le système de codification lithologique utilisé dans le présent rapport. Il convient de noter que lorsque le terme « ultramafique » est utilisé dans le présent rapport, il fait spécifiquement référence au groupe ultramafique indifférencié.

Tableau 1. Codes des principales lithologies.

Code	Description
AMP	Amphibolite
DIA	Diabase
IRONF	Formation ferrifère
META	Métasédiments
OVB	Masse rocheuse
PEG	La pegmatite et la pegmatite à spodumène sont modélisées séparément, mais sont regroupées dans le présent rapport.
UMU	Ultramafique indifférencié (« ultramafique »)

Comme l'illustre la figure 7, les parois ultimes de la fosse exposent principalement de l'amphibolite et des métasédiments. Les roches ultramafiques sont exposées localement, tandis que des occurrences de pegmatite sont attendues près du fond de la fosse et dans des sections isolées des parois. Les chantiers souterrains se trouvent principalement dans la pegmatite, mais diverses lithologies peuvent être présentes dans les parois suspendues et les parois de fond immédiates. La caractérisation géomécanique se concentre donc sur les quatre unités principales : AMP, META, UMU et PEG.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

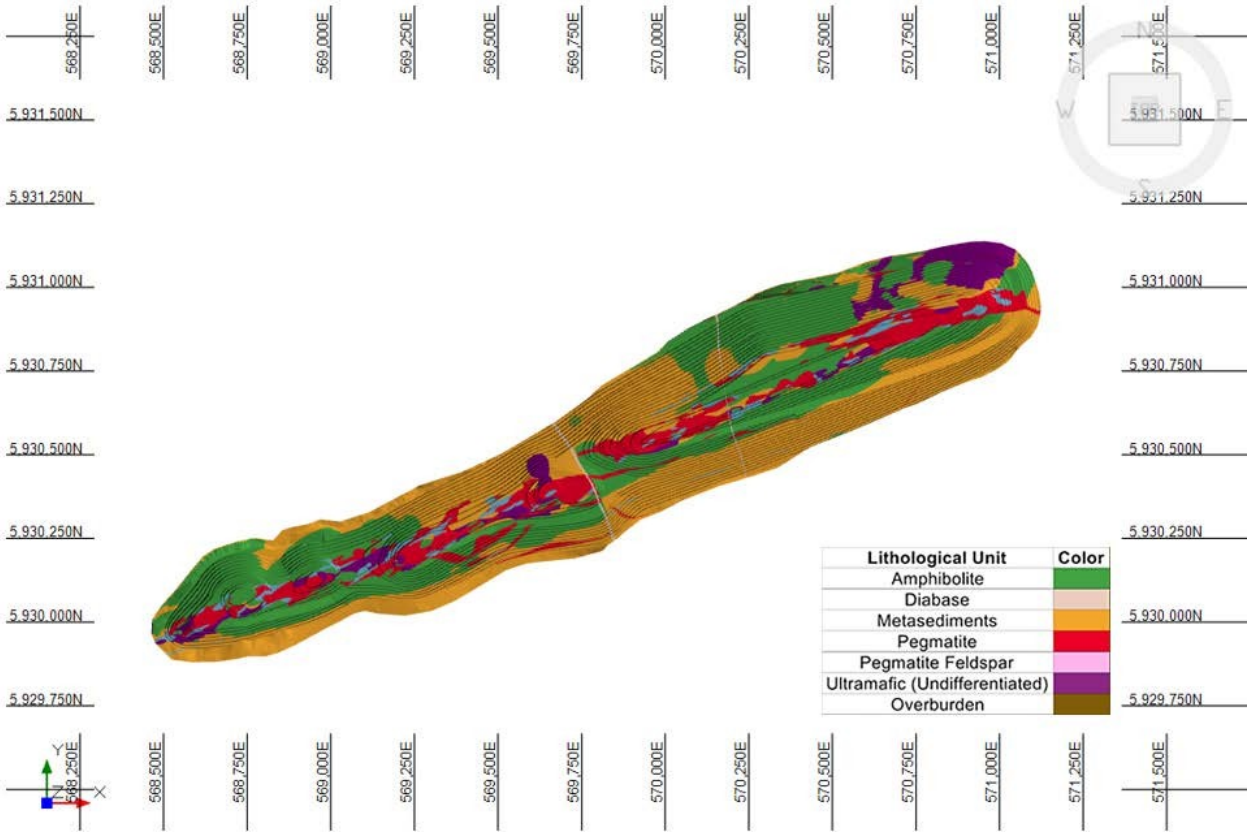


Figure 7. Enveloppe ultime de la fosse colorée en fonction des lithologies exposées dans les parois.

2.2.3 Géologie structurale

La zone du projet Shaakichiuwaanaan a subi de multiples événements tectoniques qui ont produit d'importantes zones de cisaillement orientées est-ouest, notamment la faille Pontois-Sud au nord et la zone de cisaillement Nochet au sud. Dans ce cadre structural, la structure apparente des métasédiments (groupe Guyer) présente généralement un pendage modéré à raide vers le sud. La pegmatite CV5 n'est pas concordante avec la foliation régionale et présente une forte inclinaison vers le nord. À ce jour, aucune déformation significative de la pegmatite n'a été identifiée, à l'exception de plissements mineurs observés ailleurs sur la propriété (BBA, 2024e).

Dans le modèle géologique fourni par GMS, six failles subverticales interprétées recoupent la mine à ciel ouvert, comme le montre la figure 8. Parmi celles-ci, la faille FLT_1025, une structure orientée nord-ouest-sud-est qui traverse la partie centrale de la mine, présente un déplacement mesurable dans les lithologies modélisées et est la seule faille présentant un décalage interprété significatif.

À ce stade, il est difficile de définir avec précision la position et l'étendue de plusieurs structures, car bon nombre de leurs traces sont subparallèles à l'orientation des trous de forage géologiques. Cette géométrie réduit la probabilité que les failles intersectent le noyau, ce qui pourrait entraîner une sous-représentation ou une incertitude dans la caractérisation des failles. Les failles orientées approximativement perpendiculairement aux parois de la fosse doivent donc être interprétées avec prudence et surveillées de près pendant le développement de la fosse. Cette

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

limitation ne s'applique pas aux failles orientées perpendiculairement aux traces des trous de forage.

Actuellement, la modélisation structurelle ne couvre que la zone à ciel ouvert ; aucune structure n'a encore été modélisée pour la mine souterraine. Il sera important de développer un modèle structurel plus détaillé afin de s'assurer qu'aucune zone de faille majeure n'affecte négativement les opérations à ciel ouvert ou souterraines.

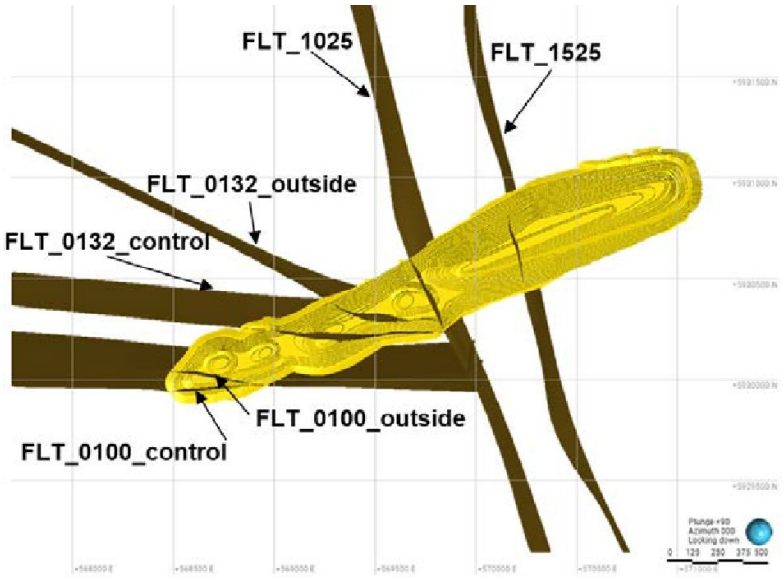


Figure 8. Emplacement des six failles subverticales qui croisent la mine à ciel ouvert.

2.3 Hydrogéologie

La base de référence hydrogéologique du projet est établie dans BBA (2023b). Cette étude se concentre sur l'empreinte de la mine à ciel ouvert prévue à CV5, qui, à l'époque (2023), correspondait à une fosse englobant à la fois les conceptions actuelles de la mine à ciel ouvert et de la mine souterraine de l'étude de faisabilité.

Le rapport couvre la conductivité hydraulique, le niveau des eaux souterraines et la qualité des eaux souterraines pour trois unités hydrostratigraphiques principales : les morts-terrains, les sédiments lacustres et le substrat rocheux. Les caractéristiques de chaque unité présentées par BBA (2023b) sont les suivantes :

- → Matières en excès : de minces dépôts de matières en excès forment la zone vadose. Compte tenu de la nature des matériaux rencontrés (principalement des dépôts glaciaires de surface/des till non consolidés composés de blocs et de galets dans une matrice de sable, de limon et de gravier), les dépôts superficiels meubles sont supposés avoir une perméabilité élevée.
- → Sédiments lacustres : cette unité n'a pas été caractérisée dans le cadre de l'étude mentionnée.
- → Substrat rocheux : Le substrat rocheux constitue la principale nappe phréatique du site, caractérisée comme une nappe phréatique non confinée dans une roche fracturée. La masse rocheuse présente généralement une fracturation de faible intensité, avec une conductivité hydraulique moyenne de $3{,}2 \times 10^{-7}$ m/s, ce qui indique une perméabilité moyenne. Les eaux souterraines dans les parties nord et sud de la fosse prévue (2023) s'écoulent généralement vers le lac situé au centre de la fosse, tandis que dans la partie ouest du site, les eaux souterraines s'écoulent vers le nord-ouest en direction de la sortie du lac.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

3 Campagnes d'investigation

Pour étayer l'étude de faisabilité, les investigations disponibles sont regroupées en deux grandes catégories : les investigations géotechniques pour la caractérisation des sols et les investigations géomécaniques pour la caractérisation des masses rocheuses. Les deux types d'investigations sont résumés dans les sous-sections suivantes.

3.1 Programmes géotechniques

Le programme d'études géotechniques a été préparé par BBA, et les essais en laboratoire des échantillons de sol ont été réalisés par Englobe en 2024.

3.1.1 Travaux sur le terrain

Une campagne géotechnique sur le terrain a été menée au cours de l'été et de l'automne 2024 afin de faciliter la caractérisation des sols et les études hydrogéologiques (BBA, 2024c). Le programme, lancé et consigné par BBA, comprenait la description et la classification de soixante-sept (67) trous de forage. Parmi ceux-ci, onze (11) trous de forage situés à moins de 250 m de l'empreinte de la mine à ciel ouvert de l'EEP ont été identifiés comme représentatifs des conditions régionales de recouvrement et ont été pris en compte dans le processus de détermination des lignes directrices de conception géotechnique. L'emplacement des trous de forage sélectionnés est indiqué à la figure 9 et leurs détails sont fournis dans le tableau 2.

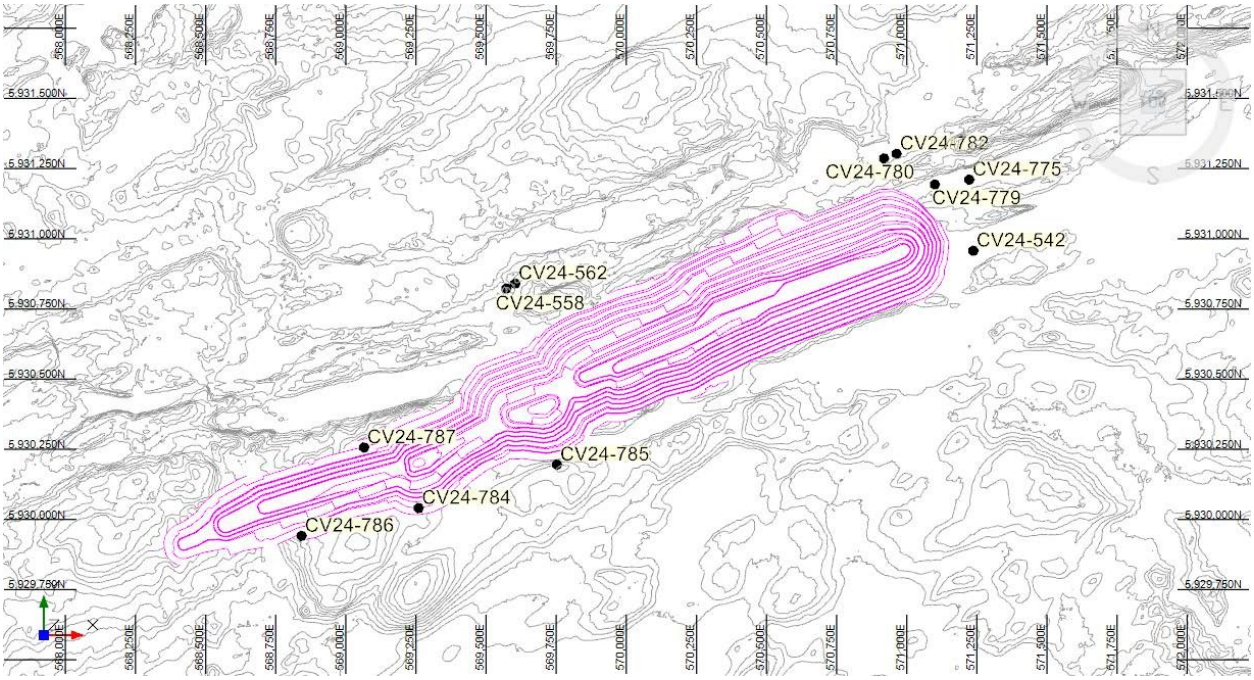


Figure 9. Vue en plan de la fosse à ciel ouvert FS et des trous de forage géotechniques.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Tableau 2. Détails géotechniques des trous de forage.

Identifiant DH	Coordonnées du collier			Carotte	Azimut	Pente	Longueur
(CV24–)	**Est** (m)	**Nord** (m)	**Altitude** (m)	**Taille**	(°)	(°)	(m)
542	571 235,6	5 930 959,1	94,86	NQ	0	-90	11,3
558	569 570,6	5 930 824,8	94,86	Siège	0	-90	11,1
562	569 602,1	5 930 842,2	112,10	Siège	0	-90	11,0
775	571 221,3	5 931 212,4	102,07	NTW	0	-90	11,0
779	571 098,5	5 931 194,9	81,42	NTW	0	-90	13,0
780	570 917,1	5 931 288,1	140,26	NTW	0	-90	9,1
782	570 962,2	5 931 304,3	132,56	Siège	0	-90	10,2
784	569 258,0	5 930 042,0	75,38	Siège	0	-90	32
785	569 751,0	5 930 197,0	79,69	NQ	0	-90	3,8
786	568 840,8	5 929 943,0	115,20	NQ	0	-90	25,4
787	569 063,2	5 930 258,0	106,99	NQ	0	-90	18,5

Codes DH ID Identification du trou de forage.
Remarques Coordonnées en NAD83 / zone UTM 18N.
Diamètre HQ : 63,5 mm ; diamètre NQ : 47,6 mm ; diamètre NTW : 64,0 mm.

Le programme sur le terrain consistait à effectuer des essais de pénétration standard (SPT) le long de chaque trou de forage jusqu'à atteindre le substrat rocheux, ainsi qu'à classer visuellement les matériaux récupérés à l'aide d'échantillonneurs à cuillère fendue. Des échantillons de sol et de roche ont également été prélevés au cours de la campagne en vue d'analyses ultérieures en laboratoire.

3.1.2 Essais en laboratoire

Les essais en laboratoire des échantillons de sol provenant des trous de forage sélectionnés se sont limités à l'analyse de la distribution granulométrique, de la sédimentation et de la teneur en eau. Ces essais ont été principalement réalisés afin de valider la classification des matériaux.

3.2 Programmes géomécaniques

En 2024, plusieurs campagnes de diagraphie ont été menées afin d'acquérir des données pour soutenir le développement d'un modèle géomécanique adapté à la fois à l'analyse de la stabilité des pentes de la fosse et à celle de la stabilité souterraine. Un programme, planifié et enregistré par BBA, a été réalisé au début de la phase d'étude de faisabilité (BBA, 2024a ; BBA, 2024b). Le programme d'étude géomécanique le plus récent a été conçu et exécuté par Alius, et les relevés sur le terrain ont été effectués par le personnel d'Alius (Alius Mine Consulting, 2025). L'objectif du programme d'étude complémentaire d'Alius était de combler les lacunes identifiées dans la caractérisation précédente de la masse rocheuse.

Les essais en laboratoire des échantillons prélevés lors de la campagne de relevés géomécaniques d'Alius ont été réalisés au laboratoire de mécanique des roches d'Alius à Québec (Québec), à l'exception des essais de cisaillement direct, qui ont été effectués par WSP. Les échantillons prélevés par BBA au cours de sa campagne ont été testés au laboratoire de mécanique des roches de l'université Queen's à Kingston (Ontario), à l'exception des essais de cisaillement direct.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

tests, qui ont également été réalisés par WSP.

Une base de données historique des forages réalisés entre 2021 et 2024 est également disponible. L'équipe géologique de PMET et Dahrouge Geological Consulting Ltd. (« **Dahrouge** ») a enregistré ces carottes et recueilli des données géomécaniques de haut niveau. Cette base de données comprend un rapport géomécanique rapide : RQD, nombre estimé de joints, rugosité et altération des joints, et résistance des roches intactes sur le terrain, telle que déterminée par des essais au marteau géologique. Alius n'a pas mis en œuvre de procédures d'assurance qualité/contrôle qualité pour examiner de manière approfondie cette base de données historique. Néanmoins, ces données ont été utilisées à des fins de comparaison avec les résultats des études géomécaniques de 2024.

3.2.1 Travaux sur le terrain

Étant donné que le projet Shaakichiuwaanaan comprend à la fois des opérations minières à ciel ouvert et souterraines, le forage géomécanique a ciblé des zones spécifiques en conséquence, sur la base de l'enveloppe de la fosse PEA et de l'étendue des chantiers PEA à l'époque. Les études géomécaniques sur le terrain ont été menées en trois phases successives :

01. Phase 1
    - → Par BBA en avril 2024
    - → Six (6) trous de forage ont été enregistrés : CV24-447, CV24-456, CV24-459, CV24-469, CV24-479 et CV24-496
    - → Détails dans BBA (2024a)
02. Phase 2
    - → Par BBA en septembre 2024
    - → Quatre (4) trous de forage ont été enregistrés : CV24-663, CV24-679, CV24-684 et CV24-689
    - → Détails dans BBA (2024b)
03. Phase 3
    - → Par Alius en octobre 2024
    - → Quatre (4) trous de forage ont été enregistrés : CV24-769, CV24-777, CV24-781 et CV24-783
    - → Détails dans Alius Mine Consulting (2025)

La collecte de données sur le terrain a principalement consisté en un carottage géomécanique, un échantillonnage de carottes de roche, une estimation de la résistance de la roche intacte à l'aide d'un marteau géologique et d'essais de charge ponctuelle (PLT) sur site, ainsi que la caractérisation des discontinuités intersectant les carottes NQ et NQ3 récupérées à partir des quatorze
(14) forages non orientés. L'identification des joints naturels par rapport aux joints mécaniques a été effectuée directement sur la foreuse par l'équipe géologique de Dahrouge, à l'aide d'un système de manipulation des carottes à tube fendu afin d'assurer une différenciation optimale. Lors de la diagraphie géomécanique, cette identification a permis de s'assurer que les données étaient collectées exclusivement à partir de joints naturels. Les failles et les débris naturels ou les carottes brisées n'ont pas été marqués ; leur inclusion dans la diagraphie géomécanique est donc basée sur l'interprétation des diagraphistes.

Les détails de ces trous de forage sont fournis dans le tableau 3. Il convient de noter que les intervalles enregistrés ne correspondent pas toujours à la longueur totale forée, car l'enregistrement s'est concentré sur les sections de carottes les plus pertinentes et n'a pas été effectué de manière cohérente sur l'ensemble du trou.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Au cours des campagnes de carottage, les carottes n'ont pas été orientées ; par conséquent, aucune mesure manuelle de l'orientation des joints n'a été effectuée. À la place, les informations structurelles ont été obtenues grâce à des levés Televiewer réalisés par DGI Geoscience Inc. Au total, soixante-cinq (65) levés Televiewer (TV) – tant optiques (OTV) qu'acoustiques (ATV) – ont été effectués, principalement dans des trous de forage géologiques. Des détails supplémentaires sont fournis à la section 5.1.2. La figure 10 présente l'emplacement des trous de forage et des levés Televiewer associés par rapport aux conceptions de la mine à ciel ouvert et de la mine souterraine de FS.

Tableau 3. Détails géomécaniques des trous de forage.

Identifiant DDH	**Coordonnées du collier**			**Carotte**	**Azimut**	**Pente**	**Longueur**
(CV24–)	**E** (m)	**N** (m)	**Z** (m)	**Taille**	(°)	(°)	(m)
447	571 152,3	5 931 101,1	375,1	NQ	130	-55	308,0
456	570 174,5	5 930 836,0	378,3	NQ	200	-55	456,9
459	571 508,9	5 930 921,8	374,6	NQ	296	-60	314,1
469	571 572,0	5 930 953,4	373,2	NQ	40	-60	407,0
479	570 355,0	5 930 476,9	379,2	NQ	16	-55	467,1
496	571 529,1	5 931 440,2	390,7	NQ	113	-55	509,0
663	570 784,8	5 930 905,2	371,8	NQ	160	-60	215,0
679	570 814,8	5 931 002,4	372,0	NQ	340	-60	124,9
684	570 932,4	5 930 996,7	371,9	NQ	27	-60	161,0
689	569 705,4	5 930 476,0	380,2	NQ	11	-51	167,0
769	571 579,6	5 931 234,4	374,9	NQ3	170	-68	374,0
777	568 849,4	5 930 131,6	395,1	NQ3	340	-75	101,1
781	569 283,5	5 930 125,5	388,4	NQ3	330	-84	200,1
783	571 927,4	5 931 447,3	377,6	NQ3	145	-68	416,0

Codes DDH ID Identification du trou de forage au diamant.
Remarques Coordonnées en NAD83 / zone UTM 18N.
Diamètre NQ : 47,6 mm ; diamètre NQ3 : 45,0 mm.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

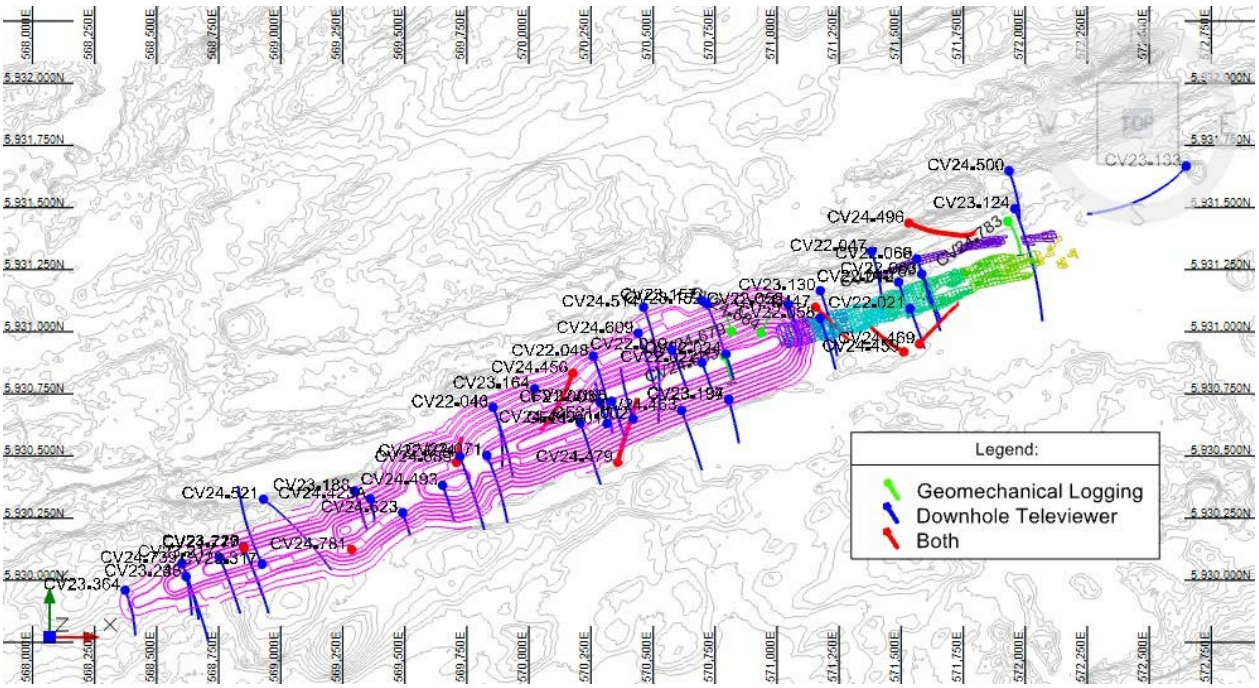


Figure 10. Emplacement des trous de forage géomécaniques et des levés télévueurs sur la conception de la mine à ciel ouvert et souterraine de FS.

La diagraphie géomécanique comprend la collecte des données suivantes :

→ Diagraphie par intervalles (position, lithologie, taux de récupération total des carottes (TCR), indice de qualité des roches (RQD), altération et dégradation, nombre de caractéristiques, nombre de joints et résistance des roches intactes sur le terrain)

→ Carottage de discontinuité (profondeur, type, ouverture, altération, rugosité et état)

→ Données ponctuelles (essais de charge ponctuelle)

Au cours des campagnes géomécaniques de 2024, la longueur totale des carottes enregistrées est d'environ 3 575 m. Le tableau 4 présente la longueur enregistrée par trou, ainsi que les rapports factuels correspondants couvrant chaque trou.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Tableau 4. Longueurs géomécaniques enregistrées par trou pour l' .

DDH ID (CV24–) (m)	Intervalles enregistrés		Longueur (m)	Source
	Profondeur à partir de (m)	Profondeur jusqu'à		
447	11	308	297	BBA (2024a)
456	6	457	451	BBA (2024a)
459	5	314	309	BBA (2024a)
469	8	407	399	BBA (2024a)
479	5	467	462	BBA (2024a)
496	8	509	501	BBA (2024a)
663	8	215	207	BBA (2024b)
679	8	125	117	BBA (2024b)
684	8	161	153	BBA (2024b)
689	14	167	153	BBA (2024b)
769	92	318	226	Alius Mine Consulting (2025)
777	25	101	76	Alius Mine Consulting (2025)
781	22	167	145	Alius Mine Consulting (2025)
783	257	413	156	Alius Mine Consulting (2025)

Codes DDH ID Identification du trou de forage au diamant.

Les quatre principales lithologies enregistrées sont l'amphibolite, la pegmatite, les métasédiments et les roches ultramafiques, qui sont également les quatre principales lithologies exposées sur les parois de la fosse et des chantiers. Le tableau 5 et la figure 11 présentent la longueur enregistrée par type de lithologie. La figure 12 résume les lithologies recoupées dans chaque trou enregistré.

Tableau 5. Longueurs enregistrées par type de lithologie.

Lithologie	Carottage enregistré	
	Longueur totale (m)	Fréquence relative (%)
Métasédiments	1 555,5	43
Amphibolite	1 319,4	36,9
Pegmatite	456,2	12,8
Ultramafique	169,2	4,7
Formation ferrifère	63,3	1,8
Diabase	9,1	0,3
Surcouche	3,0	0,1
Total	**3 575,7**	**100**

Remarques Des écarts dans les calculs peuvent apparaître en raison d'erreurs d'arrondi.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

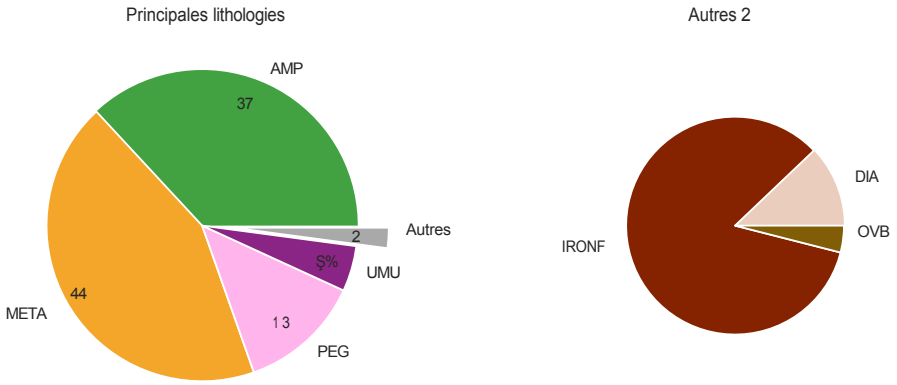


Figure 11. Répartition lithologique enregistrée.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

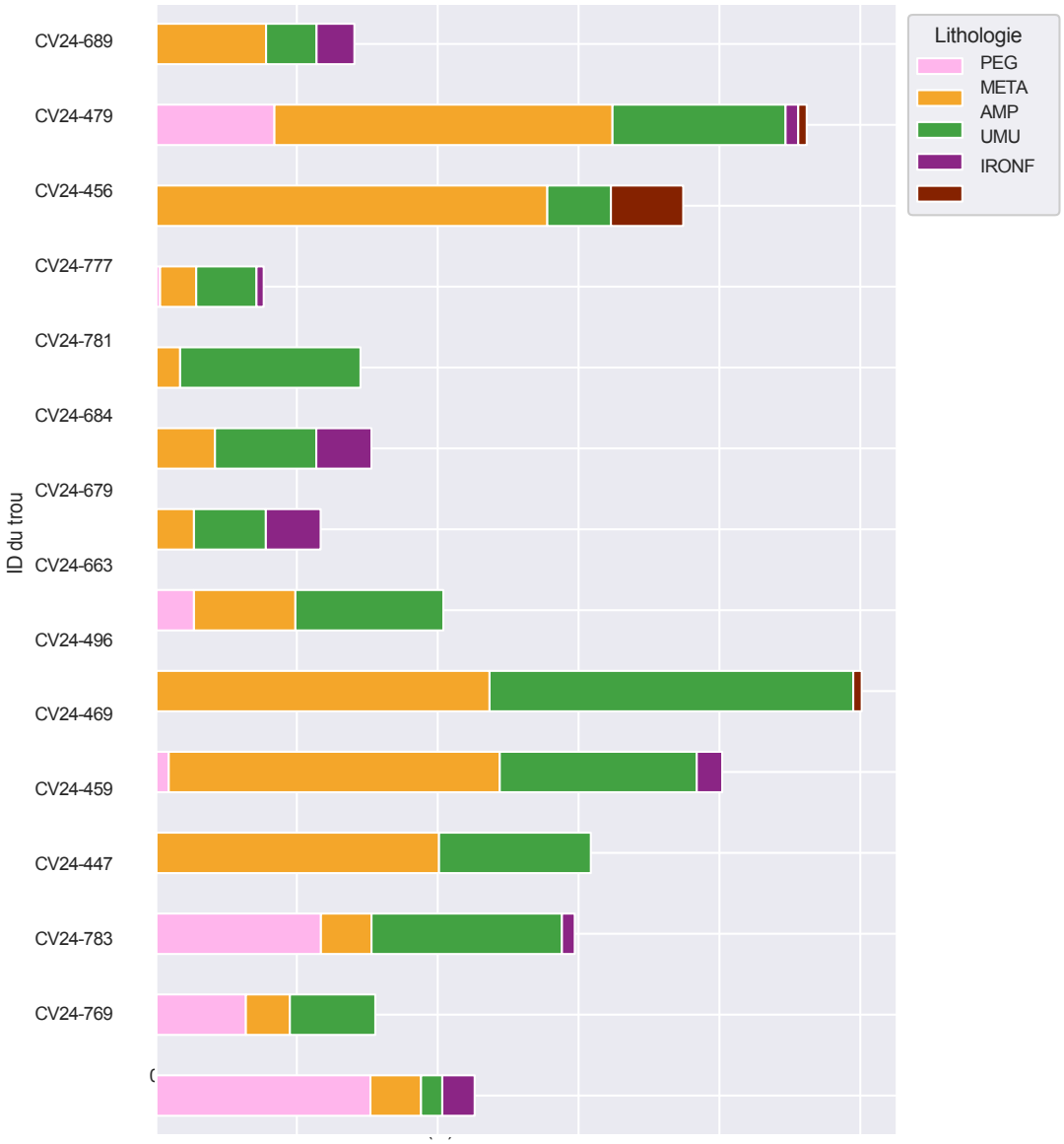


Figure 12. Longueur enregistrée par trou pour la lithologie.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

3.2.2 Essais en laboratoire

Des échantillons représentatifs de chaque lithologie ont été prélevés dans les trous de forage géomécaniques par le personnel de BBA et d'Alius lors du carottage, afin d'être soumis à des essais en laboratoire sur des roches intactes et des discontinuités ouvertes. Le programme comprenait des essais de charge ponctuelle axiale et diamétrale (PLT), des essais de résistance à la traction brésilienne (BTS), des essais de résistance à la compression uniaxiale (UCS), des essais de résistance à la compression triaxiale (TCS) sur des échantillons de roche et des essais de cisaillement direct (DST) sur des discontinuités ouvertes.

Les rapports factuels de BBA (2024a), BBA (2024b) et Alius Mine Consulting (2025) présentent les résultats complets des essais en laboratoire. Le nombre total d'essais disponibles, par type et par lithologie, pour tous les types de rupture, est présenté dans le tableau 6.

Tableau 6. Résumé des fréquences des essais en laboratoire sur des échantillons de roches par lithologie.

Lithologie	BTS	UCS	TCS	PLT		DST
				Axiale	Diamétral	
Amphibolite	44	17	23	2	5	12
Métasédiments	36	23	27	3	7	4
Pegmatite	20	14	15	10	6	0
Ultramafique	26	17	16	0	0	6

Codes BTS Résistance à la traction brésilienne, UCS Résistance à la compression uniaxiale, TCS Résistance à la compression triaxiale, PLT Essai de charge ponctuelle, Essai de cisaillement direct DST.
Remarques Le nombre total de PLT n'inclut pas les essais réalisés directement sur site.
Les essais DST ont été réalisés en 3 ou 4 étapes chacun.
Le nombre total d'essais est basé uniquement sur les résultats d'essais valides.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

4 Caractérisation géotechnique

Cette section présente les propriétés physiques et mécaniques des matériaux de recouvrement situés à proximité de la mine.

4.1 Unités stratigraphiques

Les matériaux de recouvrement présents sur le site ont été classés en unités stratigraphiques distinctes en fonction de leur composition et de leurs caractéristiques. Les unités stratigraphiques identifiées sont énumérées ci-dessous :

- → Sol organique
- → Limon et sable
- → Sable et gravier
- → Till

Le substrat rocheux se trouve sous la couche de till. Le forage a été prolongé de quatre (4) mètres en moyenne dans la roche afin de confirmer que le matériau sous-jacent était bien du substrat rocheux et non un gros rocher. Les unités stratigraphiques ont été principalement différenciées en fonction de la taille des grains. Des colonnes stratigraphiques ont été établies pour tous les trous de forage géotechniques pris en compte dans l'étude, et la profondeur et la position de chaque unité sont présentées dans le tableau 7. Ce tableau indique également la distance de chaque trou de forage par rapport à la pente et sa position par rapport aux plans d'eau.

Tableau 7. Informations sur l'emplacement et profondeur maximale de chaque unité stratigraphique dans les forages géotechniques.

DH ID (CV24–)	Distance depuis la pente (m)	Foré dans l'eau	S ratigraphique Profondeur supérieure (m)					
			eau	Sol organique	Limon et sable	Sable et gravier	Till	Fin de la couche de recouvrement
542	120	Oui	0	–	5,0	–	–	5,7
558	250	Non	–	0	–	0,1	–	2,6
562	250	Non	–	0	–	0,4	–	1,3
775	100	Oui	0	–	4,0	4,8	5,8	7,5
779	100	Oui	0	–	4,0	–	5,1	9,1
780	150	Non	–	0	–	0,1	–	0,4
782	170	Non	–	0	–	0,1	–	0,4
784	0	Non	–	0	0,1	1,8	12,2	27,4
785	0	Non	–	0	0,1	–	–	0,3
786	0	Non	–	0	0,1	–	3,3	20,6
787	30	Non	–	0	0,2	–	1,4	14,0

Codes DH ID Identification du trou de forage.

À partir de la profondeur maximale de chaque unité stratigraphique, les épaisseurs correspondantes ont été calculées et sont présentées dans le tableau 8.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Tableau 8. Épaisseur de chaque unité stratigraphique dans les forages géotechniques.

DH ID	Épaisseur de la stratigraphie (m)			
(CV24–)	Sol organique	Limon et sable	Sable et gravier	Till
542	–	0,8	–	–
558	0,1	–	2,5	–
562	0,4	–	1,0	–
775	–	0,9	1,0	1,7
779	–	1,1	–	4,0
780	0,1	–	0,3	–
782	0,1	–	0,3	–
784	0,1	1,8	10,4	15,3
785	0,1	0,2	–	–
786	0,1	3,2	–	17,3
787	0,2	1,2	0	12,6

Codes DH ID Identification du trou de forage.

Les proportions de chaque unité stratigraphique dans les colonnes de recouvrement sont généralement similaires, et les valeurs moyennes fournissent une représentation raisonnable des conditions du site. L'épaisseur moyenne de chaque unité stratigraphique est présentée dans le tableau 9.

Tableau 9. Épaisseur moyenne de chaque unité stratigraphique dans les forages géotechniques.

Unité stratigraphique	Épaisseur moyenne (m)	Présence relative (%)
Sol organique	0,1	2
Limon et sable	0,8	12
Sable et gravier	1,4	20
Till	4,6	66

La taille des grains, critère clé pour distinguer les unités stratigraphiques, influence également les caractéristiques de résistance des matériaux dans le contexte de la stabilité des pentes. La section suivante décrit l'approche utilisée pour déterminer les paramètres de résistance de chaque unité stratigraphique.

4.2 Essais in situ

Les seuls essais in situ réalisés dans les forages géotechniques ont consisté en des essais de pénétration standard (SPT), qui ont fourni des valeurs N le long des profils de forage. Ces valeurs N ont ensuite été utilisées pour estimer les paramètres de résistance des différentes unités stratigraphiques. Le tableau **??** résume le nombre d'essais SPT réalisés dans chaque forage et les valeurs N moyennes correspondantes.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Tableau 10. Nombre de SPT réalisés dans chaque unité stratigraphique par forage géotechnique et valeurs N moyennes.

DH ID (CV24–)	**Résistance standard à la pénétration** (valeur N)							
	Sol organique		**Limon et sable**		**Sable et gravier**		**Till**	
	N	**Moyenne**	**N**	**Moyenne**	**N**	**Moyenne**	**N**	**Moyenne**
542	–	–	1	10	–	–	–	–
558	–	–	–	–	4	51	–	–
562	1	33	–	–	1	61	–	–
775	–	–	1	6	2	7	1	60
779	–	–	2	2	–	–	1	64
780	–	–	–	–	1	71	–	–
782	–	–	–	–	1	51	–	–
784	–	–	3	11	10	37	1	59
785	–	–	1	54	–	–	–	–
786	–	–	3	49	–	–	–	–
787	–	–	2	25	–	–	–	–
Total	**1**	**33**	**13**	**23**	**19**	**41**	**3**	**61**

Codes DH ID Identification du trou de forage, N nombre de SPT, Avg. valeur N moyenne.

Pour effectuer les analyses de stabilité, il faut disposer des paramètres de résistance pour chaque unité stratigraphique. Comme aucun essai de résistance au cisaillement n'a été effectué en laboratoire pour établir directement les enveloppes de résistance des matériaux stratigraphiques, celles-ci ont été dérivées à partir des corrélations entre les valeurs N moyennes obtenues à partir des essais de pénétration standard et les valeurs de référence tirées de la littérature (Terzaghi et al., 1996). Les tableaux de corrélation utilisés à cette fin sont résumés dans le tableau 11.

Tableau 11. Corrélation entre l'angle de frottement et la valeur N (adapté de Terzaghi et al., 1996 et Day, 2005).

~~Valeur N~~	**Angle de frottement associé** (°)		
	Sable	**Limon**	**Sable et gravier**
4	28	–	–
10	30	28	36
30	36	30	40
50	41	34	48

Il convient de noter que les valeurs N sur le terrain ont été utilisées directement, sans correction pour tenir compte de l'efficacité du marteau ou de la pression de recouvrement. Par conséquent, les angles de frottement dérivés doivent être considérés comme approximatifs et adaptés à des niveaux de conception préliminaires.

Les paramètres de résistance utilisés pour modéliser les pentes de sol sont présentés dans le tableau 12.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Tableau 12. Paramètres de résistance des unités stratigraphiques.

Unité stratigraphique	Cohésion (kPa)	Angle de frottement (°)
Limon et sable	0	28
Sable et gravier	0	40
Till	0	44

4.3 Tests en laboratoire

Dans la zone entourant la mine à ciel ouvert, les sols résiduels sont principalement à grains grossiers, avec des couches minces localisées de limon, de sable et de gravier. Compte tenu de la nature granuleuse et meuble des matériaux présents sur le site, la résistance au cisaillement du sol a été évaluée uniquement à l'aide d'essais SPT ; aucun essai de résistance en laboratoire n'a été effectué. À la place, des essais en laboratoire ont été réalisés sur des échantillons de sol afin de valider la caractérisation des matériaux. Les échantillons de sol ont été prélevés à l'aide de cuillères fendues et envoyés à Englobe pour être analysés en laboratoire. Au total, 31 essais ont été réalisés sur 11 trous de forage pertinents afin de déterminer la distribution granulométrique et la teneur en eau. Comme ces essais avaient pour but de valider le type de matériau et s'inscrivaient dans le cadre du processus visant à fournir un bon log stratigraphique, leurs résultats ne sont pas présentés dans le présent rapport.

4.4 Paramètres de conception géotechnique

Les paramètres géotechniques utilisés dans les analyses de stabilité sont résumés dans le tableau 13.

Tableau 13. Résumé des propriétés du sol utilisées pour les analyses de stabilité.

Unité stratigraphique	Densité [1] (kN/m^3)	Cohésion (kPa)	Angle de frottement (°)
Limon et sable	20,5	0	2
Sable et gravier	21,1	0	40
Till	22,8	0	44

Notes [1] Les densités des matériaux ont été évaluées sur la base de la littérature (Terzaghi et al., 1996).

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

5 Caractérisation géomécanique

Cette section décrit les propriétés physiques et mécaniques de la masse rocheuse présente sur le site du projet Shaakichiuwaanaan, telles qu'elles ont été déterminées à partir des campagnes d'investigation menées par BBA (2024a), BBA (2024b) et Alius Mine Consulting (2025).

Une caractérisation géomécanique a été réalisée pour les quatre principales lithologies, à savoir l'amphibolite, la pegmatite, les métasédiments et la roche ultramafique. Ces unités sont composées de sous-lithologies ; par exemple, il existe plusieurs types de pegmatite, notamment la spodumène, le feldspath et la tourmaline. On a donc supposé que toutes les sous-lithologies incluses dans ces unités avaient des propriétés géomécaniques similaires.

5.1 Caractérisation de la masse rocheuse

Une masse rocheuse est un matériau géologique naturel composé de deux éléments principaux : la matrice rocheuse intacte et ses discontinuités. Les sections suivantes présentent les propriétés de la roche intacte, la classification des masses rocheuses, ainsi que l'orientation et les caractéristiques des discontinuités. Les estimations de la résistance des masses rocheuses et les paramètres de conception finaux sont ensuite décrits. Les domaines géomécaniques qui en résultent sont présentés à la section 6.

5.1.1 Propriétés de la roche intacte

Les propriétés de la roche intacte sont généralement évaluées à partir d'une combinaison d'observations sur le terrain et d'essais en laboratoire. Les paramètres obtenus en laboratoire s'appliquent à la fois à la conception des mines à ciel ouvert et des mines souterraines. Les principaux paramètres de la roche intacte sont les suivants :

- → Densité
- → Résistance à la compression uniaxiale
- → Composantes de la résistance à la compression triaxiale : σ_{ci} et m_i
- → Résistance à la traction
- → Propriétés élastiques : module d'Young et coefficient de Poisson

Densité

La densité (ρ) a été mesurée en laboratoire dans le cadre de la préparation des essais sur les roches. Le nombre d'échantillons testés et les densités moyennes sont présentés dans le tableau 14, ainsi que les poids unitaires correspondants.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Tableau 14. Résumé de la densité moyenne et du poids unitaire par lithologie.

Lithologie	N	Densité (kg/m^3)	Poids unitaire (kN/m^3)
Amphibolite	42	2 984	29,3
Métasédiments	27	2 876	28,2
Pegmatite	39	2 636	25,8
Ultramafique	21	2 875	28,2

Codes N nombre d'échantillons.

Résistance à l'état naturel sur le terrain

La résistance de la roche intacte est généralement quantifiée à l'aide du paramètre de résistance à la compression uniaxiale (UCS). L'UCS peut être obtenue à partir d'essais sur le terrain ou d'essais en laboratoire (ASTM, 2014). Les méthodes de terrain les plus courantes comprennent l'essai au marteau de résistance de la roche intacte sur le terrain (FIRS), tel que décrit par l'ISRM (1978), et l'essai de charge ponctuelle (PLT) sur des échantillons de carottes (ASTM, 2016). Dans la mesure du possible, les résultats du PLT sont préférables, car ils fournissent une évaluation plus cohérente et plus fiable de la résistance de la roche intacte.

Les essais de charge ponctuelle ont été réalisés conformément à la norme ASTM D5731 : *Méthode d'essai standard pour la détermination de l'indice de résistance à la charge ponctuelle de la roche et application aux classifications de résistance de la roche* (ASTM, 2016). Les essais ont été réalisés sur chaque intervalle de diagraphie directement sur le site. Étant donné que l'indice de résistance à la charge ponctuelle (I_s) dépend du diamètre équivalent du carottage, une correction de taille a été appliquée pour le normaliser à un diamètre de référence de 50 mm, ce qui a donné la valeur standard Is_{50} . L'indice de résistance à la charge ponctuelle corrigé en fonction de la taille est calculé comme suit :

$$= \frac{P}{De^2} \times Is_{50} \left(\frac{De}{50}\right)^{0,45} \qquad \textit{(équation 1)}$$

Où Is_{50} = indice de résistance à la charge ponctuelle corrigé à 50 mm (MPa)
P = charge de rupture (N)
De = diamètre équivalent du noyau (mm)

La résistance à la compression uniaxiale peut être estimée à partir de Is_{50} à l'aide d'un facteur de conversion k :

$$UCS = k \times Is_{50} \qquad \textit{(équation 2)}$$

À partir des résultats UCS obtenus en laboratoire et des PLT réalisés en laboratoire et sur site, des facteurs de conversion ont été calculés pour chaque unité lithologique et sont présentés dans le tableau 15. Bien que les facteurs de conversion typiques varient entre 20 et 25, une plus grande variabilité peut être observée dans les roches anisotropes (ISRM, 2007), où les valeurs peuvent se situer entre 15 et 50.

Le facteur de conversion obtenu pour l'unité ultramafique indifférenciée est inférieur à ce qui est généralement attendu. Cela s'explique par la nature dispersée des données et l'absence de tendance claire,

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

comme le reflète le coefficient de détermination relativement faible (R^2 = 0,40). Des détails supplémentaires sur le calcul des facteurs de conversion sont fournis à l'annexe A.

Tableau 15. Facteurs de conversion PLT en UCS.

Lithologie	Facteur de conversion	R^2
Amphibolite	20,90	0,80
Métasédiments	17,44	0,71
Pegmatite	15,89	0,84
Ultramafique	8,04	0,40

Codes R^2 Mesure statistique R au carré.

En appliquant ces facteurs de conversion aux valeurs I_{s50} mesurées, un total de 205 essais PLT diamétraux ont été convertis en estimations UCS. Cet ensemble de données constitue la base de l'analyse statistique de l'UCS fondée sur la lithologie. Les résultats pour l'unité ultramafique ont été calculés, mais n'ont pas été utilisés dans la conception en raison de données insuffisantes. Le tableau 16 résume les premier (Q1), deuxième (Q2, médiane) et troisième (Q3) quartiles des valeurs UCS dérivées des données PLT.

Les coefficients de variation élevés reflètent une variabilité importante de la résistance des roches intactes. Sur la base des valeurs médianes (Q2) et conformément à la classification de la résistance des roches de l'ISRM (1978), les amphibolites et les métasédiments sont classés comme des roches *très résistantes*, la pegmatite comme une roche *résistante* et les roches ultramafiques comme des roches *moyennement résistantes*.

Tableau 16. Résistance à la compression uniaxiale obtenue à partir d'essais de charge ponctuelle sur site.

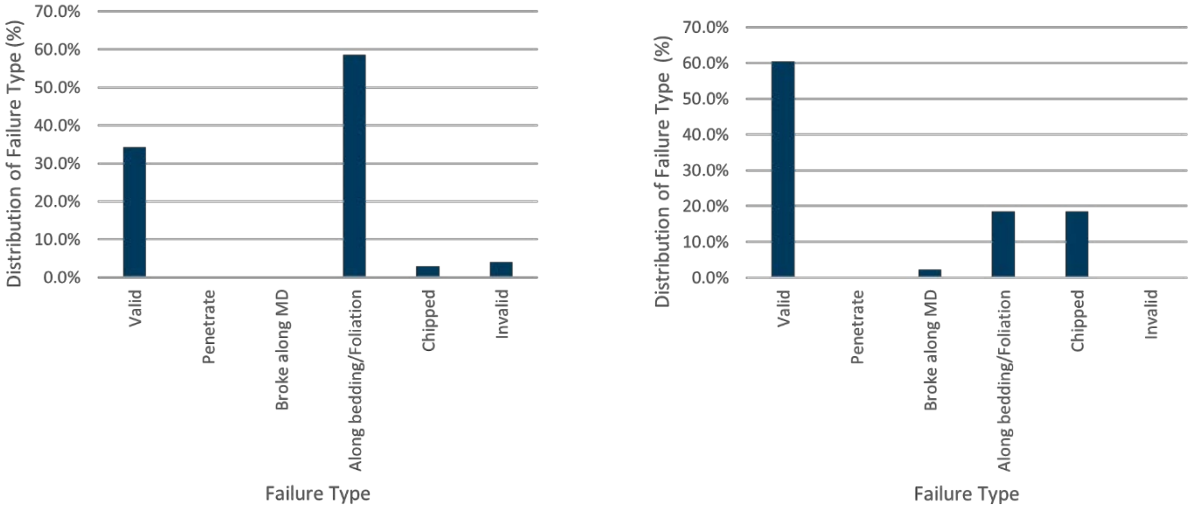
Lithologie	N	UCS from PLT (MPa) Q1	Q2	Q3	Moyenne	COV (%)
Amphibolite	92	107	152	190	154	42
Métasédiments	35	76	133	193	134	53
Pegmatite	70	62	73	90	79	46
Ultramafique	8	14	30	41	28	60

Codes N nombre de tests, Q1 premier quartile, Q2 médiane, Q3 troisième quartile, Moy. moyenne, COV coefficient de variation. Remarques
Faible 0 % < COV < 10 %. **Modéré** 10 % < COV < 30 %. **Élevé** COV > 30 %.
Les valeurs UCS sont obtenues à l'aide des facteurs de conversion présentés dans le tableau 15.

Lors de l'examen des types de rupture à partir du programme PLT, une proportion importante s'est produite le long des plans de foliation. Les figures 13a et 13b illustrent la répartition des types de rupture pour l'amphibolite et les métasédiments.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification



(a) Amphibolite. *(b) Métasédiments.*

Figure 13. Répartition des types de rupture lors des essais de charge ponctuelle.

Résistance à la compression uniaxiale

Afin de définir les valeurs représentatives de la résistance à la compression uniaxiale (UCS) pour chaque unité lithologique, tous les résultats d'essais en laboratoire disponibles ont été compilés (Alius Mine Consulting, 2025 ; BBA, 2024a ; BBA, 2024b). Au total, soixante-et-onze (71) résultats UCS valides ont été retenus pour l'analyse. Toutes les valeurs UCS ont été normalisées à un diamètre d'échantillon de référence de 50 mm, conformément à l'approche de correction de taille de Hoek et Brown (1980).

Conformément au cadre d'interprétation proposé par Bewick et al. (2015), les résultats des essais en laboratoire UCS ont été classés selon le mode de rupture (par exemple, fendillement, cisaillement, rupture le long d'une caractéristique discrète ou rupture de la matrice à l'échelle de l'échantillon). Ceux-ci ont ensuite été regroupés en trois classes de types de rupture : intacte, combinée et discrète. Seules les valeurs UCS associées aux types de rupture intacte et combinée ont été retenues pour la caractérisation géomécanique. Un résumé de tous les essais est présenté dans le tableau 17, tandis que l'ensemble des données filtrées (ruptures intactes + combinées) est résumé dans le tableau 18.

Tableau 17. Résumé des résistances à la compression uniaxiale – Tous types de rupture.

Lithologie	N	Labora UCS (MPa)			COV [1]
		oire Min.	Max.	Moyenne	(%)
Amphibolite	17	16	277	171	38
Métasédiments	23	58	251	129	38
Pegmatite	14	20	105	70	35
Ultramafique	17	11	202	66	80

Codes N nombre de tests valides, Min minimum (MPa), Max maximum (MPa), Avg moyenne (MPa), COV coefficient de variation. Remarques [1] COV = σ/μ = écart type (MPa) / moyenne (MPa).
Faible 0 % < COV < 10 %. **Modéré** 10 % < COV < 30 %. **Élevé** COV > 30 %.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Tableau 18. Résumé des résistances à la compression uniaxiale – Types de rupture intacts et combinés.

Lithologie	$N_i+N=N_c$	UCS en laboratoire (MPa)			COV [1]
		Min.	Max.	Moyenne	(%)
Amphibolite	10 + 5 = 15	107	277	188	24
Métasédiments	7 + 5 = 12	58	251	142	42
Pegmatite	6 + 3 = 9	51	105	80	25
Ultramafique	8 + 3 = 11	30	202	88	62

Codes N nombre de tests valides, N_i nombre de tests avec type de défaillance intact, N_c nombre de tests avec type de défaillance combiné, Min minimum (MPa), maximum (MPa), moyenne (MPa), coefficient de variation (COV).

Remarques [1] COV = σ/μ = écart type (MPa) / moyenne (MPa).
Faible 0 % < COV < 10 %. **Modéré** 10 % < COV < 30 %. **Élevé** COV > 30 %.

Le tableau 19 présente les premier et deuxième quartiles des valeurs UCS en laboratoire dérivées d'essais présentant des types de rupture intacts ou combinés.

Tableau 19. Répartition de la résistance à la compression uniaxiale à partir d'essais en laboratoire – Types de rupture intacts et combinés.

Lithologie	UCS en laboratoire (MPa)	
	Q1	Q2
Amphibolite	167	186
Métasédiments	101	130
Pegmatite	62	86
Ultramafique	48	55

Codes Q1 Premier quartile. Q2 Médiane.

La comparaison des résultats UCS en laboratoire avec les estimations de résistance intacte à l'échelle du terrain dérivées des essais de charge ponctuelle (section 5.1.1) indique une bonne concordance générale entre les unités amphibolite, métasédimentaire et pegmatite. De légères divergences sont observées dans l'unité ultramafique, où les résistances dérivées des essais PLT ont tendance à être plus faibles.

Résistance à la compression triaxiale

Dans les essais de résistance à la compression triaxiale (TCS), les échantillons sont soumis à une charge axiale jusqu'à la rupture sous une pression de confinement constante. À partir de plusieurs essais TCS, une procédure d'ajustement de courbe peut être utilisée pour déterminer la résistance à la compression non confinée (σ_{ci}) et m_i , deux constantes du matériau rocheux intact nécessaires pour évaluer la résistance de la roche intacte ainsi que la résistance de la masse rocheuse (plus de détails à la section 5.1.4). Comme suggéré par Hoek et Brown (2018), les essais en laboratoire ont été réalisés à l'aide de la méthode à un seul étage plutôt que de la méthode à plusieurs étages. Les essais ont été réalisés sur une gamme de pressions de confinement (σ_3), ce qui a permis d'obtenir un ensemble de données bien réparti, représentatif des niveaux de contrainte attendus.

Les essais TCS ont été réalisés sur les quatre principales unités lithologiques. Le tableau 20 résume les résultats valides provenant de BBA (2024a) et BBA (2024b), ainsi que d'Alius Mine Consulting (2025). Les résultats présentés pour

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

l'amphibolite, les métasédiments et la pegmatite ne reflètent que les essais présentant une rupture de type intact. En revanche, les résultats pour l'unité ultramafique incluent tous les modes de rupture observés (intact, combiné et discret). Ces résultats constituent la base pour l'élaboration des enveloppes de rupture.

Tableau 20. Résumé des essais de résistance à la compression triaxiale.

Lithologie	Confinement, σ_3 (MPa)	Pic	Contrainte axiale, σ_1 (MPa)	
		N	Moyenne	COV [1] (%)
Amphibolite	1,0	2	265,6	3
Amphibolite	1,5	1	170,3	–
Amphibolite	2,0	1	270,6	–
Amphibolite	3,0	2	194,6	21
Amphibolite	5,0	4	237,3	34
Amphibolite	15,0	2	392,7	2
Amphibolite	25,0	2	408,1	18
Métasédiments	1,3	1	126,3	–
Métasédiments	1,5	1	189,8	–
Métasédiments	5,0	1	234,2	–
Métasédiments	15,0	3	250,1	3
Pegmatite	1,3	1	63,6	–
Pegmatite	1,5	2	125,8	52
Pegmatite	1,7	1	132,8	–
Pegmatite	5,0	3	254,5	5
Pegmatite	25,0	3	300,3	43
Ultramafique	1,0	2	84,2	87
Ultramafique	1,2	2	23,9	21
Ultramafique	1,3	2	39,8	31
Ultramafique	5,0	3	119,8	13
Ultramafique	15,0	2	129,5	21
Ultramafique	25,0	3	164,9	5

Codes N nombre de tests valides, Avg moyenne (MPa), COV coefficient de variation. Remarques [1]
COV = σ/μ = écart type (MPa) / moyenne (MPa).
Faible 0 % < COV < 10 %. **Modéré** 10 % < COV < 30 %. **Élevé** COV > 30 %.
Amphibolite, métasédiments et pegmatite : type de rupture intacte. Ultramafique : tous les types de rupture.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Résistance à la traction

La résistance à la traction indirecte peut être mesurée en laboratoire à l'aide du test de résistance à la traction brésilienne (BTS). Pour estimer la résistance à la traction directe (DTS) à partir des essais BTS, un facteur de correction doit être appliqué, car les résultats BTS ont tendance à surestimer la capacité de traction réelle. Perras et Diederichs (2014) suggèrent des ratios de correction DTS/BTS de 0,86, 0,82 et 0,70 pour les roches métamorphiques, ignées et sédimentaires, respectivement. Bien que les valeurs DTS corrigées puissent être utilisées lors de l'élaboration d'enveloppes de rupture, Hoek et Brown (2018) notent que l'application d'une limite de tension est généralement plus appropriée que l'intégration directe des données de résistance à la traction dans le processus d'ajustement des enveloppes de Hoek-Brown.

Dans le cadre des campagnes BBA (2024a), BBA (2024b) et Alius Mine Consulting (2025), 126 essais BTS ont été réalisés au total (tableau 21). Seul un nombre limité d'essais a donné des résultats valides, car de nombreux échantillons ont échoué en diagonale entre les points de chargement ou le long des plans de foliation. Seize (16) résultats valides ont été obtenus et sont résumés dans le tableau 22. Les valeurs DTS correspondantes, dérivées à l'aide des facteurs de correction ci-dessus, sont présentées à la fin de cette section, dans le tableau 24.

Tableau 21. Résumé de l' Résumé de la résistance à la traction brésilienne – Tous types de rupture.

Lithologie	N	Laboratoire BTS (MP a)			COV [1]
		Min.	Max.	Moyenne	(%)
Amphibolite	44	4	25	10	48
Métasédiments	36	2	14	10	22
Pegmatite	20	3	10	7	25
Ultramafique	26	3	14	8	40

Codes N nombre de tests valides, Min minimum (MPa), Max maximum (MPa), Avg moyenne (MPa), COV coefficient de variation.

Remarques [1] COV = σ/μ = écart type (MPa) / moyenne (MPa).
Faible 0 % < COV < 10 %. **Modéré** 10 % < COV < 30 %. **Élevé** COV > 30 %.

Tableau 22. Résumé de la résistance à la traction brésilienne – Types de rupture intacte.

Lithologie	N	Laboratoire BTS (MP a)			COV [1]
		Min.	Max.	Moyenne	(%)
Amphibolite	6	8	16	11	26
Métasédiments	6	8	13	10	18
Pegmatite	4	6	10	8	23

Codes N nombre de tests valides, Min minimum (MPa), Max maximum (MPa), Avg moyenne (MPa), COV coefficient de variation.

Remarques [1] COV = σ/μ = écart type (MPa) / moyenne (MPa).
Faible 0 % < COV < 10 %. **Modéré** 10 % < COV < 30 %. **Élevé** COV > 30 %.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Propriétés élastiques

Les propriétés élastiques, à savoir le module d'Young (E_i) et le coefficient de Poisson (ν), sont généralement obtenues en mesurant les déformations axiales et latérales lors d'essais de compression uniaxiale.

Pour le projet Shaakichiuwaanaan, le module d'Young intact a été estimé sur la base des rapports de module (MR) et des résistances à la compression non confinée (σ_{ci}). Les rapports de module ont été estimés à partir de la littérature, sur la base des lignes directrices (Hoek, 2006), et σ_{ci} a été obtenu à partir des enveloppes de rupture (présentées dans la section suivante) en utilisant les valeurs moyennes UCS et les résultats individuels des essais TCS, comme présenté dans les sections précédentes. En résumé, le module d'Young intact est calculé à l'aide de la formule suivante :

$$E_i = MR \times \sigma_{ci} \qquad \textit{(équation 3)}$$

Où E_i = module d'Young intact
MR = rapport de module
σ_{ci} = résistance à la compression non confinée

Enfin, les modules d'Young intacts obtenus ont été comparés aux valeurs indiquées dans la littérature (Read et Stacey, 2009), comme le montre le tableau 23.

Le coefficient de Poisson pour les unités lithologiques interprétées à l'aide du modèle constitutif IMASS a été attribué en fonction du GSI (voir équation 4). Pour les autres matériaux, tels que les morts-terrains et la roche encaissante, le coefficient de Poisson a été supposé égal à 0,20, sur la base des travaux de Read et Stacey (2009) et de l'expérience acquise dans le cadre du projet.

$$\nu = 0{,}32 - 0{,}0015 \times GSI \qquad \textit{(équation 4)}$$

Où GSI = Indice de résistance géologique classification des masses rocheuses (section 5.1.2)

Tableau 23. Résumé des propriétés élastiques.

Lithologie	Module Bibliographie [1]	Rapport (–) Conservé	Intact Module d'Young Obtenu [2]	Module (GPa) Bibliographie [3]	Type de roche similaire trouvé dans la littérature
Amphibolite	400–500	450	89,2	30	Amphibolites
Métasédiments	200–1 100	250	38,3	N/A	Métasandstone/ Schistes
Pegmatite	300–550	425	51,2	35-75	Granite
Ultramafique	250–300	275	15,9	N/A	Igné/Péridotite

Codes disponible. N/A aucune donnée
Remarques [1] D'après Hoek (2006).
[2] Calculé à partir de l'équation 3.
[3] D'après Read et Stacey (2009).

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Enveloppes de défaillance

Les enveloppes de rupture Hoek-Brown intactes développées pour cette étude sont présentées à la figure 14. Les paramètres Hoek-Brown obtenus – résistance à la compression uniaxiale (σ_{ci}) et constante matérielle m_i – sont résumés dans le tableau 24.

Les enveloppes de rupture Hoek-Brown intactes ont été développées pour chaque lithologie pertinente du projet, à l'aide de données valides issues d'essais de résistance à la compression triaxiale, y compris le type de rupture intact pour l'amphibolite, les métasédiments et la pegmatite, ainsi que tous les types de rupture pour l'unité ultramafique. En comparant la combinaison de différents types de rupture avec les valeurs tirées de la littérature pour les σ_{ci} et m_i obtenus, les types de rupture susmentionnés ont été utilisés pour établir les enveloppes de rupture les plus représentatives. Bien que l'inclusion de ruptures discrètes ne soit pas une approche conventionnelle, le fait de le faire pour l'unité ultramafique a permis d'obtenir une enveloppe de rupture plus réaliste, conforme au comportement mécanique attendu de cette lithologie. L'enveloppe de rupture a été élaborée à partir des valeurs moyennes de résistance à la compression uniaxiale pour les types de rupture intacts et combinés pour chaque lithologie.

Des enveloppes de rupture ont été développées pour chaque lithologie pertinente du projet Shaakichiuwaanaan à l'aide de données valides issues d'essais de résistance à la compression triaxiale. Seules les ruptures de type intact ont été utilisées pour l'amphibolite, les métasédiments et la pegmatite. Pour l'unité ultramafique, tous les types de rupture (intact, combiné et discret) ont été inclus en raison du nombre limité d'essais avec des types de rupture intacts et combinés.

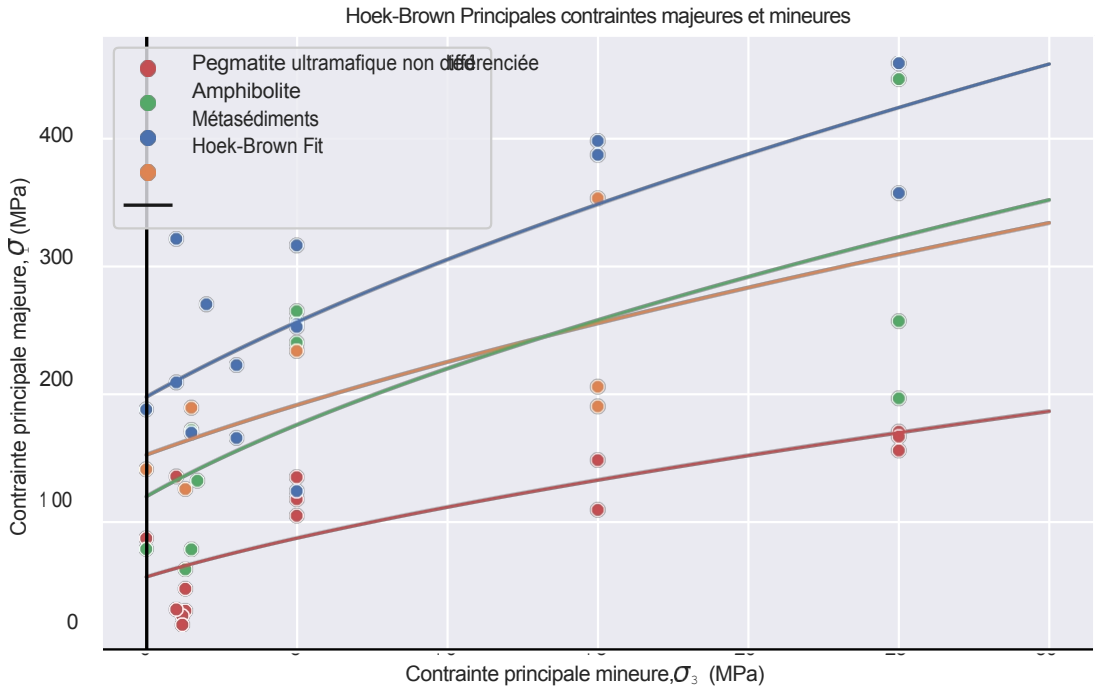


Figure 14. Enveloppes de rupture Hoek-Brown pour roche intacte.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Résumé des propriétés des roches intactes

Un résumé des propriétés des roches intactes des principales lithologies est présenté dans le tableau 24.

Tableau 24. Résumé des propriétés de résistance des roches intactes des principales lithologies.

Lithologie	Densité (kg/m^3)	Résistance à la compression Résistance (MPa)	Tension Résistance (MPa)	Young Module (GPa)	σ_{ci} (MPa)	Constante m_i (–)
Amphibolite	2 984	188	9,5	89,2	198	24,2
Métasédiments	2 636	142	8,6	38,3	153	15,1
Pegmatite	2 876	80	6,6	51,2	120	24,7
Ultramafique	2 875	88	–	15,9	57,7	12,3

Codes σ_{ci} résistance à la compression non confinée de la roche intacte, m_i constante de Hoek-Brown pour la roche intacte.
Remarques La résistance à la compression correspond à la résistance moyenne à la compression uniaxiale provenant uniquement de types de rupture intacts ou combinés.
La résistance à la traction correspond à la résistance à la traction brésilienne moyenne corrigée avec les ratios suggérés par Perras et Diederichs (2014).

5.1.2 Classification des masses rocheuses

La qualité des masses rocheuses peut être évaluée à partir du carottage des trous de forage géomécaniques ou de la cartographie, en utilisant une ou plusieurs méthodes de classification. Pour le projet Shaakichiuwaanaan, la qualité des masses rocheuses a été évaluée à partir du carottage des quatorze (14) trous de forage géomécaniques présentés à la section 3.2. Étant donné que ce projet comprend à la fois des mines à ciel ouvert et des mines souterraines sur une étendue de 4,2 km, des classifications distinctes des masses rocheuses ont été élaborées pour chacune d'entre elles. Bien que les deux zones minières soient largement distinctes sur le plan spatial, une interaction locale se produit près de l'extrémité nord-est de la mine à ciel ouvert, où les travaux souterrains se rapprochent de l'empreinte de la mine (voir section 8.10). Les trous de forage utilisés pour établir les classifications des masses rocheuses sont répertoriés dans le tableau 25.

Tableau 25. Résumé des trous de forage utilisés dans l'évaluation de la qualité de la masse rocheuse des mines à ciel ouvert et souterraines.

Mine	Trous de forage pris en compte
À ciel ouvert	**(CV24-)** 456, 479, 663, 679, 684, 689, 777, 781
Souterrain	**(CV24-)** 447, 459, 469, 496, 663, 679, 684, 769, 783

Remarques Certains trous de forage sont pris en compte à la fois dans l'analyse de la mine à ciel ouvert et dans celle de la mine souterraine en raison de leur emplacement.

La qualité de la masse rocheuse a été évaluée à l'aide de trois systèmes de classification :

→ Évaluation de la qualité de la roche, ou RMR_{76} (Bieniawski, 1976)

→ Indices Q' et Q (Barton et al., 1974)

→ Indice de résistance géologique, ou GSI (Hoek, Carter et Diederichs, 2013)

Les détails du RMR_{76} (Bieniawski, 1976) et des systèmes Q' et Q de l'Institut géotechnique norvégien (NGI) (Barton et al., 1974) sont présentés ci-dessous, en commençant par les équations utilisées pour calculer

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

chaque classification.

$$RMR_{76} = A + B + C + D + E \quad \textit{(équation 5)}$$

Où
A = indice de résistance de la roche intacte
B = cote pour la désignation de la qualité de la roche du carottage (RQD)
C = note attribuée à l'espacement des discontinuités
D = évaluation de l'état des discontinuités
E = cote pour les eaux souterraines

$$Q = Q' \times \frac{J_w}{SRF} = \frac{RQD}{J_n} \times \frac{J_r}{J_a} \times \frac{J_w}{SRF} \quad \textit{(équation 6)}$$

Où
RQD = désignation de la qualité de la roche
J_n = nombre de joints
J_r = indice de rugosité des joints J_a
= indice d'altération des joints
J_w = facteur de réduction de l'eau des joints SRF = facteur de réduction des contraintes

Pour simplifier, un rapport J_w/SRF de 1/1 a été utilisé pour les classifications à ciel ouvert et souterraines.

Dans cette étude, le GSI a été évalué à l'aide de l'indice d'état des joints et du RQD, à l'aide des équations suivantes :

$$GSI = 1{,}5 \times JCond_{89} + \frac{RQD}{2} \quad \textit{(équation 7)}$$

Où
$JCond_{89}$ = indice d'état des joints tel que défini par Bieniawski (1989)
RQD = désignation de la qualité de la roche telle que définie par Deere et al. (1967) ; la valeur RQD ne doit pas dépasser 80

$$JCond_{89} = 1{,}3 \times JCond_{76} \quad \textit{(équation 8)}$$

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Où $JCond_{76}$ = indice d'état articulaire tel que défini par Bieniawski (1976)

et $JCond_{76}$ = 25, Surface très rugueuse ; non continue ; pas de séparation ; paroi de joint dure

= 20, Surfaces légèrement rugueuses ; séparation < 1 mm ; paroi articulaire dure

= 12, Surfaces légèrement rugueuses ; séparation < 1 mm ; paroi de joint souple

= 06, Surfaces lisses ou rainures < 5 mm d'épaisseur ou
Joints ouverts de 1 à 5 mm ; joints continus

= 00, Gouge souple > 5 mm
d'épaisseur ou
Joints ouverts > 5 mm ; joints continus

Enfin, les valeurs RMR_{76} , GSI, Q et Q' ont été pondérées en fonction de la longueur du parcours afin de refléter la variation des longueurs des intervalles enregistrés. Afin de tenir compte de la variabilité inhérente à la masse rocheuse, les données utilisées pour la classification sont présentées sous forme de limites inférieures et supérieures (premier et deuxième quartiles). Lorsque les données disponibles étaient suffisantes, les ^{25e} et ^{50e} centiles des fonctions de distribution cumulative ont été utilisés pour étayer les recommandations relatives à la conception de la mine souterraine.

Mine à ciel ouvert

Les tableaux 26, 27 et 28 résument les classifications des masses rocheuses pour les quatre principales lithologies qui devraient être exposées dans les parois finales de la mine à ciel ouvert.

Tableau 26. Résumé du RQD – Mine à ciel ouvert.

Lithologie	RQD (%)				
	Q1	Q2	Q3	Moyenne	COV [1] (%)
Amphibolite	69,0	87,5	96,4	79,4	28
Métasédiments	56,9	77,3	89,7	68,8	41
Pegmatite	85,7	89,0	93,8	87,5	11
Ultramafique	62,5	74,6	84,7	72,1	26

Codes RQD désignation de la qualité de la roche, Q1 premier quartile, Q2 médiane, Q3 troisième quartile, Moy. moyenne, COV coefficient de variation. Notes [1] COV = σ/μ = écart type (MPa) / moyenne (MPa).
Faible 0 % < COV < 10 %. **Modéré** 10 % < COV < 30 %. **Élevé** COV > 30 %.

Tableau 27. Classification des masses rocheuses – Mine à ciel ouvert.

Lithologie	RMR_{76}		GSI		Q		Q'	
	Q1	Q2	Q1	Q2	Q1	T2	T1	T2
Amphibolite	60	64	64	71	8	12	8	12
Métasédiments	50	59	50	64	4	12	4	12
Pegmatite	56	64	64	64	11	15	11	15
Ultramafique	53	60	59	64	6	9	6	9

Codes Q1 Premier quartile, Q2 Deuxième quartile.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Tableau 28. Classification des roches – Mine à ciel ouvert.

Lithologie	RMR_{76} Évaluation		Q Évaluation	
	Q1	Q2	Q1	Q2
Amphibolite	Passable	Bon	Passable	Bon
Métasédiments	Passable	Passable	Passable	Bon
Pegmatite	Passable	Bon	Bon	Bon
Ultramafique	Passable	Passable	Passable	Passable

Codes Q1 Premier quartile, Q2 Deuxième quartile.

Mine souterraine

Lors de la caractérisation de la masse rocheuse de la zone minière souterraine, les tendances des indices Q' ont été examinées le long des chantiers prévus, et aucune tendance claire n'a été établie pour les valeurs inférieures. La classification de la masse rocheuse présentée ci-dessous est donc considérée comme applicable à l'ensemble de la zone souterraine et sert de base à la définition des domaines géomécaniques associés aux unités lithologiques. Les tableaux 29, 30 et 31 résument les classifications des masses rocheuses pour les quatre principales lithologies de la zone minière souterraine.

Tableau 29. Résumé du RQD – Mine souterraine.

Lithologie	RQD (%)				
	Q1	Q2	Q3	Moyenne	COV [1] (%)
Amphibolite	78,2	88,8	95,6	83,8	20
Métasédiments	71,3	84,5	93,7	80,1	2
Pegmatite	54,5	89,3	98,7	75,0	40
Ultramafique	59,9	78,8	91,1	76,1	24

Codes RQD désignation de la qualité de la roche, Q1 premier quartile, Q2 médiane, Q3 troisième quartile, Avg. moyenne, COV coefficient de variation. Notes [1] COV = σ/μ = écart type (MPa) / moyenne (MPa).
Faible 0 % < COV < 10 %. **Modéré** 10 % < COV < 30 %. **Élevé** COV > 30 %.

Tableau 30. Classification des masses rocheuses – Mine souterraine.

Lithologie	RMR_{76}		GSI		Q		Q'	
	Q1	Q2	Q1	Q2	Q1	T2	T1	T2
Amphibolite	61	68	64	64	11	18	11	18
Métasédiments	56	59	62	64	10	16	10	16
Pegmatite	46	69	44	78	7	18	7	18
Ultramafique	52	60	61	64	5	11	5	11

Codes Q1 premier quartile, Q2 deuxième quartile.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Tableau 31. Évaluations de la classification des masses rocheuses selon l' – Mine souterraine.

Lithologie	RMR_{76} Évaluation		Q Évaluation	
	Q1	Q2	Q1	Q2
Amphibolite	Bon	Bon	Bon	Bon
Métasédiments	Passable	Passable	Passable	Bon
Pegmatite	Passable	Bon	Passable	Bon
Ultramafique	Passable	Passable	Passable	Bon

Codes Q1 premier quartile, Q2 deuxième quartile.

Bien que les classifications de la qualité de la masse rocheuse aient été dérivées des relevés géomécaniques de BBA (2024a), BBA (2024b) et Alius Mine Consulting (2025), elles ont été comparées aux relevés rapides effectués par Dahrouge sur 315 trous de forage entre 2022 et 2024 couvrant la zone souterraine. La comparaison a montré des valeurs Q' similaires, ce qui confirme la classification adoptée. La figure 15 montre la distribution des valeurs Q' pour les trous de forage évalués par Dahrouge, indépendamment de la lithologie. La majorité des valeurs Q' varient entre 4 et 40.

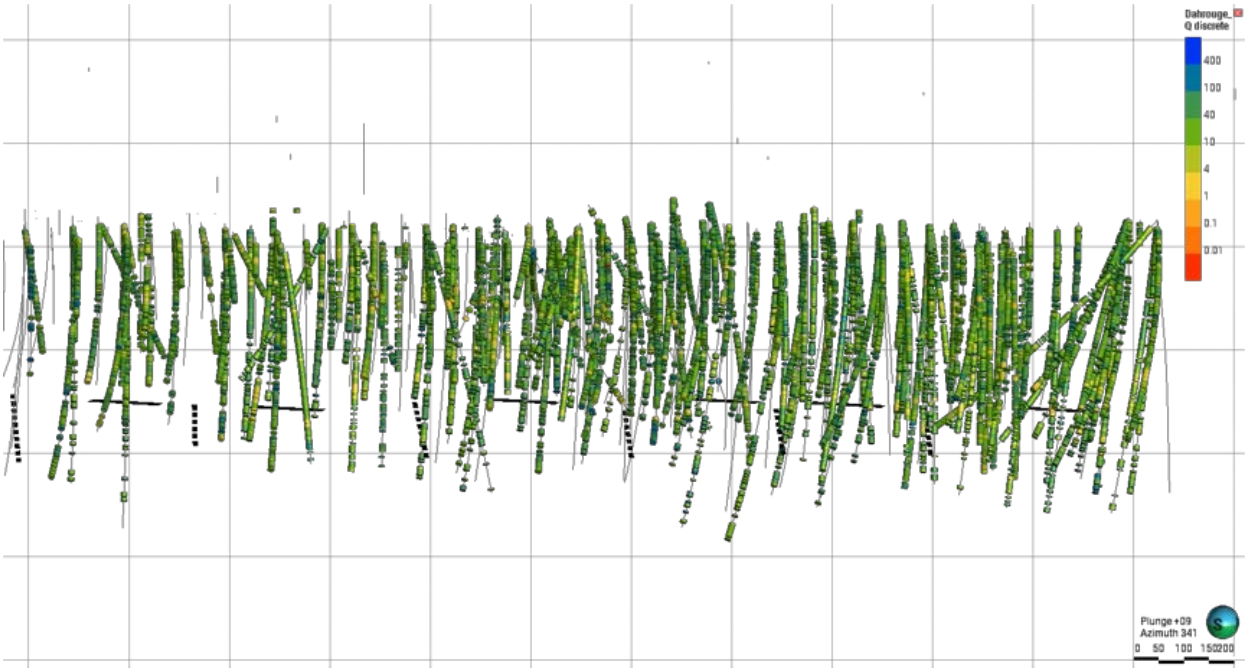


Figure 15. Répartition des valeurs Q' évaluées à partir des trous de forage enregistrés par Dahrouge.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Modèle RQD

Des filigranes RQD ont été fournis par Dahrouge pour représenter les zones de moindre qualité de la roche, définies comme des zones dont les valeurs RQD sont inférieures à 40 %. Le modèle a été construit à partir de l'ensemble de la base de données géologiques (environ 228 000 m de carottes enregistrées). Plusieurs limites ont été relevées :

- → Certains intervalles à faible RQD observés dans les trous de forage ne correspondent à aucune lentille à faible RQD modélisée.
- → Certaines lentilles modélisées ne sont pas directement corroborées par les mesures de faible RQD dans les trous de forage adjacents, ce qui pourrait surestimer leur continuité latérale.
- → La plupart des lentilles à faible RQD sont orientées est-ouest, alors que les failles dominantes s'étendent du nord-ouest au sud-est.

Malgré ces limites, le modèle a été utilisé pour examiner l'étendue et la continuité des zones à faible RQD dans les zones à ciel ouvert et souterraines de la mine. Il est à noter que la majorité de la base de données géologiques affiche des valeurs RQD élevées (Q1 = 97 % ; Q2 = 99 %). Le modèle devrait être affiné davantage au cours de la phase d'ingénierie détaillée.

Pour la mine à ciel ouvert, par rapport à la conception de la fosse PEA illustrée à la figure 16, certaines zones à faible RQD intersectent la paroi de la fosse, bien que leur étendue soit généralement limitée. L'exception est une grande lentille s'étendant du sommet au fond de la fosse le long de la paroi nord, qui correspond approximativement à l'emplacement du plan de faille FLT_1025. L'examen des journaux de forage à proximité de cette lentille indique que très peu de trous de forage ont été creusés derrière la paroi de la fosse. En effet, un seul trou derrière la paroi de la fosse présente un petit intervalle avec des valeurs RQD inférieures à 40 %. Néanmoins, en raison de son association spatiale avec la faille, cette caractéristique doit être prise en compte lors des opérations minières afin d'adapter les pratiques de travail en conséquence.

Pour la mine à ciel ouvert, la comparaison avec la conception de la fosse PEA (figure 16) montre que certaines zones à faible RQD intersectent les parois de la fosse, mais ces occurrences sont généralement de taille limitée. La principale exception est une lentille plus grande s'étendant du sommet au bas de la paroi nord, spatialement associée au plan de faille FLT_1025.

Un examen des journaux de forage à proximité de cette lentille indique que très peu de trous ont été forés derrière la paroi de la fosse. En effet, un seul trou de forage derrière la paroi de la fosse présente un petit intervalle avec des valeurs RQD inférieures à 40 %. Néanmoins, en raison de son association spatiale avec la faille, cette caractéristique doit être prise en compte lors des opérations minières afin que les pratiques minières puissent être ajustées si nécessaire.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

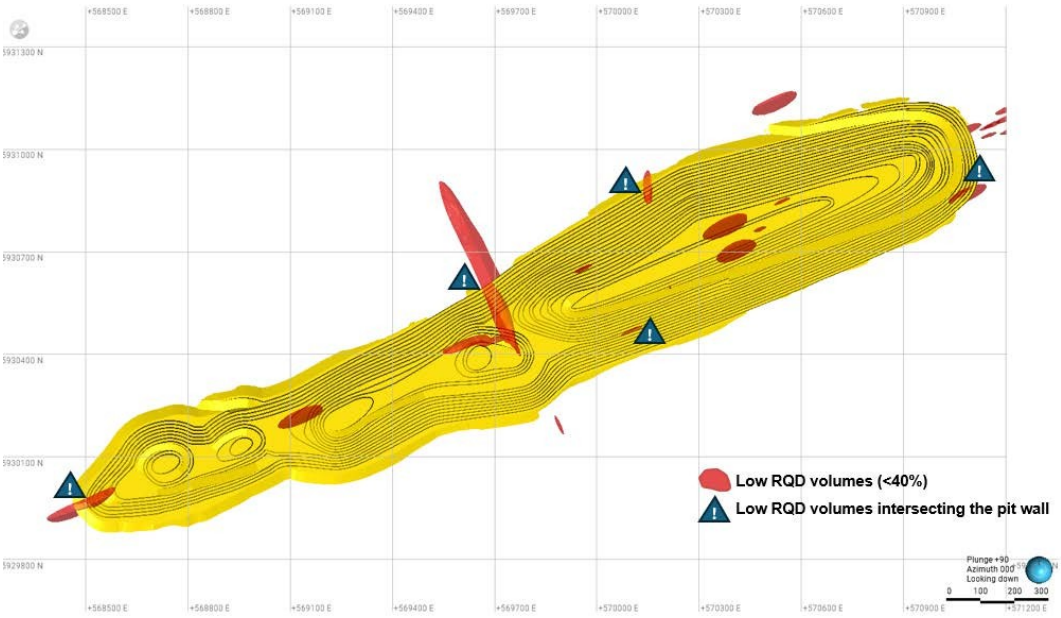


Figure 16. Zones à faible RQD (<40 %) modélisées par l' par rapport à la conception de la mine à ciel ouvert de l'EEP.

Dans la zone minière souterraine (figure 17), plusieurs lentilles discontinues à faible RQD sont présentes, ce qui correspond à la nature dispersée des mesures de faible RQD dans les données de forage. Aucune tendance structurelle ou spatiale cohérente ne peut être établie à partir des informations disponibles.

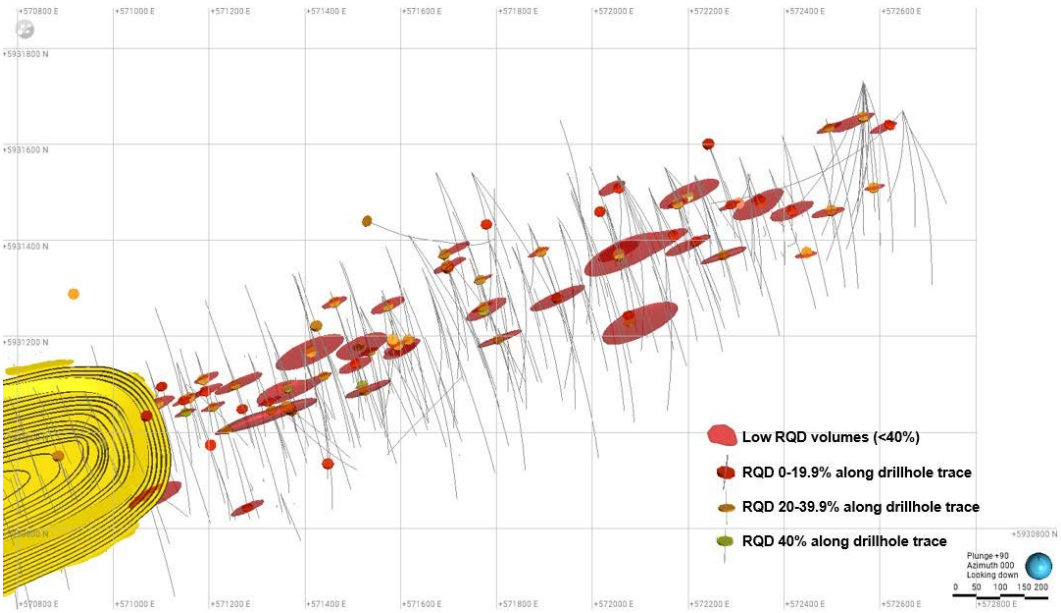


Figure 17. Zones à faible RQD (<40 %) modélisées dans la zone minière souterraine.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

5.1.3 Structures du massif rocheux

Les structures rocheuses peuvent être divisées en deux catégories principales : les structures majeures, telles que les failles, les plis et les stratifications métamorphiques, et les structures mineures, notamment les micro-stratifications, les plis à petite échelle, les failles mineures, les joints, la schistosité et le clivage (Read et Stacey, 2009). Alors que les structures majeures sont abordées dans la section 2.2.3, cette section se concentre sur les discontinuités présentes dans l' t le massif rocheux, en décrivant leurs propriétés, leurs orientations et leurs caractéristiques générales.

Propriétés de résistance au cisaillement

La résistance au cisaillement des discontinuités est généralement définie en termes d'angle de frottement maximal et de cohésion, selon le critère de rupture de Mohr-Coulomb (équation 10). Ces paramètres sont déterminés à l'aide d'essais de cisaillement direct (DS) en laboratoire, dans lesquels une charge normale est appliquée (perpendiculairement) à une discontinuité entre deux blocs rocheux tandis que la contrainte de cisaillement nécessaire pour induire un déplacement relatif est enregistrée en continu.

$$\tau_{dp} = \sigma_N \cdot \tan \phi_{dp} + c_{dp} \qquad \textit{(équation 9)}$$

Où
τ_{dp} = résistance maximale au cisaillement de la discontinuité (MPa)
c_{dp} = cohésion maximale de la discontinuité (MPa)
φ_{dp} = angle de frottement maximal de la discontinuité (°)

Dans les conditions résiduelles – après que la résistance maximale a été dépassée et qu'un déplacement important s'est produit le long de la discontinuité – la résistance au cisaillement est donnée par :

$$\tau_{dr} = \sigma_N \cdot \tan \phi_{dr} + c_{dr} \qquad \textit{(équation 10)}$$

Où
τ_{dr} = résistance au cisaillement résiduelle de la discontinuité (MPa)
c_{dr} = cohésion résiduelle de la discontinuité (MPa)
φ_{dr} = angle de frottement résiduel de la discontinuité (°)

Pour le projet Shaakichiuwaanaan, vingt-et-une (21) discontinuités ont été testées dans les unités amphibolite, métasédimentaires et ultramafiques (Alius Mine Consulting, 2025 ; BBA, 2024a ; BBA, 2024b). Aucun échantillon n'a été prélevé dans la pegmatite en raison de son exposition relativement limitée sur la paroi finale de la fosse. La figure 18 présente les résultats des essais de cisaillement direct ainsi que les angles de frottement maximal et résiduel interprétés. Les analyses de régression présentées dans la figure ont été limitées à une ordonnée à l'origine de 0 (c'est-à-dire une cohésion nulle), conformément aux conditions à l'échelle du banc d'essai où l'on peut s'attendre à des dommages causés par les explosions, des surfaces fracturées et de faibles contraintes de confinement (Read et Stacey, 2009).

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

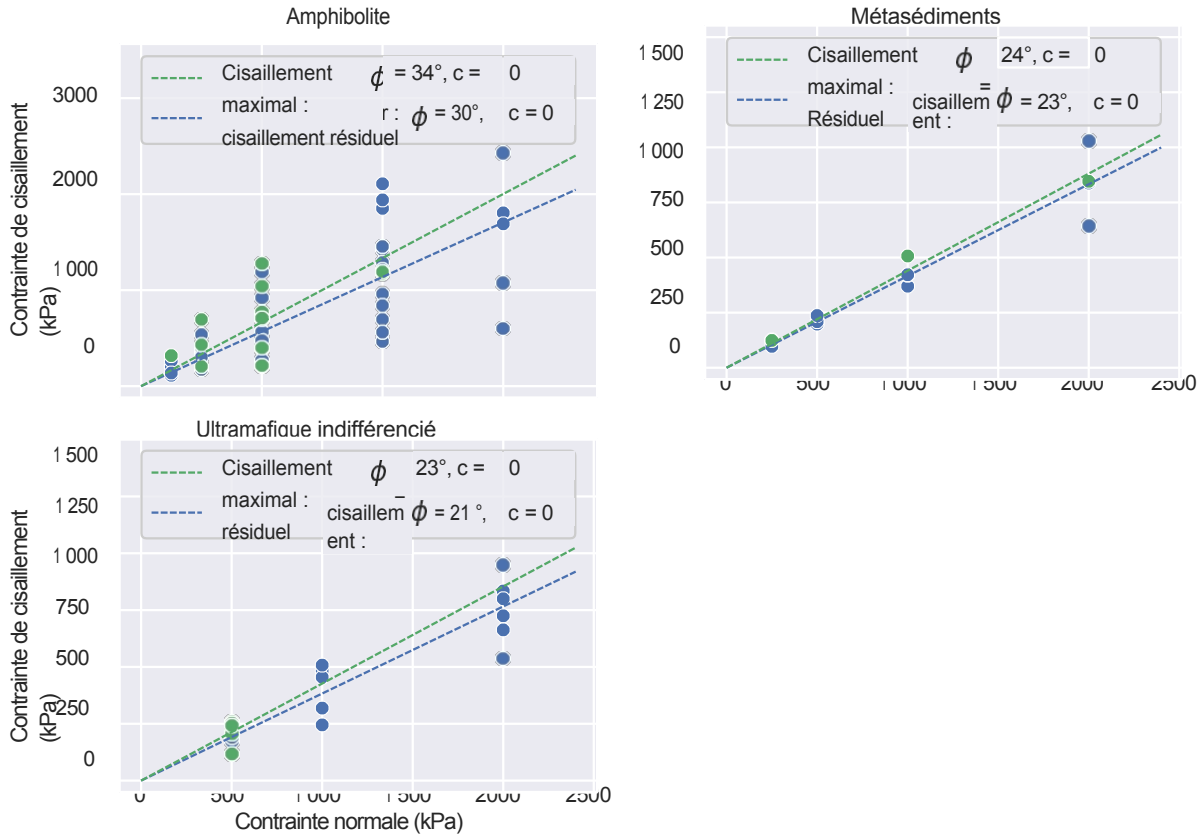


Figure 18. Résultats des essais de cisaillement direct d' pour les défaillances maximales (vert) et résiduelles (bleu).

Le tableau 32 résume les angles de frottement retenus, définis comme la moyenne des valeurs maximales et résiduelles. Lorsque plusieurs lithologies sont intercalées le long d'une paroi exposée de la fosse et ne peuvent être raisonnablement distinguées dans l'analyse, un angle de frottement retenu de 30° est appliqué. Cette hypothèse est particulièrement pertinente pour les parois est et ouest de la fosse.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Tableau 32. Résumé des propriétés de résistance au cisaillement.

Lithologie	Cohésion (kPa)	Angle de frottement maximal (°)	Angle de frottement résiduel (°)	Angle de frottement retenu (°)
Amphibolite	0	34	30	32
Métasédiments	0	24	23	23,5
Pegmatite	0	N/A	N/A	32 [1]
Ultramafique	0	23	21	22,5

Codes N/A non applicable.
Remarques [1] D'après une hypothèse prudente basée sur Read et Stacey (2009) : $\phi_{\text{à gros grainsignéesroches}}$ = 31-48°.

Orientation et description

Les levés par téléviseur – téléviseur optique (OTV) et téléviseur acoustique (ATV) – sont largement utilisés pour acquérir des données structurelles à haute résolution directement à partir des trous de forage, notamment l'orientation des fractures, leur espacement et les caractéristiques de leur ouverture. Ces données sont utilisées pour définir les domaines géomécaniques.

Pour le projet Shaakichiuwaanaan, soixante-cinq (65) levés téléviseurs ont été réalisés dans les zones à ciel ouvert et souterraines de la mine. Le tableau 33 résume les levés pris en compte dans les analyses structurelles.

Dans la zone à ciel ouvert, quarante-quatre (44) levés provenant de trous de forage situés dans l'empreinte de la fosse ou à moins de 100 m de la limite de la fosse ont été inclus. De plus, trois levés provenant des trous de forage CV22-042, CV22-066 et CV22-069 ont été intégrés spécifiquement pour caractériser l'unité ultramafique indifférenciée. Bien que ces trous de forage soient situés à environ 400-500 m à l'est de la limite de la fosse, ils ont été inclus en raison du peu d'informations structurelles disponibles pour cette lithologie.

Pour la zone minière souterraine, vingt-six (26) levés par téléviseur étaient disponibles et ont été inclus dans l'analyse.

Tableau 33. Résumé des enquêtes auprès des téléspectateurs utilisées pour l'analyse structurelle des secteurs des mines à ciel ouvert et souterraines.

Secteur minier	Forages pris en compte
Mine à ciel ouvert	**(CF21-)** 001, 002, 003 **(CV22-)** 019, 022, 024, 040, 043, 048, 052, 055, 058, 065, 071, 074 **(CV23-)** 130, 152, 157, 164, 188, 194, 197, 217, 219, 223, 236, 243, 317, 364 **(CV24-)** 423A, 447, 456, 463, 479, 489, 493, 514, 521, 609, 623, 689, 739, 777, 781
Sous-sol	**(CV22-)** 019, 021, 022, 024, 042, 047, 052, 055, 058, 063, 066, 069 **(CV23-)** 124, 130, 133, 152, 157, 194, 197 **(CV24-)** 447, 459, 463, 469, 496, 500, 514

Notes Certains trous de forage sont pris en compte à la fois dans les analyses de la mine à ciel ouvert et de la mine souterraine en raison de leur emplacement.

Les caractéristiques non pertinentes, telles que les veines, les niveaux d'eau et les fonds de tubage, ont été exclues de la base de données car elles ne contribuent pas à l'interprétation structurelle. L'analyse s'est concentrée sur les types de discontinuités suivants : joints ouverts, joints fermés, foliation, zones fracturées, failles, cisaillements

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

et contacts.

Le tableau 34 présente le nombre d'entrées associées à chaque type de discontinuité, tandis que le tableau 35 résume le nombre total d'entrées pour les quatre principales lithologies. Les deux tableaux compilent les données des soixante-cinq (65) levés par téléviseur.

Tableau 34. Résumé des données structurelles disponibles par type de discontinuité.

Type de discontinuité	Nombre d'entrées
Joint fermé	6 725
Joint ouvert	1 906
Foliation	1 535
Défaut	436
Contact	417

Remarque D'après les 65 enquêtes menées auprès des téléspectateurs.

Tableau 35. Résumé des données structurelles disponibles pour le type lithologique principal.

Lithologie	Nombre d'entrées
Amphibolite	9 785
Métasédiments	2 969
Pegmatite	1 853
Ultramafique	856

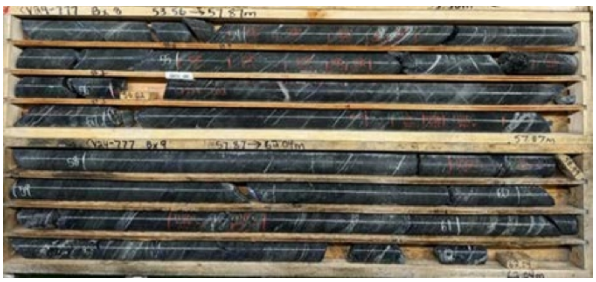
Remarque D'après les 65 levés télévueurs.

La foliation est une structure qui introduit une anisotropie dans la masse rocheuse et peut avoir une incidence importante sur la stabilité des excavations minières. Comme le montre le tableau 34, la foliation a été identifiée lors des levés par téléviseur; toutefois, sa présence réelle est probablement plus importante en raison des limites inhérentes au processus de sélection lors de l'interprétation des données du téléviseur. Cela affecte principalement l'estimation de l'espacement moyen des joints pour les ensembles de joints composés de plans de foliation. Dans la pratique, en présence de foliation, l'espacement réel des joints est généralement plus petit que celui indiqué, ce qui se traduit par des conditions moins favorables pour l'analyse de la stabilité.

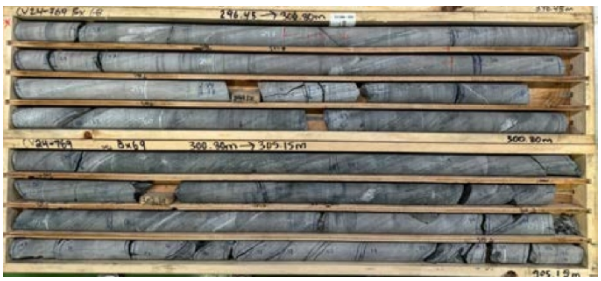
Dans le cadre du projet Shaakichiuwaanaan, une foliation a été identifiée dans toutes les unités lithologiques, mais elle est particulièrement marquée dans l'amphibolite, les roches métasédimentaires et l'unité ultramafique indifférenciée. Les figures 19a à 19c montrent des photographies représentatives de carottes où la foliation est clairement visible.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

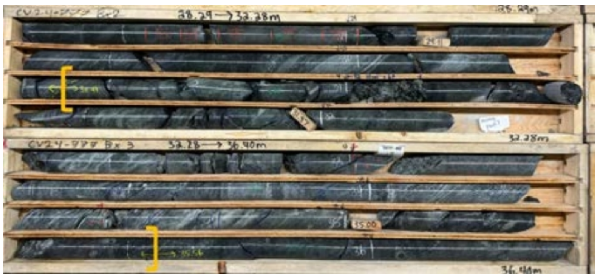
Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification



(a) Amphibolite.



(b) Métasédiments.



(c) Ultramafique indifférencié.

Figure 19. Foliation visible sur la photo de carottes de différents types de roches.

La description des discontinuités, y compris la forme de la surface, la rugosité, l'altération, l'épaisseur du remplissage et le nombre de jeux de joints, a été enregistrée pendant la diagraphie. La figure 20 présente les distributions de la rugosité des joints (J_r), de l'altération des joints (J_a) et de la classification des ensembles de joints (J_n) par lithologie, compilées à partir des quatorze (14) forages géomécaniques.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

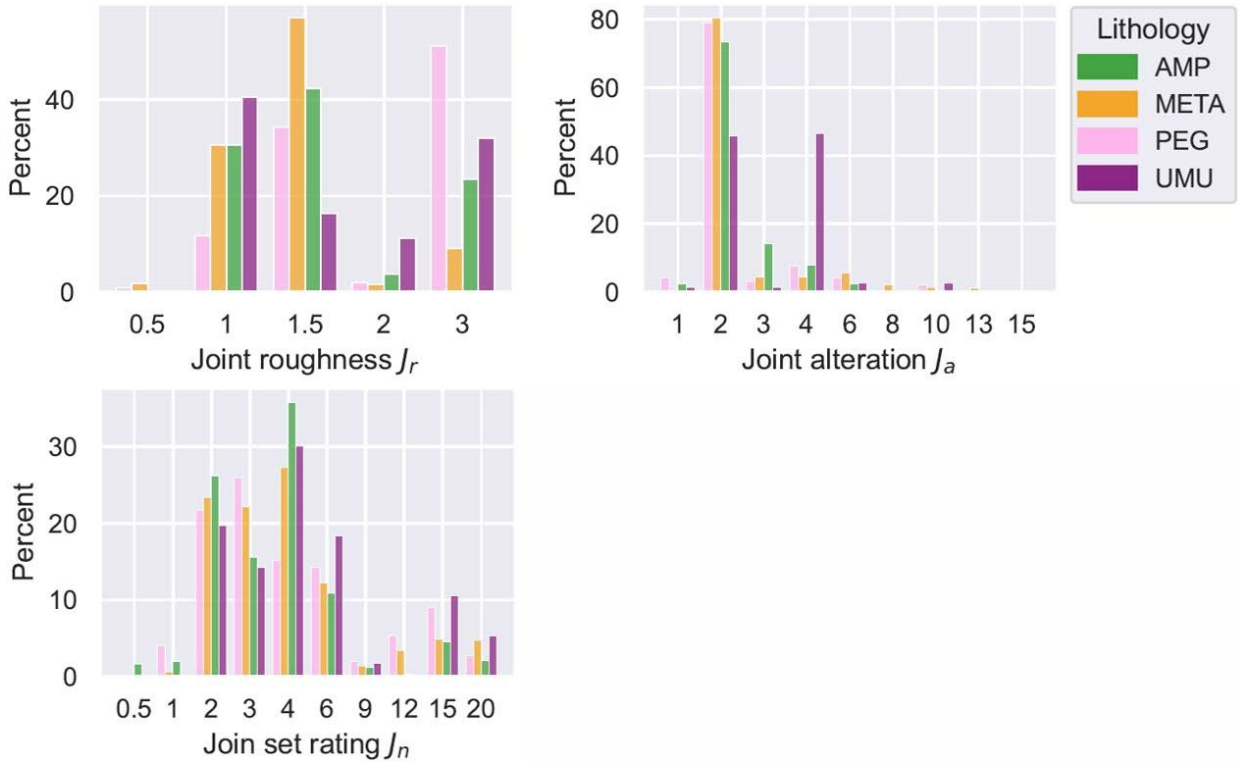


Figure 20. Caractérisation des discontinuités par lithologie.

Mine à ciel ouvert

L'interprétation des discontinuités relevées est un élément essentiel des analyses structurelles nécessaires à la conception de la mine à ciel ouvert. Cette section présente la caractérisation structurelle de la roche qui sera exposée dans les parois de la mine à ciel ouvert et sert de base à la définition des domaines géomécaniques décrits dans la section 6.

La mine à ciel ouvert de Shaakichiuwaanaan s'étend sur environ 2,8 km de longueur. Compte tenu de cette échelle, une évaluation détaillée de la variabilité spatiale des orientations des joints (inclinaison et direction) était nécessaire. Pour faciliter cette analyse, la mine a été subdivisée en huit (8) zones, comme le montre la figure
21. Pour chaque zone, des projections stéréographiques des pôles de discontinuité ont été générées pour les quatre principales unités lithologiques. Les résultats indiquent que les orientations des joints varient spatialement à travers la fosse, en particulier d'ouest en est.

L'unité pegmatitique présente un pendage abrupt qui divise efficacement la roche hôte en un mur suspendu au nord-ouest (paroi nord de la fosse) et un mur de pied au sud-est (paroi sud de la fosse). Afin d'évaluer les différences potentielles dans les orientations des joints à travers ce corps intrusif, les trous de forage ont été classés en fonction de leur intersection avec la roche hôte au nord ou au sud de la pegmatite. Cette approche a permis de comparer les orientations des discontinuités au sein de la même lithologie des deux côtés de l'intrusion et a permis de subdiviser l'unité métasédimentaire en domaines nord et sud.

L'annexe C présente les stéréogrammes générés pour chaque zone et unité lithologique.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

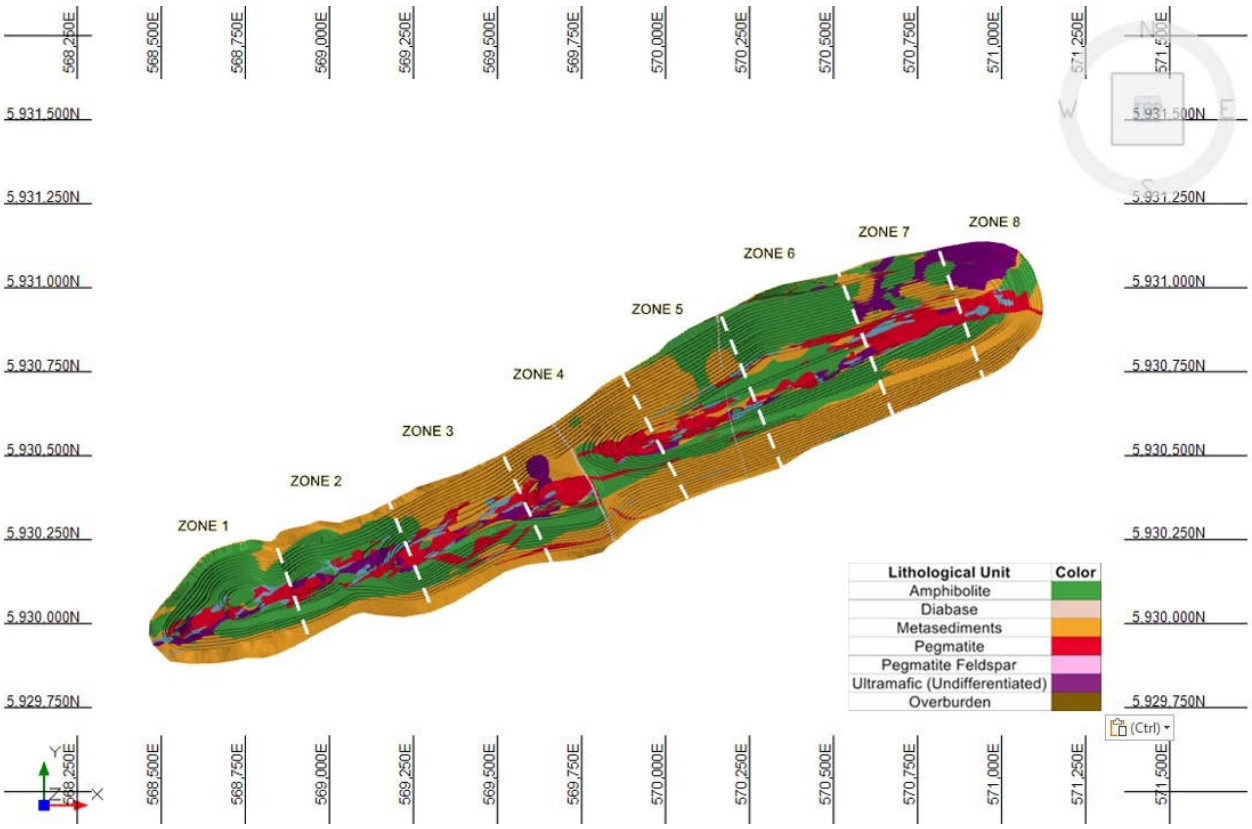


Figure 21. Zones à ciel ouvert utilisées pour la définition du domaine géomécanique.

Cette analyse spatiale détaillée des orientations des joints a servi de base à l'établissement des domaines géomécaniques et à la détermination des levés télévueurs à combiner afin de développer des ensembles de données structurelles représentatifs pour les analyses cinématiques ultérieures. À titre de référence, les domaines géomécaniques définis et les levés télévueurs associés sont répertoriés dans le tableau 40 de la section 6. Afin de localiser spatialement les domaines géomécaniques, la mine à ciel ouvert a été divisée en trois (3) zones générales, comme le montre la figure 22. La nomenclature suivante a été adoptée :

$$X_1\ X_2\ -\ Lithologie$$

Où X_1 : zone générale (W = Ouest, C = Centre, E = Est).

X_2 : paroi à ciel ouvert (N = nord, S = sud, E = est, O = ouest, Toutes = parois sud et nord).

Lithologie : correspond au code lithologique ; si plusieurs lithologies sont concernées, on utilise une combinaison des premières lettres du code, APU (AMP, PEG, UMU) et AMPU (AMP, META, PEG, UMU).

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

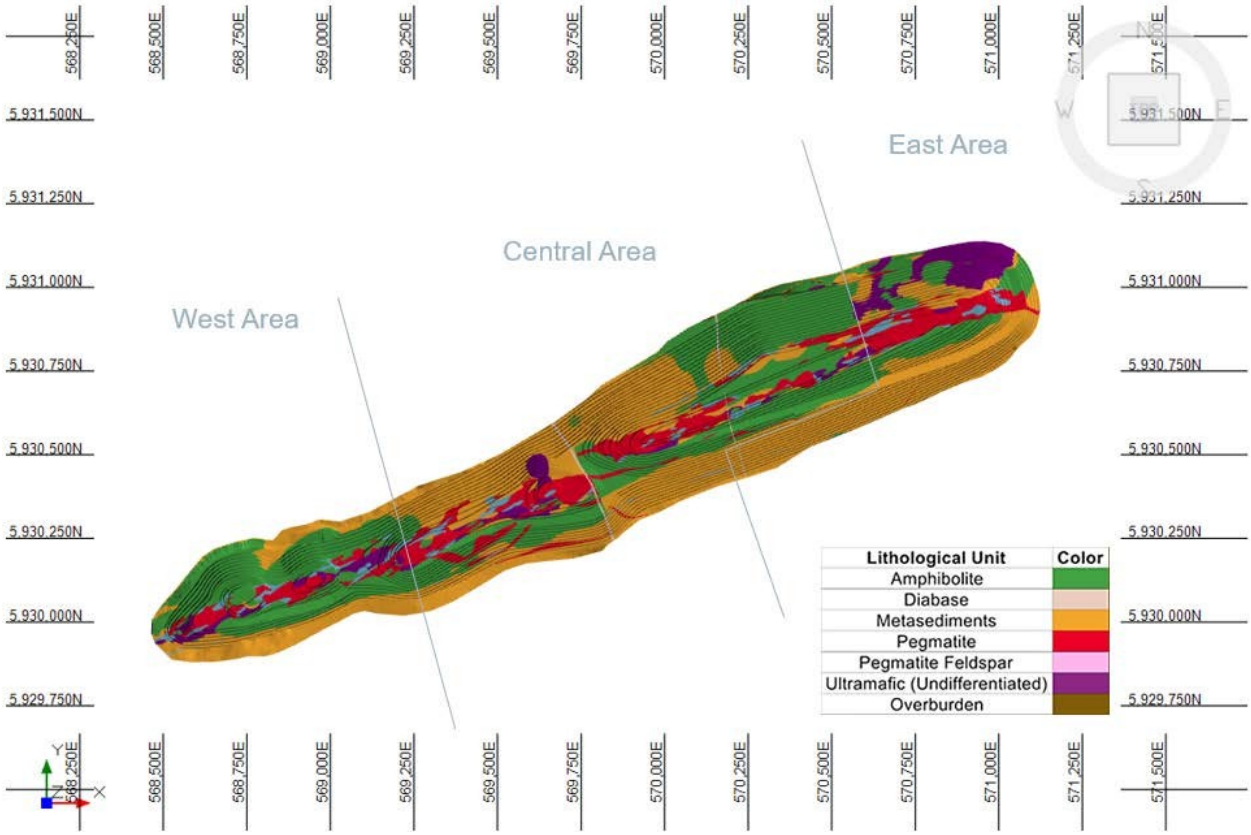


Figure 22. Division générale de la zone à ciel ouvert.

La subdivision en huit (8) zones, ainsi que la séparation des unités métasédimentaires en secteurs nord et sud par rapport à l'intrusion pegmatitique, ont mis en évidence plusieurs zones pour lesquelles les données structurales sont limitées. Dans plusieurs cas, ces lacunes sont dues au fait que les trous de forage étudiés par téléviseur ne recoupent pas les unités lithologiques qui seront exposées dans la paroi finale de la fosse. Par conséquent, pour certains domaines géomécaniques, les données provenant des zones adjacentes ont été utilisées pour compléter les informations disponibles.

→ WS-META — Aucune donnée disponible pour les zones 1 et 2 META (sud) ; les données des zones 1 et 2 META (nord) ont été utilisées à la place.

→ CN-UMU & EN-UMU — Les données pour l'UMU sont limitées ; les informations provenant des zones adjacentes ont été utilisées lorsqu'elles étaient disponibles.

Le tableau 36 présente un résumé des ensembles de joints interprétés dans les domaines géomécaniques. Outre l'inclinaison moyenne des pôles et la direction d'inclinaison des ensembles de joints, ce tableau indique l'espacement moyen des joints et le nombre de pôles pour chaque ensemble défini. Ces valeurs, combinées à d'autres facteurs, tels que les comparaisons avec la caractérisation géomécanique précédente (PEA), ont été utilisées pour classer les ensembles de joints comme majeurs ou mineurs. Au cours de l'analyse, une plus grande importance a été accordée aux ensembles majeurs en raison de leur influence significative sur la conception des gradins, tandis que les ensembles mineurs ont été considérés comme ayant un impact potentiel limité. Il convient de noter que les ensembles JS1 comprennent généralement des plans de foliation ; par conséquent, le

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

L'espacement moyen réel des joints pour ces ensembles est probablement inférieur à la valeur indiquée dans ce tableau.

Le tableau 36 résume les ensembles de joints interprétés dans les domaines géomécaniques. Le tableau comprend le pendage moyen et la direction du pendage pour chaque ensemble de joints, l'espacement moyen des joints et le nombre de pôles utilisés pour définir chaque ensemble. Ces paramètres, ainsi que des comparaisons avec les caractérisations géomécaniques précédentes (PEA), ont été utilisés pour classer les ensembles de joints comme majeurs ou mineurs. Pour les analyses, l'accent a été mis sur les ensembles majeurs, tandis que les ensembles mineurs ont été considérés comme ayant un impact limité. Il convient de noter que JS1 comprend généralement des plans de foliation ; par conséquent, l'espacement moyen réel de cet ensemble est probablement inférieur aux valeurs indiquées.

L'annexe B présente les projections stéréographiques (hémisphère inférieur) des discontinuités et les ensembles de joints interprétés pour chacun des domaines géomécaniques de la mine à ciel ouvert.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Tableau 36. Ensembles de joints interprétés par domaine géomécanique – Mine à ciel ouvert.

GMD (roche fraîche)	Ensemble de joints	Pent (°)	Direction de l'inclinaison (°)	Espacement moyen des joints (m)	Nombre de poteaux
WAll-AMP	JS1	71	157	2,30	241
	JS2	21	347	4,86	145
WW-APU	JS1	72	157	1,31	400
	JS2	17	002	3,40	284
WS-META	JS1	48	156	1,47	50
	JS2	31	002	3,90	83
	JS3	78	163	1,21	43
CN-META	JS1	49	164	1,03	194
CN-AMP	JS1	60	150	1,59	308
	JS2	22	332	3,03	112
	js3	29	159	2,27	89
CN-UMU	JS1	51	160	0,53	33
	js2	58	212	2,31	5
CS-META	JS1	55	152	0,71	125
	JS2	21	356	0,98	110
CS-AMP	JS1	53	157	1,50	604
	JS2	22	337	5,49	292
	JS3	77	334	3,59	227
EN-UMU	JS1a	29	162	1,24	21
	JS1b	58	152	0,42	39
EAll-AMP	JS1	47	158	1,31	350
	JS2	23	357	3,74	261
EN-META	JS1	51	163	2,37	36
	JS2	51	346	3,19	35
	js3	58	233	2,75	8
EE-AMPU	JS1	46	160	1,09	299
	JS2	22	350	3,87	243
ES-META	JS1	55	151	2,30	140
	JS2	30	343	5,76	72
WCE-PEG	JS1	77	156	3,47	92
	JS2	08	013	2,00	427
	JS3	77	340	3,26	137

Codes Domaine géomécanique GMD. Reportez-vous au tableau 40 pour la présentation du GMD.
Remarques JS en majuscules : ensemble de joints majeurs. js en minuscules : ensemble de joints mineurs.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Mine souterraine

La lithologie principale prise en compte pour l'analyse souterraine est la pegmatite ; cependant, des amphibolites, des métasédiments et des roches ultramafiques peuvent également être exposés dans le mur et le pied. Afin d'identifier les ensembles de joints pertinents, seules les discontinuités relevées dans les vingt-six (26) trous de forage situés dans la zone minière souterraine ont été prises en compte. Le tableau 37 présente les ensembles de joints interprétés définis pour l'analyse souterraine. Encore une fois, il convient de noter que les ensembles JS1 sont généralement ceux qui comprennent les plans de foliation. Par conséquent, l'espacement moyen des joints pour ces ensembles devrait être inférieur à la valeur présentée dans ce tableau.

L'annexe B présente également les projections stéréographiques (hémisphère inférieur) des discontinuités et les ensembles de joints interprétés pour chacun des domaines géomécaniques dans la zone de la mine souterraine, préparés à l'aide de *Dips* (Rocscience, 2024a).

Tableau 37. Ensembles de joints interprétés par domaine géomécanique – Mine souterraine.

GMD (roche fraîche de joints Roche)	Ensemble	Inclinaison (°)	Direction de l'inclinaison (°)	Espacement moyen des joints (m)	Nombre de poteaux
Métasédiments	JS1	48	153	2,56	422
	JS2	26	343	4,66	145
Amphibolite	JS1	47	153	2,44	885
	JS2	25	344	7,97	568
	js3	64	340	10,73	310
Ultramafique	JS1	56	148	2,35	39
	JS2	29	153	3,73	63
Pegmatite	JS1	02	346	2,41	258
	JS2	87	341	4,78	62
	js3	89	042	6,80	14

Codes GMD Domaine géomécanique (roche fraîche). Reportez-vous au tableau 41 pour les définitions GMD.
Remarques JS en majuscules : ensemble de joints majeurs. js en minuscules : ensemble de joints mineurs.

5.1.1 Propriétés du massif rocheux

Les propriétés du massif rocheux comprennent le module d'Young, le coefficient de Poisson et les propriétés de résistance. Le module d'Young du massif rocheux peut être estimé à l'aide de l'équation suivante (Hoek et Diederichs, 2006) :

$$E_{RM} = E_i \times \left(0{,}02 + \frac{1 - \frac{D}{2}}{1 + \exp\left(\frac{60 + 15D - GSI}{11}\right)}\right) \quad \textit{(équation 11)}$$

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Où E_{RM} = module d'Young de la masse rocheuse (GPa)
E_i = module d'Young de la roche intacte (GPa)
D = facteur de perturbation (dû à la redistribution des contraintes et aux dommages causés par le dynamitage) Où D = 0,5, pré-fissuration contrôlée ou dynamitage à paroi lisse
= 0,7, effets mécaniques de l'excavation dus aux dommages causés par la redistribution des contraintes
= 1,0, dynamitage de production
* une relation D transitoire peut être utilisée (Rose et al., 2018)

Le coefficient de Poisson de la masse rocheuse et de la roche intacte est supposé être égal. Les propriétés élastiques de la masse rocheuse qui en résultent sont présentées dans le tableau 38.

Les résistances de la masse rocheuse sont représentées soit par les critères de Mohr-Coulomb, soit par ceux de Hoek-Brown. Le premier critère peut être représenté comme suit (Coulomb, 1776) :

$$\tau = \sigma_N \cdot \tan\phi + c \qquad \textit{(équation 12)}$$

Où τ= résistance au cisaillement (MPa)
σ_N = contrainte normale (MPa)
φ= angle de frottement
(°) c = cohésion (MPa)

En termes de contraintes principales majeure et mineure (c'est-à-dire σ_1 et σ_3), le critère de Mohr-Coulomb est donné par :

$$\sigma_1 = k \cdot \sigma_3 + \sigma_{cm} = \frac{1+\sin\phi}{1-\sin\phi} \cdot \sigma_3 + \frac{2c\cos\phi}{1-\sin\phi} \qquad \textit{(équation 13)}$$

Où σ_1 = contrainte effective principale majeure à la rupture (MPa)
σ_3 = contrainte effective principale mineure à la rupture (MPa)
σ_{cm} = résistance à la compression de la masse rocheuse (MPa)

Le critère de Hoek-Brown prend la forme suivante (Hoek et Brown, 2018) :

$$\sigma_1 = \sigma_3 + \sigma_{ci}\left(m_b \frac{\sigma_3}{\sigma_{ci}} + s\right)^a \qquad \textit{(équation 14)}$$

Où σ_{ci} = résistance à la compression non confinée de la roche intacte (MPa) m_b , s, a = constantes matérielles de la masse rocheuse

Avec

$$m_b = m_i \exp\frac{GSI-100}{28-14D} \qquad \textit{(équation 15)}$$

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

$$s = \exp\frac{GSI-100}{9-3D} \qquad \textit{(équation 16)}$$

$$a = \frac{1}{2} + \frac{1}{6}\exp\frac{-GSI}{15} - \exp\frac{-20}{3} \qquad \textit{(équation 17)}$$

Où m_i = constante du matériau rocheux intact.

La résistance à la compression de la masse rocheuse (σ_{RM}) et la résistance à la traction de la masse rocheuse dérivées du critère de Hoek-Brown peuvent être évaluées à l'aide des équations suivantes :

$$\sigma_{RM} = \sigma_{ci} \cdot s^a \qquad \textit{(équation 18)}$$

$$\sigma = -\frac{s \cdot \sigma_{ci}}{m_b} t \qquad \textit{(équation 19)}$$

Les enveloppes de rupture de la masse rocheuse ont été dérivées à l'aide de facteurs de perturbation de 0,0 (non perturbé) et 0,7, combinés aux valeurs GSI obtenues pour l'évaluation de la qualité de la masse rocheuse de la mine souterraine. Les enveloppes de la masse rocheuse obtenues sont présentées à la figure 23.

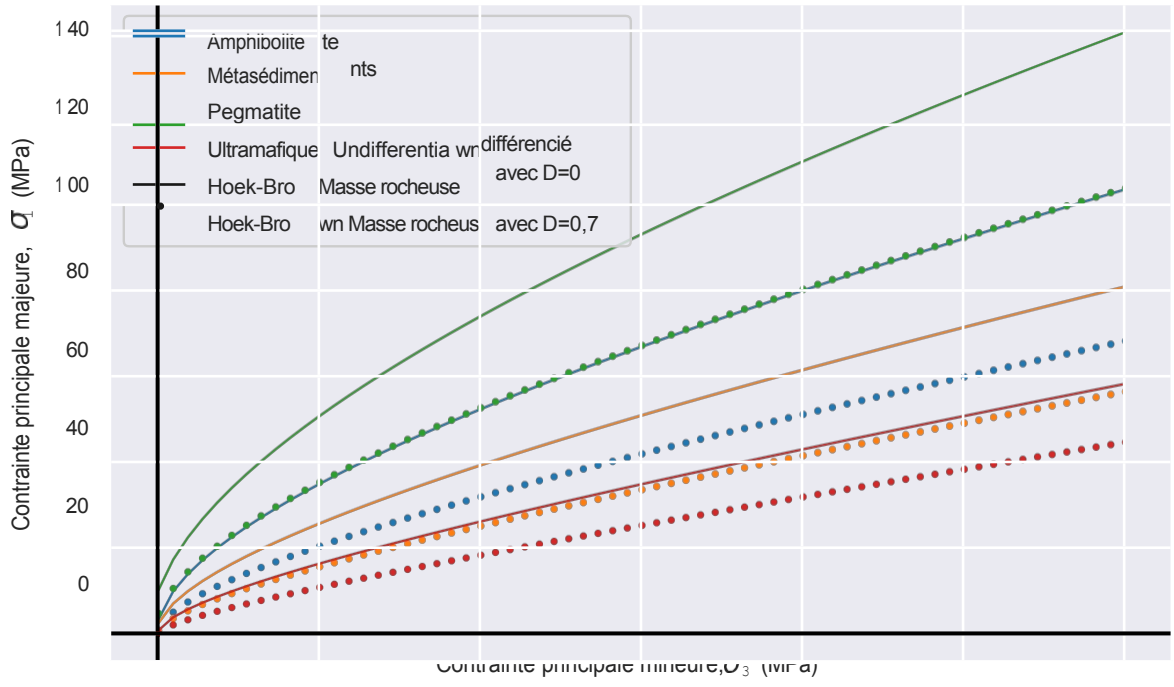


Figure 23. Enveloppes de rupture de la masse rocheuse.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Résumé des propriétés du massif rocheux

Les propriétés résultantes de la masse rocheuse sont présentées dans le tableau 38.

Tableau 38. Résumé des propriétés de résistance de la masse rocheuse des principales lithologies.

Lithologie	Perturbation Facteur (–)	s (–)	a (–)	Résistance à la traction (MPa)	σRM (MPa)	Constante m_b (–)	ERM (GPa)
Amphibolite	0,0	0,0183	0,502	-0,54	26,59	6,69	54,4
	0,7	0,0054	0,502	-0,32	14,43	3,35	22,4
Métasédiments	0,0	0,0183	0,502	-0,67	20,53	4,17	23,3
	0,7	0,0054	0,502	-0,40	11,12	2,09	9,6
Pegmatite	0,0	0,0868	0,501	-0,93	35,41	11,26	43,9
	0,7	0,0412	0,501	-0,67	24,40	7,37	23,1
Ultramafique	0,0	0,0129	0,502	-0,31	7,74	3,40	9,7
	0,7	0,0054	0,502	-0,18	4,20	1,70	4,0

Codes s, constante du matériau de la masse rocheuse selon Hoek-Brown, σ_{RM} résistance à la compression de la masse rocheuse, m_b constante de la masse rocheuse selon Hoek-Brown, E_{RM} module d'Young de la masse rocheuse.

Remarques Résistance à la traction de la masse rocheuse obtenue à partir de l'équation 19.

5.2 Conditions de contrainte in situ

Comme aucune mesure de contrainte in situ n'a été effectuée à Shaakichiuwaanaan, les états de contrainte ont été estimés à partir de deux (2) sites voisins : la mine Éléonore (Guido, 2019) et le projet LG2 d'Hydro-Québec (Heidbach et al., 2025). La contrainte principale majeure (S1) est supposée être horizontale et orientée parallèlement au gisement, avec une magnitude de 1,48 fois la composante de contrainte verticale (σ_V), avec une valeur verrouillée de 10 MPa. La contrainte principale intermédiaire (S2) est supposée horizontale et perpendiculaire au gisement, avec une magnitude de 0,7 fois la composante de contrainte verticale et une valeur verrouillée de 7 MPa. La contrainte mineure (S3), définie comme la contrainte verticale (σ_V), est calculée à partir du poids du matériau. Le tableau 39 résume le tenseur de contrainte in situ pris en compte pour le projet. La figure 24 présente le rapport k retenu (c'est-à-dire σ_H / σ_v) par rapport aux mesures effectuées à proximité et à la littérature.

Il convient de noter que la contrainte principale, qui devrait être parallèle au gisement, est favorable du point de vue de la stabilité de la chambre d'abattage. Lorsque la contrainte principale maximale s'aligne sur le gisement, le risque de détachement de blocs ou de rupture cinématique le long des joints induit par la contrainte est réduit, et la masse rocheuse est généralement mieux soutenue par le champ de contraintes in situ. Cette orientation contribue donc à améliorer la stabilité globale.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Tableau 39. Hypothèses relatives à l'état des contraintes in situ.

Contrainte Composante	Contrainte principale Composante	Magnitude Gradient (MPa)	Orientation	
			Tendance (°)	Plongée (°)
Max horizontal (σ_H)	Principal (S1)	0,040 × Z + 10	070	00
Minimum horizontal (σ_h)	Intermédiaire (S2)	0,019 × Z + 7	160	00
Vertical (σ_v)	Mineure (S3)	0,027 × Z	–	90

Codes Profondeur Z sous la surface, en mètres.

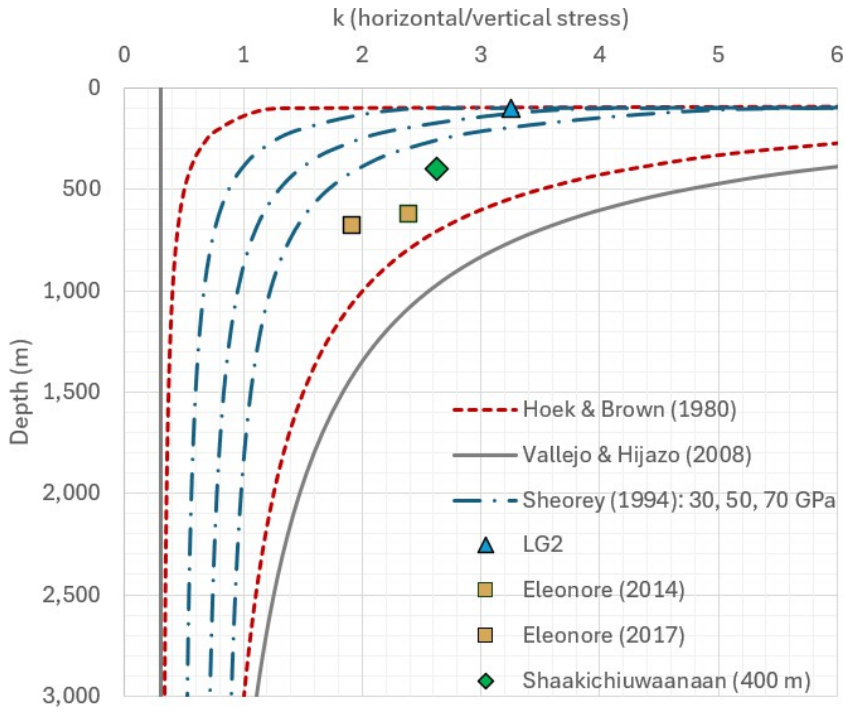


Figure 24. Comparaison du rapport k (σ_H / σ_v) obtenu à une profondeur de 400 mètres avec deux sites voisins et la littérature.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

6 Domaines géotechniques et géomécaniques

Les domaines géotechniques et géomécaniques font référence à la division du modèle géotechnique/géomécanique en plusieurs zones à l'intérieur des limites proposées pour les mines à ciel ouvert et souterraines, qui se trouvent également dans les principaux domaines d'altération (c'est-à-dire le sol et la roche fraîche). Les domaines géotechniques désignent les matériaux qui présentent un comportement similaire à celui du sol et qui partagent des caractéristiques géologiques, structurelles et matérielles similaires. Les domaines géomécaniques désignent les matériaux rocheux classés en fonction d'un ou plusieurs des critères suivants : classifications des masses rocheuses, orientations structurelles (interprétées à partir de projections stéréographiques), enveloppes de résistance dérivées de laboratoire et/ou comportement prévu des masses rocheuses. Cette section résume les domaines géotechniques et géomécaniques pour les mines à ciel ouvert et souterraines.

Les domaines géotechniques et géomécaniques représentent des subdivisions du modèle géotechnique/géomécanique dans les limites des mines à ciel ouvert et souterraines proposées, correspondant aux principales unités d'altération (c'est-à-dire le sol et la roche fraîche). *Les domaines géotechniques* font référence aux matériaux qui présentent un comportement similaire à celui du sol et qui partagent des caractéristiques géologiques, structurelles et autres similaires. *Les domaines géomécaniques* font référence aux matériaux rocheux dont le comportement devrait être similaire sur la base des classifications des masses rocheuses, des orientations structurelles (interprétées à partir de projections stéréographiques) et des enveloppes de résistance dérivées en laboratoire. Cette section résume les domaines géotechniques et géomécaniques définis pour les mines à ciel ouvert et les mines souterraines.

6.1 Mine à ciel ouvert

Dans l'empreinte de la fosse, un seul domaine géotechnique a été identifié, car les matériaux de recouvrement sur l'ensemble du site présentent des caractéristiques similaires. En revanche, plusieurs domaines géomécaniques ont été définis, chacun étant attribué à plusieurs unités lithologiques. Ces distinctions reflètent les variations spatiales des propriétés géomécaniques sur l'ensemble du site, notamment en ce qui concerne les orientations structurelles. Les détails des domaines géotechniques et géomécaniques de la fosse à ciel ouvert sont présentés dans le tableau 40.

Les domaines géomécaniques ont été définis à partir d'une analyse détaillée des variations spatiales de l'orientation des discontinuités dans la fosse à ciel ouvert. La méthodologie consistait à subdiviser la fosse de 2,8 km en huit zones et à générer des projections stéréographiques pour chaque unité lithologique majeure au sein de chaque zone. Comme l'intrusion pegmatitique sépare la roche hôte en deux secteurs distincts, nord et sud, les trous de forage ont été classés en conséquence, ce qui a permis de comparer les orientations structurelles au sein d'une même lithologie à travers l'intrusion. Cette approche a permis d'identifier les différences structurelles, qui ont guidé la subdivision en domaines géomécaniques, et a mis en évidence les zones pour lesquelles les données disponibles étaient limitées. De plus amples détails sont présentés à la section 5.1.3.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Tableau 40. Domaines géotechniques et géomécaniques à ciel ouvert.

Domaine (GTD/GMD)	Domaine d'altération	Lithologie Code	Forages pris en compte
GTD-ALL	Masse rocheuse	N/A	**(CV24-)** 542, 558, 562, 775, 779, 780, 782, 784, 785, 786, 787
WAll-AMP	Roche fraîche	AMP	**(CV23-)** 217, 219, 223, 236, 243, 317, 364 **(CV24-)** 521, 739, 777
WW-APU	Roche fraîche	AMP, PEG, UMU	**(CV23-)** 217, 219, 223, 236, 243, 364 **(CV24-)** 739, 777
WS-META	Roche fraîche	META	**(CV23-)** 217, 219, 223, 236, 243, 317, 364 **(CV24-)** 521, 739, 777
CN-AMP	Roche fraîche	AMP	**(CF21-)** 001, 002, 003 **(CV22-)** 048, 065 **(CV23-)** 164 **(CV24-)** 456, 463, 479, 489, 514, 609
CN-META	Roche fraîche	META	**(CV22-)** 040, 043 **(CV23-)** 164, 188 **(CV24-)** 423A, 456, 689
CS-AMP	Roche fraîche	AMP	**(CF21-)** 001, 002, 003 **(CV22-)** 040, 043, 048, 065, 071, 074 **(CV23-)** 164, 188 **(CV24-)** 423A, 456, 463, 479, 489, 493, 514, 609, 623, 689, 781
CS-META	Roche fraîche	META	**(CV22-)** 071, 074 **(CV24-)** 489, 493, 623, 781
CN-UMU	Roche fraîche	UMU	**(CV22-)** 040, 043, 071, 074 **(CV23-)** 188 **(CV24-)** 423A, 493, 623, 689, 781
EAll-AMP	Roche fraîche	AMP	**(CV22-)** 019, 022, 024, 055, 058 **(CV23-)** 130, 152, 157, 194, 197 **(CV24-)** 447
EN-UMU	Roche fraîche	UMU	**(CF21-)** 001, 002, 003 **(CV22-)** 019, 022, 024, 055, 058, 048, 065, 066, 069, 042 **(CV23-)** 130, 152, 157, 194, 197 **(CV24-)** 447, 463, 479, 514, 609
EN-META	Roche fraîche	META	**(CV22-)** 048, 052, 055 **(CV23-)** 152, 157 **(CV24-)** 514, 609
ES-META	Roche fraîche	META	**(CF21-)** 002 **(CV22-)** 022, 024, 058, 065 **(CV23-)** 194, 197 **(CV24-)** 447, 463, 479
EE-AMPU	Roche fraîche	AMP, PEG, META, UMU	**(CV22-)** 024, 052, 055, 058 **(CV23-)** 130, 152 **(CV24-)** 447
WCE-PEG	Roche fraîche	PEG	**(CF21-)** 001, 002, 003 **(CV22-)** 022, 024, 040, 043, 048, 052, 055, 058, 065, 071, 074 **(CV23-)** 130, 188, 194, 197, 217, 219, 223, 236, 243, 317, 364 **(CV24-)** 423A, 447, 456, 463, 479, 489, 493, 521, 609, 739

Codes N/A Non applicable ; GTD Domaine géotechnique ; GMD Domaine géomécanique.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

6.2 Mine souterraine

Comme décrit à la section 5.1.2, les domaines géomécaniques pour la mine souterraine sont basés uniquement sur la classification des masses rocheuses et sont donc directement alignés sur les unités lithologiques, sans subdivision spatiale supplémentaire. Les détails des domaines géomécaniques de la mine souterraine sont fournis dans le tableau 41.

Tableau 41. Domaines géomécaniques de la mine souterraine d' .

Domaine (GMD)	Lithologie Code	Domaine d'altération	Forages pris en compte
UG-AMP	AMP	Roche fraîche	**(CV24-)** 447, 459, 469, 496, 663, 679, 684, 769, 783
UG-META	META		
UG-PEG	PEG		
UG-UMU	UMU		

Code GMD Domaine géomécanique.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

7 Directives pour la conception des mines à ciel ouvert

L'élaboration de lignes directrices pour la conception des pentes des mines à ciel ouvert vise à obtenir les angles de pente les plus raides possibles afin de maximiser la récupération des ressources et de réduire la gestion des déchets, tout en gérant les risques pour la sécurité du personnel et des équipements. Ces lignes directrices sont établies à l'aide d'une approche fondée sur les risques afin de formuler des recommandations en matière de pentes qui correspondent à un niveau de risque acceptable. Les analyses de stabilité des mines à ciel ouvert intègrent ce cadre en appliquant des objectifs de conception pour les facteurs de sécurité (FoS), les exigences en matière de confinement des déversements (dimensionnement des bassins de rétention) et les probabilités de défaillance (PoF), en reconnaissant que le risque zéro n'est ni réaliste ni souhaitable. Dans la pratique, les pentes des mines à ciel ouvert sont souvent considérées comme trop conservatrices si aucune instabilité ne se produit pendant l'exploitation. Par conséquent, un certain niveau d'instabilité est à prévoir et doit être géré de manière appropriée tout au long des phases de développement, d'exploitation et de fermeture de la mine.

7.1 Terminologie et définitions

La terminologie relative aux parois des mines à ciel ouvert utilisée dans les sections suivantes est détaillée dans la figure 25.

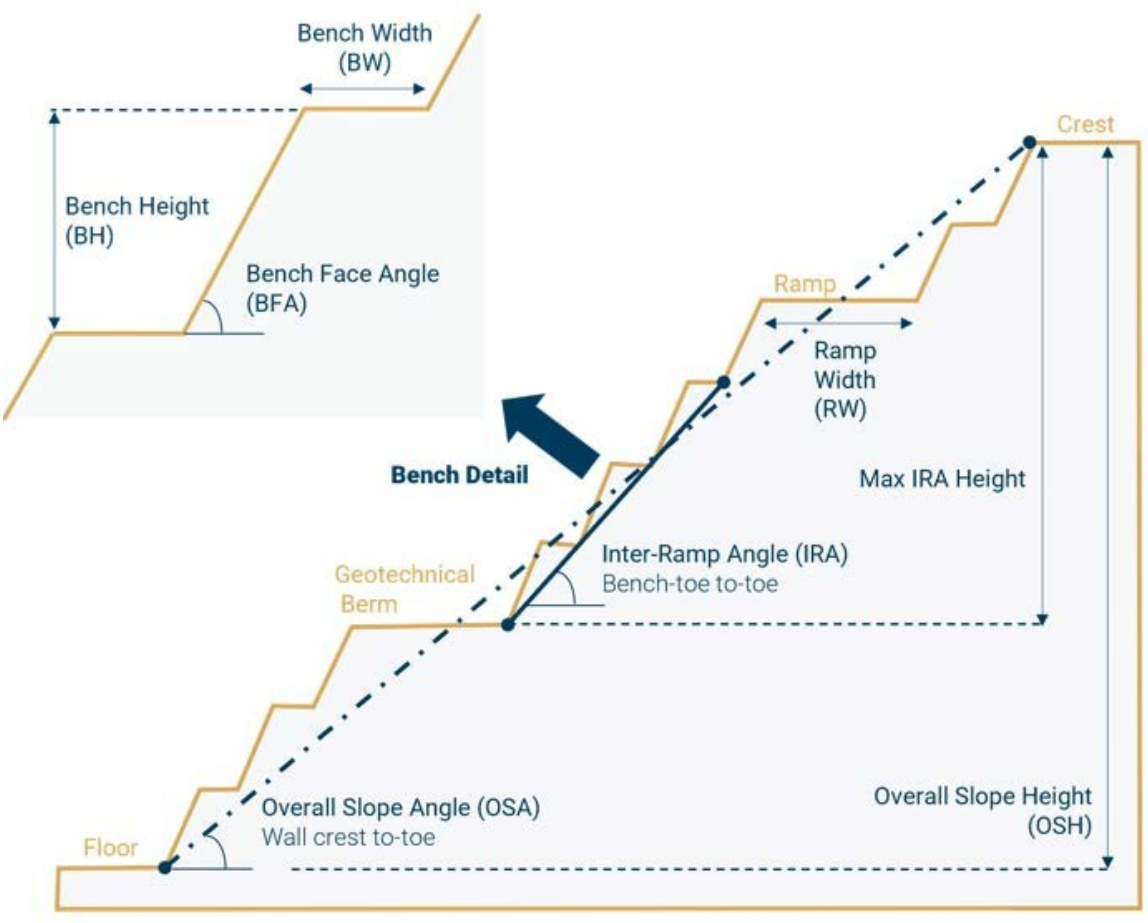


Figure 25. Terminologie relative aux parois de la fosse utilisée dans le rapport (modifiée à partir de Read et Stacey, 2009).

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Outre la terminologie décrite ci-dessus, l'approche de conception proposée repose sur plusieurs concepts clés et définitions probabilistes :

→ **Blocs** – Terme générique utilisé pour désigner les ruptures planes ou en coin.

→ **Perte de crête** (backbreak) – Représente la partie de la largeur du banc de retenue supprimée lors des opérations de dynamitage ou de dégagement. Cette largeur perdue est déduite de la largeur prévue du banc afin de déterminer la largeur effective du banc de retenue disponible pour retenir les débris de chutes de pierres.

→ **Probabilité d'occurrence** (PoO) – Définie comme la probabilité de rencontrer des blocs cinématiquement valides. Les critères de validité cinématique dépendent du mécanisme de rupture. Pour les ruptures planes, un bloc est considéré comme valide si la direction de la discontinuité se situe dans une tolérance latérale de 20° par rapport à l'orientation de la pente (Goodman, 1989) et si l'inclinaison du plan est inférieure à l'angle de la face du gradin. Pour les ruptures en coin, un bloc est valide si la ligne d'intersection formée par deux discontinuités s'ouvre vers l'intérieur de la fosse et si son inclinaison est inférieure à l'angle de la face du gradin. Cette approche ne suppose pas d'angle initial de la face du gradin, ce qui permet de tester cinématiquement toute une gamme de géométries.

$$PoO = \frac{N_v}{N_t} = \frac{\text{Nombre de blocs valides}}{\text{Nombre total de blocs}} \qquad \textit{(équation 20)}$$

→ **Probabilité de glissement** (PoS) – Définie comme la probabilité qu'un bloc cinématiquement valide tombe, ce qui correspond à un coefficient de sécurité inférieur à un (1). Le coefficient de sécurité de chaque bloc valide est calculé à l'aide d'une méthode d'équilibre limite.

$$PoS = \frac{N_f}{N_v} = \frac{\text{Nombre de blocs glissants } (FoS < 1)}{\text{Nombre de blocs valides}} \qquad \textit{(équation 21)}$$

→ **Probabilité de défaillance** (PoF) – Définie comme le produit de la probabilité d'occurrence et de la probabilité de glissement, représentant la probabilité de générer des blocs instables.

$$PoF = PoO \times PoS = \frac{N_f}{N_t} = \frac{\text{Nombre de blocs coulissants } (FoS < 1)}{\text{Nombre total de blocs}} \qquad \textit{(équation 22)}$$

→ **Confinement des déversements** – Fait référence à la probabilité que les blocs défaillants (c'est-à-dire les blocs qui tombent) soient entièrement retenus sur le banc de réception efficace.

$$\text{Déversement contenu} = \frac{\text{Nombre de blocs retenus sur le banc de réception}}{\text{Nombre total de blocs défaillants}} \qquad \textit{(équation 23)}$$

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

→ **Longueur de déversement pour une défaillance plane** (S_p) – Distance parcourue en descente par les matériaux défaillants à la suite d'un glissement plan.

$$S_p = H \times \frac{\sin(90^\circ - \phi)}{\tan(\phi)} + \cos(90^\circ - \phi) \qquad \textit{(équation 24)}$$

Où H = longueur maximale perpendiculaire à l'hypoténuse du matériau défaillant (m)
ϕ = angle de repos du matériau défaillant (°)

$$H = \sqrt{\frac{2 \times A_S}{\frac{1}{\tan(\phi)} + \frac{1}{\tan(\vartheta - \phi)}}} \qquad \textit{(équation 25)}$$

Où A_S = aire de la section plane défaillante (m^2)
ϑ = angle de la face du banc (°)

→ **La longueur de déversement pour une rupture en coin** est définie comme la distance atteinte par le matériau brisé si le bloc se rompt et est calculée comme la plus grande des deux longueurs de déversement potentielles, S_{w1} et S_{w2}, comme décrit dans Gibson et al. (2007) :

$$S_{w_1} = \sqrt[3]{\frac{6KV}{\pi} \times \frac{\tan\vartheta - \tan\phi}{\tan\phi \times \tan\vartheta}} \qquad \textit{(eq.26)}$$

$$S_{w_2} = \sqrt{\frac{6KV}{L} \times \frac{\tan\vartheta - \tan\phi}{\tan\phi \times \tan\vartheta}} \qquad \textit{(eq.27)}$$

Où S_{w_1} = longueur de déversement correspondant à un déversement conique (m) S_w = longueur de déversement correspondant à un déversement pyramidal (m) K = facteur de gonflement
V = volume du bloc (m^3) L = longueur du coin (m) ϑ = angle de la face du banc (°)

→ **Le risque** est défini comme la probabilité qu'un bloc défaillant dépasse la largeur effective du banc de réception. Il représente la probabilité combinée qu'un bloc soit défaillant et ne soit pas retenu sur le banc de réception. Il est calculé comme suit :

$$Risque\ (\%) = \frac{PoF\ (\%) \times [100 - Confinement\ du\ déversement\ (\%)]}{100} \qquad \textit{(équation 28)}$$

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

7.2 Critères d'acceptation de la conception

Les critères de conception utilisés pour les analyses de stabilité sont présentés ci-dessous.

Surcharge

Un coefficient de sécurité minimal (FoS) de 1,3 a été fixé pour les analyses statiques (1,1 pour les analyses dynamiques), car les pentes du sol présentent un risque limité pour la stabilité globale de la fosse en raison de leur hauteur relativement faible et de la possibilité de mettre en œuvre des mesures correctives après l'excavation, si nécessaire. De plus, comme l'unité stratigraphique inférieure et la plus épaisse est constituée de till, on suppose que le niveau de la nappe phréatique baissera progressivement au fur et à mesure de l'avancement de l'exploitation minière, en restant à la base de la couche de till.

Roche fraîche

Les recommandations relatives aux angles de pente des fosses à ciel ouvert sont élaborées conformément aux critères d'acceptation de la conception proposés par Read et Stacey (2009). Le tableau 42 présente les critères de coefficient de sécurité (FoS) statique et pseudo-statique (dynamique) et de probabilité de défaillance (PoF) pour différentes échelles (c'est-à-dire banc, inter-rampe et global).

Tableau 42. Critères d'acceptation de la conception d' s (reproduit à partir de Read et Stacey, 2009).

Échelle de pente	Conséquences en cas de défaillance [2]	Critères d'acceptation [1]		
		FoS statique minimum	FoS dynamique minimal	PoF maximal P[FoS<1]
Banc	Faible-Élevé	1,1	N/A	25-50
Inter-rampe (IRA)	Faible	1,15-1,2	1	25
	Moyen	1,2	1,0	20
	Élevé	1,2–1,3	1,1	10
Global (OSA)	Faible	1,2–1,3	1,0	15–20
	Moyen	1,3	1,05	5 à 10
	Élevé	1,3-1,5	1,1	<5

Codes N/A non applicable, FoS facteur de sécurité, PoF probabilité de défaillance. Remarques
[1] Doit répondre à tous les critères d'acceptation.
[2] Le risque acceptable peut être défini à l'aide d'une matrice de risque semi-qualitative : conséquence par rapport à probabilité.

En ce qui concerne le confinement des bancs de retenue, Read et Stacey (2009) affirment que : « En matière de capacité de rétention, il n'est ni pratique ni économique de concevoir des bancs capables de contenir les débris provenant de tous les plans de glissement ou de toutes les ruptures en coin potentiels dans les bancs situés au-dessus. Au lieu de cela, la limite est fixée au volume de débris pouvant raisonnablement être contenu sur le banc. En général, cela représente 70 à 85 % des volumes potentiels. ».

Lors de la conception des bancs, la largeur du banc (BW) est le principal paramètre utilisé pour garantir un captage et un confinement adéquats des chutes de pierres potentielles. La largeur du banc (BW) est généralement évaluée à l'aide de l'équation empirique proposée par Ryan et Pryor (2000) :

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

$$BW = 0{,}2 \times BH + 4{,}5 \qquad \textit{(équation 29)}$$

Où BH = hauteur du talus (m)

Un coefficient de sécurité minimal de 1,5 est visé tant pour l'IRA que pour l'OSA. La conformité à cette exigence est vérifiée à l'aide d'une modélisation qui intègre les paramètres du banc et la conception de la rampe pour l'IRA, ainsi que les bermes géotechniques pour l'OSA.

Grâce à une approche fondée sur les risques, présentée à la section 7.3, les paramètres de conception des gradins visent à répondre à plusieurs critères de conception :

- → Comme indiqué dans le tableau 42, la probabilité de défaillance cible (PoF) pour les défaillances planes ou en coin dans la conception des gradins est limitée à un maximum de 25 à 50 %.
- → Au moins 70 % des déversements résultant de la rupture de blocs doivent être entièrement contenus sur les bancs de retenue.
- → La largeur minimale recommandée pour les bancs est de 8,5 m, sur la base de l'équation 29, en supposant une hauteur de banc de 20 m.
- → L'angle maximal de la face du banc, tel que défini conformément à la norme PMET, est fixé à 75°.
- → Le risque maximal acceptable – qui régit les exigences en matière de confinement des déversements dans l'équation 28 – est défini conformément au PMET et fixé à 5 %.

Pour le projet, les critères de conception des bancs adoptés sont résumés dans le tableau 43.

Tableau 43. Résumé des critères de conception et des hypothèses adoptés pour les bancs.

Critères de conception	Critères
Plage d'angles de la face du banc	40 à 80
BFA maximal prédéfini	75° pour les parois principales de la fosse
PoF maximal	Objectif de 30 % [1]
Hypothèse de rupture	1,5 m [2]
Hauteur du banc	20 m (configuration double banc)
Largeur minimale du banc	8,5 m
Confinement minimal des déversements	70 % des déversements doivent être entièrement retenus
Risque maximal acceptable	5 % [2]

Remarques [1] Peut être plus élevé en fonction d'autres facteurs : risque évalué, exposition unitaire sur le mur, évaluation de la largeur du déversement.
[2] Pour l'étape de normalisation des critères de conception, une rupture arrière de 1 m a été jugée acceptable sur les murs sud.
[3] Peut être plus élevé en fonction d'autres facteurs : exposition unitaire sur le mur, caractéristiques des joints concernés.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

7.3 Méthodologie

Aux fins du présent projet, différentes approches de conception ont été appliquées en fonction du type de matériau et de l'échelle d'analyse. Les matériaux sont divisés en deux domaines principaux : les sols (matières en excédent) et la roche fraîche. En conséquence, la stabilité des pentes à ciel ouvert a été évaluée à l'aide de la méthodologie suivante :

01. Sols – Pentes de morts-terrains
    → Analyse d'équilibre limite (LEA)
02. Roche – Échelle de banc
    → Analyses cinématiques
    → Analyse d'équilibre limite (LEA)
03. Roche – Échelle inter-rampe et échelle globale
    → Modélisation numérique 3D

Les détails de la méthodologie d'analyse sont présentés dans les sections suivantes.

Pentes de recouvrement

Les critères de conception des pentes pour les morts-terrains ont été établis à l'aide d'analyses d'équilibre limite en 2D réalisées avec *Slide2* (Rocscience, 2025b). Ce logiciel permet d'évaluer la stabilité des pentes dans diverses conditions géologiques, hydrologiques et de charge en intégrant les paramètres de géométrie, de stratigraphie et de résistance au cisaillement de chaque unité de matériau. Il est également possible d'inclure des forces externes telles que les pressions interstitielles, les charges sismiques et les éléments de renforcement.

Les analyses ont été réalisées à l'aide des méthodes Spencer et GLE/Morgenstern-Price, qui tiennent toutes deux compte des forces interslices. Ces méthodes fournissent une représentation réaliste des géométries complexes et des conditions variables des matériaux, permettant une estimation fiable du coefficient de sécurité.

Les couches stratigraphiques n'étant pas suffisamment définies pour permettre des coupes transversales réalistes autour de la zone de la fosse, les analyses de stabilité ont été réalisées à l'aide de profils de pente théoriques. Une hauteur de pente de 20 m a été adoptée, ce qui correspond à la hauteur maximale typique attendue à proximité de la mine. Cependant, la hauteur spécifique a une influence limitée sur les résultats, car la cohésion n'a pas été prise en compte dans les propriétés des matériaux.

Échelle de banc

La compréhension et l'identification des modes de rupture potentiels à l'échelle du banc sont des éléments clés d'une conception appropriée. Les trois (3) mécanismes de base des ruptures contrôlées par la structure dans les pentes rocheuses sont les ruptures planes, les ruptures en coin et les ruptures par renversement, comme décrit ci-dessous :

01. **Une rupture plane** est cinématiquement possible lorsque le plan de discontinuité est moins incliné que la pente (inclinaison) et présente un angle plus prononcé que l'angle de frottement. Les ruptures planes ne se développent généralement de manière significative que si la direction de la jointure se situe à ±20° de la direction de la pente rocheuse.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

02. **Une rupture en coin** est cinématiquement possible lorsque la plongée de l'intersection de deux plans (vecteur de glissement) est moins inclinée que la pente (lumière du jour) et à un angle supérieur à l'angle de frottement combiné, qui est déterminé à partir des caractéristiques de chaque plan formant le coin. Les ruptures en coin se développeront de manière significative si l'azimut de la ligne d'intersection se situe à ±45º de la direction d'inclinaison de la pente.

03. **Une rupture par renversement** peut se produire lorsqu'une masse rocheuse contient plusieurs structures géologiques continues parallèles à forte inclinaison, telles que des joints/plans de foliation continus, qui sont presque parallèles à l'orientation de la face de la pente rocheuse. Une rupture par renversement ne se produit généralement que lorsque la direction des structures se situe à ±20º de l'azimut de la face de la pente. Sur le plan cinématique, le risque de rupture par renversement est déterminé par l'espacement (séparation), l'inclinaison et la continuité des blocs de renversement, ainsi que par l'angle de la pente. Un espacement important ou des structures discontinues atténuent le risque de renversement.

Une bonne compréhension du contexte géomécanique est nécessaire avant de procéder à des évaluations de stabilité à l'échelle du banc. Pour le projet Shaakichiuwaanaan, la caractérisation géomécanique (section 5) a permis d'identifier les domaines géomécaniques et les principaux ensembles de discontinuités grâce à une analyse par projection stéréographique. Les lithologies attendues le long des parois de la fosse ont ensuite été examinées afin de subdiviser la fosse en secteurs en fonction des domaines géomécaniques et de l'orientation des pentes.

À la suite de cette sectorisation, des analyses de stabilité à l'échelle du banc ont été réalisées à l'aide de l'approche fondée sur les risques décrite ci-dessous et illustrée à la figure 26.

01. Évaluation des PoO, PoS et PoF

→ Pour une gamme définie d'angles de face de banc, les probabilités d'occurrence de plans et de coins, de glissement et de rupture (équations 20, 21 et 22) sont calculées à l'aide d'analyses d'équilibre limite. Les ruptures planes sont évaluées à l'aide d'un code *Python* interne à Alius, tandis que les ruptures en coin sont évaluées à l'aide de *SWedge* (Rocscience, 2024b). Le post-traitement de tous les résultats est également effectué à l'aide d'un script *Python* interne.

→ Pour les évaluations de glissements plans, toutes les discontinuités relevées sont initialement prises en compte, puis une analyse ciblée est effectuée, qui ne comprend que les discontinuités appartenant à des ensembles majeurs.

→ Pour les analyses en coin, lorsqu'un secteur contient plus de 500 discontinuités, un échantillonnage aléatoire est utilisé pour réduire l'ensemble de données à 500 entrées afin d'améliorer l'efficacité des calculs. L'ensemble de données échantillonné est validé afin de s'assurer que les ensembles de joints majeurs restent correctement représentés.

02. Évaluation de la longueur potentielle du déversement

→ À chaque BFA, les longueurs de déversement sont calculées pour les ruptures planes et en coin (équations 24, 26 et 27). Seuls les coins dépassant 2 m^3 sont pris en compte à ce stade, car les blocs plus petits sont considérés comme gérables sur le plan opérationnel.

03. Identification du facteur de conception limitant

→ Le facteur limitant correspond à l'un des éléments suivants :

- Les probabilités de rupture plane ou en coin dépassent un critère d'acceptation.
- Les exigences en matière de largeur de déversement dépassent la largeur minimale admissible des gradins.
- L'angle maximal prédéfini de la face du gradin est atteint.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

04. Sélection de l'angle de la face du banc

→ L'angle de face de banc associé à l'IRA le plus élevé qui respecte tous les critères prédéfinis est conservé en tant qu'« angle de face de banc sélectionné ».

05. Exigence relative à la largeur du banc

→ L'évaluation de l'exigence en matière de confinement des déversements est obtenue à l'aide de l'équation de risque (équation 28), sur la base du risque maximal acceptable et du PoF associé au BFA sélectionné.

→ La largeur requise du banc est la plus grande entre la largeur minimale du banc de rétention (c'est-à-dire 8,5 m) et l'exigence de confinement des déversements plus une marge de 1,5 m pour la perte de crête (backbreak).

06. Évaluation de l'angle entre les rampes

→ L'IRA résultant peut être calculé à l'aide des paramètres retenus ci-dessus.

Un flux de travail distinct est exécuté pour chaque secteur de la fosse. Dans ce cadre, l'angle de la face du banc est la principale variable optimisée. Après optimisation, les directives de conception proposées sont normalisées au sein d'un secteur de conception ou, le cas échéant, avec un secteur de conception adjacent.

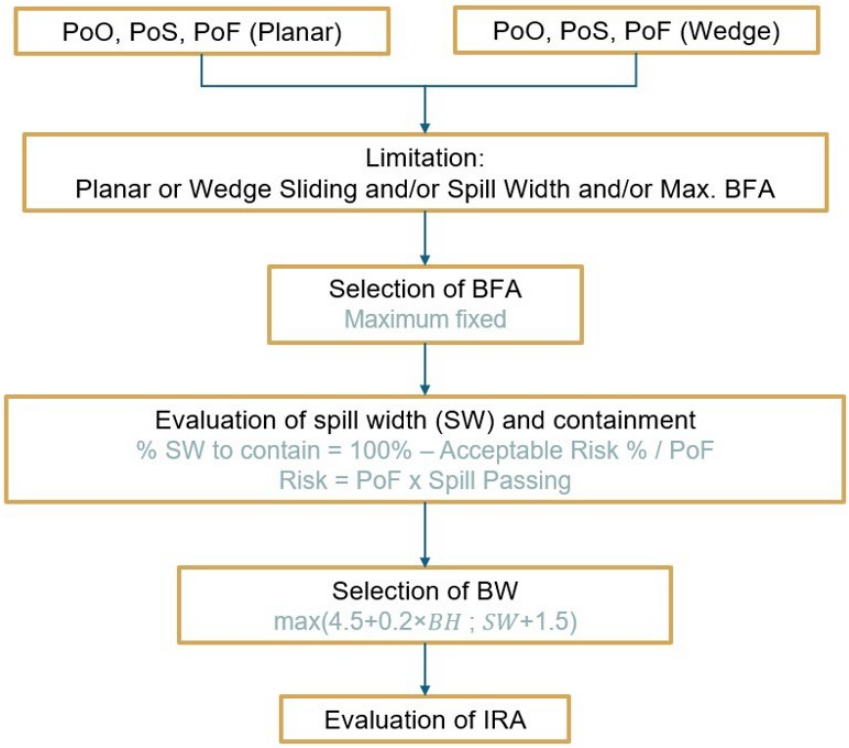


Figure 26. Organigramme d'optimisation de la conception à l'échelle du gradin.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

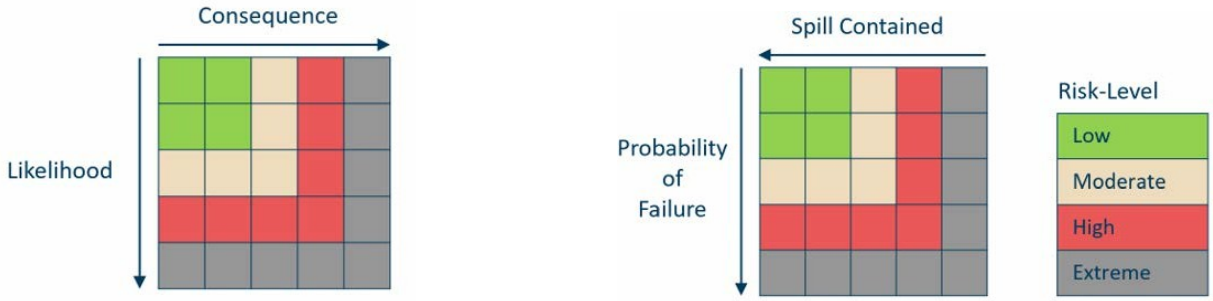
Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

En résumé, l'approche géomécanique basée sur les risques évalue le risque en fonction de deux éléments clés :

01. Probabilité de défaillance (PoF), représentant la probabilité qu'un bloc se détache,
02. La capacité de confinement du banc de réception, qui représente les conséquences d'une défaillance.

Cette relation est généralement illustrée à l'aide d'une matrice des risques, comme le montre la figure 27. La probabilité est dérivée de la PoF associée à une orientation donnée du mur et à ses données structurelles. La conséquence est évaluée en comparant le volume de rupture estimé à la largeur effective du banc de retenue. Lorsque les volumes de rupture dépassent la capacité de confinement du banc, le niveau de conséquence augmente, ce qui accroît le risque opérationnel.

La matrice permet une classification quantitative et qualitative des risques. Sur le plan quantitatif, le risque peut être calculé comme le produit du PoF et de l'efficacité du confinement (Spill Contained). Le risque peut également être présenté en termes qualitatifs (par exemple, faible, modéré, élevé, extrême), généralement représentés à l'aide d'un code couleur. Les seuils de tolérance au risque peuvent être modifiés afin de refléter le niveau acceptable de risque opérationnel.



(a) Matrice conceptuelle.

(b) Matrice de risque qualitative.

Figure 27. Matrices de risque types.

D'autres hypothèses et/ou limitations pertinentes comprennent :

→ En fonction de la continuité des caractéristiques structurelles, les défaillances cinématiques peuvent affecter les pentes à plusieurs échelles, du banc à l'ensemble. La persistance est donc un facteur important à prendre en compte lors de l'évaluation du potentiel de défaillance. Tant que l'exploitation minière n'a pas mis à nu les structures et que leur persistance réelle ne peut être mesurée, une persistance par défaut de 15 m est supposée à des fins de conception.

→ Les principaux mécanismes de rupture pris en compte sont le glissement plan et le glissement en coin. Bien que le renversement soit reconnu comme un mécanisme potentiel, il est considéré comme un risque opérationnel plutôt que comme un mode limitant la conception de la géométrie des gradins.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Échelle inter-rampe et échelle globale

Compte tenu des bonnes conditions de la masse rocheuse, les contraintes de conception devraient être contrôlées sur le plan structurel. Après avoir appliqué le cadre basé sur les risques et défini les paramètres de conception des gradins, aucune optimisation supplémentaire des pentes inter-rampes ou globales n'a été entreprise, car des configurations plus raides ne sont pas réalisables avec la hauteur fixe des gradins et les largeurs requises des gradins de retenue. Néanmoins, la vérification de la stabilité de la fosse reste essentielle. La stabilité des rampes intermédiaires et des pentes globales a été évaluée à l'aide d'une modélisation numérique 3D afin de confirmer que la conception proposée répond aux facteurs de sécurité requis. Par rapport aux méthodes 2D traditionnelles, l'analyse 3D fournit une représentation plus réaliste de la géométrie de la fosse et de l'influence de la distribution spatiale des unités géologiques. Elle permet également d'évaluer les mécanismes de rupture potentiels associés aux caractéristiques structurelles, telles que les contacts ou les unités plus faibles, qui peuvent s'étendre sur plusieurs secteurs de la fosse. Les résultats de la modélisation ont été utilisés pour confirmer la stabilité globale de la fosse dans des conditions statiques, comme indiqué à la section 7.6.

7.4 Évaluation de la stabilité des morts-terrains

7.4.1 Méthodes de conception

La stabilité des pentes de recouvrement a été évaluée à l'aide d'une modélisation numérique. Un modèle initial a été développé en combinant toutes les unités stratigraphiques selon leurs proportions moyennes observées sur le site. Des modèles supplémentaires ont été préparés pour chaque unité stratigraphique individuellement, ainsi que pour les sédiments du fond du lac seuls, afin de tenir compte des scénarios dans lesquels une seule unité domine le profil de la pente. La géométrie de la pente a ensuite été ajustée de manière itérative jusqu'à ce que le coefficient de sécurité (FoS) cible soit atteint.

7.4.2 Résultats

La figure 28 présente la section représentative et les résultats de l'analyse d'équilibre limite utilisés pour optimiser la conception du talus. Un angle inter-rampe (IRA) de 36° permet d'atteindre le coefficient de sécurité cible de 1,3.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

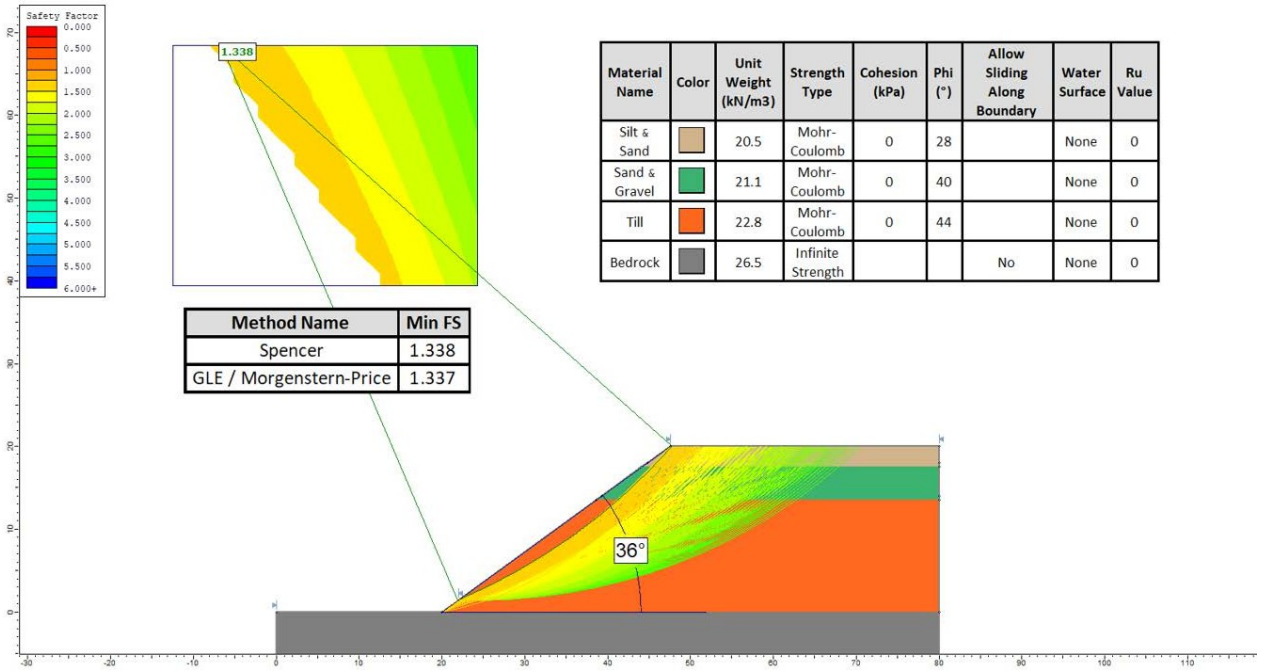


Figure 28. Résultats de l'analyse de stabilité d' pour une pente de recouvrement type.

La conception recommandée pour la pente de recouvrement est présentée dans le tableau 44. Ces lignes directrices garantissent un coefficient de sécurité (FoS) de 1,3 dans des conditions statiques et de 1,1 dans des conditions dynamiques. En outre, il est recommandé d'établir et de maintenir un banc de retenue à l'interface entre les morts-terrains et le substrat rocheux. La largeur du banc doit être de 5 m lorsque l'épaisseur des morts-terrains est inférieure à 5 m, et de 10 m lorsque l'épaisseur des morts-terrains dépasse 5 m. Cette caractéristique facilitera l'installation d'une berme collectrice et contribuera à empêcher l'exposition des morts-terrains au sommet de la fosse si la surface du substrat rocheux diffère de la géométrie prévue.

Tableau 44. Directives de conception pour les morts-terrains.

Composition de la pente	BFA (°)	BH max. (m)	BW (m)	IRA (°)
Section type	36	25	0	36
Limon et sable uniquement	24	25	0	24
Sable et gravier uniquement	34	25	0	34
Till uniquement	38	25	0	38
Sédiments du fond du lac	38	25	0	38

Codes BFA angle de la face du banc, Max BH hauteur maximale du banc, BW largeur du banc, IRA angle entre les rampes.
Remarques Pour les hauteurs de banc supérieures à 25 m, inclure un banc de réception de 5 m de largeur à mi-pente.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

7.5 Évaluation de la stabilité des terrasses

7.5.1 Méthodes de conception

Pour chaque secteur présenté dans la section suivante, le potentiel de rupture plane et en coin a été évalué et utilisé comme base pour l'optimisation de la conception du banc.

Pour les ruptures planes, on distingue les ensembles de joints majeurs, mineurs et aléatoires. L'analyse est donc réalisée en deux étapes : premièrement, en utilisant tous les pôles disponibles ; deuxièmement, en se concentrant spécifiquement sur les pôles appartenant aux ensembles majeurs qui présentent un potentiel de rupture dans le secteur considéré. Dans les deux cas, seuls les pôles satisfaisant aux critères cinématiques sont pris en compte. En fin de compte, les recommandations de conception sont dérivées de l'analyse limitée aux ensembles majeurs.

Pour les défaillances en coin, le nombre de combinaisons de discontinuités évaluées dans chaque domaine géomécanique est résumé dans le tableau 45.

Tableau 45. Analyse des défaillances en coin – Combinaisons de joints.

GMD	Code de l'unité lithologique	Nombre de discontinuités	Nombre de discontinuités après Échantillonnage	Nombre de combinaisons
WAll-AMP	AMP	708	500	124 750
WW-APU	AMP, PEG, UMU	1 265	500	124 750
CN-AMP	AMP	972	500	124 750
CN-META	META	423	423	89 253
CS-AMP	AMP	2 221	500	124 750
CS-META	META	324	324	52 326
EAll-AMP	AMP	1 106	500	124 750
EN-UMU	UMU	191	191	18 145
ES-META	META	325	325	52 650
EE-AMPU	AMP, PEG, UMU, META	1 046	500	124 750

GMD-Domaine géomécanique (roche fraîche).

Remarques Il convient de noter que l'analyse en coin n'a pas été effectuée pour les codes GMD WS-META, CN-UMU, EN-META et WCE-PEG. Se reporter au tableau 40 pour la présentation des codes GMD.

7.5.2 Sectorisation à ciel ouvert

La sectorisation à ciel ouvert est basée sur l'orientation des pentes de la fosse et les domaines géomécaniques exposés. La conception 3D de l'EEP et le modèle lithologique fournis par GMS le 29 janvier 2025 ont été utilisés pour définir les secteurs de conception présentés dans cette section. Les secteurs de la fosse sont illustrés à la figure 29 et résumés dans le tableau 46. Au total, quinze (15) secteurs ont été évalués lors des analyses à l'échelle du banc ; toutefois, lorsque cela était approprié, ces secteurs ont ensuite été regroupés afin de fournir des directives de conception simplifiées pour les parois de la fosse.

Une version mise à jour des lignes directrices de conception de la mine à ciel ouvert reflétant la dernière conception de la mine disponible en mars 2025 est fournie à l'annexe D. Cette version, qui constitue également le scénario de référence pour la modélisation numérique, est examinée plus en détail à la section 7.6.2.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

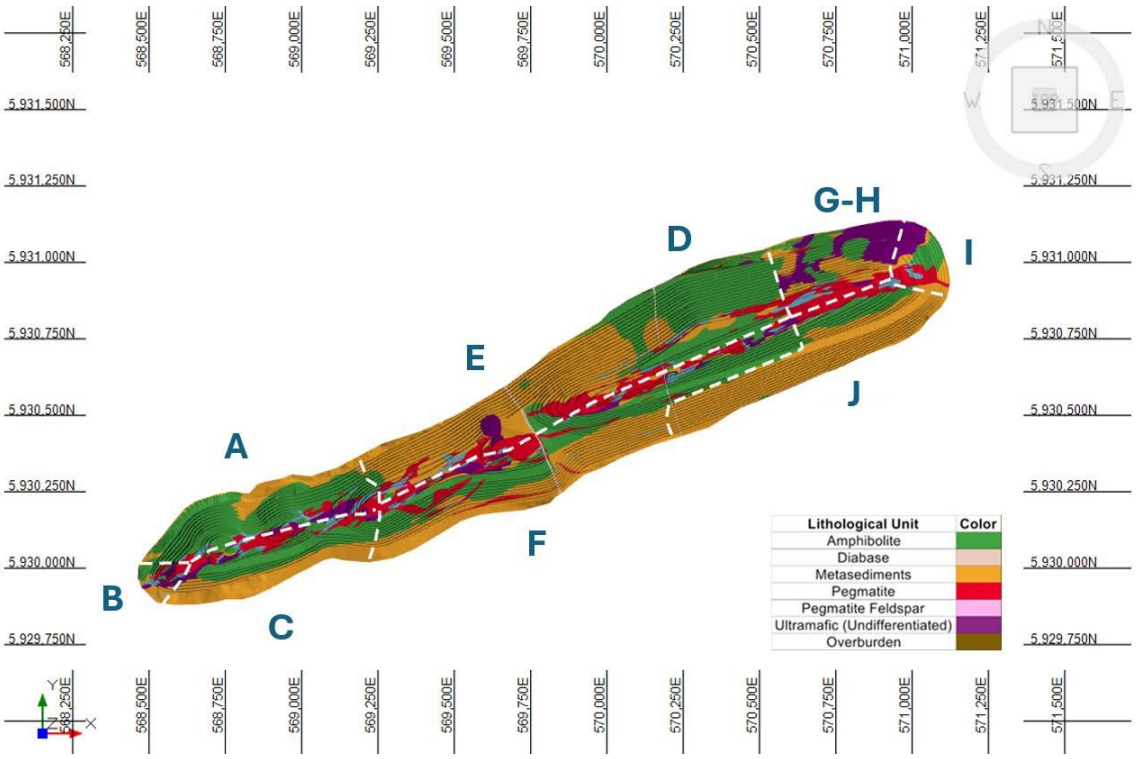


Figure 29. Secteurs de conception de la fosse à ciel ouvert.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Tableau 46. Caractéristiques du secteur de conception des fosses.

forte inclinaison	Lithologie	Emplacement	Secteur à Direction (°)	Plongée Direction Plage (°)	GMD correspondant
A	AMP	Mur nord (ouest)	160	130–200	WAll-AMP
B	AMP, PEG, UMU	Ouestwall (Ouest)	060	005–130	WW-APU
C-1	AMP	Mur sud (ouest)	340	340–005	WAll-AMP
C-2	META	Mur sud (Ouest)	340	340–005	WS-META
D	AMP	Mur nord (central)	160	150–165	CN-AMP
E-1	META	Mur nord (central)	155	140–155	CN-META
E-2	UMU	Mur nord (central)	155	140–155	CN-UMU
F-1	AMP	Mur sud (central)	335	330–350	CS-AMP
F-2	META	Mur sud (central)	335	330–350	CS-META
G-1	AMP	Mur nord (est)	165	165–180	EAll-AMP
G-2	META	Mur nord (est)	165	165–180	EN-META
H	UMU	Mur nord (est)	165	165–180	EN-UMU
I	AMP, PEG, UMU, META	Mur est (Est)	250	180–310	EE-AMPU
J-1	AMP	Mur sud (est)	335	310–335	EAll-AMP
J-2	META	Mur sud (est)	335	310–335	ES-META

Codes GMD Domaine géomécanique (roche fraîche).
Remarques Direction principale du pendage : direction du pendage utilisée dans l'analyse cinématique.
Reportez-vous au tableau 40 pour la présentation du GMD.

Comme le montre la figure 29, l'exposition de la pegmatite le long des parois finales de la fosse est relativement limitée. Elle est principalement présente sur les deux parois d'extrémité (secteurs B et I), bien qu'elle soit intercalée avec d'autres unités lithologiques. La pegmatite est également présente localement dans la zone centrale de la paroi, où elle apparaît sous la forme d'une fine bande intrusive sur quelques bancs seulement. En raison de l'impossibilité d'appliquer différentes directives à des affleurements aussi petits, la pegmatite n'a pas été utilisée comme base pour définir les secteurs. Néanmoins, la stabilité des bancs dans le domaine géomécanique WCE-PEG a été évaluée à partir de l'expérience pratique, et des conseils sont fournis pour les affleurements localisés de pegmatite en cas de mise en œuvre opérationnelle.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

considéré comme faisable.

La figure 29 montre également que certains domaines géomécaniques – tels que l'UMU dans le secteur E, le META dans le secteur D et l'UMU dans le secteur H – ne se produisent que localement le long des parois de la fosse, qui sont par ailleurs dominées par d'autres domaines. Ces occurrences mineures ont également été incluses dans l'évaluation de la stabilité.

Enfin, les failles et le dyke de diabase n'ont pas été pris en compte dans le processus de sectorisation.

7.5.3 Résultats

Pour chaque secteur de conception de la mine à ciel ouvert, le flux de travail illustré à la figure 26 a été appliqué afin de déterminer les résultats BFA compris entre 40 et 80°, par incréments de 2°. Lorsque le BFA recommandé se situait entre les angles évalués, une interpolation a été effectuée. Les résultats détaillés pour tous les secteurs sont fournis à l'annexe E.

Dans l'ensemble, les contraintes de conception sont principalement liées au risque de ruptures planes, en particulier le long de la paroi nord, où la foliation devrait contrôler les angles des faces des gradins. Des ruptures mineures en coin peuvent se produire dans toute la fosse, mais elles ne limitent la conception dans aucun secteur.

Un exemple du processus d'analyse de stabilité est présenté à la figure 30, qui illustre les résultats pour le secteur A (AMP) dans la partie ouest du mur nord. Le graphique supérieur montre le PoO, le PoS et le PoF ; le graphique du milieu montre la largeur de déversement des matériaux défaillants ; et le graphique inférieur présente l'angle inter-rampe résultant. Ensemble, ces graphiques mettent en évidence le compromis entre l'angle entre les rampes (IRA) et la stabilité du banc en fonction de l'angle de la face du banc (BFA). Si un BFA plus raide peut augmenter l'IRA et améliorer la rentabilité du projet, il augmente également la probabilité de rupture et le risque que les matériaux défaillants dépassent la largeur de confinement du banc. Dans de tels cas, la largeur du banc doit être augmentée pour garantir le confinement. Le tableau 47 présente les paramètres de conception retenus pour ce secteur, ainsi que toutes les données et tous les résultats associés.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

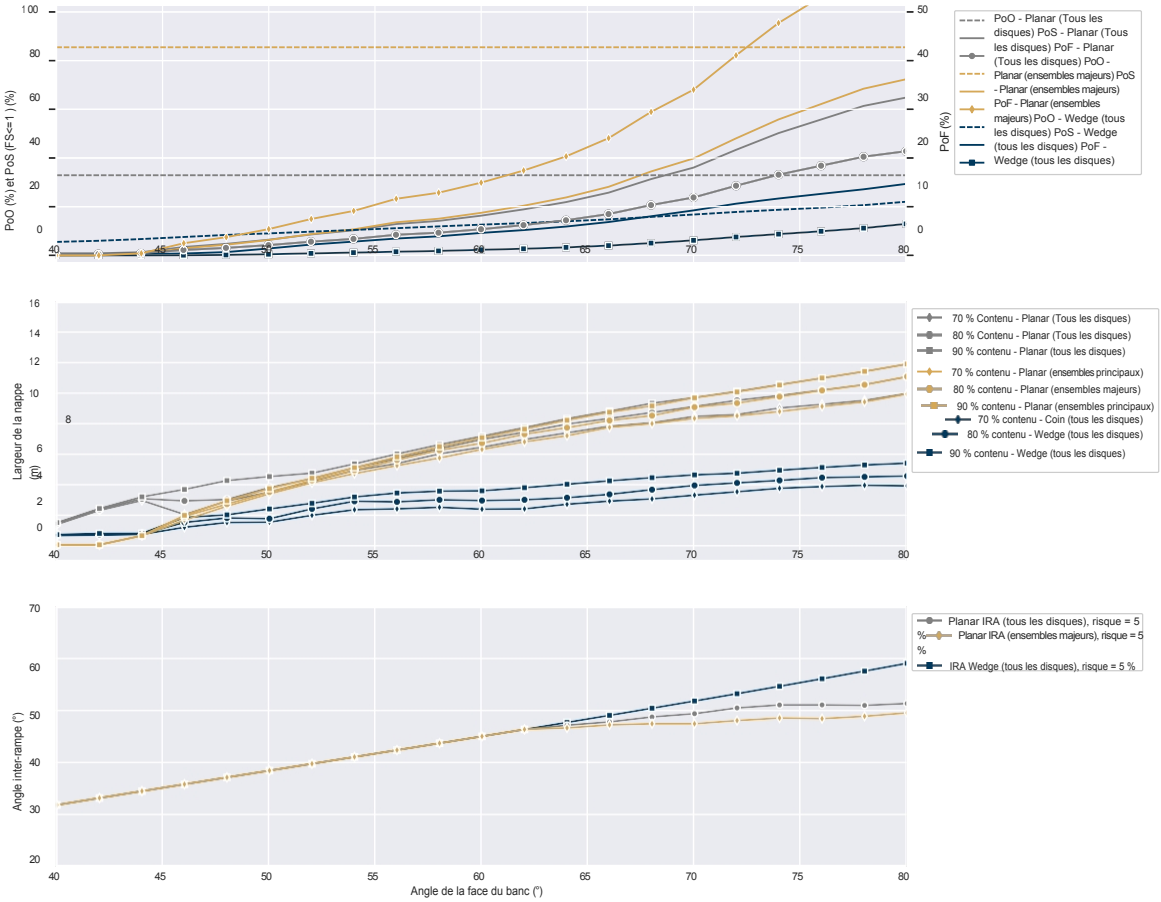


Figure 30. Résultats des analyses de stabilité de l'échelle de banc - Secteur A AMP.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Tableau 47. Paramètres d'optimisation de la conception du banc – Secteur A (AMP)

Paramètre	Sous-paramètre	Valeur
Probabilités [1]		
Défaillances planaires [2]	PoO	85,5
	PoS	31,3
	PoF	29,5
Défaillances des cales	PoO	15,8
	PoS	16,0
	PoF	2,5 %
Contraintes de conception		
Limitation		Glissement plan et largeur minimale du banc
Résultats de conception		
Angle de la face du banc (BFA)		68
Confinement des déversements (% confiné, largeur) [3]		85 %, 9,0 m
Largeur du banc (BW)		10,5 m *from max(8,5 ; 9,0 + 1,5)*
Angle entre les rampes (IRA)		47

Remarques [1] Probabilités pour les BFA sélectionnés.
[2] Probabilités tenant compte de l'évaluation de l'ensemble des joints principaux.
[3] Basées sur la longueur limite du déversement au point d'impact sélectionné, à partir d'une rupture plane ou en coin.

Dans **le secteur A**, au sein de l'amphibolite :

→ Un ensemble de discontinuités majeur (JS1) pose des problèmes potentiels du point de vue du glissement plan. JS1 se compose principalement de foliation, de joints ouverts et de joints fermés, avec un espacement moyen de 2,3 m.

→ Le glissement des coins n'est pas identifié comme un mécanisme limitant pour ce secteur et cette lithologie. Le BFA sélectionné est donc régi par le PoF plan, et la largeur du banc de retenue est ajustée pour retenir 85 % des débordements.

→ Dans ces conditions, le risque résultant (équation 28) est de 4,4 %.

Dans le domaine géomécanique de la pegmatite (WCE-PEG) :

→ Un angle de face de banc de 75° est considéré comme acceptable sur une étendue limitée, d'après l'examen de la projection stéréographique.

→ Trois ensembles de joints ont été interprétés dans ce domaine géomécanique.

- Les ensembles de joints JS1 et JS3 peuvent représenter le même ensemble structurel avec des directions de pendage variables autour de 90°. Cependant, par mesure de prudence, ils ont été traités comme deux ensembles distincts avec un pendage moyen de 77°.
- JS2 a un pendage moyen de 8°. Sur la base des orientations interprétées des ensembles de joints, aucune limitation structurelle cinématique n'est prévue pour la conception proposée du banc.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

- Néanmoins, la pegmatite doit être surveillée de près pendant les opérations, car sa texture à grains grossiers et son clivage minéral prononcé fournissent des plans de faiblesse préférentiels qui peuvent contribuer à des ruptures localisées lorsqu'elle est exposée sur la paroi de la fosse.

Pour l'unité ultramafique indifférenciée :

→ L'analyse cinématique indique des contraintes importantes en matière de conception en raison d'orientations défavorables des joints.

→ De plus, cette lithologie présente une qualité de masse rocheuse inférieure à celle des autres unités ; par conséquent, les affleurements ultramafiques sur les parois de la fosse doivent être réduits au minimum dans la mesure du possible.

Le contenu suivant résume les directives de conception à l'échelle du banc et les risques associés :

01. Recommandations sur la largeur des gradins

→ Pour une configuration à double gradins, avec une hauteur totale de gradins de 20 m, la largeur recommandée des gradins varie de 8,5 m à 12 m, selon le secteur de la fosse.

→ Les largeurs de banc proposées tiennent compte d'une largeur inutilisable de 1,5 m, qui comprend les pertes au sommet et les bords durs. Pour les critères de conception normalisés, un recul de 1 m a été jugé acceptable sur les parois sud. L'obtention des largeurs recommandées dépendra de l'application cohérente des meilleures pratiques en matière de forage et de dynamitage. Le recul doit être surveillé de près et les ajustements de conception évalués en fonction des performances opérationnelles.

02. Recommandations concernant l'angle de la face de la terrasse

→ Sur la base des données structurelles disponibles, les angles de face de gradins recommandés varient de 40° à 75° selon le secteur de la fosse.

La figure 31 présente la représentation des risques pour les secteurs de conception de la fosse, sur la base de la relation entre la probabilité de défaillance dérivée des analyses de stabilité et le pourcentage de déversements contenus, qui reflète l'efficacité du banc de rétention pour retenir les matériaux en cas de défaillance. Chaque secteur est représenté par un point de données indiquant son PoF et le confinement des déversements pour la conception optimisée et standardisée. Pour identifier les secteurs sur le graphique, l'identifiant du secteur de la fosse (A-H) est utilisé, avec indication du domaine géomécanique associé. Si le domaine géomécanique existe à la fois pour les parois nord et sud, la position est précisée sur le graphique.

Si les directives de conception normalisées diffèrent des directives optimisées, une flèche reliant les deux points apparaît sur le graphique. Les courbes de risque affichées sont dérivées en fonction du PoF et du confinement des déversements (équation 28) et représentent les seuils de référence correspondant à différents niveaux de risque : **très faible** (2,5 %), **faible** (5 %), **modéré** (10 %) et **élevé** (15 %). Le risque est évalué visuellement en comparant la position de chaque secteur par rapport à ces courbes colorées.

Par conséquent, la position de chaque point sur le graphique reflète le risque relatif de chaque secteur de conception, les valeurs PoF plus élevées et les capacités de confinement des déversements plus faibles indiquant un risque global plus élevé. D'après les données représentées, la plupart des secteurs de conception se situent dans la fourchette de risque très faible à faible, ce qui démontre que les lignes directrices de conception proposées permettent généralement d'atteindre des niveaux de risque acceptables. Quelques points se situent en dehors de l'enveloppe vert clair, ce qui indique qu'ils dépassent les critères de conception acceptables liés au PoF ou au

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

confinement des déversements, tels que définis dans les lignes directrices référencées et dans le tableau 43. Un point se situe également dans la zone de risque « élevé », au-dessus de la courbe de risque « modéré ». Toutefois, compte tenu des contraintes opérationnelles et de l'approche de gestion des risques appliquée, les lignes directrices de conception associées à ces secteurs sont toujours jugées acceptables, malgré leur emplacement en dehors des seuils de référence :

En conséquence, la position de chaque point sur le graphique reflète le risque relatif de chaque secteur de conception, les valeurs PoF plus élevées et les capacités de confinement des déversements plus faibles indiquant un risque global plus élevé. D'après les données représentées, la plupart des secteurs de conception se situent dans la fourchette de risque très faible à faible, ce qui souligne que les directives de conception proposées permettent généralement d'atteindre des niveaux de risque acceptables. Quelques points se situent en dehors de l'enveloppe vert clair, ce qui indique qu'ils dépassent un ou plusieurs des critères de conception acceptables liés au PoF ou au confinement des déversements, tels que définis dans les lignes directrices et dans le tableau 43. Un point se situe également dans la catégorie de risque « élevé », au-dessus de la courbe de risque modéré. Toutefois, compte tenu des contraintes opérationnelles et de l'approche globale de gestion des risques, les lignes directrices de conception associées sont toujours considérées comme acceptables, même si elles dépassent les seuils de référence :

- → **C-1** et **F-1** – Correspondant aux affleurements d'amphibolite sur les parois sud dans les zones ouest et centrale. Leur confinement des déversements a été réduit après le processus de normalisation ; toutefois, cela est jugé raisonnable en raison du faible PoF plan et en coin associé à ces secteurs. Les risques évalués qui en résultent sont respectivement de 3,3 % et 5,8 %.
- → **C-2** – Ce secteur correspond aux métasédiments exposés sur la paroi sud de la zone ouest. Il présente un PoF élevé, et le processus de normalisation aboutit à un confinement des déversements de 70 %. Cette combinaison donne lieu à une cote de risque élevée (10,8 %). Néanmoins, l'exposition limitée le long de la paroi finale de la fosse réduit son importance globale du point de vue du risque de conception.
- → **E-1** et **J-2** – Ces secteurs correspondent à des affleurements métasédimentaires sur la paroi nord de la zone centrale et la paroi sud de la zone est. Les deux secteurs ont des valeurs PoF supérieures à 50 %. Cependant, ces valeurs élevées sont atténuées par l'application d'objectifs de confinement des déversements de 95 % et 87,5 % respectivement, qui maintiennent les risques évalués dans des fourchettes modérées à très faibles.

Le secteur de conception E-2 (CN-UMU) n'est pas inclus dans ce tableau, car il est recommandé de retirer l'unité ultramafique exposée localement le long des parois du secteur E.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

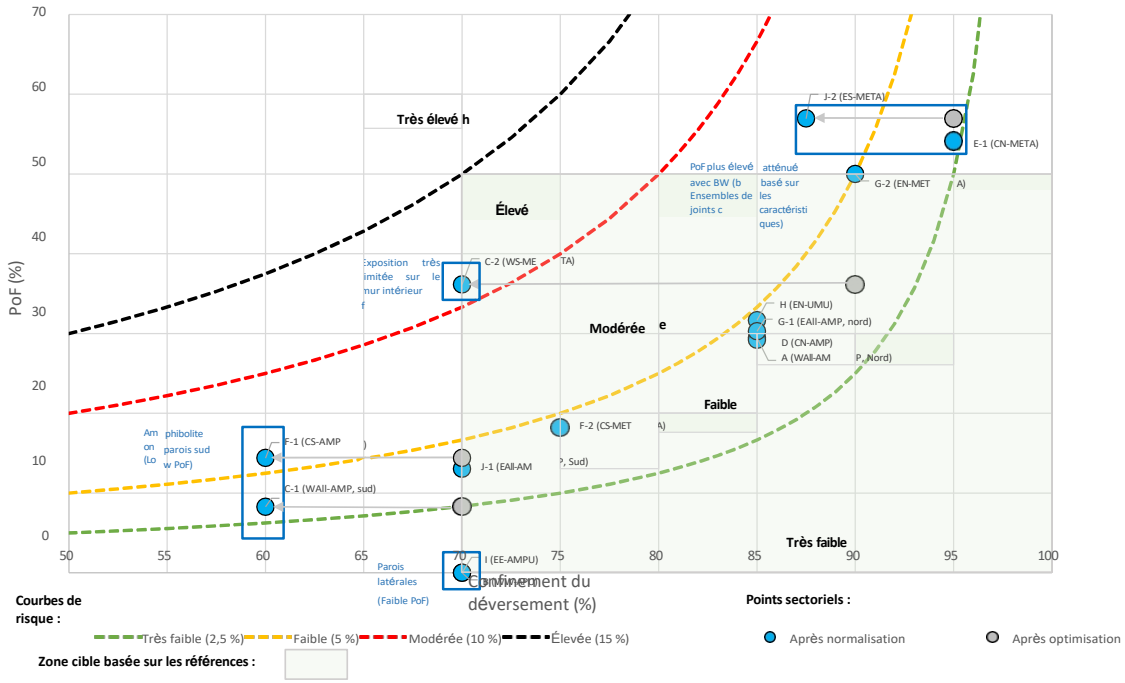


Figure 31. Représentation des risques pour les secteurs de conception par rapport aux critères de conception.

Double gradin

Le double terrassement, qui donne une hauteur totale de terrassement de 20 m, est considéré comme réalisable compte tenu de la qualité généralement bonne de la roche et de la fréquence relativement faible des fractures. Le double terrassement n'est pas approprié dans les situations suivantes (Ryan et Pryor, 2000) :

→ Les structures géologiques varient considérablement en termes d'inclinaison. Dans ce cas, il est souvent difficile d'aligner les fronts de taille finaux d'un niveau de travail à l'autre, ce qui crée des décalages entre les niveaux de travail, des surplombs locaux et d'autres risques pour la sécurité.

→ La masse rocheuse est tellement fracturée qu'elle peut être creusée librement sans avoir recours à des explosifs.

→ Il existe de nombreux joints longs ou failles qui laissent passer la lumière du jour dans la pente, ce qui augmente le risque de développement de grandes géométries de rupture lors de l'exploitation du niveau inférieur. Ces géométries de rupture peuvent être facilement prises en compte dans l'exploitation lorsque la hauteur de la pente en cas de rupture est de 15 m, car l'équipement peut facilement escalader toute la hauteur du banc. Cependant, lorsque les structures mises à jour provoquent un échec de talus pouvant atteindre 30 m de hauteur, il n'est pas possible d'escalader correctement toute la face, ce qui pose un risque pour la sécurité. Pour un plan de glissement donné, le volume de l'échec augmente en réalité de manière géométrique plutôt que proportionnelle. Le volume de l'échec pour un double banc peut être trois à quatre fois supérieur à celui d'un banc simple pour les mêmes structures.

À ce stade du projet, aucune des conditions susmentionnées n'est jugée probable. Cette conclusion est étayée par les résultats de la modélisation numérique à l'échelle inter-rampe et à l'échelle globale, présentés dans les sections suivantes.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

7.6 Stabilité inter-rampe et stabilité globale du talus

La stabilité des pentes à l'échelle inter-rampe et à l'échelle globale a été évaluée à l'aide d'un modèle numérique, comme décrit dans les sections suivantes.

7.6.1 Méthodes de conception

La modélisation numérique 3D réalisée dans le cadre de ce projet afin d'évaluer la stabilité inter-rampe et la stabilité globale de la pente a été réalisée à l'aide du *logiciel FLAC3D* (Itasca Consulting Group, 2025a), un logiciel de modélisation conçu pour simuler la réponse d'un massif rocheux aux variations de contraintes induites par l'excavation, ce qui le rend particulièrement adapté aux applications minières. Le modèle constitutif IMASS (Itasca Model for Advanced Strain Softening) (Itasca Consulting Group, 2025b) a été utilisé pour caractériser le comportement en résistance des masses rocheuses entourant la zone de la fosse. Ce modèle tient compte de la progression des dommages, de la roche intacte au matériau désintégré, en prenant en considération les effets de la dilatance et du gonflement pendant la déformation plastique. L'affaiblissement progressif des propriétés en deux étapes distingue les dommages plastiques de la fracturation ultérieure, ce qui permet une représentation réaliste du comportement de la masse rocheuse après le pic. Les morts-terrains ont été modélisés à l'aide d'un modèle élastique.

7.6.2 Modèle numérique

Un modèle 3D a été construit, dont les dimensions le long des axes E-N-Z sont d'environ 4,9 × 3,0 × 0,6 km. Ce modèle intègre le modèle lithologique et la mine à ciel ouvert prévue. De plus, du matériau rocheux hôte est ajouté comme remplissage autour du modèle afin de garantir que les conditions aux limites sont éloignées et n'affectent pas les résultats.

Géométrie

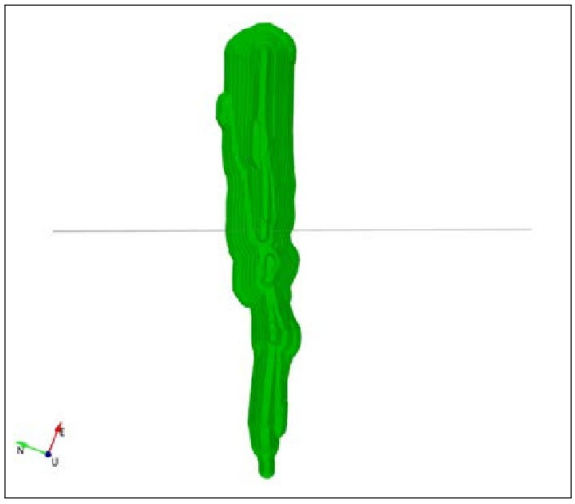
La géométrie modélisée de la mine à ciel ouvert est basée sur la conception de la fosse de mars 2025. Les solides géologiques dérivés du modèle lithologique ont été utilisés pour attribuer les propriétés appropriées à chaque zone du modèle numérique. Les failles identifiées sur le site n'ont pas été intégrées dans le modèle actuel en raison de leur orientation prédominante vers le nord-ouest, qui est approximativement perpendiculaire aux pentes de la fosse. De plus, la caractérisation structurelle de ces failles est toujours en cours. Il est recommandé d'intégrer l'interprétation finale du réseau de failles dans un modèle 3D ultérieur afin d'évaluer et de valider son impact potentiel sur la stabilité globale des pentes.

Maillage et conditions aux limites

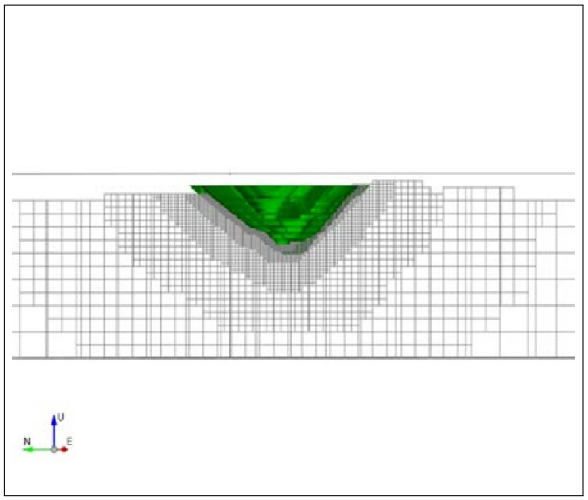
Un maillage cubique structuré (octree) a été utilisé pour construire le modèle. Les zones adjacentes aux parois de la fosse ont des arêtes de 2,5 m, et les zones augmentent progressivement en taille pour atteindre des arêtes de 80 m à une distance de plus de 310 m de la fosse. La figure 32 montre une vue en coupe où le maillage est visible pour la zone de la fosse.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification



(a) Emplacement de la coupe intersectant la fosse.



(b) Raffinements du maillage sur le plan de la coupe.

Figure 32. Vue de l' du maillage structuré (octree) du modèle numérique à ciel ouvert.

Les contraintes in situ utilisées dans le modèle numérique sont celles présentées dans le tableau 39 (section 5.2). Les conditions aux limites ont été appliquées en fixant toutes les limites du modèle, à l'exception de l'axe Z positif, auquel une condition libre (sans contrainte) a été attribuée.

Propriétés des matériaux

Les propriétés des matériaux utilisées dans le modèle numérique ont été dérivées de la caractérisation géomécanique, à l'exception de la roche hôte. Mohr-Coulomb est modélisé comme un matériau parfaitement plastique, tandis que Hoek-Brown est modélisé à l'aide du modèle constitutif IMASS, un modèle élasto-plastique qui tient compte de l'affaiblissement par cohésion et tension, du renforcement par frottement, de la fragilité post-pic et du comportement dilatatif. Le processus global, connu sous le nom d'« adoucissement par déformation », résulte des propriétés des matériaux dépendantes de la déformation.

Un exemple de matériau présentant un comportement d'adoucissement sous contrainte est illustré à la figure 33. Enfin, le paramètre connu sous le nom de « déformation plastique critique » (*critical plastic strain* en anglais), c'est-à-dire la quantité de déformation inélastique nécessaire pour que le matériau passe de la résistance maximale à la résistance résiduelle, est évalué comme suit (Lorig et Varona, 2013) :

$$\epsilon^{pcr_1} = \frac{12{,}5 - 0{,}125 \times GSI}{100 \times d} \qquad \textit{(équation 30)}$$

Où ϵ^{p}_{cr1} = déformation plastique critique.
d = dimension d'une zone numérique (m).

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

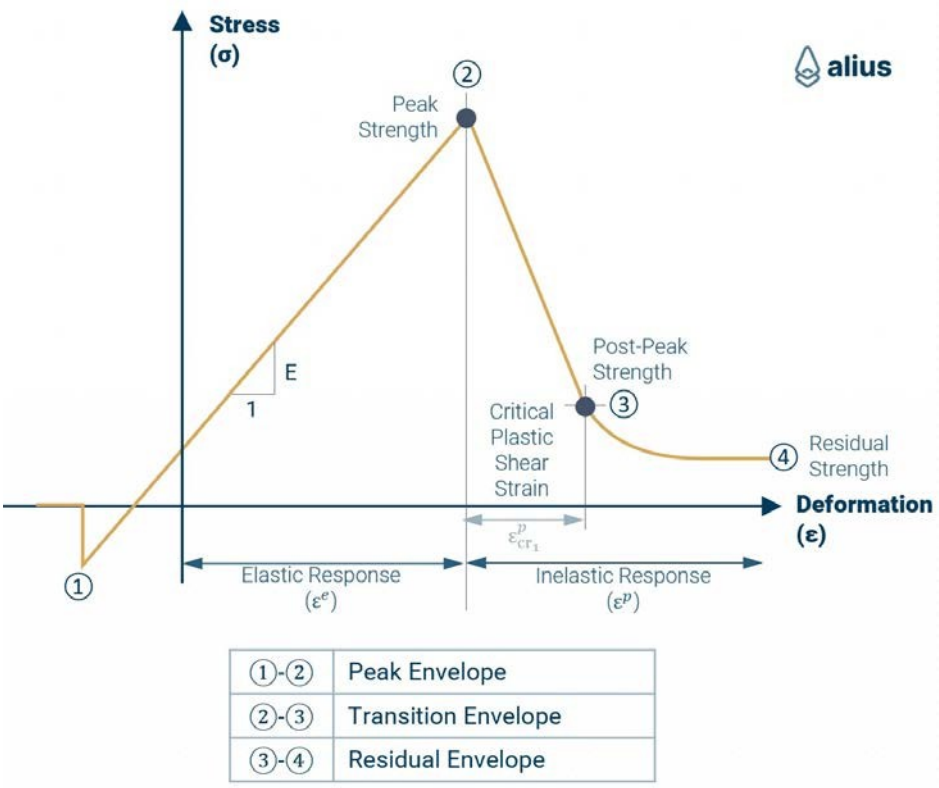


Figure 33. Termes et définitions associés à un matériau à déformation adoucie.

Les paramètres du modèle numérique sont résumés dans le tableau 48.

Tableau 48. Propriétés des matériaux du modèle numérique à ciel ouvert.

Unité	Modèle constitutif	Densité (kg/m^3)	E_i (GPa)	ν (–)	σ_i (MPa)	m_i (–)	GSI (–)
AMP	Hoek-Brown	2 984	89,2	0,22	198,2	24,2	71
Roche hôte	Élastique	2 700	70,0	0,20	–	–	–
META	Hoek-Brown	2 876	38,3	0,22	153,0	15,1	64
OVB	Élastique	2 321	1,0	0,20	–	–	–
PEG	Hoek-Brown	2 636	51,2	0,20	120,4	24,7	64
UMU	Hoek-Brown	2 874	15,9	0,22	57,7	12,3	64

Remarques Hoek-Brown est modélisé à l'aide du modèle constitutif IMASS.
Codes E_i module d'Young de la masse rocheuse, ν coefficient de Poisson, σ_i résistance à la compression non confinée de la roche intacte, m_i constante Hoek-Brown de la roche intacte, GSI indice de résistance géologique, φ angle de frottement, c cohésion.

Séquence

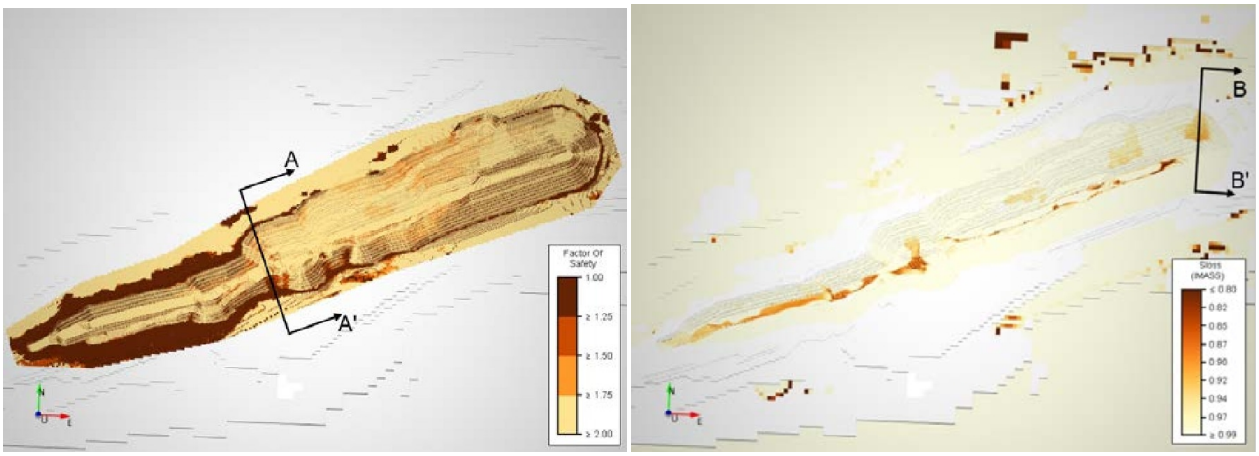
Compte tenu de la faible profondeur de la fosse prévue, la séquence d'exploitation a été modélisée en une seule étape correspondant à l'excavation complète de la fosse.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Résultats de la modélisation – Mine à ciel ouvert

La conception finale de la mine à ciel ouvert a été évaluée à l'aide d'une modélisation numérique afin de vérifier que les coefficients de sécurité obtenus répondaient aux critères cibles. La figure 34 présente la répartition des coefficients de sécurité statiques (FoS) projetés sur les parois de la mine, ainsi que l'indicateur de dommage associé (*SLOSS*, pour perte de résistance).



(a) Coefficient de sécurité. *(b) Dommages (SLOSS).*

Figure 34. Projection du facteur de sécurité et des dommages (SLOSS) sur la mine à ciel ouvert prévue.

Toutes les valeurs FoS globales dépassent 1,5, à deux exceptions près. La première concerne les secteurs de la fosse où les morts-terrains sont exposés, principalement dans la partie sud-ouest de la fosse. Les morts-terrains ayant été modélisés comme un matériau parfaitement élastique à des fins de simplification, un FoS de 1,0 a été obtenu dans ces zones. La deuxième exception est observée dans les angles serrés de la fosse, tels que ceux le long de la section A-A', visibles sur la figure 34a. Cette zone a été analysée plus en détail afin d'évaluer l'ampleur de l'instabilité potentielle. La figure 35 montre le déplacement total le long de la section A-A'. Le déplacement est principalement concentré près de la surface, avec une amplitude maximale inférieure à 0,03 m dans la roche fraîche. Ces petits mouvements sont interprétés comme des déformations mineures résultant d'une relaxation locale des contraintes associée à des changements brusques dans l'orientation des parois et ne constituent pas un problème de stabilité. Ce sujet est abordé plus en détail dans la section **??**.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

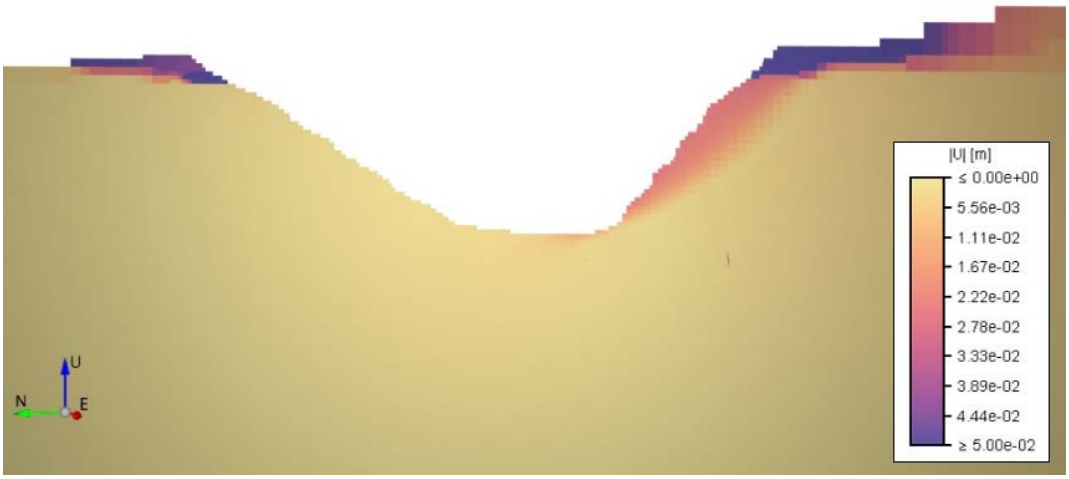


Figure 35. Déplacement total de l' sur la section A-A'.

La figure 34b met en évidence les zones présentant des valeurs SLOSS plus faibles, telles que celles situées le long de la section B-B', indiquant des dommages localisés le long de la paroi de la fosse. Cette section a été examinée de manière similaire afin d'évaluer l'importance de la réponse. La figure 36 montre le déplacement total le long de la section B-B', superposé au solide lithologique UMU. Les déplacements sont à nouveau peu profonds et d'amplitude limitée (moins de 0,02 m), ce qui indique une déformation mineure. L'observation clé dans ce cas est la corrélation entre les zones présentant des indicateurs de dommages plus élevés et la présence de l'unité UMU sur la paroi nord. Bien que toutes les valeurs FoS restent supérieures à 1,5, ces zones peuvent être plus sensibles à une dégradation localisée et doivent être surveillées en priorité. Des recommandations supplémentaires concernant ces zones sont fournies dans la section **??**.

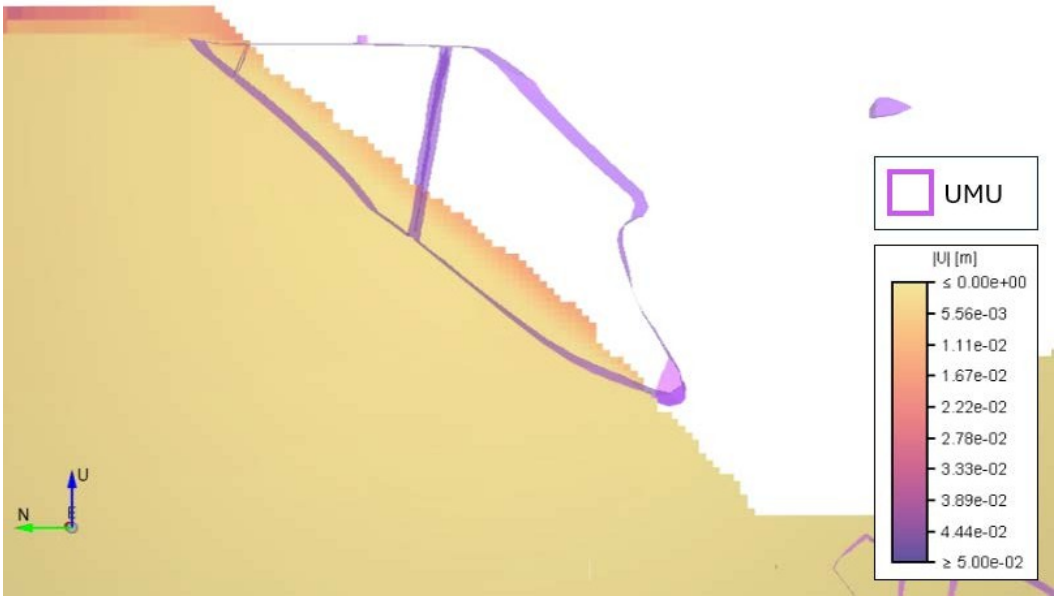


Figure 36. Déplacement total de l' sur la section B-B' avec l'unité ultramafique voisine.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

7.6.3 Résultats

Cette section résume les directives fournies à l'échelle multi-bancs tout en intégrant les recommandations à l'échelle des bancs.

01. Utilisation de pratiques de double terrassement

→ Le double terrassement peut être mis en œuvre pour augmenter l'IRA et l'OSA.

02. Recommandations sur l'angle entre les rampes

→ En tenant compte d'un double banc, d'une largeur de banc comprise entre 8,5 et 12,0 m et d'un angle de front de taille compris entre 40 et 75°, les IRA obtenus sont compris entre 32 et 55°, selon le secteur de la fosse.

03. Recommandations sur l'angle d'échelle global

→ L'intégration de bermes géotechniques dans la conception est fortement recommandée.

- Une berme géotechnique de 16 m de large est recommandée autour du milieu de la pente pour les parois dépassant environ 160 m de hauteur.
- L'intégration de bermes géotechniques garantit également la présence de bancs de retenue plus larges pour intercepter les éventuelles chutes de pierres de grande taille.
- Les bermes doivent commencer dès que 80 m de roche sont exposés et doivent se terminer à environ 80 m au-dessus du fond de la fosse.
- Plusieurs stratégies peuvent être envisagées pour intégrer les bermes dans la conception :
  - Intégration à un gradin existant, par exemple en augmentant la largeur de 8,5 m à 16,0 m.
  - Fixation de la berme à une rampe, en veillant à laisser une largeur libre minimale de 7,5 m entre la paroi de la fosse et la route de transport. La largeur des routes de transport doit être conforme aux normes minières du Québec, qui exigent une largeur égale à trois fois la largeur des camions (Éditeur officiel du Québec, 2025).

Les structures géologiques majeures, notamment les failles et les dykes de diabase, peuvent influencer la stabilité de la fosse à l'échelle de l'IRA et à l'échelle globale. Ces structures ont été modélisées sous forme de plans subverticaux intersectant la fosse. En raison de leur orientation quasi verticale, elles ne devraient pas provoquer individuellement des ruptures à grande échelle. Toutefois, elles peuvent créer des zones localisées de qualité rocheuse réduite, ce qui peut affecter la stabilité à plus petite échelle. Là où plusieurs failles et dykes modélisés se croisent, il faut s'attendre à des conditions rocheuses plus fragiles. L'impact potentiel de plusieurs structures majeures situées à proximité immédiate doit être soigneusement évalué pendant la phase d'ingénierie détaillée.

7.7 Directives de conception des mines à ciel ouvert

À la suite des analyses de stabilité, des directives de conception ont été élaborées pour les morts-terrains et la roche fraîche aux échelles de conception pertinentes. Le tableau 49 présente les lignes directrices recommandées pour les sols et la roche fraîche à l'échelle des gradins et des rampes intermédiaires, ainsi que les recommandations pour les bermes géotechniques envisagées à l'échelle globale du talus. Les critères de conception proposés représentent les valeurs maximales à adopter et ne tiennent pas compte des interactions entre les différents secteurs. La figure 37 illustre la position des secteurs géomécaniques par rapport à la conception de la fosse.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Tableau 49. Résumé des directives de conception des mines à ciel ouvert.

Secteur	Zone-Paroi	Critères FS recommandés						
		Lithologie	BH (m)	BW (m)	BFA (°)	IRA (°)	DD (°)	Bermes géotechniques
1	Tous	OVB	< 25					10 m entre matière en excès et roche
A	Ouest-Nord	AMP	20	10,5	68	47	130–200	
C	Ouest-Sud	AMP, META	20	11,0	75	51	340–005	
D	Centre-Nord	AMP	20	8,5	59	44	150–165	
E	Centre-Nord	META	20	8,5	50	38	140–155	Au milieu de la paroi si H > 160 m. Largeur = 16 m (total)
		AMP,		11,0	75	51	330–350	
G	Est-Nord	AMP, META	20	8,5	47	36	165–180	
H	Est-Nord	UMU	20	8,5	40	32	165–180	
I	Est-Est	AMP, PEG, UMU, META	20	8,5	75	55	180–310	
J	Est-Sud	AMP,	20	12,0	75	49	310–335	

Codes : BH hauteur du banc, BW largeur du banc, BFA angle de la face du banc, IRA angle entre les rampes, DD plage de direction de la descente, H hauteur.

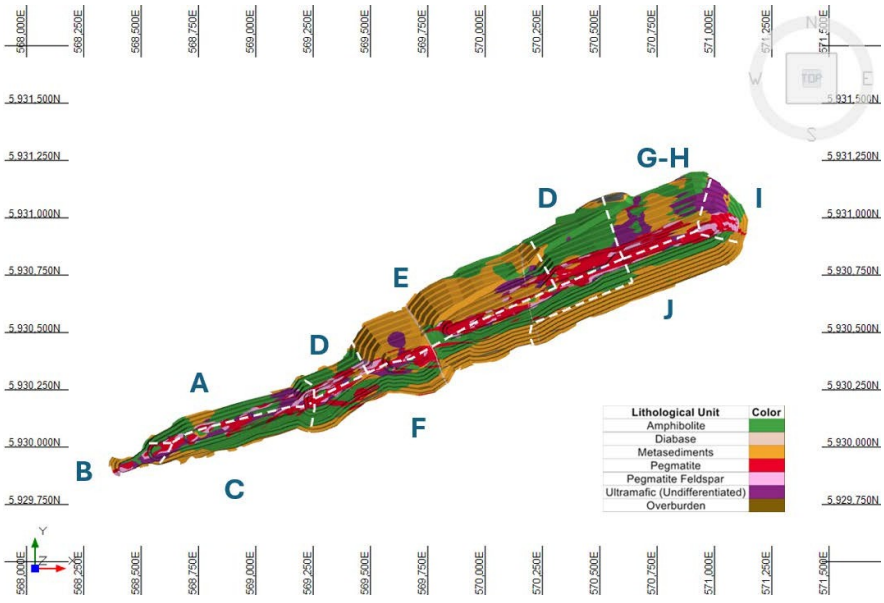


Figure 37. Résumé des directives relatives au secteur à ciel ouvert (basé sur la conception de la fosse de mars 2025).

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

8 Directives de conception des mines souterraines

Des directives de conception ont été élaborées pour plusieurs aspects de la mine souterraine (UG) :

01. Dimensions des chantiers et dilution
02. Séquence d'exploitation
03. Remblai
04. Pilier de couronne
05. Soutènement
06. Portail (coupe en caisson)
07. Infrastructures
08. Interaction entre la mine à ciel ouvert et la mine souterraine

Ces éléments sont détaillés dans les sections suivantes.

8.1 Terminologie et paramètres d'entrée

La terminologie relative aux chantiers souterrains utilisée dans les sections suivantes est illustrée à la figure 38.

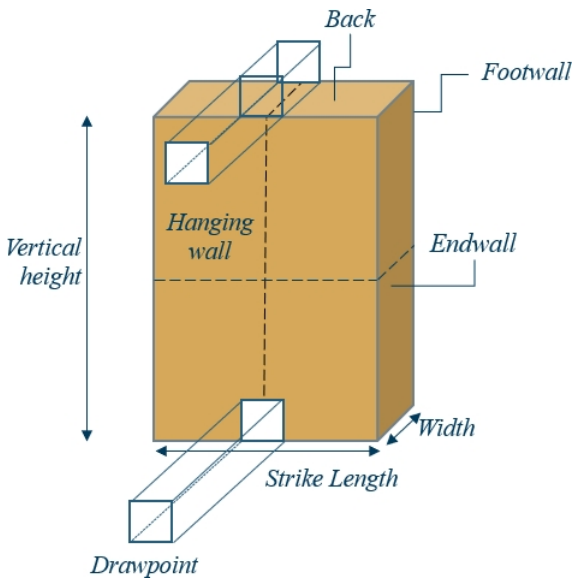


Figure 38. Terminologie des chantiers utilisée dans le rapport (non à l'échelle).

Comme certains des paramètres d'entrée utilisés pour la conception de la mine à ciel ouvert et de la mine souterraine diffèrent, les paramètres adoptés pour les analyses souterraines sont résumés ci-dessous :

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

01. Densité de la roche

→ Voir section 5.1.1, tableau 14.

→ Les densités varient entre 2,64 et 2,98 t/m^3.

02. Résistance à la compression uniaxiale

→ Voir section 5.1.1, tableau 19.

→ Pour rappel, les premier et deuxième quartiles de la distribution UCS pour les unités amphibolite, métasédiments, pegmatite et ultramafiques sont respectivement de 167-186, 101-130, 62-96 et 48-55 MPa, respectivement.

03. Classification des masses rocheuses

→ Se reporter à la section 5.1.2, tableau 30.

→ Pour rappel, les premier et deuxième quartiles de la distribution Q' sont présentés ci-dessous :

Lithologie	Q’	
	Q1	Q2
Amphibolite	11	18
Métasédiments	10	16
Pegmatite	7	18
Ultramafique	5	11

04. Ensembles de joints

→ Voir section 5.1.2, tableau 37.

→ Pour rappel, deux à trois ensembles de joints ont été identifiés par domaine géomécanique.

05. État de contrainte in situ

→ Voir section 5.2, tableau 39.

→ Pour rappel, la composante principale de contrainte est supposée être orientée à 70°, parallèlement au gisement.

→ La profondeur de la mine souterraine sous la surface varie entre 100 m et 450 m ; une valeur générale de 400 m est prise en compte pour les analyses.

06. Conception des chantiers

→ Configuration des chantiers : environ 91 % des chantiers sont transversaux, tandis que les 9 % restants sont des chantiers longitudinaux (sur la base de la conception intermédiaire du modèle de blocs de juillet 2024).

→ La direction globale du pendage du HW et du FW est d'environ 340°.

→ L'inclinaison HW et FW est variable ; pour les galeries transversales, elle varie généralement entre 60 et 80°, tandis que pour les galeries longitudinales, elle varie généralement entre 60 et 75°. Dans certains cas, l'inclinaison s'est avérée inférieure à 60°.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l’anglais par PMET au moyen d’outils d’intelligence artificielle et le contenu n’a pas fait l’objet d’une vérification

8.2 Modèle numérique

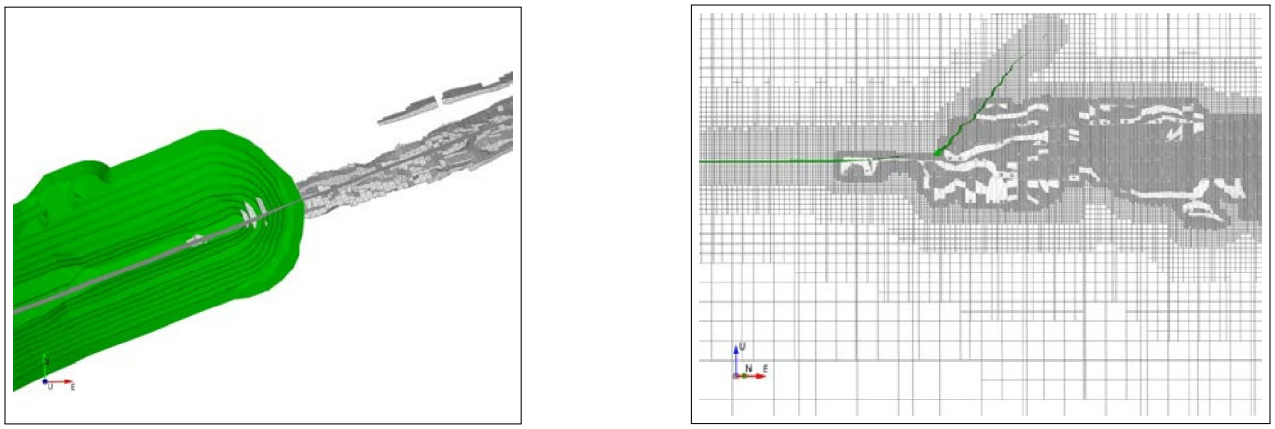
Un modèle 3D a été construit, et ses dimensions le long des axes E-N-Z sont d'environ 6,2 × 3,1 × 0,9 km. Ce modèle global intègre le modèle lithologique, ainsi que les excavations à ciel ouvert et souterraines prévues. De plus, du matériau rocheux hôte est ajouté comme remplissage autour du modèle afin de garantir que les conditions aux limites sont éloignées et n'affectent pas les résultats.

Géométrie

La géométrie modélisée de la mine à ciel ouvert est basée sur la conception de la mine de mars 2025, et les excavations souterraines sont basées sur la conception de la mine souterraine de mars 2025. Les solides géologiques dérivés du modèle lithologique ont été utilisés pour attribuer les propriétés matérielles appropriées à chaque zone du modèle numérique. Les failles identifiées sur le site n'ont pas été intégrées dans le modèle actuel, car leur interprétation dans la zone souterraine était encore en cours lors de la création du modèle numérique. De plus, la caractérisation structurelle de ces failles est toujours en cours. Il est recommandé d'intégrer l'interprétation finale du réseau de failles dans un modèle 3D ultérieur afin d'évaluer et de valider son impact potentiel sur la stabilité globale des pentes et des souterrains.

Maillage et conditions aux limites

Un maillage cubique structuré (octree) a été utilisé pour construire le modèle. Les zones adjacentes aux chantiers et aux parois de la fosse ont des arêtes de 2 et 4 m respectivement, et les zones augmentent progressivement en taille pour atteindre des arêtes de 64 m à une distance de plus de 186 m. La figure 32 montre une vue en coupe où le maillage est visible à la fois pour la zone de la fosse et certains chantiers.



(a) Emplacement de la section intersectant les chantiers et la mine à ciel ouvert.

(b) Améliorations de l' e du maillage sur une section plane.

Figure 39. Vue de l' du maillage structuré (octree) du modèle numérique global.

Les contraintes in situ utilisées dans le modèle numérique sont celles présentées dans le tableau 39 (section 5.2). Les conditions aux limites ont été appliquées en fixant toutes les limites du modèle, à l'exception de l'axe Z positif, auquel une condition libre (sans contrainte) a été attribuée.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Propriétés des matériaux

Les propriétés des matériaux utilisées dans le modèle numérique ont été dérivées de la caractérisation géomécanique, à l'exception de la roche hôte. Les paramètres du modèle numérique global sont résumés dans le tableau 50.

Tableau 50. Propriétés des matériaux du modèle numérique global.

Unité	Modèle constitutif	Densité (kg/m^3)	E_i (GPa)	ν (–)	σ_i (MPa)	m_i (–)	GSI (–)	φ (°)	c (kPa)
AMP	Hoek-Brown	2 984	89,2	0,22	198,2	24,2	64	–	–
META	Hoek-Brown	2 876	38,3	0,22	153,0	15,1	64	–	–
OVB	Mohr-Coulomb	2 321	5,0	0,20	–	–	–	45	0
PEG	Hoek-Brown	2 636	51,2	0,20	120,4	24,7	78	–	–
UMU	Hoek-Brown	2 874	15,9	0,22	57,7	12,3	64	–	–
Remblai	Mohr-Coulomb	1 800	1,5	0,30		–	–	30	156
Roche hôte	Élastique	2 700	70,0	0,20	–	–	–	–	–

Notes Hoek-Brown est modélisé à l'aide du modèle constitutif IMASS.
Codes E_i Module d'Young de la masse rocheuse, ν coefficient de Poisson, σ_i résistance à la compression non confinée de la roche intacte, m_i constante de Hoek-Brown pour la roche intacte, GSI indice de résistance géologique, φ angle de frottement, c cohésion.

Séquence

La séquence d'exploitation mise en œuvre dans le modèle commence en 2031 et intègre le plan d'exploitation à ciel ouvert jusqu'à cette année-là. De 2031 à 2049, le modèle comprend des étapes d'exploitation annuelles représentant à la fois la production à ciel ouvert et l'extraction souterraine.

8.3 Dimensions des chantiers et dilution

8.3.1 Méthodes de conception

Les dimensions des chantiers et la dilution ont été évaluées à l'aide de tableaux empiriques de stabilité des chantiers à ciel ouvert, notamment celui de Potvin (1988), ainsi que du tableau ELOS (Equivalent Linear Overbreak/Slough) (Clark, 1998) pour les estimations de dilution. Pour la méthode ELOS, une approche probabiliste a été appliquée. Les méthodologies utilisées pour les deux évaluations sont résumées ci-dessous.

Aucune modélisation numérique explicite du continuum ou du discontinuum à l'échelle de la chambre n'a été réalisée.

8.3.2 Tableaux de stabilité des chantiers à ciel ouvert

Les tableaux empiriques tiennent compte de la classification des masses rocheuses, des conditions de contrainte induite, de la résistance de la roche intacte, de l'orientation des joints et de la géométrie de la chambre (c'est-à-dire le rayon hydraulique) et de son orientation pour prédire la stabilité de la surface de la chambre. Les paramètres d'entrée requis pour les analyses, ainsi que les résultats, sont présentés dans cette section. Tous les tableaux de stabilité des chambres ouvertes préparés pour le projet sont présentés à l'annexe F.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Théorie

Les graphiques de stabilité des chantiers ouverts ont été utilisés pour évaluer la stabilité des surfaces individuelles, c'est-à-dire le fond, le mur, le mur de fond et les parois d'extrémité. Les graphiques s'appuient sur les deux données suivantes :

01. Rayon hydraulique (c'est-à-dire la dimension)
02. Indice de stabilité, N'

Un exemple de diagramme de stabilité des chantiers ouverts de Potvin est présenté à la figure 40.

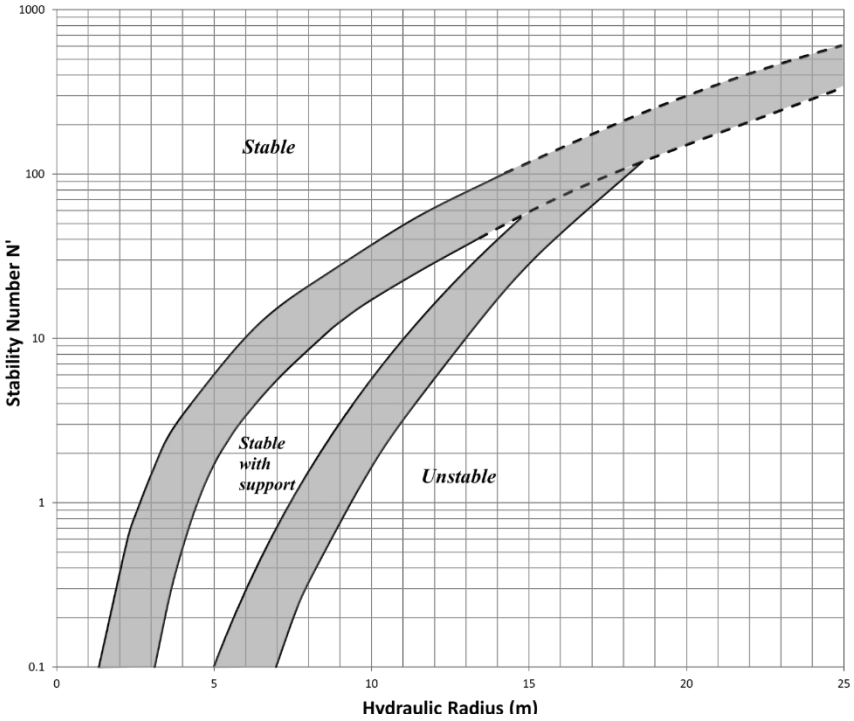


Figure 40. Tableau de stabilité des chantiers à ciel ouvert de Potvin (reproduit à partir de Potvin, 1988).

Le rayon hydraulique (RH) d'une surface de chambre est défini comme suit :

$$HR = \frac{Surface}{Périmètre} = \frac{W \times H}{2(L + H)} \qquad \textit{(équation 31)}$$

Où HR = Rayon hydraulique (m)
W = Largeur de surface (m)
H = Hauteur de surface (m)

Le nombre de stabilité (N') est défini comme suit :

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

$$N' = Q' \times A \times B \times C \qquad \textit{(équation 32)}$$

Où Q' = classification de la masse rocheuse
A = facteur de contrainte de la roche
B = facteur d'orientation des joints
C = facteur d'ajustement de la gravité

Les facteurs A, B et C étant définis comme suit :

$$A = \begin{cases} 0,1 & \text{si } SR < 2 \\ 0,1125 \times SR - 0,125 & \text{si } 2 < Ratio < 10 \\ 1 & \text{si } SR > 10 \end{cases} \qquad \textit{(équation 33)}$$

Où $SR = \frac{UCS}{\sigma_{max}}$
UCS = résistance à la compression uniaxiale (MPa)
σ_{max} = contrainte tangentielle maximale induite agissant sur la surface de la chambre, selon l'approche de Stewart et Forsyth (1995) (MPa)

$$B = \begin{cases} 0,3 - 0,01\alpha & \text{si } \alpha < 10° \\ 0,2 & \text{si } 10° < \alpha < 30° \\ -0,4 + 0,02\alpha & \text{si } 30° < \alpha < 60° \\ 0,4+0,0066\alpha & \text{si } \alpha > 60° \end{cases} \qquad \textit{(équation 34)}$$

Où α = angle entre la surface de la chambre et la jointure (°)

$$C_{Gravité\ Chute\ et\ dallage} = 8 - 6\cos(surface\ inclinée) \qquad \textit{(équation 35)}$$

$$C_{Sliding} = \begin{cases} 8 & \text{si } dip_{joint} < 30° \\ 11 - 0,1 \times dip_{joint} & \text{si } dip_{joint} > 30° \end{cases} \qquad \textit{(équation 36)}$$

En général, les dimensions de la surface de la chambre peuvent être maximisées tant qu'elles restent dans la *zone stable* du diagramme de stabilité de Potvin. Les surfaces arrière peuvent se trouver dans la *zone stable avec soutènement,* car elles peuvent être boulonnées à partir de la surcoupe.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Données

Lorsque cela était possible, les analyses ont été réalisées à l'aide d'ensembles de valeurs basses et élevées, généralement composés des ^{25e}et ^{50e}centiles, ou du premier quartile (Q1) et de la médiane (Q2), des fonctions de distribution cumulative (FDC). Les chantiers ont été différenciés entre les méthodes d'exploitation transversales et longitudinales, et les lithologies exposées prévues ont été prises en compte.

En supposant qu'une séquence de recul du mur inférieur vers le mur supérieur sera adoptée (voir la section 8.4), les lithologies exposées dans les chantiers primaires et secondaires des zones d'exploitation transversales peuvent différer. En raison de l'épaisseur importante du gisement, les chantiers dynamités peuvent exposer différentes lithologies. Comme le résume le tableau 51, les parois d'extrémité et les dos des chantiers transversaux sont toujours supposés être en pegmatite. Le mur inférieur de la première chambre d'abattage de chaque point d'extraction (côté mur inférieur du gisement) expose la roche. Une fois les premières chambres d'abattage remblayées, les chambres suivantes d'un point d'extraction donné exposeront le remblai sur le mur inférieur (voir section 8.5). Les parois suspendues peuvent exposer la pegmatite si le gisement est suffisamment épais pour inclure plusieurs chantiers. Si ce n'est pas le cas, ce sont les lithologies typiques des stériles qui sont exposées. Là encore, ces informations sont résumées dans le tableau 51 et illustrées dans la figure 41. Les surfaces composées de pâte de remplissage ne sont pas évaluées directement à l'aide des graphiques de Potvin.

Un « cas » est défini comme une combinaison spécifique de lithologies exposées sur les surfaces des chantiers. Pour les chantiers transversaux, dix cas avec une fréquence supérieure à 2 % ont été identifiés, représentant la fréquence relative des combinaisons lithologiques sur les surfaces exposées, et leur stabilité a été évaluée. Pour les chantiers longitudinaux, quatre cas ont été identifiés ; cependant, seuls deux d'entre eux ont nécessité une évaluation directe à l'aide du diagramme de Potvin, les deux autres correspondant à des configurations déjà évaluées.

Tableau 51. Détails sur les roches exposées et les types de matériaux pour les galeries transversales et longitudinales.

Code	Type et séquence de galeries	Type de roche ou de matériau exposé			
		Arrière	EW	FW	HW
P_1	Transversal – Primaire initial	PEG	PEG	PEG/AMP/ META/UMU	PEG/AMP/ META/UMU
P_i	Transversal – Prim. subséquent	PEG	PEG	CPB	PEG/AMP/ META/UMU
P_n	Transversal – Dernier primaire	PEG	PEG	CPB	PEG/AMP/ META/UMU
S_1	Transversale – Secondaire initiale	PEG	CPB	PEG/AMP/ META/UMU	PEG/AMP/ META/UMU
S_i	Transversal – Sec. suivante	PEG	CPB	CPB	PEG/AMP/ META/UMU
S_n	Transversal – Dernier secondaire	PEG	CPB	CPB	PEG/AMP/ META/UMU
P_{1-i}	Longitudinal – Tous	PEG	PEG/CPB	AMP/META/UMU	AMP/ META/UMU

Codes AMP amphibolite, CPB remblai en pâte cimentée, META métasédiments, PEG pegmatite, UMU ultramafique, HW mur suspendu, FW mur inférieur, EW murs d'extrémité.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

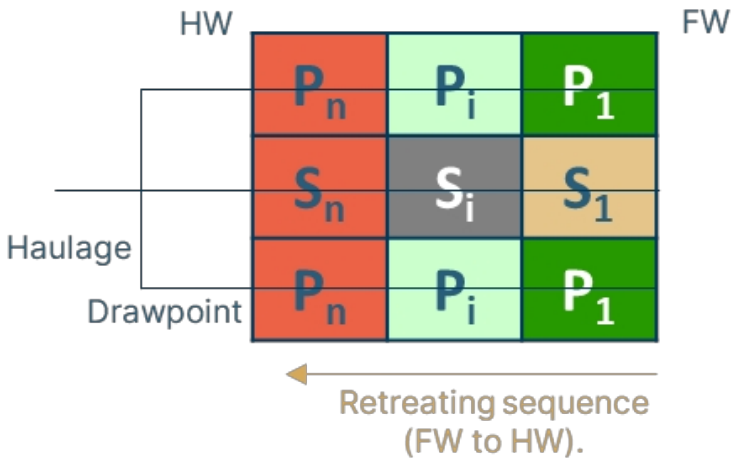


Figure 41. Vue schématique en plan de la séquence transversale des chantiers.

Un résumé des hypothèses de départ est présenté ci-dessous, évaluées individuellement pour chaque surface de galeries (et lithologie correspondante) :

01. Q'

→ Faible Premier quartile (^{25e}percentile) de la fonction de distribution cumulative (CDF) de Q'

→ Élevé Médiane (^{50e}centile) de la fonction de distribution cumulative (FDC) de Q'

02. Facteur A

→ Faible Rapport entre le premier quartile de la CDF UCS et la contrainte induite (σ_{max})

→ Élevé Rapport entre la médiane de la fonction de distribution cumulative (CDF) de la contrainte uniaxiale et la contrainte induite (σ_{max})

03. Facteur B

→ Comparaison des orientations de la surface de la chambre avec respect à tous les ensembles de joints identifiés pour la lithologie exposée (voir section 5.1.2). Le facteur B le plus bas est utilisé pour identifier le joint critique.

→ Les inclinaisons et les directions d'inclinaison des surfaces utilisées pour les analyses sont présentées dans le tableau 52 :

Tableau 52. Orientations des surfaces de la chambre.

ChambreSurface	Chambre transversale		Stope longitudinal	
	Inclinaison (°)	Direction de l'inclinaison (°)	Inclinaison (°)	Direction du pendage (°)
Arrière	00	000	00	00
HW	60	340	60–75	340
FW	60–80	340	60–75	340
EW	90	070	90	070

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

04. Facteur C

→ Orientation (inclinaison/direction d'inclinaison) du joint critique identifié précédemment.

05. Rayon hydraulique

→ Basé sur les dimensions de la surface de la chambre (c'est-à-dire la longueur et la hauteur). Ce paramètre est une donnée d'entrée dans la méthode et correspond également à un paramètre à optimiser par un processus itératif, tout en veillant à ce que les surfaces des chambres restent stables.

→ Une hauteur de chambre de 30 à 36 m a été utilisée, car cette valeur avait été initialement fournie à l'équipe d'ingénieurs miniers pour les conceptions préliminaires, sur la base des informations disponibles dans l'EEP. Alius a jugé acceptable de maintenir cette hypothèse pour la suite.

→ Suite à l'application de gradients au développement minier, environ 85 % des chantiers ont une hauteur variant entre 30 et 36 m.

À des fins de simplification, et compte tenu de leurs caractéristiques de résistance et de leurs orientations structurelles comparables, l'amphibolite et les métasédiments ont été regroupés pour les analyses de stabilité des chantiers à ciel ouvert. Les propriétés des métasédiments ont été choisies pour représenter le groupe, car elles présentent des valeurs Q' et UCS légèrement inférieures, ce qui constitue une base prudente pour la conception. À l'inverse, les orientations des joints de l'amphibolite ont été adoptées, car leurs angles d'inclinaison sont légèrement inférieurs, ce qui représente la configuration structurelle la plus critique.

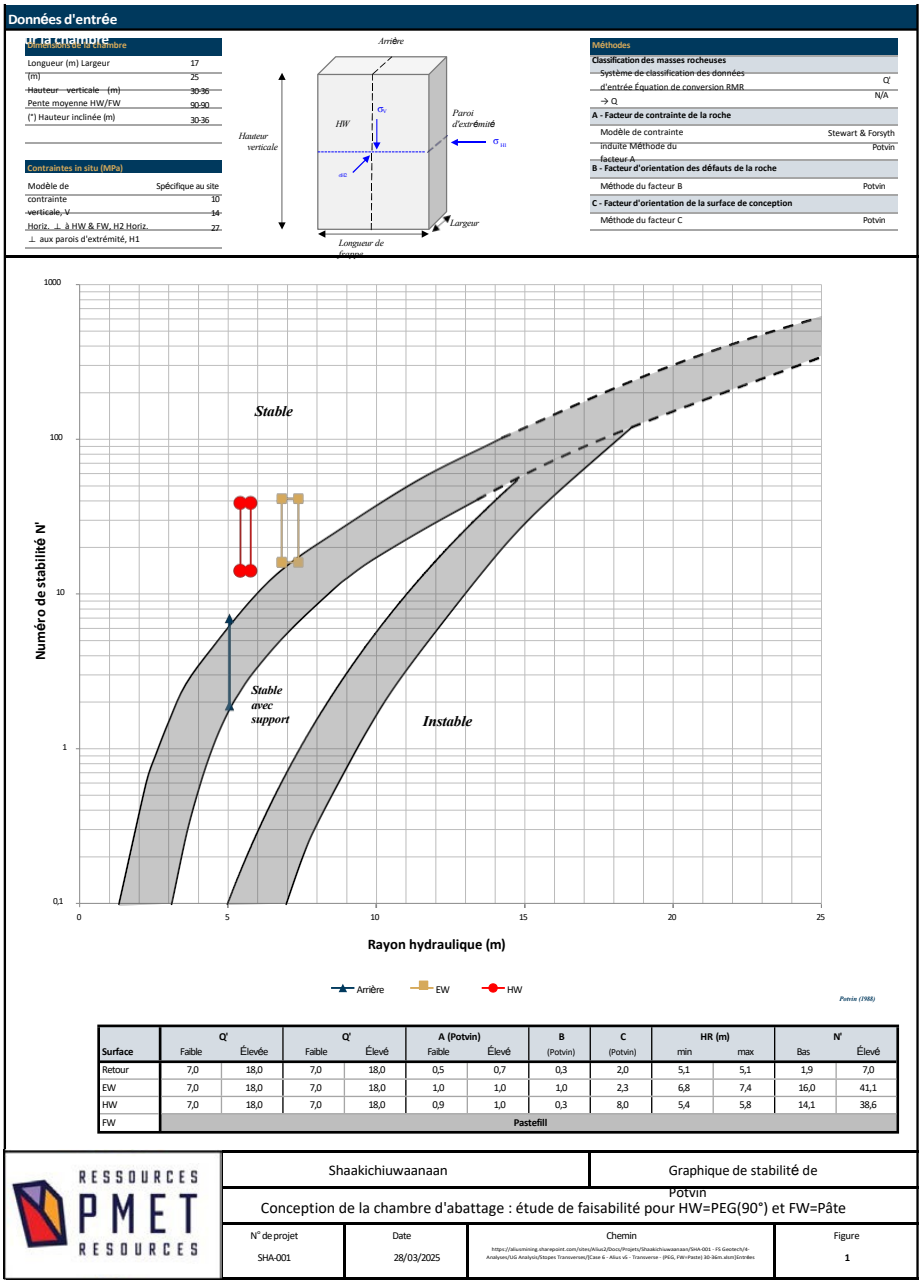
Résultats

Les résultats de ces méthodes consistent en des prévisions de stabilité des chantiers. Là encore, les dimensions de la surface des chantiers ont été maximisées tout en veillant à ce qu'elles restent dans la *zone stable* du diagramme de stabilité de Potvin. Les surfaces arrière peuvent se trouver dans la *zone stable avec soutènement*, car elles peuvent être facilement soutenues (c'est-à-dire par des boulons d'ancrage) à partir de la surcoupe.

La figure 42 présente un exemple du processus de calcul de la stabilité d'une chambre ouverte selon la méthode Potvin. La partie supérieure de la figure présente les données utilisées pour l'évaluation, notamment les dimensions de la chambre et les contraintes in situ. Le tableau inférieur présente les classifications des masses rocheuses, les facteurs A, B et C, les rayons hydrauliques et les indices de stabilité résultant de l'évaluation. La stabilité du mur inférieur n'est pas évaluée dans cet exemple, car elle est considérée comme un remblai artificiel ; seuls le mur supérieur, les parois latérales et l'arrière sont pris en compte. On constate que les parois latérales constituent la surface limite, car elles se trouvent à la limite de la zone stable. L'arrière de la chambre est situé à la limite de la *zone stable avec zone de soutènement*, ce qui indique la nécessité d'un boulonnage.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification



Surface	Q' Faible	Q' Élevée	Q' Faible	Q' Élevé	A (Potvin) Faible	A (Potvin) Élevé	B (Potvin)	C (Potvin)	HR (m) min	HR (m) max	N' Bas	N' Élevé
Retour	7,0	18,0	7,0	18,0	0,5	0,7	0,3	2,0	5,1	5,1	1,9	7,0
EW	7,0	18,0	7,0	18,0	1,0	1,0	1,0	2,3	6,8	7,4	16,0	41,1
HW	7,0	18,0	7,0	18,0	0,9	1,0	0,3	8,0	5,4	5,8	14,1	38,6
FW	Pastefill											

Figure 42. Exemple d'évaluation d'un diagramme de stabilité d'une chambre ouverte selon Potvin. Dans cet exemple, le HW et le FW sont considérés respectivement comme de la pegmatite et du remblai.

Les dimensions optimisées pour les différents cas sont présentées dans le tableau 53 pour les chantiers transversaux et dans le tableau 54 pour les chantiers longitudinaux. Chaque ligne du tableau représente un cas. Les parois d'extrémité remblayées ne sont pas évaluées car elles ne sont pas critiques. Par conséquent, aucun type de chantier secondaire n'est répertorié dans le tableau ci-dessous, car les parois d'extrémité sont toujours remblayées.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Tableau 53. Dimensions optimisées et limites des chantiers transversaux.

Type	Fréquence [1]	Lithologie maximale de la chambre			Dimension	Limitation
		HW	FW	Arrière et EW	(mL × mW × mH)	
P_i	26	PEG (90°)	CPB	PEG	17 × 25 × 30–36	Retour et EW
P_n	19	AMP/META	CPB	PEG	17 × 25 × 30–36	HW & Back & EW
P_1	18	PEG (90°)	AMP/META	PEG	17 × 25 × 30–36	Dos et EW
P_1	10	PEG (90°)	PEG	PEG	10 × 22 × 30–36	FW
P_n	8	PEG	CPB	PEG	15 × 22 × 30–36	HW
P_1	6	PEG	AMP/META	PEG	15 × 22 × 30–36	HW
P_1	5	AMP/META	PEG	PEG	10 × 22 × 30–36	FW
P_1	3	PEG	PEG	PEG	10 × 22 × 30–36	FW
P_n	3	UMU	CPB	PEG	17 × 25 × 30–36	Dos et EW
P_1	2	PEG (90°)	UMU	PEG	17 × 25 × 30–36	Dos et EW

Codes Fréquence, HW mur supérieur, FW mur inférieur, EW parois latérales, CPB remblayage par pâte cimentée. Remarques
[1] La fréquence a été établie sur la base de la zone analysée de la conception de la chambre d'abattage PEA (figure 4a).

Tableau 54. Dimensions optimisées des chantiers longitudinaux et limitations.

Type de	Fréquence [1]	Lithologie			Dimension maximale de la chambre	Limitation
		HW	FW	Arrière et EW	(mL × mW × mH)	
P1-i	45	UMU	UMU	PEG ou CPB	25 × 7 × 30–36	FW & Back
P1-i	39	AMP/META	AMP/META	PEG ou CPB	17 × 7 × 30–36	HW & Back
P1-i	9	AMP/META	UMU	PEG ou CPB	17 × 7 × 30–36	HW & Back
P1-i	7	UMU	AMP/META	PEG ou arrière	22 × 7 × 30–36	FW et CPB

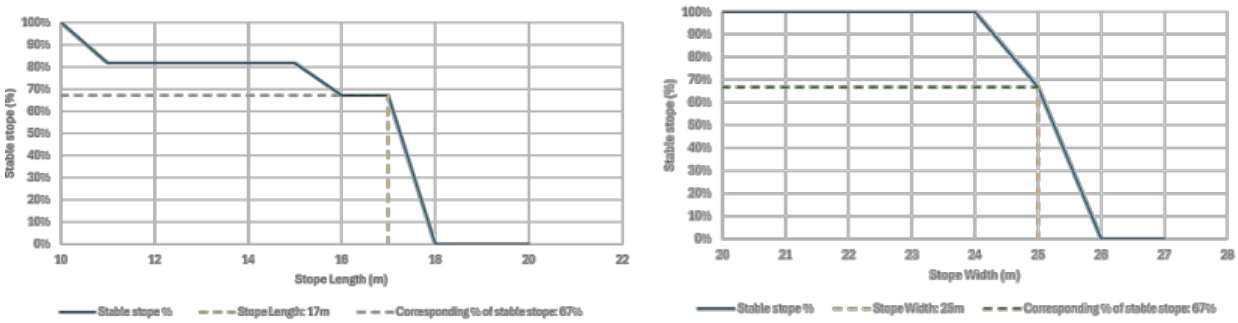
Codes Fréquence, HW mur suspendu, FW mur de fond, EW parois d'extrémité, CPB remblayage en pâte cimentée.
Remarques [1] La fréquence a été établie sur la base du DSO intermédiaire du modèle de bloc de juillet 2024 (figure 4b).

Afin de faciliter le processus de conception de la taille des chantiers, une taille uniforme a été évaluée pour les chantiers transversaux et longitudinaux. Pour les chantiers longitudinaux, une taille de 17 mL × 7 mW × 30-36 mH a été recommandée.

Comme le montre la figure 43, pour une longueur de chambre de 17 m, environ 67 % des chambres sont stables, et pour une largeur de chambre de 25 m, environ 67 % des chambres sont stables. Cela inclut les cas primaires (ceux dont la fréquence dépasse 11 %). Après avoir normalisé la taille des chantiers à 17 mL × 25 mW × 30-36 mH, plusieurs cas se situent dans la zone *stable avec soutien* ; cependant, aucun cas ne se situe dans la zone *instable*. Les graphiques de stabilité de Potvin correspondant à cette taille de chantier normalisée sont présentés à l'annexe F.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification



(a) Variation de la longueur des chantiers. *(b) Variation de la largeur de la chambre.*

Figure 43. Pourcentage de chantiers stables par rapport aux dimensions des chantiers.

8.3.3 Tableau de dilution (ELOS)

La méthodologie qui sous-tend le tableau ELOS (Clark, 1998) suit des principes similaires à ceux du tableau de stabilité de Potvin (1988) et est brièvement présentée ci-dessous.

Théorie

Dans les mines souterraines, la quantification du surcreusement et l'évaluation de la stabilité des chantiers sont essentielles pour la planification opérationnelle, la sécurité et le contrôle des coûts. L'une des mesures les plus couramment utilisées pour évaluer le surcreusement est le paramètre ELOS (Equivalent Linear Overbreak/Slough) (Clark, 1998). L'ELOS représente l'étendue linéaire moyenne du surcreusement par unité de surface d'une surface de chambre. Pour une surface donnée (par exemple, mur de pied, mur de tête, mur d'extrémité ou mur arrière), il est calculé comme suit :

$$ELOS\ (m) = \frac{Volume\ de\ surcreusement\ (m^3)}{Surface\ de\ la\ chambre\ d'abattage\ (^{m2})} \qquad \textit{(équation 37)}$$

Une approche largement utilisée pour corréler la stabilité des chantiers avec le surcreusement est le diagramme de conception de la stabilité superposé aux courbes ELOS développées par Clark (1998). Ces diagrammes sont basés sur le diagramme de stabilité original de Mathews (1980) et ont été calibrés ou modifiés par plusieurs auteurs, dont Potvin (1988). Par conséquent, en suivant la même approche que les calculs du diagramme de Potvin présentés à la section 8.3.2, le nombre de stabilité (équation 32) et le rayon hydraulique (équation 31) sont reportés sur le diagramme :

La position de chaque surface par rapport aux courbes ELOS sert d'outil prédictif pour estimer le surcreusement et la conception du soutènement. Un diagramme de stabilité ELOS vierge est présenté à la figure 44.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

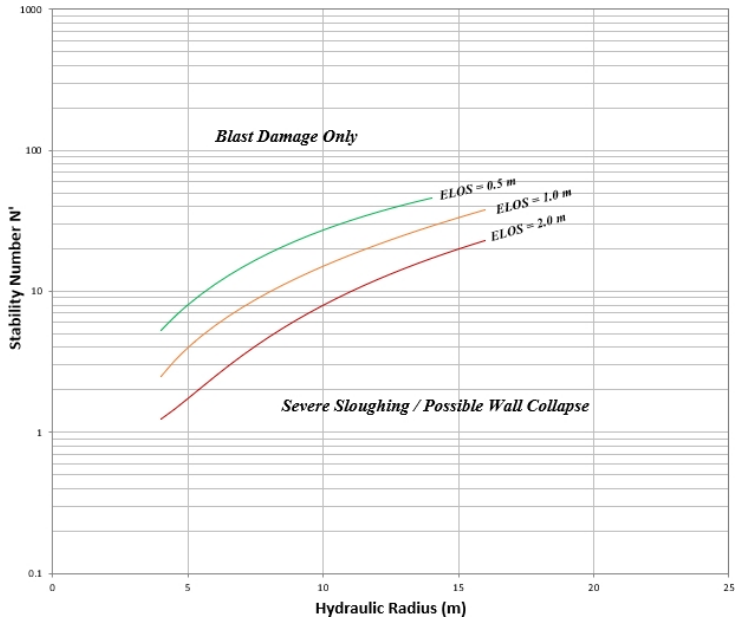


Figure 44. Graphique de stabilité des chantiers à ciel ouvert de l' (reproduit à partir de Potvin, 1988 et Clark, 1998).

Reconnaissant que l'utilisation exclusive des valeurs 0,5 m (courbe verte), 1,0 m (courbe orange) et 2,0 m (courbe rouge) peut être trop prudente, l'approche adoptée tient compte des valeurs intermédiaires entre les courbes.

Données

Les données d'entrée sont les mêmes que celles présentées à la section 8.3.2.

Résultats

Les résultats de la méthode sont des prévisions ELOS. Les valeurs ELOS sont évaluées après avoir déterminé les dimensions maximales de la surface de la chambre à l'aide des graphiques de Potvin. Pour certaines surfaces de chambres, les valeurs ELOS sont supposées sans référence au graphique ELOS, car certains concepts ne sont pas pris en compte par cette méthode. Par exemple :

→ **Surfaces de remblayage** – Toutes les surfaces de remblayage sont supposées avoir une ELOS de 0,5 m.

→ **Parois d'extrémité et arrière** – Étant donné que ces surfaces sont susceptibles de contenir des matériaux minéralisés et qu'un soutien est recommandé pour l'arrière, l'ELOS recommandé à des fins de planification minière est de 0 m pour l'EW et l'arrière.

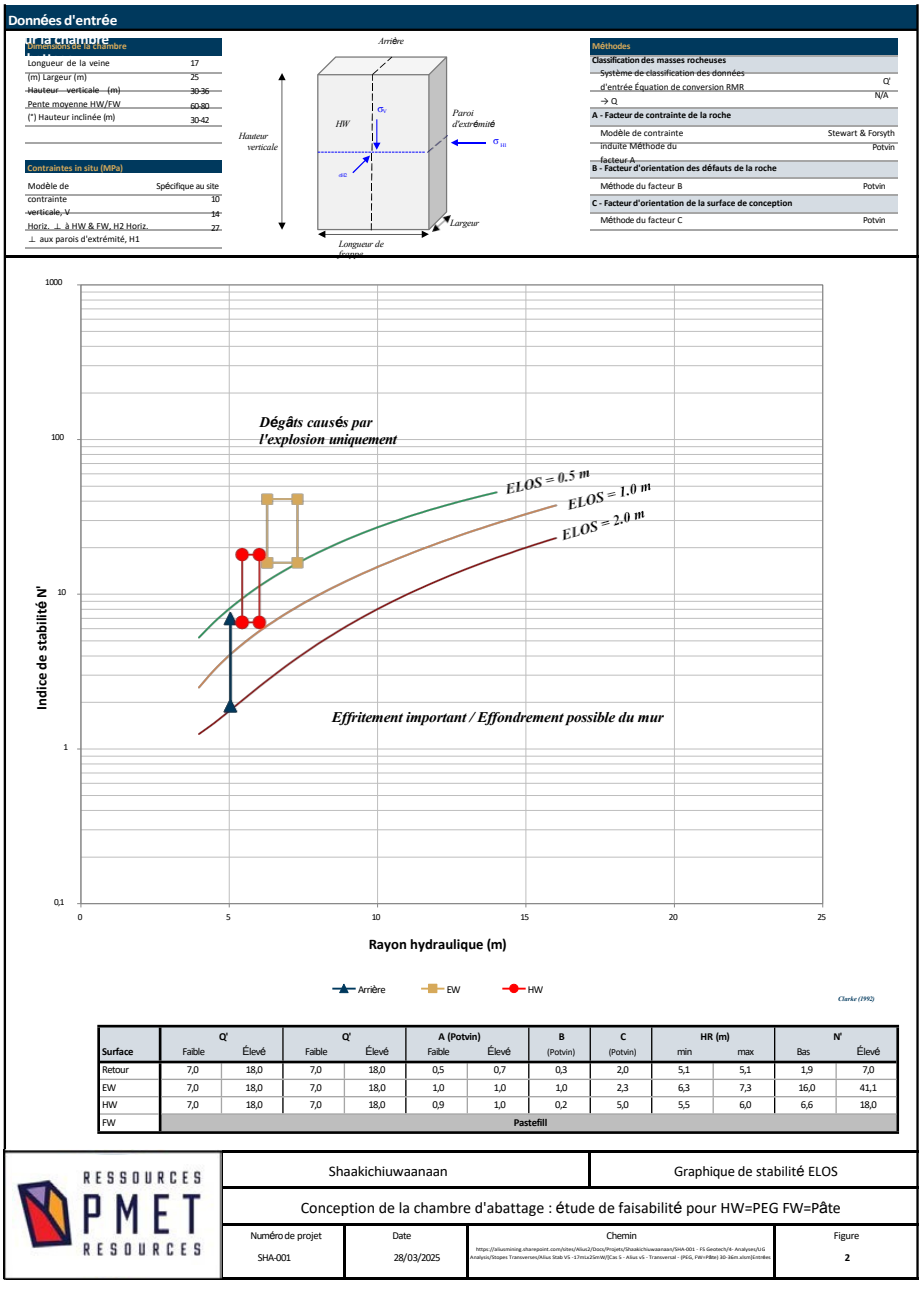
Un exemple du graphique ELOS obtenu est présenté à la figure 45. La partie supérieure de la figure montre les données d'entrée utilisées pour l'évaluation, notamment les dimensions de la chambre d'abattage et les contraintes in situ. Le tableau inférieur présente les classifications des masses rocheuses, les facteurs A, B et C, les rayons hydrauliques et les indices de stabilité obtenus à partir de l'évaluation. La stabilité du mur inférieur n'est pas évaluée dans cet exemple, car elle est représentée par un remblayage technique ; par conséquent, seuls le mur supérieur, les parois d'extrémité et l'arrière sont

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

évalués.

Dans cet exemple, les parois d'extrémité sont représentées par la courbe verte, correspondant à un ELOS de 0,5 m. Le mur suspendu se situe près de la courbe orange, ce qui donne une ELOS interprétée de 1,0 m. Le mur de fond, constitué de remblai, se voit attribuer une ELOS de 0,5 m. Le remblai se situe sur la courbe rouge, ce qui correspond à une ELOS interprétée de 2,0 m ; cependant, comme indiqué précédemment, l'ELOS pour le remblai est finalement supposée être de 0,0 m (c'est-à-dire du minerai).



Surface	Q' Faible	Q' Élevé	Q' Faible	Q' Élevé	A (Potvin) Faible	A (Potvin) Élevé	B (Potvin)	C (Potvin)	HR (m) min	HR (m) max	N' Bas	N' Élevé
Retour	7,0	18,0	7,0	18,0	0,5	0,7	0,3	2,0	5,1	5,1	1,9	7,0
EW	7,0	18,0	7,0	18,0	1,0	1,0	1,0	2,3	6,3	7,3	16,0	41,1
HW	7,0	18,0	7,0	18,0	0,9	1,0	0,2	5,0	5,5	6,0	6,6	18,0
FW	Pastefill											

RESSOURCES PMET RESOURCES

Shaakichiuwaanaan	Graphique de stabilité ELOS
Conception de la chambre d'abattage : étude de faisabilité pour HW=PEG FW=Pâte	

Numéro de projet	Date	Chemin	Figure
SHA-001	28/03/2025	https://aliusmining.sharepoint.com/sites/Alius2/Docs/Projets/Shaakichiuwaanaan/SHA-001 - FS Geotech/4- Analyses/1/G Analysis/Stopes Transverses/Alius Stab V5 - 17mLx25mW/[Cas 5 - Alius v5 - Transversal - (PEG, FW=Pâte) 30-36m.slum]Entrées	2

Figure 45. Exemple d'évaluation ELOS. Dans cet exemple, le HW et le FW sont considérés respectivement comme de la pegmatite et du remblai.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Les estimations de dilution attendues associées à la conception des chantiers sont présentées dans le tableau 55 pour les chantiers transversaux et dans le tableau 56 pour les chantiers longitudinaux.

Tableau 55. Évaluation de la dilution (ELOS) pour les chantiers transversaux.

Type	Fréquence [1]	Lithologie			Taille de la chambre (mL x mW x mH)	ELOS			
		HW	FW	Arrière et EW		HW	FW	EW	Arrière [2]
P_i	26	PEG (90°)	CPB	PEG	17 × 25 × 30–36	0,5	–	0,5	2,0
P_n	19	AMP/META	CPB	PEG		0,5	–	0,5	2,0
P_1	18	PEG (90°)	AMP/META	PEG		0,5	0,5	0,5	2,0
P_1	10	PEG (90°)	PEG	PEG		1,0	2,0	0,5	2,0
P_n	8	PEG	CPB	PEG		1,0	–	0,5	2,0
P_1	6	PEG	AMP/META	PEG		1,0	0,5	0,5	2,0
P_1	5	AMP/META	PEG	PEG		0,5	2,0	0,5	2,0
P_1	3	PEG	PEG	PEG		1,0	2,0	0,5	2,0
P_n	3	UMU	CPB	PEG		0,5	–	0,5	1,0
P_1	2	PEG (90°)	UMU	PEG		0,5	0,5	0,5	2,0

Codes N/A Non disponible ou non indiqué, Fréquence, HW Mur suspendu, FW Mur de fond, EW Murs d'extrémité, CPB Remblai CPB cimenté. Remarques [1] La fréquence a été établie sur la base de la zone analysée de la conception de la chambre d'abattage PEA (figure 4a).
[2] Les valeurs ELOS arrière présentées sont des lectures directes des graphiques ELOS. Cependant, à des fins de planification, et compte tenu du soutien recommandé et de la minéralisation attendue sur cette surface, l'ELOS final est fixé à 0,0 m.

Tableau 56. Évaluation de la dilution (ELOS) pour les chantiers longitudinaux.

Type	Fréquence [1]	Lithologie			Taille de la chambre (mL x mW x mH)	ELOS (m)			
		HW	FW	Dos et EW		HW	FW	EW	Retour [2]
P1–i	45	UMU	UMU	PEG ou CPB	17 × 7 × 30–36	0,5	0,5	0,5	2,0
P1–i	39	AMP/META	AMP/META	PEG ou CPB		1,0	0,5	0,5	2,0
P1–i P1–i	9 7 %	AMP/META UMU	UMU AMP/META	PEG ou CPB		1,0 0,5	0,5 0,5	0,5 0,5	2,0 2,0

Codes N/A Non disponible ou non indiqué, Fréquence, HW Mur suspendu, FW Mur de fond, EW Murs d'extrémité, CPB Remblai CPB cimenté. Remarques [1] La fréquence a été établie sur la base du DSO intermédiaire du modèle de bloc de juillet 2024 (figure 4b).
[2] Les valeurs ELOS arrière présentées sont des lectures directes des graphiques ELOS. Toutefois, à des fins de planification, et compte tenu du soutien recommandé et de la minéralisation attendue sur cette surface, l'ELOS final est fixé à 0,0 m.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

8.3.4 Lignes directrices

Les directives relatives à la conception des chantiers sont présentées dans le tableau 57, parallèlement à celles issues de l'étude géomécanique précédente (PEA). Ce tableau présente également les mesures de soutènement recommandées pour les surfaces arrière et supérieure des chantiers. Il convient de noter que pour les chantiers longitudinaux, les surfaces arrière sont considérées comme stables, car elles sont soutenues pendant leur développement.

Tableau 57. Directives de conception des chantiers de l' .

ChambreParamètre	Chambres transversales		Chambres longitudinales	
	PEA	FS	PEA	FS
Hauteur verticale (m)	30	30–36	30	30–36
Longueur de la zone de frappe (m)	15	17	15	17
Largeur (m)	20	25	6	7
Stabilité arrière	Câbles	Câbles	Câbles	Câbles
Stabilité HW	N/A	Câbles boulonnés si boulonnés si inclinaison <60	N/A	Câbles inclinaison <60°

Remarques PEA BBA (2023a). Étude de faisabilité actuelle FS.

Le tableau 58 présente la dilution recommandée (ELOS), après pondération en fonction de la fréquence relative de chaque type de chambre et après simplification à des fins de planification.

Tableau 58. Résumé des hypothèses ELOS simplifiées à des fins de planification.

ELOS	Surface	ELOS(m)	
		Chambres transversales	Stopes longitudinaux
	Parois d'extrémité	0,5	0,5
	Mur de fond	1,25	0,5
D'après le graphique	Mur suspendu	0,75	0,75
	Arrière	2,0	2,0
	Toutes les surfaces (remblai)	0,5	0,5
Simplifié	Murs d'extrémité[1]	0,0	0
	Murs d'extrémité (remblayage)	0,5	0,5
	mur de fond	1,25	0,5
	Footwall (remblayage)	0,5	0,5
	Volet supérieur	0,75	0,75
	Arrière[1]	0,0	0

Remarques [1] En supposant la présence de matériaux minéralisés et/ou de supports.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

8.4 Séquence minière

La méthode d'exploitation minière par abattage à longue taille ouverte, adoptée dans des configurations transversales et longitudinales, est une technique productive et largement utilisée dans l'exploitation minière de roches dures pour les gisements subverticaux et épais. Cette méthode permet diverses séquences d'exploitation, en particulier dans les configurations transversales.

Le choix d'une séquence d'exploitation appropriée est essentiel pour garantir un développement sûr et efficace de la mine souterraine. La séquence d'exploitation recommandée pour le projet a été élaborée sur la base des objectifs clés suivants :

01. **Frontaux d'exploitation simultanés** – La séquence doit permettre l'exploitation simultanée de plusieurs zones adjacentes (généralement deux zones), en progressant d'ouest en est.
02. **Limiter le développement précoce** – La séquence donne la priorité au développement des parties inférieures de chaque zone avant de passer aux parties supérieures, ce qui minimise le développement précoce requis aux niveaux supérieurs.
03. **Réduire au minimum les points d'extraction ouverts** – L'exploitation minière doit être prioritaire dans les points d'extraction (DP) déjà développés avant d'en créer de nouveaux, afin de réduire les besoins potentiels de réhabilitation.

8.4.1 Développement et séquence d'abattage

La figure 46 présente un panneau de galeries transversales type, adoptant une séquence minière primaire-secondaire qui conserve une forme pyramidale. Sur la base d'une optimisation préliminaire réalisée par GMS, chaque zone minière a été définie avec une largeur de 9 galeries (environ 150 m de longueur), afin de garantir une production efficace. L'étendue verticale des zones varie entre 120 et 280 m.

Contrairement à ce qui est illustré ci-dessous, aucun pilier n'est laissé entre les parties inférieure et supérieure des chantiers ; la séparation vise uniquement à distinguer deux fronts d'exploitation. Comme le montre la figure 46, la séquence proposée se concentre principalement sur la partie inférieure de la zone minéralisée afin de minimiser les besoins de développement tout en conservant une séquence d'exploitation pyramidale. Cette séquence proposée sert de ligne directrice générale et doit être optimisée en fonction de la géométrie locale des chantiers et des conditions géotechniques.

Pour les panneaux de chantiers plus étroits, adoptez une séquence de recul longitudinal. Évitez les fronts convergents et les piliers décroissants.

En ce qui concerne le développement minier, les pratiques suivantes sont recommandées :

→ Dans la mesure du possible, minimiser les travaux préliminaires et adopter une stratégie de développement « juste à temps » afin de réduire l'exposition des excavations inutilisées.

→ Donner la priorité à l'exploitation minière dans les points d'extraction (DP) déjà développés avant d'en créer de nouveaux, réduisant ainsi le risque de détérioration et limitant les besoins de réhabilitation.

→ Limitez le temps nécessaire pour soutenir les fronts de développement et veillez à ce que l'installation du soutènement suive le rythme des avancées afin de maintenir la stabilité de l'excavation.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

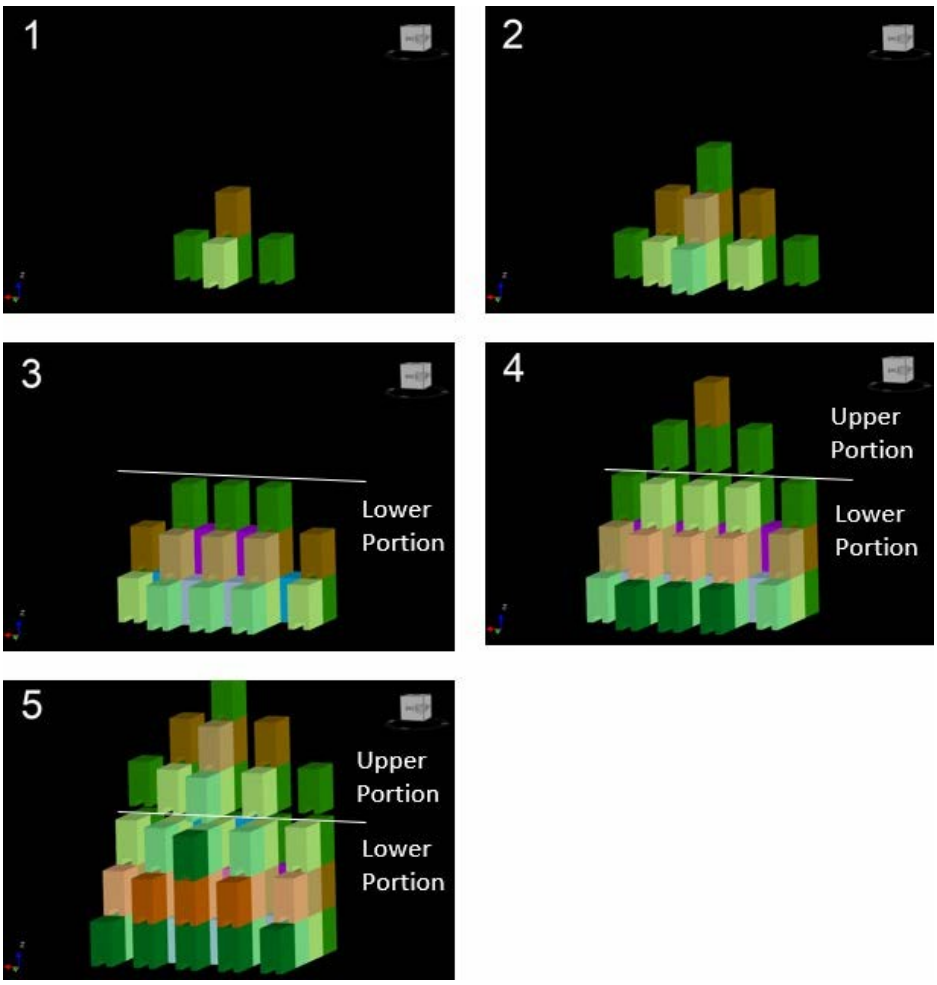


Figure 46. Vue isométrique de la séquence d'exploitation minière proposée.

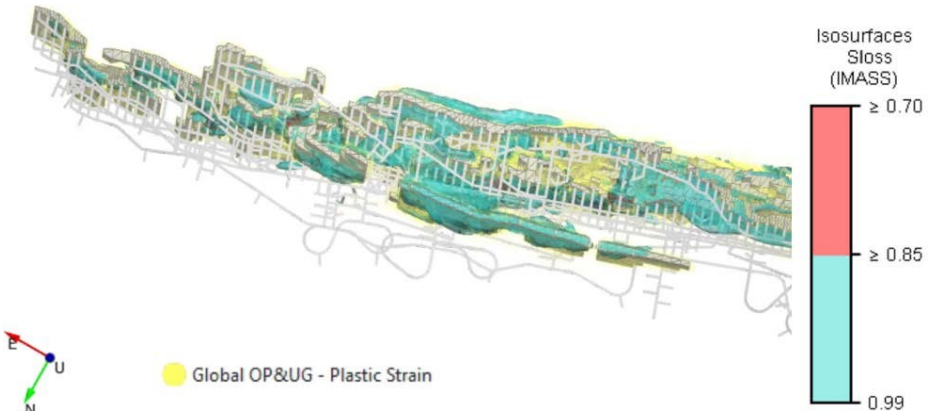
8.4.2 Résultats de la modélisation numérique

Afin d'évaluer la stabilité des excavations souterraines, la séquence d'exploitation a été intégrée au modèle numérique afin de simuler l'extraction progressive des chantiers et la redistribution des contraintes associées tout au long du calendrier d'exploitation prévu.

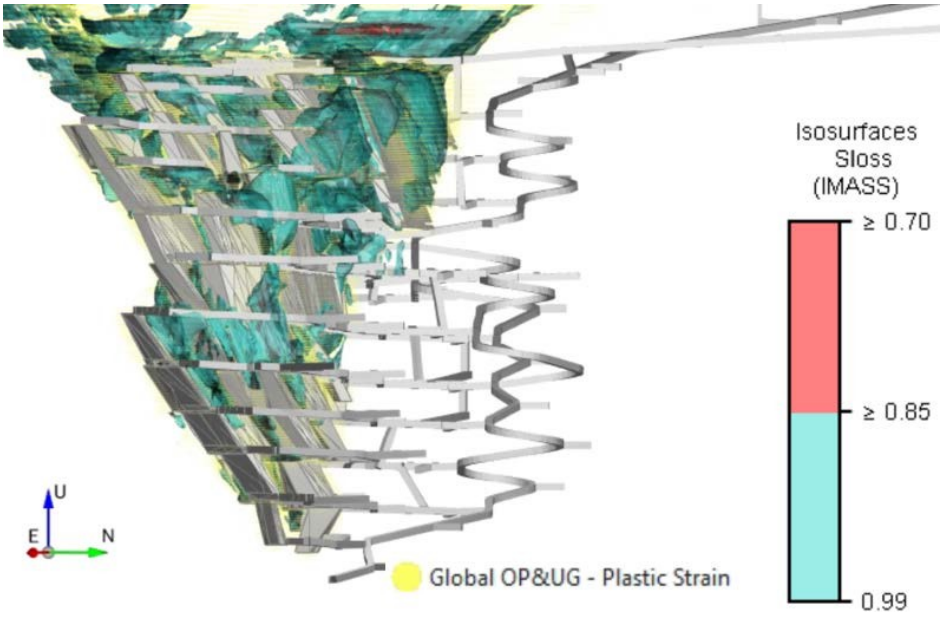
La stabilité a été évaluée à l'aide de plusieurs indicateurs clés dérivés des résultats du modèle. La figure 47 présente des vues en plan et en coupe montrant le degré d'endommagement de la masse rocheuse (SLOSS, pour perte de résistance) et la répartition de la déformation plastique après l'année 2049. Ces résultats fournissent des informations sur l'instabilité localisée autour des excavations et sur la stabilité globale des travaux souterrains tout au long du cycle d'exploitation minière. D'après la réponse modélisée, seuls des dommages mineurs sont à prévoir, principalement confinés à la proximité immédiate des zones d'abattage.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification



(a) Vue en plan.



(b) Vue en coupe.

Figure 47. Déformation plastique et dommages subis par la masse rocheuse (Sloss) à l'aide de deux isosurfaces.

La figure 48 présente la contrainte principale majeure (S1) et les isosurfaces des dommages subis par la masse rocheuse en vue en plan. Des zones localisées de déformation plastique élevée sont observées dans le gisement, avec un fléchissement autour des chantiers d'abattage, dans les points de traction et dans plusieurs sections des galeries de transport.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

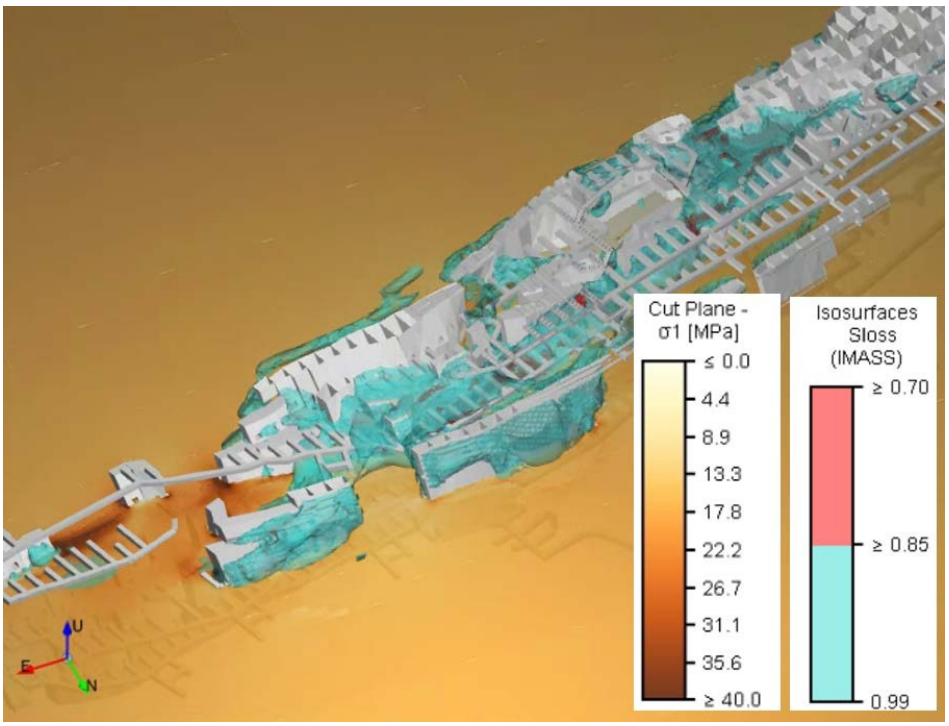


Figure 48. Contrainte principale majeure représentée sur une vue en plan et des isosurfaces des dommages subis par la masse rocheuse.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

8.5 Remblayage

Les chantiers seront remblayés à l'aide d'un remblai en pâte cimentée (CPB) afin d'éviter de laisser des piliers latéraux. La méthodologie d'évaluation de la résistance requise du remblai en pâte cimentée combine des approches empiriques et la validation de modèles numériques. Les résistances recommandées pour le remblai sont présentées dans cette section.

8.5.1 Méthodes de conception

Des méthodes empiriques ont été utilisées pour définir les exigences minimales en matière de résistance du remblai en fonction de la géométrie de la chambre, des propriétés supposées du remblai et de la séquence d'exploitation prévue. De plus, pour les chambres exploitées sous un remblai déjà en place (c'est-à-dire sous la main), un modèle numérique a été utilisé pour confirmer la stabilité du remblai en pâte cimentée, garantissant ainsi la stabilité globale de la chambre.

L'évaluation empirique repose sur une comparaison de trois méthodes établies : l'approche de Mitchell et al. (1982), la méthode modifiée d'excavation et de remblayage proposée par Li et Aubertin (2012) et la solution généralisée développée par Belem et al. (2022). La figure 49 présente les paramètres géométriques utilisés dans ces méthodes. L'approche de Mitchell et al. (1982) est décrite ci-dessous, tandis que les autres méthodes sont détaillées à l'annexe G.

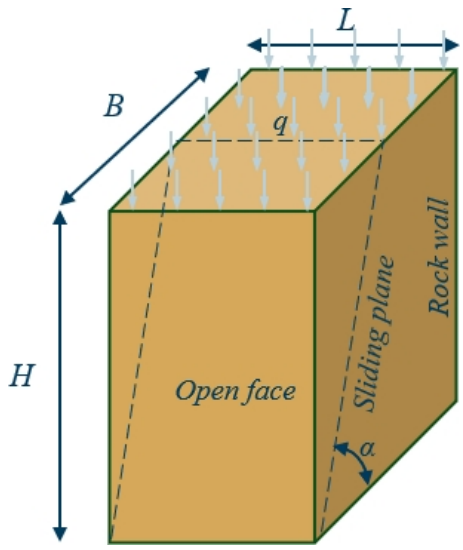


Figure 49. Configuration de la chambre adoptée pour l'évaluation des exigences en matière de résistance du remblai (reproduite à partir de Li et Aubertin, 2012).

L'approche de Mitchell et al. (1982) repose sur un critère de validité défini en fonction du rapport hauteur/largeur de la chambre et de l'angle de frottement du remblai :

$$Critère : \frac{H}{B} \geq \tan \alpha \qquad \textit{(équation 38)}$$

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Où H = hauteur de la chambre (m) B = largeur de la chambre (m) $\alpha = 45 + \frac{\phi}{2}$ (°)

ϕ = angle de frottement interne du remblai (°)

Si ce critère est satisfait, la résistance requise du remblai peut être calculée à l'aide de l'équation suivante :

$$\sigma_F = \frac{\gamma L H L}{+ H} \qquad \textit{(équation 39)}$$

Où σ_F = Résistance à la compression du remblai (kPa)

γ = Poids unitaire du remblai (kN/m^3)

L = longueur de la chambre (m)

Pour chaque type de chambre (transversale et longitudinale), les trois méthodes ont été appliquées, et les exigences finales recommandées en matière de résistance du CPB ont été établies en comparant les valeurs obtenues à partir de chaque approche.

Afin d'évaluer les exigences de résistance du CPB pour la séquence d'exploitation par sous-coupe, un modèle numérique 3D simplifié a été développé dans *FLAC3D* pour les chantiers transversaux et longitudinaux. La résistance du CPB a été réduite progressivement dans le modèle jusqu'à ce qu'une déformation notable du remblai soit observée. Un coefficient de sécurité cible de 2,0 a été utilisé pour l'évaluation.

Les analyses empiriques et numériques ont été réalisées à partir des données suivantes :

01. **Remblai en pâte cimentée**
    - → Facteur de sécurité cible : 1,5 – 2,0
    - → Densité : 20 kN/m^3
    - → Angle de frottement interne : 30°
02. **Dimensions de la chambre**
    - → Transversales : 17 mL × 25 mW × 30–36 m
    - → Longitudinal : 17 mL × 7 mW × 30–36 m

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

8.5.2 Résultats

Les résultats des analyses empiriques sont présentés dans le tableau 59 pour des FoS compris entre 1,5 et 2,0.

Tableau 59. Comparaison des exigences en matière de résistance CPB obtenues à partir d'analyses empiriques.

Type de chambre – Surface	Méthode	Facteur de sécurité (–)			
		2,0	1,85	1,7	1,5
Transversal – EW	Mitchell et al. (1982)	590	546	502	443
	Li et Aubertin (2012)	537	511	483	441
	Belem et al. (2022)	533	506	476	432
Transversal – HW/FW	Mitchell et al. (1982)	462	427	393	346
	Li et Aubertin (2012)	405	388	369	339
	Belem et al. (2022)	464	434	402	357
Longitudinal	Mitchell et al. (1982)	234	217	199	176
	Li et Aubertin (2012)	236	231	225	215
	Belem et al. (2022)	227	221	214	202

Codes CPB Remblai en pâte cimentée, EW Parois d'extrémité, HW–FW Toit et mur.
Remarques Les critères de la méthode de Mitchell et al. (1982) n'étaient pas valables pour le transversal – HW/FW.

Les résultats du modèle numérique pour les chantiers transversaux et longitudinaux étaient probablement optimistes pour l'étude. Sur la base de l'expérience et des comparaisons avec d'autres sites miniers, des valeurs plus prudentes ont été jugées appropriées à des fins de conception.

La figure 50 présente le déplacement prévu dans la chambre transversale remblayée. Dans ce modèle, un bouchon de 7 mH composé d'un remplissage en pâte d'une résistance de 800 kPa est représenté à la base de la chambre, tandis que le reste du remblayage est constitué d'un remblayage en pâte cimentée (CPB) d'une résistance assignée de 590 kPa.

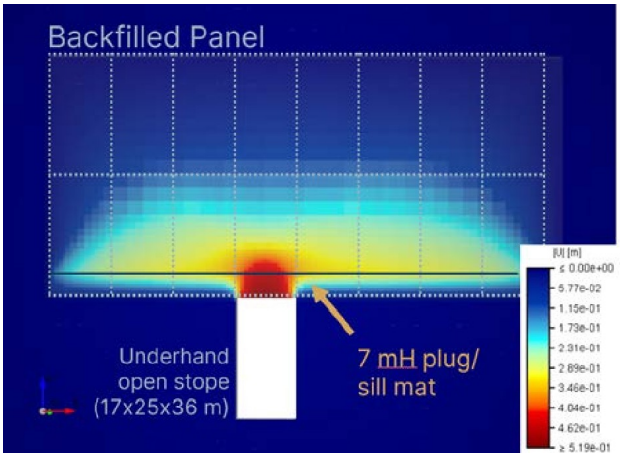


Figure 50. Vue longitudinale des résultats de la modélisation numérique pour l'exploitation souterraine sous une chambre ou un panneau remblayé.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

8.5.3 Lignes directrices

Le tableau 60 présente les exigences recommandées en matière de résistance pour le remblayage à la pâte cimentée (CPB). Le CPB devrait être utilisé pour tous les chantiers, à l'exception des chantiers isolés, qui peuvent être remplis avec du remblai en roche non cimentée (URF). Si l'URF ne peut pas être utilisé et que le CPB est nécessaire à la place, une résistance minimale de 100 kPa doit être adoptée.

Pour les chantiers transversaux primaires et secondaires, ainsi que pour les chantiers longitudinaux, le tableau 60 présente une gamme d'exigences en matière de résistance du CPB. Cela reflète la décision d'adopter un coefficient de sécurité (FoS) de 2,0 au début de la durée de vie de la mine, pour le réduire progressivement à 1,5 après trois ans d'exploitation, conformément aux pratiques d'optimisation techniques conventionnelles. Le tableau 61 résume les exigences de résistance annuelles correspondantes pour les deux types de chantiers.

Pour l'exploitation minière souterraine, il est recommandé d'utiliser des résistances CPB conservatrices. Bien que ces valeurs puissent être optimisées pendant les opérations, cela nécessiterait une surveillance et des analyses supplémentaires.

Des exigences différentes en matière de résistance du CPB s'appliquent dans les zones où les chantiers souterrains interagissent avec la mine à ciel ouvert. Ce sujet est abordé à la section 8.10 ; toutefois, les recommandations associées en matière de résistance du CPB sont toujours incluses dans le tableau 60 par souci d'exhaustivité.

Tableau 60. Résumé des exigences en matière de résistance du remblai en pâte cimentée.

ChantierType	**Exigence de résistance** (kPa)	**Période de durcissement pour atteindre la résistance requise** (jours)
Retrait longitudinal	210–240 [1,2]	28 [1]
Retrait longitudinal – dernier front (capacité minimale si URF impossible)	100	14
Transversal primaire et secondaire	440–540 [1,2]	28 [1
Secondaire transversal – dernier front de taille (capacité minimale si l'URF n'est pas possible)	100	14
Zone d'interaction puits-chambre	2 000	56
Exploitation souterraine	Chantier de 5 à 15 mW : 1 200 Chantier de 15 à 25 mW : 1 600	56
Exploitation minière supérieure [3]	100	14

Codes CPB Remblai en pâte cimentée, URF Remblai en pierres non cimentées.
Remarques [1] Résistance de 200 kPa requise après 3 jours de durcissement.
[2] Voir le tableau 61 pour les valeurs détaillées.
[3] Exploitation par la partie supérieure : lorsque les chantiers sont exploités à partir d'une seule galerie située sous le chantier.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Tableau 61. Exigences en matière de résistance du remblai en pâte cimentée pendant la durée de vie de la mine.

Année	Exigence de résistance (kPa)	
	Longitudinal	Transversal
0	2	540
1	230	510
2	220	480
3+	210	440

À ce stade, les barricades de remplissage sont considérées comme étant constituées soit de murs en béton projeté, soit de barricades en boue. Pour les barricades en boue, on suppose une géométrie trapézoïdale conformément à (Yang et al., 2017) :

→ Longueur arrière : 5,5 m

→ Longueur de base : 17,0 m

→ Volume : 310 m^3

Aucun résultat d'essai sur le remblai en pâte cimentée (CPB) n'était disponible au moment où ces analyses ont été réalisées. À des fins budgétaires, il est proposé de supposer une teneur en liant de 3 % dans la boue pour les chantiers longitudinaux et de 5 % pour les chantiers transversaux. Il convient de supposer une période de durcissement de 14 jours avant le dynamitage au-dessus d'une chambre remblayée et de 28 jours avant l'exposition des parois CPB. Ces directives devront être révisées dès que les résultats des essais en laboratoire sur le remblayage en pâte seront disponibles.

Il faut également tenir compte des exigences supplémentaires en matière de résistance. Une résistance au bouchon supérieure à 150 kPa est requise avant de placer le remblai résiduel. De plus, une résistance résiduelle supérieure à 75 kPa est requise avant de placer une couche de déblais sur le CPB, et une résistance résiduelle supérieure à 100 kPa est requise avant de procéder à des travaux de dynamitage dans un rayon de 25 m autour des chantiers.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

8.6 Pilier de couronne

Les sections suivantes présentent l'analyse du pilier de couronne en surface. Cette section traite uniquement du pilier vertical.

8.6.1 Méthodes de conception

La mine souterraine Shaakichiuwaanaan CV5 se trouve dans un environnement particulier, car elle est destinée à être exploitée sous un lac. Conformément au Règlement sur la santé et la sécurité du travail dans les mines du Québec (Éditeur officiel du Québec, 2025) :

> *Article 76*
>
> *Aux fins de la présente subdivision :*
> → *Une excavation souterraine est sous l'influence d'une masse d'eau lorsque l'excavation se trouve à moins de 100 m (328,1 pi) du contour rocheux sous la masse d'eau à son point le plus élevé ;*
> → *Une mine à ciel ouvert est sous l'influence d'un plan d'eau lorsque la largeur du mur de protection est inférieure à 100 m (328,1 pieds) à partir du point le plus élevé du plan d'eau.*

À la suite de discussions avec PMET, une évaluation préliminaire de la stabilité d'un pilier de couronne de surface de moins de 100 m d'épaisseur a été réalisée afin d'offrir une plus grande souplesse de conception à ce stade du projet. Cette

> *Article 77*
>
> *Une excavation souterraine sous l'influence d'une masse d'eau ne peut être commencée sans avoir obtenu d'un ingénieur les plans et devis accompagnés d'études couvrant les éléments suivants :*
> → *Une étude de la surface du site sous laquelle seront situés les piliers de surface ;*
> → *Une étude de la répartition des sols ;*
> → *Une étude des propriétés mécaniques du sol ;*
> → *Une étude des propriétés mécaniques de la roche à excaver ;*
> → *Une étude des conditions hydrogéologiques ;*
> → *Les données nécessaires au système de vérification et d'entretien des piliers de surface.*
> *Les plans et spécifications ainsi que les études qui les accompagnent doivent être conservés sur le site minier et être disponibles à tout moment.*

évaluation a été menée à bien malgré l'absence de certaines études complémentaires nécessaires pour satisfaire pleinement aux exigences réglementaires. Par comparaison avec des sites similaires au Québec, une épaisseur de pilier supposée de 85 m a été retenue pour l'évaluation. Il convient de noter que cette valeur ne représente pas nécessairement un scénario de conception optimisé.

La conception du pilier de couronne a été évaluée à l'aide de deux approches complémentaires :

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

01. Méthode empirique à échelle réduite (Carter, 2014)
02. Modélisation numérique tridimensionnelle (3D) par différences finies

Les méthodes et leurs résultats sont présentés ci-dessous.

Tout d'abord, la méthode de la portée échelonnée a été utilisée pour évaluer la stabilité de l'épaisseur des piliers de couronne. Les données requises sont l'indice de classification de la masse rocheuse Q et la portée effective C_s , qui permettent ensemble d'estimer la probabilité de rupture (PoF) du pilier. Les équations pertinentes sont définies ci-dessous :

$$Q = Q' \times Jw/SRF \qquad \textit{(équation 40)}$$

où Jw = facteur de réduction de l'eau dans les joints SRF = facteur de réduction des contraintes

$$C_s = S \times \sqrt{\frac{\gamma}{T \times (1 + S_r) \times (1 - 0{,}4 \cos \vartheta)}} \qquad \textit{(équation 41)}$$

où S = portée du pilier de couronne (ou portée de l'excavation souterraine) (m) T = épaisseur du pilier (m)
L = longueur de la couronne (m)
γ = densité de la masse rocheuse (t/m^3) S_r = S/L = rapport d'envergure (S/L)
ϑ = inclinaison du pilier/de la foliation/de la minéralisation (°)

$$PoF\ (\%) = \frac{100}{1 + (440 \times \exp(-1{,}7 \times \frac{Cs}{Q^{0{,}44}}))} \qquad \textit{(équation 42)}$$

Les principales unités rocheuses composant le pilier de couronne en surface sont l'amphibolite, les métasédiments et la pegmatite. Étant donné que ces trois unités sont présentes dans le pilier, on suppose que le type de roche de moindre qualité est le plus susceptible de déterminer la stabilité du pilier de couronne. En conséquence, les paramètres d'entrée pour l'analyse sont basés sur l'unité de pegmatite, car elle présente les valeurs Q' les plus faibles (c'est-à-dire le premier quartile, Q1). Les valeurs minimales et maximales adoptées pour les différentes entrées de l'analyse sont détaillées ci-dessous :

01. Classification géomécanique Q

→ Q' – les valeurs correspondent respectivement aux ^{25e} et ^{50e} centiles des séries analysées : 7 et 18, respectivement.

→ J_w – la valeur minimale est établie comme étant l'écoulement du jet ou la haute pression dans une roche compétente avec des joints non remplis, tandis que la valeur maximale tient compte d'un écoulement moyen et d'un lavage occasionnel des joints. Des valeurs comprises entre 0,50 et 0,66 ont été supposées.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

→ SRF – le facteur de réduction de contrainte correspond à un niveau de contrainte moyen pour une masse rocheuse compétente : 1,0.

02. Portée des piliers

→ L'excavation correspond à une taille de chambre de 17 mL × 25 mW × 30-36 mH. Par conséquent, une largeur minimale et maximale de 17 m a été supposée.

03. Longueur de la couronne

→ Comme pour la portée des piliers, étant donné que l'excavation correspond à une taille de chambre de 17 mL × 25 mW × 30-36 mH, une largeur minimale et maximale de 25 m est utilisée.

04. Densité de la masse rocheuse

→ La densité de la masse rocheuse est supposée être de 2 800 kg/m^3 .

05. Inclinaison des piliers

→ Des valeurs comprises entre 45° et 55° sont utilisées et tiennent compte de l'inclinaison de la foliation dans cette zone.

06. Épaisseur du pilier (hauteur verticale)

→ Une épaisseur comprise entre 80 et 90 m est utilisée.

Le modèle numérique présenté à la section 8.2 a été utilisé pour évaluer la stabilité du pilier de couronne en surface. Dans ce modèle, la mine à ciel ouvert, les chantiers et les morts-terrains ont été inclus, tandis que le barrage et le plan d'eau n'ont pas été représentés explicitement. De plus, le modèle n'intégrait pas les ouvertures de développement ni la pression interstitielle.

Les résultats du modèle ont été examinés afin de déterminer si une déformation plastique – indicative d'une déformation permanente (par exemple, une fracturation) – se développe à l'intérieur du pilier de couronne au cours de la période 2031-2049.

8.6.2 Résultats

L'analyse empirique, qui intègre à la fois les paramètres d'entrée inférieurs et supérieurs, indique qu'une épaisseur de pilier de 85 m serait acceptable du point de vue de la stabilité. Cette évaluation repose sur l'hypothèse prudente qu'aucun soutènement du sol ne sera installé, ce qui offre une marge de sécurité adéquate. Dans ces hypothèses, le pilier de surface présente une probabilité moyenne de défaillance (PoF) de 1,5 %, avec une fourchette minimale-maximale de 1,0 à 3,7 %. Sur la base de ces résultats, le pilier correspond à une catégorie de stabilité « Classe F ».

Selon les directives d'acceptation de l'exposition au risque présentées dans le tableau 62, un pilier de « classe F » est recommandé compte tenu de la durée pendant laquelle la travée restera exposée. Cette classe correspond à une structure à long terme dont la durée de vie est comprise entre 50 et 100 ans. L'épaisseur du pilier adoptée dans la conception est donc considérée comme appropriée pour cette classification.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Tableau 62. Lignes directrices pour une exposition au risque acceptable. Reproduit à partir de Carter et Miller (1995).

Classe	Probabilité de défaillance		FS min.	Max. Échelle	Directives de conception pour l'acceptabilité des piliers / Durée de vie utile des piliers couronnes				
	min %	Max %			Espérance	Années	Accès public	Position réglementaire sur la fermeture	Surveillance opérationnelle requise
A	50	100	< 1	$11,31 \times Q^{0,44}$	Effectivement nul.	< 0,5	Interdit	Totalement inacceptable	Inefficace
B	20	50	1,0	$3,58 \times Q^{0.45}$	Très court terme [1]	1,0	Empêché de force	Inacceptable	Surveillance sophistiquée continue
C	10	20	1,2	$2,74 \times Q^{0,46}$	Très court terme[2]	2-5	Prévention active	Élevé niveau de concernant	Continu surveillance concerna instruments
D	5	10	1,5	$2,33 \times Q^{0.47}$	Court terme[3]	5-10	Prévenu	Niveau de préoccupation modéré	Surveillance simple continue
E	1,5	5	1,8	$1,84 \times Q^{0,48}$	Moyen terme[4]	15-20	Découragé	Faible à modéré niveau modéré Préoccupant	Surveillance consciente superficielle
F	0,5	1,5	2	$1,12 \times Q^{0.49}$	Long terme[5]	50-100	Autorisé	Préoccupation limitée	Surveillance superficielle occasionnelle
G	0	0,5	> 2	$0,69 \times Q^{0.50}$	Très long terme [6]	>100	Libre	Sans préoccupation	Aucune surveillance requise

[1] À des fins d'exploitation minière temporaire uniquement.
[2] Indésirable pour les travaux publics temporaires.
[3] Couronnes semi-temporaires, par exemple sous des infrastructures minières non sensibles.
[4] Couronnes semi-permanentes.
[5] Couronnes quasi permanentes, portails civils.
[6] Couronnes permanentes au-dessus de tunnels civils.

Le graphique de stabilité intégrant les paramètres décrits ci-dessus est présenté à la figure 51. Le rectangle orange illustre ce qui suit :

→ Il s'agit de la plage de valeurs possibles pour le pilier de couronne.

→ Le coin supérieur gauche du rectangle correspond au scénario qui intègre toutes les valeurs de paramètres les plus conservatrices utilisées dans l'analyse.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

→ Le coin inférieur droit du rectangle correspond au scénario qui intègre toutes les valeurs de paramètres les moins conservatrices.

Le losange rouge représente l'estimation la plus réaliste du pilier de couronne de surface proposé, sur la base des paramètres et des hypothèses sélectionnés.

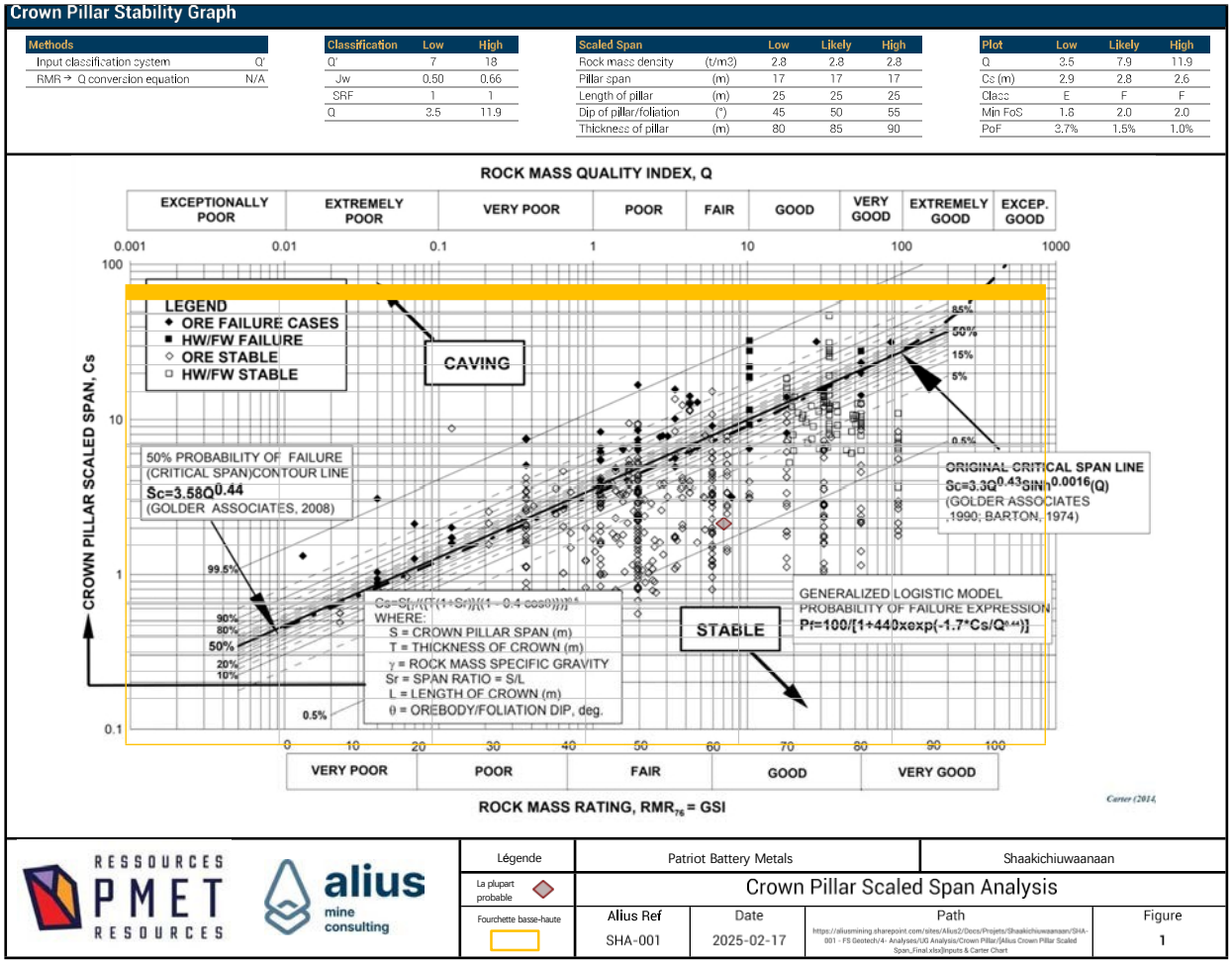


Figure 51. Tableau de stabilité des portées à l'échelle avec les données proposées pour le pilier central.

Les résultats de la modélisation sont présentés à la figure 52. Le modèle numérique indique que la déformation plastique commence à se développer dans le pilier de couronne très tard dans la séquence d'exploitation (années 2046-2049). Cette déformation se produit après l'extraction des chantiers les plus élevés situés directement sous le plan d'eau. Des investigations et des améliorations supplémentaires, y compris des ajustements potentiels de la séquence d'exploitation, seront nécessaires pour atténuer ce risque.

Plus précisément, en 2047, on observe un déconfinement autour des chantiers et à l'intérieur du pilier. À ce stade, le risque associé reste faible et acceptable. En 2049, une déformation plastique est clairement présente dans le pilier de couronne. Cela nécessitera une analyse supplémentaire afin de garantir des conditions d'exploitation sûres lors de l'exploitation minière sous le lac.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Année 2031 – Aucune déformation plastique

Année 2033 – Aucune déformation plastique

Année 2035 – Aucune déformation plastique

Année 2037 – Fin du plastique

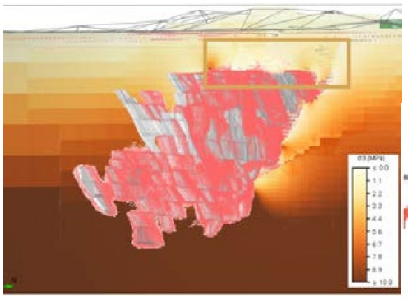
Année 2039 – Pas de contrainte plastique

Année 2041 – Pas de contrainte plastique

Année 2043 – Pas de contrainte plastique

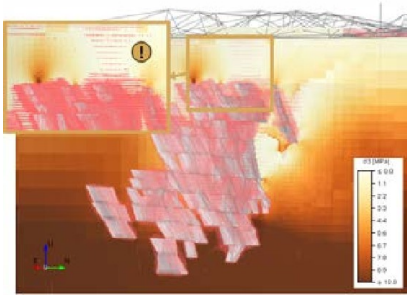
Année 2045 – Légère contrainte plastique visible

Année 2047 – Déformation plastique quelque peu visible



Année 2047 – Contrainte principale mineure (S3) et déformation plastique

Année 2049 – Déformation plastique visible



Année 2049 – Contrainte principale mineure (S3) et déformation plastique

Figure 52. Évolution de la déformation plastique dans le pilier de couronne pour la période 2031-2049. Les années 2047 et 2049 comprennent une contrainte principale mineure (S3).

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

8.6.3 Lignes directrices

La conception du pilier de couronne a été évaluée à l'aide d'une méthode empirique combinée à une modélisation numérique en 3D. L'analyse empirique, qui intègre des paramètres d'entrée inférieurs et supérieurs, indique qu'une épaisseur minimale de pilier de 85 m est requise. Si l'épaisseur du pilier est réduite à moins de 85 m, des mesures d'atténuation supplémentaires seront nécessaires pour gérer le risque opérationnel. Celles-ci peuvent inclure des techniques de forage à distance et d'autres contrôles techniques.

La modélisation numérique montre que la déformation plastique commence à se développer dans le pilier de couronne à la fin de la séquence d'exploitation (années 2047-2049). Cette déformation se produit après l'extraction des chantiers situés près du sommet de la séquence, directement sous le plan d'eau. Des investigations et des améliorations supplémentaires, notamment l'optimisation de la séquence d'exploitation des chantiers supérieurs, seront nécessaires pour atténuer ce risque.

Sur la base des observations issues des dernières étapes de modélisation, il est recommandé d'optimiser la séquence d'exploitation des chantiers supérieurs afin de réduire les effets de la charge et de la déformation sur le pilier de couronne.

Les recommandations relatives à l'utilisation d'un pilier de couronne de 85 m sont fondées sur les données et les analyses actuellement disponibles. Des études techniques supplémentaires, notamment celles portant sur les sols géotechniques, la résistance des masses rocheuses, la conception structurelle et l'hydrogéologie, seront nécessaires pour satisfaire pleinement aux exigences de l'article 77 du Règlement sur la santé et la sécurité du travail dans les mines, à mesure que le projet avancera vers sa réalisation. Il est recommandé d'installer des instruments de surveillance afin de suivre les déformations et les changements de contrainte dans le pilier et de valider la stabilité continue du pilier de couronne. Les outils de sensibilisation opérationnelle, tels que la surveillance en direct et un plan d'intervention en cas de déclenchement (TARP), constituent des mesures supplémentaires qui peuvent contribuer à garantir la sécurité et la durabilité des opérations, en particulier lorsque l'exploitation minière se déroule à moins de 100 m d'un plan d'eau.

Afin de réduire le risque qu'une défaillance du bouchon se propage vers la surface, il convient de placer un remblai dans la galerie en surcreusement afin de limiter l'extension verticale de toute défaillance localisée. Pendant l'aménagement des chantiers, deux chantiers peuvent être ouverts simultanément, à condition de maintenir entre eux un espacement minimum correspondant à au moins la largeur d'un chantier (17 m). Pendant la phase de surcreusage, les déblais doivent être placés à moins de 2 à 3 m de l'arrière du surcreusage. En supposant un vide de 3 m et un facteur de gonflement de 25 %, la hauteur maximale potentielle de l'effondrement est estimée à 12 m. Pour un pilier de couronne de 85 m, cela représente environ 15 % de l'épaisseur totale du pilier.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

8.7 Conception du soutènement

Les directives relatives au soutènement pour le développement souterrain ont été évaluées afin de garantir des conditions sûres et fiables. Les méthodes et directives de conception sont présentées ci-dessous.

8.7.1 Méthodes de conception

Les recommandations initiales en matière de soutènement ont été élaborées à partir de lignes directrices empiriques, d'expériences pratiques et de jugements techniques. La stabilité des systèmes de soutènement proposés a été évaluée à l'aide de scripts et d'outils internes, en visant un coefficient de sécurité de 1,5. Pour les intersections, les analyses ont été vérifiées à l'aide *du calculateur de coefficient de sécurité du soutènement au sol du National Institute for Occupational Safety and Health* (NIOSH), qui applique la méthode tridimensionnelle (cône) (Pakalnis, 2015). À titre d'exemple, une intersection à trois voies de 10 m a été évaluée à l'aide du logiciel afin de déterminer le coefficient de sécurité pour la configuration de soutien recommandée (figure 53), ce qui a donné un coefficient de sécurité de 1,51. Lorsque cela était nécessaire, les configurations de soutien ont été affinées de manière itérative afin d'obtenir un coefficient de sécurité acceptable tout en équilibrant la sécurité, la constructibilité et l'efficacité opérationnelle.

L'évaluation du soutènement du sol pour le développement du portail n'a pas encore été réalisée en détail (section 8.8) ; toutefois, cette question sera traitée de manière exhaustive lors de la phase d'ingénierie détaillée du projet.

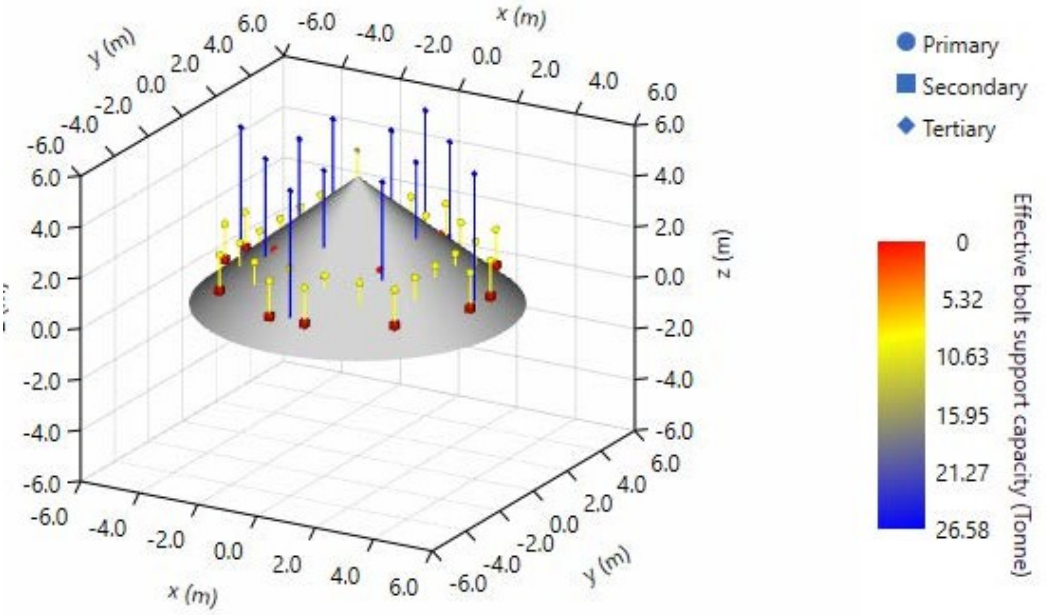


Figure 53. Exemple de soutènement pour une intersection type de 10 m (à trois voies).

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

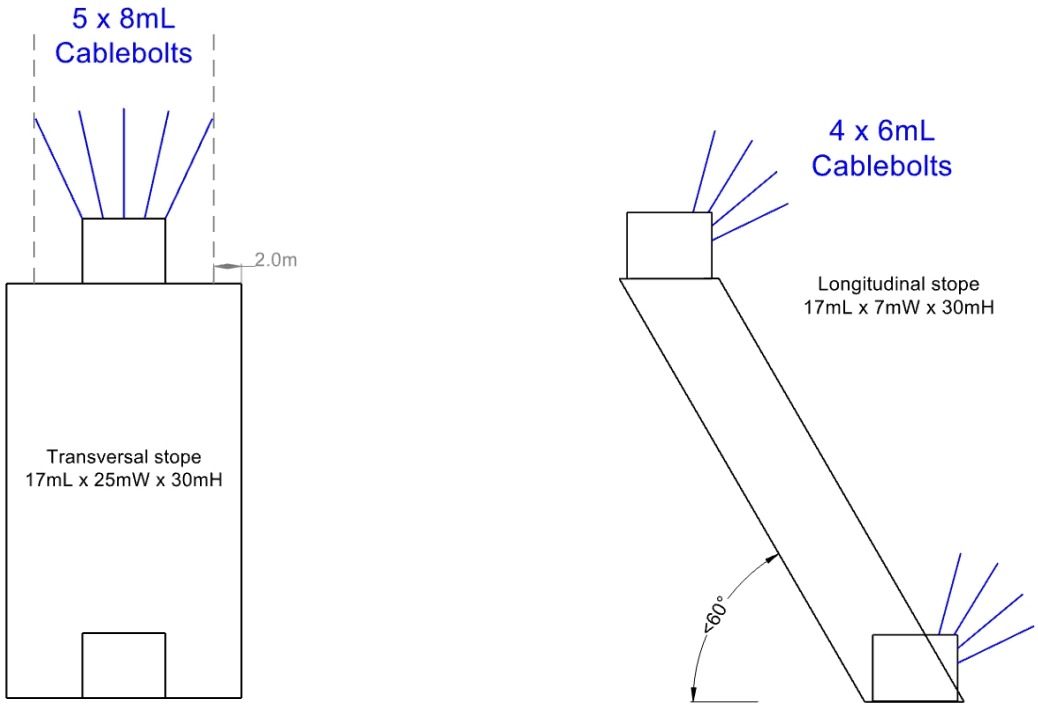
Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

8.7.2 Lignes directrices

Il est prévu de soutenir l'aménagement permanent à l'aide de barres d'armature en résine de 2,4 m (à l'arrière) et de boulons à friction de 1,5 m (murs), selon un motif de 1,2 × 1,2 m, avec un treillis métallique de 4 po × 4 po de calibre 6. Les zones d'exploitation temporaires, telles que les points d'extraction et les filons, devraient être soutenues par le même soutènement que l'exploitation permanente, compte tenu de leur durée de vie prolongée et de leur proximité avec les chantiers. Des directives détaillées sur le soutènement sont fournies dans le tableau 63.

Les intersections de soutènement nécessitent des boulons de câble de 6 m. Il est recommandé d'éviter de prévoir des intersections à quatre voies, car le coefficient de sécurité (1,39) est inférieur à l'objectif de 1,5 fixé dans les recommandations de conception actuelles.

Le soutènement arrière des chantiers transversaux a été évalué pour différentes largeurs. Les chantiers de moins de 10 m de large ne nécessitent pas de boulonnage ou de soutènement long. Cependant, pour les chantiers plus larges (jusqu'à 25 m), un soutènement avec des boulons de câble (jusqu'à 8 m) est nécessaire. En moyenne, tous les soutènements arrière des chantiers doivent être réalisés à l'aide de boulons de câble de 8 m, installés selon un schéma de 2 × 2 m. En outre, il est recommandé d'utiliser des soutènements longs pour les fronts de taille, avec une certaine flexibilité pour une utilisation dans d'autres zones si nécessaire. Enfin, les chantiers dont la pente de la paroi supérieure est inférieure à 60° doivent être boulonnés sur la paroi supérieure. Là encore, des directives détaillées sur le soutènement du sol sont fournies dans le tableau 63, tandis que la figure 54 montre une représentation schématique du soutènement du sol pour l'arrière, à partir de la galerie de déversement.



(a) Exemple de boulonnage arrière dans une galerie transversale de 25 mW.

(b) Exemple de boulonnage HW dans une chambre longitudinale de 7 mW (inclinaison < 60°).

Figure 54. Représentation schématique du soutènement des chantiers (non à l'échelle).

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Tableau 63. Résumé des directives relatives au soutènement.

Excavation Type	Détails	Typique Dimensions (m)		Max Portée	Support arrière		Support mural	
		Hauteur	Largeur	(m)	Type	Détails	Type	Détails
Latéral	Développement	5,5	5,5	7,5	Primaire	RB 2,4 m ; 1,2 × 1,2 m	Primaire	SS 1,5 m ; 1,2 × 1,2 m
					Secondaire	SS 1,0 m ; 1,2 × 1,2 m	Secondaire	SS 1,0 m ; 1,2 × 1,2 m
Latéral	Développement large	5,5	8,0	10	Primaire	RB 2,4 m ; 1,2 × 1,2 m	Primaire	SS 1,5 m ; 1,2 × 1,2 m
					Secondaire	RB 3,0 m ; 1,2 × 1,2 m	Secondaire	SS 1,0 m ; 1,2 × 1,2 m
Latéral	Remblayage Développement	5,5	5,5	6	Primaire	SC ; 2 × 2 pouces + WWM + SX 2,1 m ; 1,2 × 1,2 m	Primaire	SC ; 2 × 2 pouces + WWM + SS 1,8 m ; 1,2 × 1,2 m (jusqu'au sol)
Intersections	Typique (3 voies)	5,5	5,5	10	Secondaire	CB 6,0 m ; 2,0 × 2,0 m	–	–
Intersections	Grande (4 voies)	5,5	5,5	12	Secondaires	CB 6,0 m ; 1,8 × 1,8 m	–	–
Vertical	Élévation	–	<3,0	3,0	–	–	Primaire	SS 1,8 m ; 1,2 × 1,2 m
Verticale	Élévation	–	<5,0	5,0	–	–	Primaire	RB 2,4 m ; 1,2 × 1,2 m
Verticale	Élévation	–	<5,0	5,0	–	–	Secondaire	SS 1,0 m ; 1,2 × 1,2 m
Chambres	Front	–	–	RSG	Secondaire	9 × CB 5 m	–	–
Stopes	Arrière	–	–	RSG	Secondaire	RSG	–	–

Codes CB Boulon de câble de 15 mm, RB Barre d'armature de 20 mm (#6), SC Deux couches de béton projeté de 2 pouces, SS Split Set 35 mm, SX 12 t Swellex, WWM Treillis métallique soudé, RSG Se reporter aux directives relatives aux chantiers.

Remarques Si un soutien secondaire est recommandé, le soutien principal doit d'abord être ajouté (en utilisant le type d'excavation recommandé).
Par exemple, une intersection de 10 m dans la rampe nécessite un support arrière de RB 2,4 m sur un motif de 1,2 × 1,2 m (primaire), suivi d'un CB 6,0 m sur un motif de 2,0 × 2,0 m (en deuxième passage).
Développement latéral : suppose un support mural à 1,5 m du sol, sauf indication contraire. Développement latéral : suppose un WWM galvanisé de 1,5 × 2,7 m, calibre n° 6.

Développement vertical : suppose un maillage ou un WWM.
Utiliser des plaques de dôme de 10 tonnes, sauf pour les câbles (utiliser des plaques de 17 tonnes).
Les galeries inaccessibles au personnel pendant et après le développement ne nécessitent pas de soutien (par exemple, les galeries de descente ou les galeries de ventilation temporaires).

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

8.8 Portail (coupe en boîte)

Cette section présente les recommandations relatives au portail (encadré), notamment la rampe d'accès et les pentes des murs, la face du portail et le pilier de surface. L'équipe GMS a déterminé l'emplacement du portail principal, ainsi que ses dimensions et la conception de la rampe d'accès. Ces paramètres ont été utilisés comme données d'entrée pour l'évaluation de l'encadré. La terminologie utilisée dans cette section est illustrée à la figure 55.

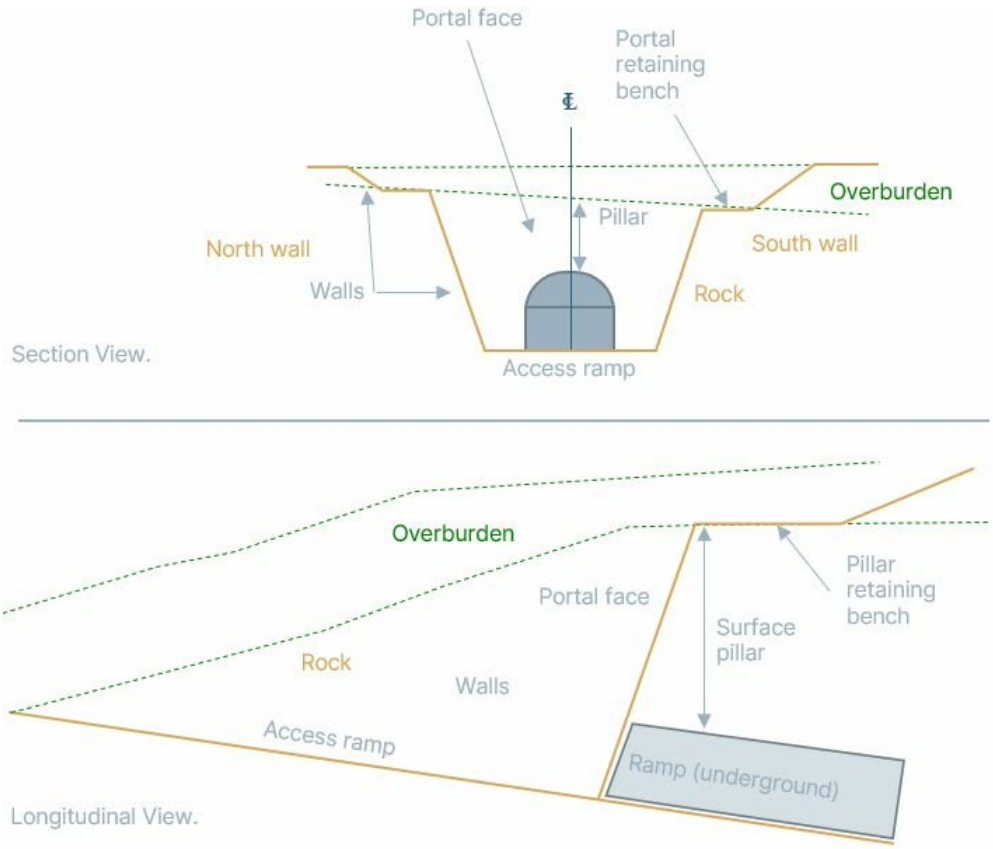


Figure 55. Terminologie relative à l'infrastructure générale d'un portail (non à l'échelle).

L'emplacement du portail est prévu à environ 400 m au nord de la fosse et encore plus loin de la zone principale des chantiers souterrains, comme le montre la figure 56.

Les paramètres de conception des pentes de l'excavation en caisson (dans les morts-terrains et la roche) et les recommandations associées en matière de soutènement ont été élaborés sur la base des données limitées disponibles.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

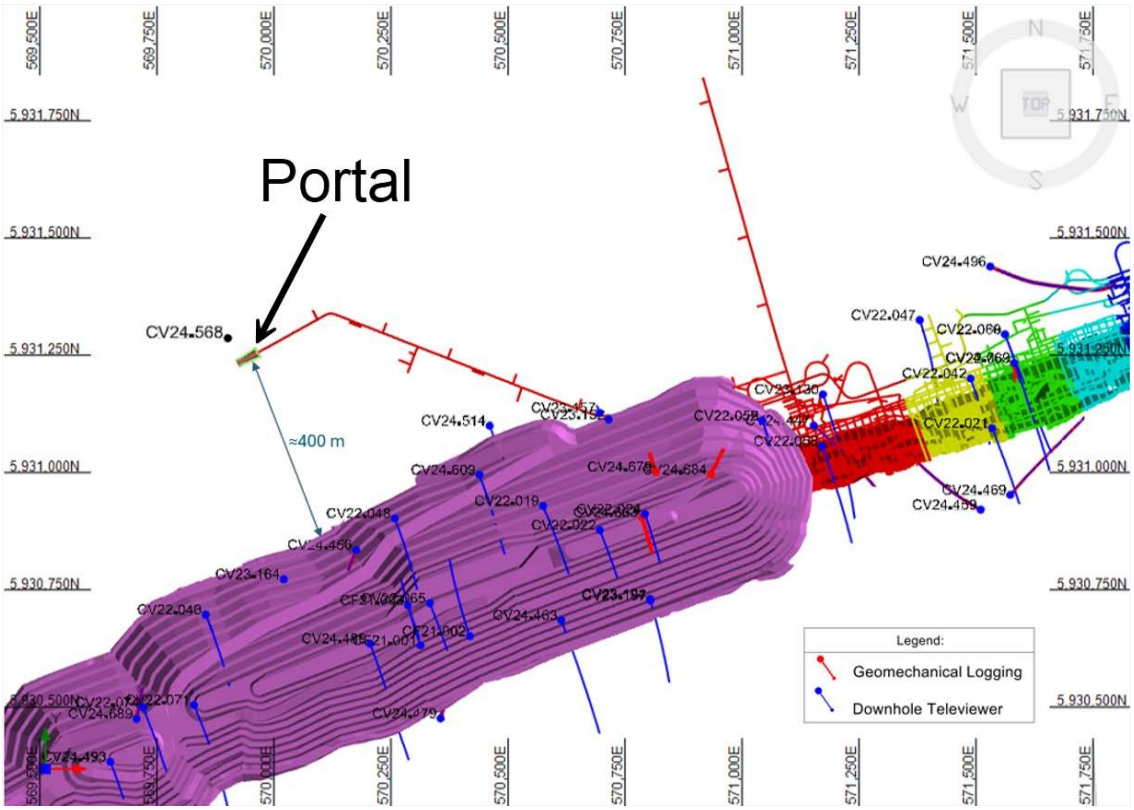


Figure 56. Emplacement prévu du portail.

Pentes des morts-terrains

En ce qui concerne la détermination des pentes recommandées pour les morts-terrains, aucune donnée spécifique au site n'est actuellement disponible. Les hypothèses suivantes ont donc été formulées : sur la base du modèle lithologique et de la topographie de surface, l'épaisseur des morts-terrains à l'emplacement du portail est estimée à environ 5 m. On suppose en outre que la composition des morts-terrains est similaire à celle caractérisée ailleurs sur le site, consistant principalement en till. À ce stade, une pente de 2H:1V est recommandée pour les morts-terrains entourant la zone du portail.

Pentes rocheuses

Un seul trou de forage (CV24-568) est situé dans un rayon de 50 m autour du site proposé pour le portail. Aucune description géomécanique des carottes ni aucune étude par téléviseur n'est disponible pour ce trou de forage, ni pour aucun autre trou de forage situé à moins de 400 m environ du site du portail. Par conséquent, les données provenant de trous de forage situés plus loin du portail ont été utilisées pour étayer l'analyse. Le tableau 64 résume les hypothèses et les paramètres d'entrée adoptés pour la conception de la tranchée rectangulaire du portail. La figure 57 illustre les principaux éléments de la configuration du portail.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Tableau 64. Hypothèses et données d'entrée pour la conception de la tranchée en caisson du portail.

Paramètre	Valeur
Lithologie de la roche	Métasédiments (d'après CV24-568 et modèle lithologique)
Hauteur de la rampe (m)	5,0
Largeur de l'ouverture de la rampe (m)	5,0–6,0
Azimut de la rampe (°)	61
Direction d'inclinaison de la face du portail (°)	241
Direction de l'inclinaison de la paroi gauche (nord) du portail (°)	151
Direction d'inclinaison du mur du portail droit (sud) (°)	331
Enquêtes auprès des téléspectateurs prises en compte	**(CV22-)** 019, 048 **(CV23-)** 152, 157, 164 **(CV24-)** 456, 514, 609

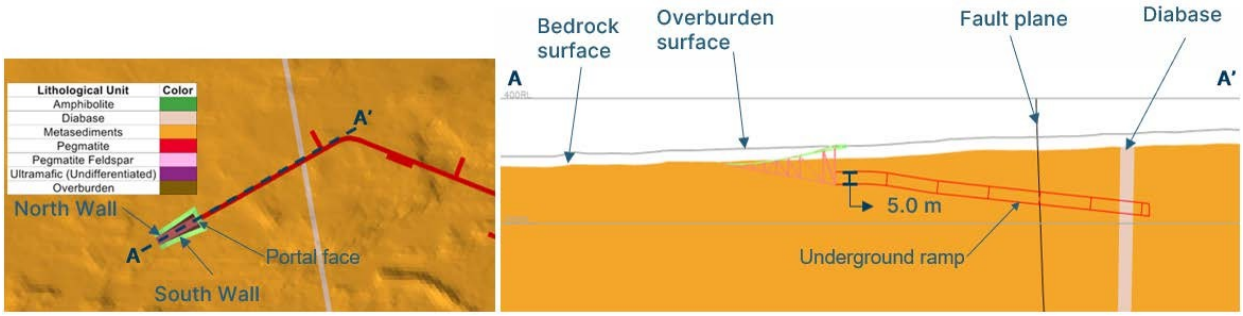


Figure 57. Vue en plan (à gauche) et vue en coupe (à droite) du portail principal.

À partir des levés télévueurs pris en compte, un stéréogramme des discontinuités dans les métasédiments a été préparé dans *Dips* (Rocscience, 2024a) afin de déterminer les principaux ensembles de joints. Les ensembles de joints obtenus sont présentés dans le tableau 65. Un ensemble de joints (JS1) est considéré comme majeur, tandis que l'autre (JS2) est considéré comme mineur en raison de son espacement élevé. La figure 58 montre les projections stéréographiques des discontinuités et des ensembles de joints interprétés. Il convient de noter que la correction de pondération de Terzaghi est appliquée dans cette figure.

À partir des levés télévisés pris en compte, un stéréogramme des discontinuités dans les métasédiments a été préparé afin d'identifier les principaux ensembles de joints. Les ensembles de joints obtenus sont présentés dans le tableau 65. Un ensemble de joints (JS1) est interprété comme un ensemble majeur, tandis que l'autre (JS2) est classé comme mineur en raison de son espacement important. La figure 58 illustre les projections stéréographiques des discontinuités et des ensembles de joints interprétés (y compris la correction de pondération de Terzaghi).

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Tableau 65. Ensembles de joints interprétés dans les métasédiments – Secteur du portail principal.

Lithologie	Ensemble de joints	Inclinaison (°)	Direction de la pente (°)	Espacement moyen des joints (m)	Nombre de poteaux
Métasédiments	JS1	50	165	1,72	133
	js2	49	342	4,66	43

Notes JS majuscule : ensemble articulaire majeur. js minuscule : ensemble articulaire mineur.

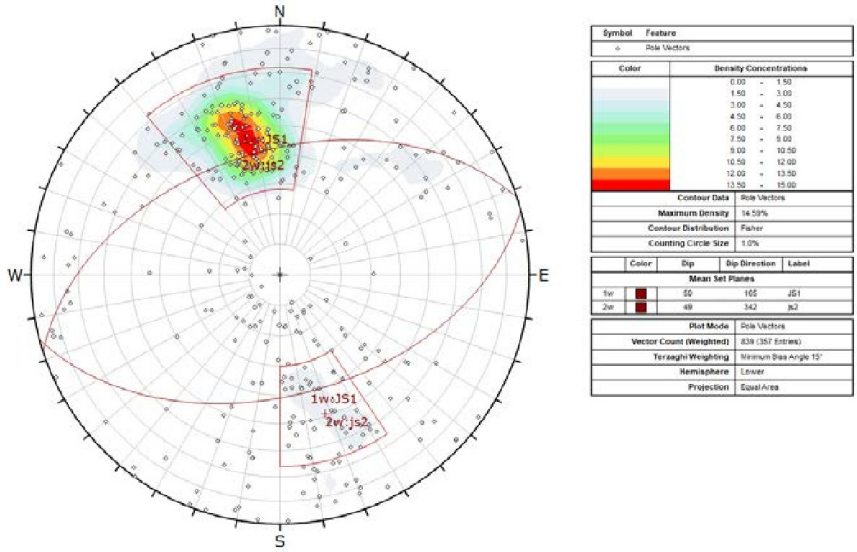


Figure 58. Projections stéréographiques des discontinuités dans les métasédiments pris en compte dans l'analyse du portail et ensembles de joints interprétés.

Des analyses de stabilité en équilibre limite ont été réalisées afin d'évaluer le potentiel de rupture plane et en coin à l'aide des *logiciels RocPlane* (Rocscience, 2025a) et *SWedge* (Rocscience, 2024b), respectivement. Les propriétés des joints utilisées dans les analyses correspondent à celles des métasédiments (ϕ = 23,5° ; voir section 5.1.2). Une valeur de cohésion nulle a été supposée, reflétant les conditions de roche mère peu profonde dans la zone du portail, où la masse rocheuse devrait être plus fracturée et soumise à l'altération superficielle. Une densité de roche de 2 876 kg/m^3 a été adoptée. Dans les analyses présentées ci-dessous, l'inclinaison de la pente a été évaluée à un angle de 80°.

Les conclusions suivantes ont été tirées :

01. Glissement plan

→ La pente du mur nord est contrôlée par la présence de JS1. La pente recommandée pour le mur nord est donc fixée à la valeur moyenne de l'inclinaison de JS1, soit 50°.

→ Pour le mur sud, aucune limitation n'est requise : js2 est considéré comme un ensemble de joints mineurs avec un espacement important entre les joints, et le glissement plan ne détermine donc pas la stabilité de la face du portail ni du mur sud.

→ Le tableau 66 résume les résultats de l'évaluation du glissement plan :

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Tableau 66. Évaluation du glissement plan des pentes du portail.

Pente	Direction de la pente (°)	Ensemble de joints critiques	Facteur de Sécurité	Remarques
Mur nord	151	JS1	0,37	Différence de direction d'inclinaison avec JS1 de 14°.
Mur sud	3	js2	0,38	Différence dans la direction du pendage avec js2 de 11° ; espacement élevé des joints mesuré.
Face du portail	241	Aucune	—	Aucun ensemble de joints critiques identifié.

02. Glissement du coin

→ Le glissement du coin ne limite la pente d'aucune des faces.

→ Le tableau 67 résume les résultats de l'évaluation du glissement du coin :

Tableau 67. Évaluation du glissement en coin des pentes des portails.

Pente	Direction de la pente (°)	Ensembles de joints critiques	Facteur de Sécurité	Remarques
Mur nord	151	JS1 et JS2	—	Aucun coin formé.
Mur sud	331	JS1 et js2	21,8	—
Face du portail	241	JS1 & js2	21,8	—

Surface Pilier

L'évaluation des piliers de surface a été réalisée à l'aide de la méthode Scaled Span de Carter (2014), telle que présentée à la section 8.6. Les paramètres d'entrée utilisés pour l'analyse sont résumés ci-dessous, en tenant compte de la présence probable de roches métasédimentaires dans la zone des piliers :

01. Classification géomécanique Q

→ Q' – En l'absence de données proches du portail, on suppose que la qualité de la roche à l'emplacement du portail est équivalente à celle des métasédiments dans la zone souterraine. Cependant, lors de la conception des portails, il est recommandé de multiplier le paramètre J_n par 2, ce qui a un effet direct sur la valeur Q déterminée. Les valeurs ajustées correspondent respectivement aux 25e et 50e centiles des séries analysées (c'est-à-dire 5 et 8).

→ J_w – les valeurs minimale et maximale tiennent compte d'un faible afflux d'eau. Une valeur de 1 est supposée.

→ SRF – Le facteur de réduction des contraintes est fixé au niveau le plus bas possible pour une masse rocheuse compétente, soit 2,5. Le pilier se trouvant en surface, on s'attend à des composantes de contrainte très faibles.

→ Q – Conformément à l'équation eq. 6, la classification Q est obtenue à partir des données précédentes, ce qui donne des valeurs de 2,0 et 3,2. Une fois que le pilier de couronne est considéré comme soutenu, les valeurs Q de 7 et 9 sont obtenues.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

02. Portée du pilier

→ Une largeur minimale de 5 m est utilisée, car il s'agit de la largeur prévue pour la rampe souterraine. Une largeur maximale de 7 m est utilisée pour tenir compte d'un scénario prudent (par exemple, surcreusement).

03. Longueur de la couronne

→ Une longueur d'influence comprise entre 50 et 100 m est utilisée. Cette donnée a très peu d'impact sur les résultats.

04. Densité de la masse rocheuse

→ La densité de la masse rocheuse est supposée être de 2 800 kg/m^3 .

05. Inclinaison des piliers

→ Des valeurs comprises entre 45 et 55° sont utilisées et tiennent compte de l'inclinaison de la foliation dans ce secteur.

06. Épaisseur du pilier (hauteur verticale)

→ Une épaisseur comprise entre 8 et 12 m est utilisée.

Le tableau de stabilité intégrant les paramètres mentionnés ci-dessus est présenté à la figure 59. La signification du rectangle orange et du losange rouge est présentée à la section 8.6.2.

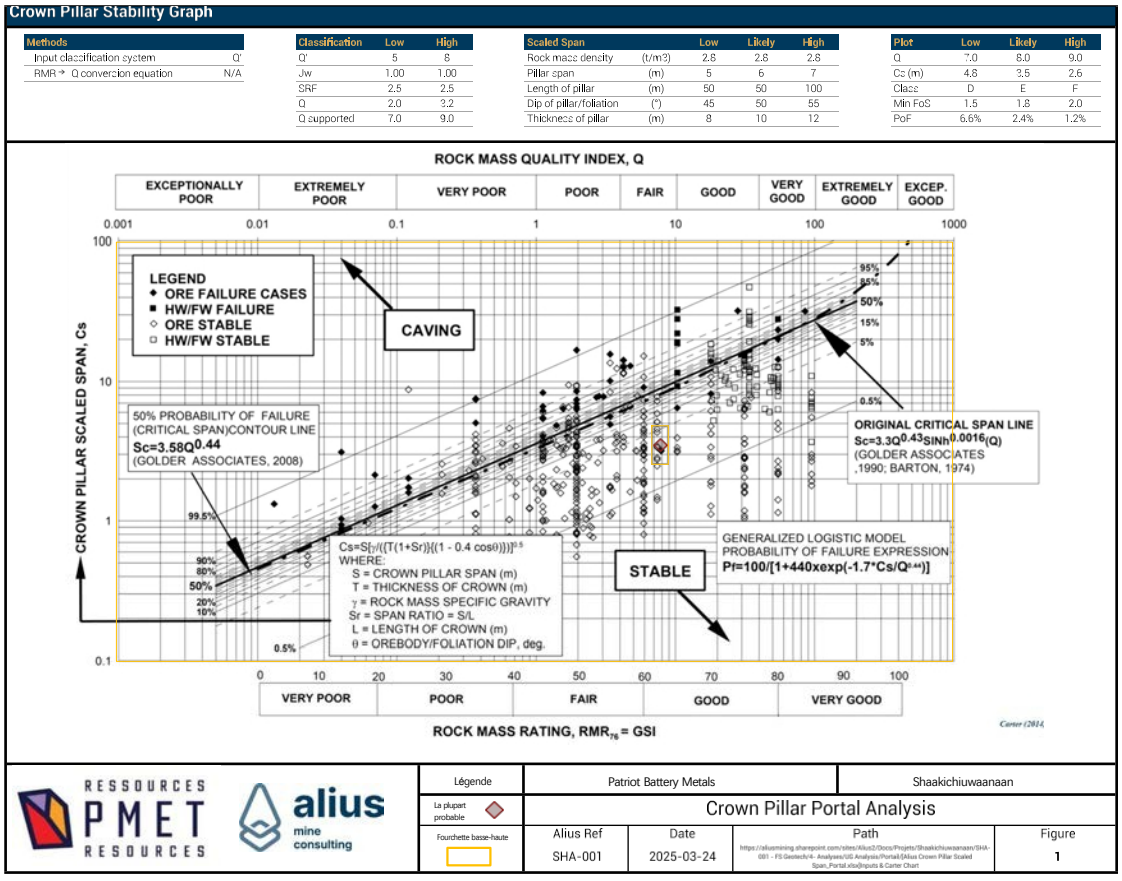


Figure 59. Tableau de stabilité de portée à l'échelle avec les données proposées pour le pilier de surface du portique.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Avec un soutien, le pilier de surface a une probabilité moyenne de défaillance (PoF) de 2,4 %, avec une fourchette minimale-maximale de 1,2 à 6,6 %. Sur la base de ces résultats, le pilier correspond à une catégorie de stabilité « Classe E ».

Selon les directives d'acceptation des risques présentées dans le tableau 62, un pilier de « classe E » est recommandé compte tenu de la durée à long terme pendant laquelle la portée restera exposée. L'épaisseur du pilier adoptée dans la conception est donc considérée comme appropriée pour cette classification.

8.8.1 Directives

Le tableau 68 résume les dimensions et la configuration de la conception de la coupe du portique. Des recommandations générales sont fournies pour le soutènement au sol du portique (pilier et faces).

Tableau 68. Dimensions et configuration de la conception du portique.

Paramètre	Valeur
Largeur de la rampe d'accès (m)	10
Épaisseur des piliers (m)	10
Support de pilier	Soit boulonné à partir de la surface (foré vers le bas), soit à partir de la rampe (foré vers le haut) à l'aide de câbles de 6 m selon un schéma de 2 × 2 m (idéalement plaqué, s'il est foré à partir de la rampe)
Banc de retenue des piliers (m)	20
Banc de soutènement du portique (m)	2 (RSSTM art. 41-1a)
Pente rocheuse – paroi nord (°)	50
Pente rocheuse – paroi sud (°)	80
Pente rocheuse – face du portail (°)	80 ou 90[1]
Support temporaire pour visage et mur	Split-Set (FS35) 1,8 m et mailles de chaîne
Pente de recouvrement	2H:1V

Remarques [1] La pente du front de taille dépend des conditions d'excavation.

La présence de la faille FLT_1525 et du dyke de diabase peut être associée à une qualité de roche localement réduite. En raison de l'absence de forages dans cette zone, la qualité de la roche reste incertaine et les positions exactes de ces deux structures majeures n'ont pas été confirmées. D'après la modélisation actuelle, ces structures devraient croiser la rampe souterraine à environ 90-120 m de la face du portail. Compte tenu des données limitées disponibles pour la conception de la tranchée du portail, les paramètres d'entrée et les recommandations qui en découlent devraient être revus et affinés au cours de la phase d'ingénierie détaillée.

Les besoins en matière d'assistance au sol pour le développement du portail n'ont pas encore été évalués en détail ; cette évaluation devra être réalisée au cours de la phase d'ingénierie détaillée du projet.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

8.9 Infrastructures

Les distances de sécurité des infrastructures souterraines ont été évaluées à l'aide du modèle numérique global. Les infrastructures clés comprennent les rampes, les galeries de remontée et les galeries de transport.

Dans le plan d'aménagement proposé par GMS en mars 2025, la rampe principale est systématiquement située à plus de 100 m des chantiers d'abattage. Cette distance doit être maintenue comme exigence minimale afin d'éviter tout dommage potentiel lié à l'excavation. Pour les galeries de transport, une distance minimale de 20 m par rapport aux chantiers d'abattage est recommandée afin d'assurer la stabilité. Enfin, les puits de remontée doivent être situés à au moins 40 m des chantiers d'abattage afin de préserver l'intégrité structurelle et de minimiser l'interaction avec les zones exploitées.

Des distances de sécurité par rapport à l'excavation à ciel ouvert sont également requises pour certaines excavations souterraines. La rampe principale et le puits de ventilation L305 ont fait l'objet d'une étude, car ce sont les deux infrastructures les plus proches de la fosse à ciel ouvert. Les figures 60 et 61 présentent la contrainte principale mineure (S3) et les dommages causés à la masse rocheuse autour d'un puits de ventilation et de la rampe principale, où ces ouvertures sont les plus proches de la fosse à ciel ouvert.

La figure 60 montre qu'aucune déformation plastique ni aucun dommage à la roche n'est observé autour du puits à son emplacement. De même, la figure 61 indique que, bien qu'un certain déconfinement se produise près de la zone de la fosse, aucun dommage plastique n'est détecté à proximité de la rampe. Comme cette section représente la distance la plus courte entre la fosse à ciel ouvert et la rampe souterraine principale, il est recommandé d'installer des instruments tels que le MPBX dans cette zone afin de surveiller la réponse potentielle du sol au fil du temps.

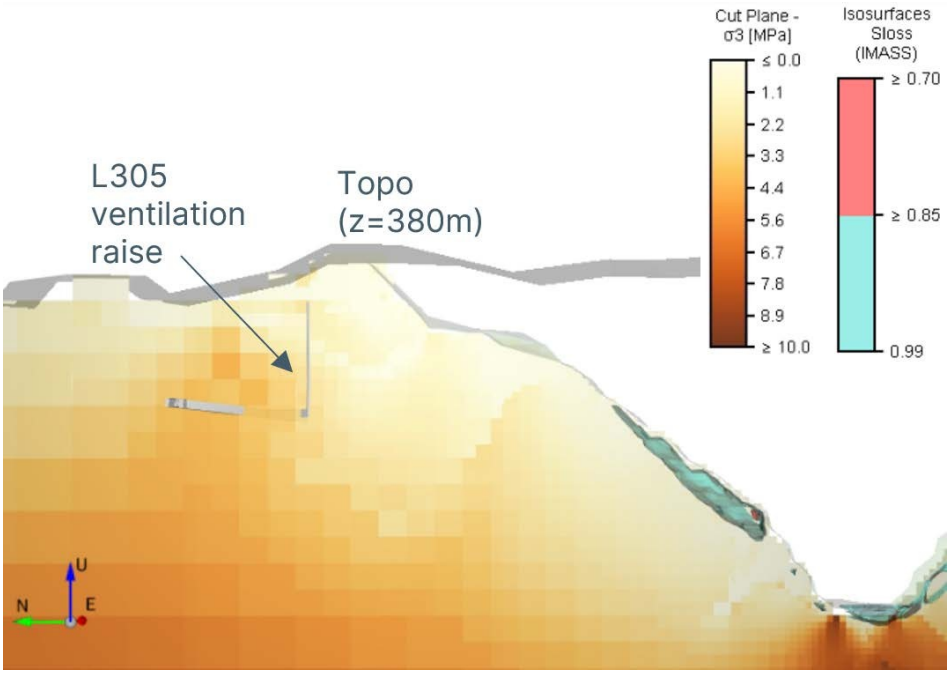


Figure 60. Contrainte principale mineure (S3) et dommages à la masse rocheuse autour de la montée de ventilation L305.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

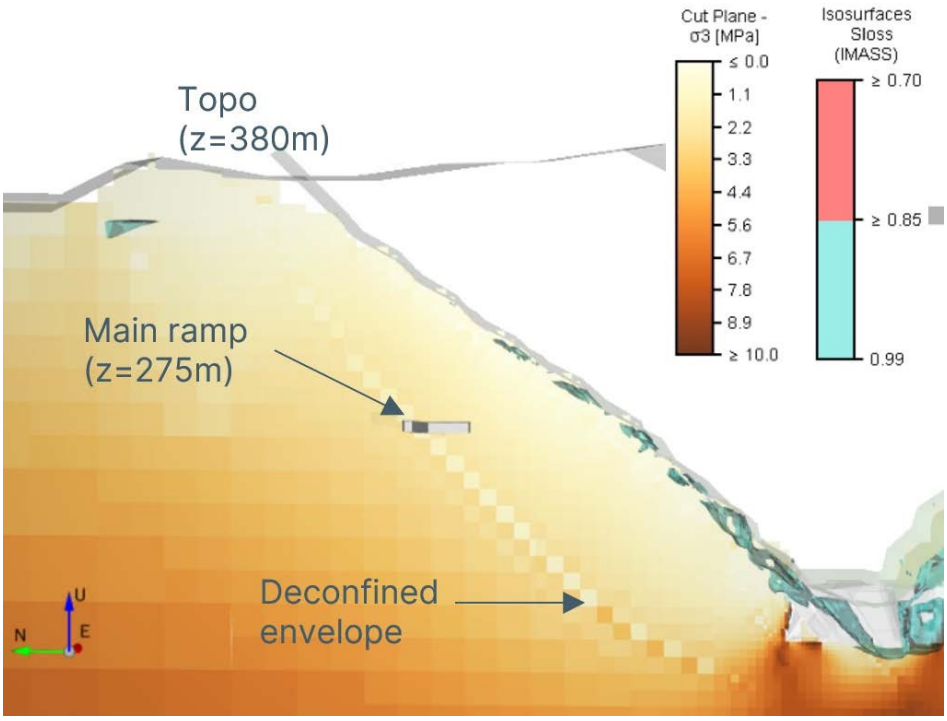


Figure 61. Contrainte principale mineure (S3) et dommages subis par la masse rocheuse autour de la rampe principale située le plus près de la fosse.

8.10 Interaction entre la mine à ciel ouvert et la mine souterraine

La conception de la mine souterraine s'étend vers l'extrémité nord-est de la fosse à ciel ouvert, où plusieurs chantiers d'abattage sont situés immédiatement à côté de la paroi prévue de la fosse. Il est donc nécessaire d'évaluer les interactions potentielles entre la pente de la fosse à ciel ouvert et les excavations souterraines. En particulier, une évaluation de la résistance requise du remblai et de la stabilité globale du système combiné est essentielle pour garantir que les chantiers souterrains puissent être exposés en toute sécurité sur la paroi de la fosse. Cette analyse soutient l'objectif qui consiste à permettre une récupération précoce du minerai dans cette partie du gisement tout en maintenant la stabilité de la fosse à ciel ouvert et des travaux souterrains. Outre la définition des exigences en matière de résistance du remblai, l'évaluation a également examiné la distance minimale derrière la paroi de la fosse à laquelle des chantiers renforcés par remblai doivent être mis en œuvre.

Pour mener à bien cette évaluation, deux approches complémentaires ont été adoptées :

01. Modélisation bidimensionnelle (2D) de l'équilibre limite

→ Conçu pour évaluer la stabilité des pentes locales en déterminant à la fois les exigences en matière de résistance du remblai et le schéma des chantiers qui doivent être renforcés.

02. Modélisation numérique tridimensionnelle (3D) par différences finies

→ Conçue pour valider les conclusions du modèle 2D en appliquant les lignes directrices recommandées à une géométrie 3D représentative. Cette approche tient compte des effets de confinement associés à la configuration tridimensionnelle réelle de la fosse.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

L'analyse d'équilibre limite en 2D a été réalisée à l'aide du logiciel *Slide2* (Rocscience, 2025b). Elle comprend la coque optimisée de la fosse, la disposition des chantiers DSO (datée du 13 février 2025) et le modèle lithologique (daté du 13 janvier 2025). Une section type a été modélisée pour évaluer la stabilité, en supposant que les chantiers sont entièrement remblayés. Cette section 2D type a été modifiée par rapport à la conception réelle du chantier afin de représenter la section la plus défavorable, en tenant compte des modifications mineures apportées aux lithologies actuelles et de l'étendue des chantiers. En effet, cette section type correspond à une géométrie critique, où environ trois (3) chantiers à ciel ouvert, équivalant à environ 90 m de hauteur, sont exposés sur la paroi de la fosse.

Compte tenu d'une densité de remblai de 1 960 kg/m^3 et d'un angle de frottement de 30°, une résistance minimale à la compression uniaxiale de 2,0 MPa est requise pour que le remblai maintienne un coefficient de sécurité (FoS) > 1,3. Une valeur FoS de 1,3 est visée en raison de la géométrie conservatrice évaluée. De plus, l'épaisseur requise de ce remblai en pâte à haute résistance derrière le mur pour assurer la stabilité de la pente est de 100 m (équivalent à six chantiers). La figure 62 présente le coefficient de sécurité obtenu sur la section type analysée par analyse d'équilibre limite en 2D.

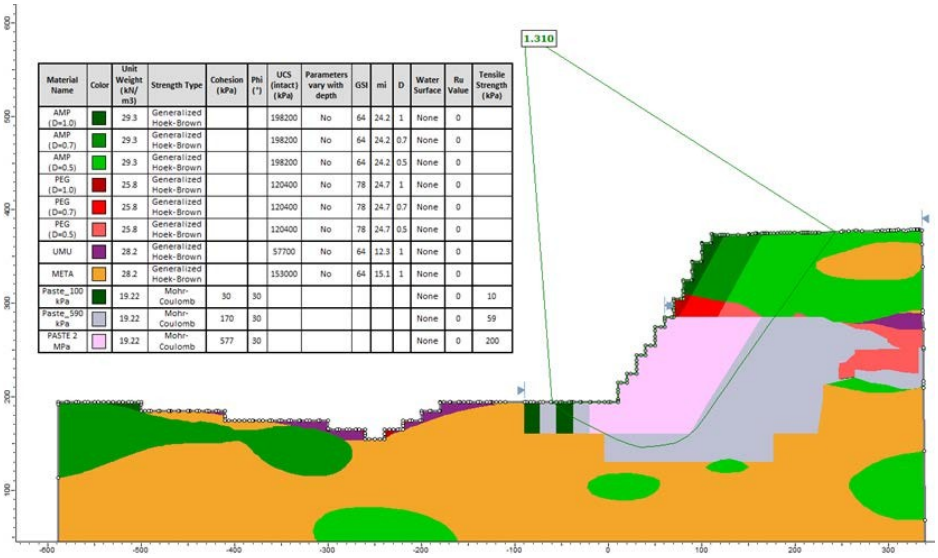


Figure 62. Modélisation 2D de l'interaction OP-UG d' – rupture non circulaire dans la masse rocheuse et le remblai.

Plus précisément, les chantiers concernés par l'exigence de résistance du remblai de 2,0 MPa sont les suivants :

→ Les chantiers situés à moins de 100 m à l'horizontale de la paroi de la mine à ciel ouvert, y compris ceux du niveau 170.

→ Les chantiers sous le fond de la fosse situés à environ 35 m à l'horizontale (environ deux chantiers) du pied de la fosse.

À ce stade, le modèle 2D présente plusieurs limites. L'analyse comprend trois galeries d'exploitation à ciel ouvert. Si d'autres galeries devaient être exploitées à ciel ouvert, les résultats devraient être révisés. Le modèle suppose des conditions purement bidimensionnelles et ne tient donc pas compte des effets de confinement tridimensionnels, qui auraient une influence stabilisatrice compte tenu de la courbure de la fosse. La section analysée représente la géométrie la plus défavorable, légèrement ajustée par rapport à la conception actuelle

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

afin de refléter des hypothèses prudentes. Cette analyse doit être validée et affinée au cours de la phase d'ingénierie détaillée.

Afin de valider les conclusions de la modélisation 2D, un modèle numérique 3D a été construit dans *FLAC3D* en utilisant les mêmes paramètres d'entrée que le modèle global, à quelques exceptions près. La principale différence entre les deux modèles est que seuls les chantiers situés à moins de 100 m des parois de la fosse à ciel ouvert ont été inclus. Cette approche a permis de réduire le temps de calcul tout en concentrant l'analyse sur l'interaction entre la fosse et le sous-sol. L'objectif de ce modèle était de valider le coefficient de sécurité associé à une défaillance potentielle à grande échelle à l'interface entre la fosse à ciel ouvert et les chantiers souterrains. Le coefficient de sécurité a été évalué en réduisant progressivement la résistance du remblai en pâte cimentée.

Comme le montre la figure 63, un déplacement inférieur à 0,9 cm est prévu, sans signe de dommage au massif rocheux, lorsqu'une résistance de remblai de 2,0 MPa est utilisée. Les propriétés du remblai ont ensuite été revues à la baisse à 1,0 MPa. Étant donné que la stabilité globale a été maintenue à cette résistance inférieure, le coefficient de sécurité est considéré comme supérieur à 2. Bien qu'une optimisation supplémentaire soit possible, la résistance recommandée du remblai de 2,0 MPa est confirmée comme étant appropriée.

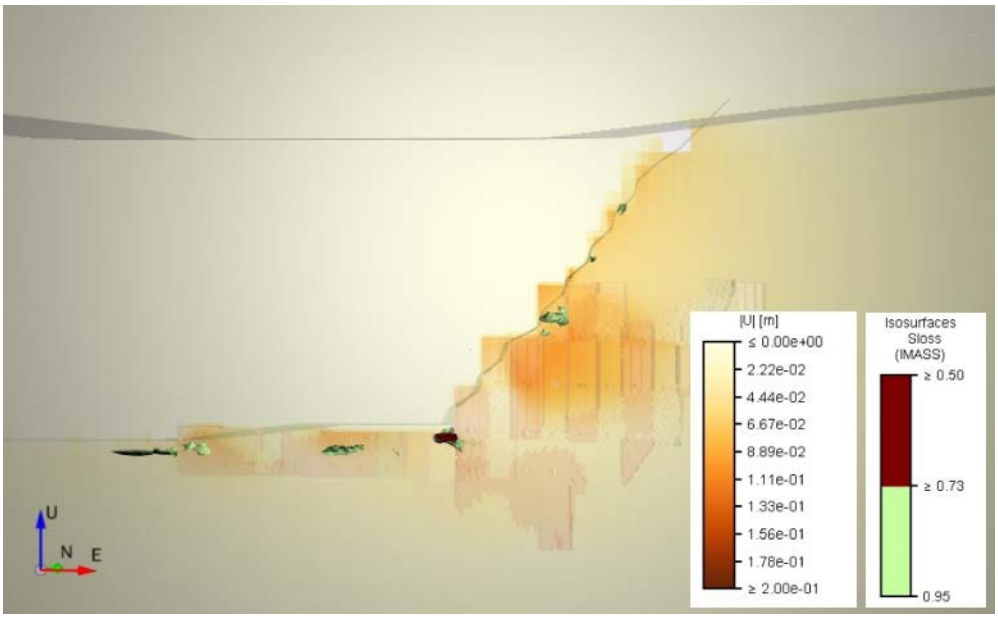


Figure 63. Modélisation 3D de l'interaction OP-UG d' – Isosurfaces des dommages et du déplacement de la masse rocheuse.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

9 Considérations opérationnelles

Cette section résume les principales pratiques opérationnelles à prendre en compte lors de la planification, de la conception et de l'exécution de la mine. Ces considérations visent à soutenir la sécurité opérationnelle, à maintenir les performances des pentes et à permettre l'optimisation du plan minier à mesure que de nouvelles informations deviennent disponibles. La section est divisée en trois (3) sous-sections :

01. Pentes de recouvrement
02. Exploitation à ciel ouvert
03. Exploitation minière souterraine

9.1 Pentes de morts-terrains

Les considérations suivantes s'appliquent à la construction, à l'exploitation et à la performance à long terme des pentes de morts-terrains :

01. Mises à jour de conception

→ Des critères de conception ont été proposés pour les pentes locales et globales. En cas de modification de la résistance des matériaux, de la stratigraphie, des conditions hydrologiques souterraines ou de la géométrie de l'excavation, les critères de conception doivent être revus.

02. Eaux souterraines

→ Les analyses de stabilité actuelles partent du principe que le till présente une conductivité hydraulique relativement élevée et que l'excavation entraîne un abaissement local du niveau phréatique. Étant donné que les eaux souterraines devraient affleurer au pied du till, celui-ci doit être sécurisé et un canal de drainage doit être creusé afin d'assurer un drainage adéquat. Il est alors nécessaire de mettre en œuvre des mesures proactives de gestion de l'eau afin de limiter la pression hydraulique au-dessus de la couche de till.

→ Il est recommandé d'installer des piézomètres à corde vibrante derrière les pentes de recouvrement afin de confirmer les hypothèses relatives à la pression interstitielle et de faciliter la détection précoce des changements dans les conditions hydrogéologiques.

→ Les variations saisonnières (par exemple, les cycles de gel-dégel et l'infiltration des précipitations) doivent être surveillées, car elles peuvent avoir une incidence sur les pressions interstitielles et la résistance du sol.

→ Toute nouvelle apparition d'un afflux d'eau ou tout changement dans un point d'infiltration existant sur les surfaces des parois doit être surveillé et documenté.

03. Considérations relatives à la construction

→ L'excavation des morts-terrains devrait de préférence être effectuée pendant les mois d'hiver, lorsque le gel du sol améliore généralement la résistance et la maniabilité du sol. Bien que les conditions hivernales facilitent souvent les opérations, l'excavation peut tout de même être effectuée pendant l'été si le matériau le permet.

→ Si le décapage a lieu pendant la période de dégel, les perturbations causées par les équipements doivent être minimisées afin de réduire le ramollissement des sols supérieurs.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

04. Surveillance des pentes

→ Lorsque l'épaisseur du sol est importante (c'est-à-dire supérieure à 10 m), il est recommandé de mettre en place un programme de surveillance proactive à toutes les étapes de l'excavation. La surveillance doit, au minimum, reposer sur des inspections visuelles régulières et doit également tenir compte de mesures quantitatives telles que :

- Surveillance par prisme
- Radar de stabilité des pentes (systèmes SSR ou LiDAR)
- Mesures piézométriques

→ Des ressources humaines suffisantes doivent être affectées à la collecte, au traitement et à l'interprétation des données géotechniques. L'identification rapide des tendances de mouvement ou des fissures de tension est essentielle pour maintenir la stabilité des pentes.

→ Les résultats doivent être communiqués régulièrement aux équipes d'exploitation et d'ingénierie afin de les aider à optimiser la géométrie des pentes et à valider les hypothèses de conception.

9.2 Exploitation à ciel ouvert

Les pentes à ciel ouvert proposées sont sensibles aux pratiques opérationnelles. Les considérations suivantes sont recommandées pour maintenir la stabilité des parois :

01. Pratiques d'ingénierie et conception de la mine

→ Une cartographie géomécanique et géologique doit être réalisée à mesure que les gradins sont exposés afin de documenter la qualité et la structure des masses rocheuses, les contacts lithologiques et les conditions des eaux souterraines.

→ Les informations issues de la cartographie doivent être intégrées dans un modèle géomécanique évolutif afin d'évaluer si les conditions exposées restent conformes aux hypothèses de conception.

→ Les apports d'eau observés dans les trous de forage doivent être consignés (date, profondeur et débit approximatif) et compilés dans une base de données géoréférencée. Les trous de forage en surface situés au-dessus des chantiers souterrains doivent être cimentés ou scellés afin d'empêcher toute connexion hydraulique avec les travaux souterrains.

→ Les restrictions et limitations liées aux transitions d'angle de pente doivent être prises en compte lors de l'ajustement de la géométrie des parois. Des changements brusques d'angle ou d'orientation des parois (par exemple, des profils de parois arrondis ou convexes) peuvent avoir un impact sur le confinement de la masse rocheuse et la stabilité locale.

02. Forage et dynamitage

→ Le dynamitage dans la roche supérieure fortement fracturée de la fosse peut générer d'importants projections de roches ; la conception du dynamitage doit être ajustée si nécessaire pour garantir la sécurité.

→ Un dynamitage contrôlé est nécessaire pour minimiser les excès de taille, protéger les crêtes des gradins et réduire le développement de surplombs locaux ou d'instabilités des blocs clés.

→ Il est recommandé de procéder à un dynamitage préalable le long des parois finales afin d'obtenir des surfaces lisses et continues et de minimiser la perturbation de la masse rocheuse.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

→ Les dommages derrière la ligne de conception doivent être minimisés grâce à des charges optimisées, une charge réduite et un délai approprié.

→ Les pentes provisoires peuvent tolérer un dynamitage moins strict, mais il convient néanmoins de veiller à minimiser les excès inutiles.

→ Les parois de phase et les gradins initiaux doivent être utilisés pour affiner les conceptions de dynamitage grâce à des tests itératifs et à l'examen des performances.

→ Lorsque l'exploitation minière se déroule à proximité d'une mine souterraine ou d'autres infrastructures de surface, le dynamitage doit être surveillé à l'aide de géophones ou d'accéléromètres afin d'évaluer les impacts des vibrations.

03. Stabilité des parois de la fosse

→ Il est essentiel de surveiller l'évolution des ensembles de joints susceptibles d'influencer les critères de conception. Les critères de conception recommandés représentent les conditions moyennes du mur, et une vérification continue est donc nécessaire pour garantir leur validité au fur et à mesure de l'avancement de l'exploitation minière.

→ Un écaillage efficace doit permettre d'éliminer les matériaux instables des parois et des crêtes avant de commencer le forage sur la plate-forme sous-jacente.

→ Le détachement doit se concentrer sur l'élimination des matériaux instables dangereux tout en préservant la roche intacte et en minimisant les perturbations inutiles.

→ Il convient d'éviter les sous-coupes pendant les opérations de déblaiement afin de limiter le développement de ravines et de défaillances planes/en coin à faible inclinaison.

→ Les bancs doivent rester dégagés et fonctionnels, notamment en ce qui concerne l'entretien des canaux de drainage et l'accès pour l'inspection. Ils doivent toujours être nettoyés avant de perdre leur accès.

→ Il convient d'éviter les coupes enfoncées à proximité des parois finales afin de réduire les perturbations de la masse rocheuse.

04. Eaux souterraines

→ Les eaux de ruissellement doivent être détournées des crêtes des fosses à l'aide de fossés ou de bermes afin de réduire l'infiltration.

→ Les puisards dans la fosse et la capacité de pompage doivent être mis en place dès le début de l'exploitation minière.

→ L'accumulation d'eau sur les gradins augmente le risque de chutes de pierres et les dommages causés par le gel et le dégel ; le drainage doit être maintenu.

05. Surveillance des pentes

→ Une surveillance continue est recommandée, notamment :

- Inspections visuelles
- Surveillance par prisme
- Radar de stabilité des pentes (systèmes SSR ou LiDAR)
- Mesureurs de fissures ou extensomètres là où des fissures de tension peuvent apparaître

→ Les données de surveillance géotechnique doivent être examinées quotidiennement, et des rapports officiels doivent être publiés à une fréquence adaptée au niveau de risque.

06. Contrôle qualité

→ Des programmes de contrôle qualité et des observations des tâches doivent être mis en œuvre pour les processus opérationnels et d'ingénierie minière clés, notamment :

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

- Pratiques de forage et de dynamitage
- Écaillage des parois de la fosse
- Comparaison des parois de la fosse conçues avec les géométries réelles

9.3 Exploitation minière souterraine

Les considérations opérationnelles relatives à l'exploitation minière souterraine sont présentées ci-dessous. Ces recommandations portent principalement sur la stabilité de l'excavation, le séquençage et l'interaction avec la mine à ciel ouvert.

01. Pratiques d'ingénierie et conception de la mine

→ Les infiltrations d'eau rencontrées pendant le développement ou le forage doivent être systématiquement enregistrées, quantifiées et stockées dans une base de données 3D partagée avec l'ingénierie minière.

→ Les trous de forage d'exploration en surface qui croisent les développements souterrains doivent être cimentés ou scellés afin d'éviter les afflux incontrôlés ou les risques liés aux explosions.

→ Les excavations souterraines situées sous ou à proximité de la fosse à ciel ouvert prévue doivent être séquencées afin d'éviter de compromettre la stabilité des pentes.

→ Le séquençage du remblayage doit favoriser la stabilité des parois et des piliers et minimiser l'exposition des grandes portées non soutenues.

02. Forage et dynamitage

→ Les plans de dynamitage souterrain doivent limiter la transmission des vibrations vers les pentes des carrières à ciel ouvert et les infrastructures critiques.

→ Le dynamitage périphérique peut être envisagé pour les galeries d'exploitation situées à proximité de lithologies fragiles, de structures importantes ou d'excavations critiques afin de maintenir la stabilité.

→ Lorsque l'exploitation minière se déroule à proximité de la fosse ou d'autres infrastructures de surface, les impacts des vibrations causées par les explosions doivent être surveillés à l'aide de géophones et/ou d'accéléromètres.

03. Stabilité de l'excavation et soutènement du sol

→ Le choix du soutènement doit être basé sur la qualité de la masse rocheuse, sa structure, les conditions de contrainte in situ et la durée d'exposition prévue ; le soutènement peut comprendre des boulons, des câbles, des treillis et du béton projeté.

→ La réhabilitation des anciens fronts d'abattage doit être envisagée s'ils restent dans les zones d'influence des nouvelles excavations ou des zones de production.

→ Le remblayage doit généralement suivre la séquence d'abattage afin de minimiser le nombre de chantiers non remplis et de contrôler la redistribution des contraintes.

→ Le contrôle de la qualité du soutènement est essentiel et doit être effectué dès les premières étapes, notamment par l'observation des tâches et des essais de traction sur des tendons de soutènement représentatifs.

04. Gestion des eaux souterraines et de l'eau

→ Une stratégie de drainage à l'échelle de la mine doit être mise en œuvre, comprenant des puisards à plusieurs niveaux, un pompage par étapes et une surveillance, en fonction des apports prévus.

→ Les sources d'infiltration (par exemple, les failles, les zones de fracture et les trous de forage) doivent être colmatées ou scellées si nécessaire afin de maintenir des conditions de travail sûres.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

05. Surveillance et instrumentation

→ Un système de surveillance adapté aux conditions souterraines doit être mis en place, pouvant inclure :

- Surveillance de la convergence (par exemple, stations de convergence dans les zones à forte contrainte, bien que cela soit peu probable)
- Installations MPBX dans les infrastructures critiques ou les grandes portées

→ Les données doivent être examinées régulièrement, avec des seuils et des plans d'action déclencheurs (TARP) guidant les réponses opérationnelles.

06. Contrôle qualité

→ Des programmes de contrôle qualité et des observations des tâches doivent être mis en œuvre pour les activités souterraines clés, notamment :

- Installation de soutènement (par exemple, boulons, câbles, béton projeté)
- Production et mise en place de remblai en pâte cimentée
- Construction de barricades de remblayage (par exemple, clôtures en béton projeté ou barricades anti-boue)

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

10 Conclusion

L'évaluation géomécanique réalisée pour le projet Shaakichiuwaanaan fournit une base complète pour la conception d'une mine à ciel ouvert et d'une mine souterraine au niveau de l'étude de faisabilité. Grâce à des analyses géologiques, structurelles, en laboratoire et diverses autres analyses intégrées, l'étude définit les domaines géomécaniques, caractérise le comportement des masses rocheuses et établit des lignes directrices pour la conception des pentes, des chantiers, du remblayage et du soutènement.

Pour la **mine à ciel ouvert**, une méthodologie de conception des gradins basée sur les risques a été appliquée, ce qui a permis d'obtenir des angles de front de taille, des largeurs de gradins et des angles entre rampes spécifiques à chaque secteur, qui permettent d'atteindre des niveaux acceptables de probabilité de défaillance et de confinement des déversements. La modélisation numérique tridimensionnelle confirme que, avec les géométries recommandées, les pentes globales de la fosse répondent aux critères de stabilité du projet dans des conditions statiques. Les zones de déformation localisées, principalement associées à l'unité ultramafique et aux transitions abruptes des parois, ne posent pas de problèmes de stabilité importants, mais doivent être surveillées pendant les opérations.

La conception de la mine souterraine s'est appuyée sur des évaluations de la stabilité des chantiers à l'aide de méthodes empiriques, ce qui a permis d'obtenir des dimensions standardisées des chantiers qui concilient le contrôle de la dilution et la praticité opérationnelle. Les exigences en matière de résistance du remblai ont été définies à l'aide d'équations empiriques et vérifiées à l'aide d'une modélisation numérique, avec des coefficients de sécurité conservateurs appliqués dès le début de la durée de vie de la mine. L'analyse numérique de la séquence d'exploitation indique que la stratégie de développement souterrain et d'abattage peut être mise en œuvre en toute sécurité, seuls des dommages localisés étant attendus à proximité des chantiers actifs.

L'interaction entre la mine à ciel ouvert et les travaux **souterrains** a été évaluée à l'aide d'une analyse d'équilibre limite en deux dimensions et d'une modélisation numérique en 3D, confirmant qu'une résistance minimale du remblai en pâte cimentée de 2,0 MPa et une extension de 100 m du remblai renforcé derrière la paroi de la fosse sont nécessaires pour maintenir la stabilité des pentes dans les chantiers de taille remplis de pâte.

Une évaluation préliminaire du **pilier de couronne** en surface indique qu'un pilier de 85 m pourrait satisfaire aux exigences de stabilité ; toutefois, cette épaisseur ne respecte pas le seuil réglementaire minimum établi par le RSSTM du Québec (article 77). Des études géotechniques, hydrogéologiques et géomécaniques supplémentaires seront donc nécessaires lors des phases futures du projet afin de développer une conception de pilier entièrement conforme.

En ce qui concerne le **portail principal et la tranchée**, les analyses indiquent qu'un programme ciblé de caractérisation du site sera essentiel au cours de la prochaine étape du projet. Cette étude devrait porter spécifiquement sur la profondeur et la composition des matériaux de recouvrement dans la zone du portail, y compris le long du tracé prévu de la rampe, afin d'affiner les paramètres de conception des pentes et les exigences en matière de soutènement du sol.

Dans l'ensemble, les analyses démontrent que les conceptions proposées pour la mine à ciel ouvert et la mine souterraine sont techniquement réalisables et répondent à leurs critères de sécurité respectifs, à condition que les recommandations présentées dans cette étude soient mises en œuvre et soutenues par une surveillance continue, un affinement du modèle géomécanique et structurel, et une étude continue à mesure que le projet avance vers sa réalisation.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

11 Recommandations et limites

11.1 Recommandations relatives à la conception au niveau de la faisabilité

Des directives de conception à l'appui de l'étude de faisabilité ont été fournies dans plusieurs domaines clés. Un résumé est présenté ci-dessous.

01. Mine à ciel ouvert – Directives de conception

Appliquer les directives présentées à la section 7.7, résumées comme suit :

→ Des angles inter-rampes de 36° sont recommandés dans les sols.

→ La conception des pentes rocheuses suppose un double terrassement (hauteur de terrasse de 20 m).

→ Les angles entre les rampes varient entre 32 et 55°, en fonction du domaine géomécanique :

- Angles de la face des gradins compris entre 40 et 75°.
- Largeurs de bancs comprises entre 8,5 et 12 m pour retenir plus de 70 % des déversements potentiels en général

→ Des bermes géotechniques (16 m de large) sont recommandées pour les parois de plus de 160 m de hauteur, commençant 80 m sous la surface et se terminant 80 m au-dessus du fond de la fosse.

02. Sous-sol – Conception des chantiers et estimations de dilution

Appliquer les lignes directrices présentées à la section 8.3.4, résumées comme suit :

→ Adopter les dimensions recommandées pour les chantiers :

- Chantiers transversaux 17 mL × 25 mW × 30–36 mH
- Chambres longitudinales 17 mL × 7 mW × 30–36 mH

→ Les parois des chantiers doivent être boulonnées afin de limiter l'instabilité et la dilution.

→ Appliquer les valeurs de dilution (ELOS) suivantes pour les surfaces transversales et longitudinales des galeries :

- Paroi suspendue 0,75 m
- Mur de fond 1,25 m / 0,50 m
- Arrière Aucun (ancrage par câbles)
- Parois d'extrémité Aucun (minerai)
- Remblai 0,50 m

03. Sous-sol – Séquence minière

Appliquez les directives présentées à la section 8.4, résumées comme suit :

→ Minimiser le développement précoce et adopter une approche « juste à temps » dans la mesure du possible.

→ Donner la priorité à l'exploitation des points d'extraction déjà développés avant d'en créer de nouveaux afin de réduire les besoins de réhabilitation.

→ Pour les panneaux de galeries transversales, adopter une séquence primaire-secondaire qui maintient une forme d'extraction pyramidale (voir figure 46).

→ Pour les panneaux de taille plus étroits, adoptez une séquence de recul longitudinal et évitez les fronts convergents ou les piliers décroissants.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

04. Sous terre – Remblayage

Appliquez les directives de conception présentées à la section 8.5.3, résumées comme suit :

→ Des résistances résiduelles CPB comprises entre 210 et 540 kPa sont généralement requises, en fonction du type de chambre et de la séquence.

→ Un coefficient de sécurité plus élevé (FoS = 2,0) est recommandé au début de la durée de vie de la mine, puis ramené à 1,5 à mesure que l'expérience est acquise.

→ L'abattage par sous-coupe nécessite des résistances CPB plus conservatrices (1,2 à 1,6 MPa) et doit être réduit au minimum dans la mesure du possible.

05. Sous terre – Pilier de couronne

Appliquez les directives de conception présentées à la section 8.6.3, résumées comme suit :

→ Utilisez une épaisseur minimale de 85 m pour les piliers de couronne.

→ Considérez cette épaisseur comme **préliminaire** en attendant des études complémentaires.

→ Appliquez une surveillance renforcée (instrumentation et TARP) si l'exploitation minière se poursuit sous un pilier de moins de 100 m d'épaisseur sous un plan d'eau.

06. Sous-sol – Conception du soutènement

Appliquer les directives de conception présentées à la section 8.7.2, résumées comme suit :

→ Les types de soutènement proposés sont adéquats pour l'établissement d'un budget au niveau de l'étude de faisabilité.

→ Un développement latéral typique (portée < 7,5 m) nécessite 2,4 m d'armature (20 mm) sur un motif de 1,2 × 1,2 m, avec des ensembles fendus de 1,5 m dans les rangées secondaires, complétés par un treillis métallique soudé galvanisé de calibre 6 (ouverture de 4 pouces).

→ Les intersections typiques nécessitent des boulons de câble de 6 m sur un motif de 2 × 2 m.

→ Les parois et les fronts de taille nécessitent des boulons de câble (6 m, trame de 2 × 2 m).

→ Les exigences en matière de soutènement du sol pour le portail et certaines excavations d'infrastructure restent à définir.

07. Sous-sol – Portail (coupe en boîte)

Appliquez les directives de conception présentées à la section 8.8.1, résumées comme suit :

→ Des pentes de recouvrement de 2H:1V sont recommandées.

→ Pente de la paroi nord : 50°.

→ Pentes de la paroi sud et de la face du portail : 80°.

→ Une épaisseur de pilier de surface de 10 m est appropriée à ce stade.

08. Sous-sol – Infrastructures

Appliquer les directives de conception présentées à la section 8.9, résumées comme suit :

→ Maintenir l'emplacement de la rampe à au moins 100 m des chantiers.

→ Planifier les galeries de transport à 20 m des chantiers d'abattage.

→ Localiser les montées à au moins 40 m des chantiers.

09. Interaction entre la mine à ciel ouvert et la mine souterraine

Appliquez les directives de conception présentées à la section 8.10, résumées comme suit :

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

→ Exploiter les chantiers avant d'excaver la paroi de la fosse à proximité afin d'éviter toute perte de minerai.

→ Utiliser du béton à haute résistance à la compression (CPB) d'une résistance à la compression de 2,0 MPa pour tous les chantiers situés à moins de 100 m des parois de la mine à ciel ouvert.

11.2 Limites des directives de conception

Sur la base des analyses réalisées et des informations actuellement disponibles, les limites suivantes doivent être prises en compte lors de l'application des directives de conception.

01. Modèle lithostructurel

→ Les contacts lithologiques ont été modélisés sur la base des interprétations actuelles et de la densité de forage ; des révisions sont à prévoir à mesure que l'exploitation minière progresse.

→ L'emplacement et la continuité des structures principales (par exemple, FLT_1525, dyke de diabase) restent incertains dans les zones où les forages sont rares, en particulier près de la tranchée du portail.

→ Le modèle structurel ne couvre que la zone à ciel ouvert ; les conditions structurelles de la mine souterraine n'ont pas été modélisées.

→ L'unité UMU est relativement peu caractérisée, ce qui réduit la fiabilité des paramètres de conception là où cette lithologie est exposée.

→ L'orientation de la foliation varie le long de la fosse et peut différer localement des ensembles moyens supposés. Bien que cela ait été pris en compte en définissant plusieurs domaines géomécaniques, la variabilité réelle peut être plus importante et devrait être confirmée à mesure que les affleurements se développent.

02. Caractérisation géotechnique

→ Aucun essai en laboratoire n'a été effectué sur les sols ; les enveloppes de résistance des morts-terrains reposent uniquement sur les résultats du SPT et des corrélations empiriques.

→ Les forages autour de la fosse à ciel ouvert sont limités, en particulier près du portail et des limites de la fosse, ce qui augmente l'incertitude quant à l'épaisseur et aux propriétés du sol.

03. Caractérisation géomécanique

→ Les valeurs de persistance des joints sont supposées être de 15 m jusqu'à ce qu'elles soient validées par des mesures sur le terrain (par exemple, cartographie des parois de la fosse, LiDAR).

→ Les paramètres de résistance des plans de foliation restent incertains.

→ Les ensembles de joints observés sur la paroi sud sont considérés comme moins restrictifs par rapport aux critères de conception que ceux de la paroi nord, en raison de leur espacement plus large.

→ Les excavations ont été supposées sèches ou avec un afflux mineur ; les pressions des eaux souterraines n'ont pas été explicitement prises en compte dans la classification ou la modélisation.

04. Conception de la fosse à ciel ouvert

→ Les facteurs de perturbation de la masse rocheuse (dommages causés par les explosions, relâchement des contraintes) n'ont pas été pris en compte dans les enveloppes de stabilité.

→ Pour obtenir les largeurs de gradins recommandées, il est nécessaire de contrôler le forage et le dynamitage ; un effondrement excessif peut réduire la capacité des gradins de réception.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

→ Les structures à grande échelle n'ont pas été incluses dans les modèles numériques ; les instabilités potentielles associées à ces caractéristiques ne sont donc pas prises en compte.

→ Les conditions hydrogéologiques ont été considérées comme ayant un impact limité sur la base des données actuelles ; les pressions interstitielles n'ont pas été prises en compte dans les analyses numériques.

→ Les lignes directrices s'appliquent uniquement aux géométries et lithologies évaluées ; tout écart peut nécessiter une réévaluation.

05. Conception des mines souterraines

→ Les structures à grande échelle n'ont pas été incluses dans les modèles numériques continus, ce qui limite l'évaluation des mécanismes de rupture contrôlés par la structure.

→ Les hypothèses relatives aux contraintes in situ introduisent une incertitude ; les variations de l'orientation ou de l'amplitude des contraintes principales peuvent affecter la stabilité des chantiers et les performances des piliers de toit.

→ Les effets hydrogéologiques n'ont pas été explicitement modélisés ; les pressions hydrauliques peuvent affecter la stabilité de l'excavation.

→ Le risque sismique n'a pas été évalué en raison de la profondeur relativement faible de la mine, mais des concentrations de contraintes localisées peuvent néanmoins se développer à proximité des chantiers ou dans les piliers.

→ La zone du portail manque de forages géotechniques et nécessite des investigations supplémentaires avant la conception finale et l'exécution.

→ La stabilité des grandes infrastructures souterraines n'a pas été évaluée.

→ L'épaisseur actuelle du pilier de couronne de 85 m ne répond pas aux exigences réglementaires de l'article 77 du RSSTM du Québec et doit être réévaluée au moyen des études techniques requises avant que l'exploitation minière (ou le développement) sous le plan d'eau puisse commencer.

06. Variabilité opérationnelle

→ Les performances des pentes dépendent fortement de la précision du forage, de la qualité du dynamitage et des pratiques de nivellement. Les bonnes pratiques ont été prises en compte tout au long des évaluations.

→ Une perte excessive de crête ou un surcreusement peuvent réduire la largeur effective des bancs de retenue en dessous des hypothèses de conception.

→ Les écarts opérationnels peuvent réduire la stabilité et nécessiter des modifications de la conception.

11.3 Recommandations pour les travaux futurs

Sur la base des analyses réalisées dans le cadre de cette étude, les travaux suivants sont recommandés afin de faire avancer le projet vers la phase d'ingénierie détaillée et d'exécution.

01. Modèle lithostructurel

→ Améliorer la définition des contacts lithologiques, en particulier ceux dont l'orientation est défavorable.

→ Acquérir des données structurelles supplémentaires (cartographie de surface, carottes orientées) dans les secteurs clés des parois de la fosse.

→ Mettre à jour le modèle structurel afin de mieux définir les structures à grande échelle, en particulier dans les zones où la couverture de forage est limitée (par exemple, l'empreinte de la mine souterraine).

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

→ Mener un programme de caractérisation ciblé du site pour la zone du portail. Cette étude doit permettre de confirmer la profondeur des morts-terrains près de la tranchée et le long de l'axe de la rampe, ainsi que les pentes de sol et de roche à utiliser dans la conception.

02. Caractérisation géotechnique

→ Développer un modèle géotechnique spécifique au site pour les morts-terrains dans les zones du portail et de la périphérie de la fosse.

→ Planifier une campagne d'études géotechniques afin d'augmenter la densité des données et d'améliorer la compréhension de la stratigraphie des sols autour de la fosse à ciel ouvert.

→ Réaliser des essais en laboratoire sur des sols représentatifs afin d'établir des enveloppes de résistance au cisaillement appropriées.

03. Caractérisation géomécanique

→ Donner la priorité à la collecte de données pour l'unité UMU, qui présente actuellement le plus grand degré d'incertitude.

→ Étendre les essais en laboratoire (résistance intacte, résistance au cisaillement) pour l'UMU, la pegmatite, les zones altérées et les plans de foliation.

04. Conception de la mine à ciel ouvert

→ Mettre à jour les modèles numériques 3D à mesure que les interprétations lithostructurales sont affinées.

→ Réévaluer les hypothèses de persistance structurelle (actuellement 15 m) une fois que les parois exposées de la fosse permettront une mesure directe (par exemple, balayage LiDAR).

→ Pour le secteur F-2, évaluer les failles observées et les joints ouverts par rapport au modèle structurel mis à jour afin de confirmer leur impact potentiel sur les paramètres de conception.

→ À mesure que l'exploitation minière expose les parois sud, évaluer plus en détail l'impact réel des joints inclinés vers le nord sur l'intégrité des parois à l'échelle des gradins, et revoir l'hypothèse selon laquelle ces joints n'ont pas d'influence significative sur l'IRA prévu.

05. Conception de la mine souterraine

→ Mettre à jour les modèles numériques 3D à mesure que de nouvelles informations lithostructurales deviennent disponibles.

→ Intégrer les structures principales dans les évaluations de stabilité souterraine une fois leur géométrie confirmée.

→ L'épaisseur actuelle de 85 m du pilier de couronne **n'**est **pas** conforme à l'article 77 du RSSTM du Québec pour l'exploitation minière sous un plan d'eau. Des études techniques supplémentaires (hydrogéologie, mécanique des sols, géomécanique) sont légalement requises avant l'obtention de l'autorisation. Ces études doivent être soumises à la CNESST avant toute excavation sous l'influence du plan d'eau.

→ Pour la conception du portail, forer au moins trois (3) trous de forage supplémentaires (environ 90 m au total) afin de confirmer les conditions de la masse rocheuse à l'emplacement du portail.

→ Envisager d'effectuer des mesures de contrainte in situ (par exemple, test Doorstopper) dès le début du développement afin de valider le tenseur de contrainte en champ lointain.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

06. Surveillance et contrôles opérationnels

→ Élaborez un plan de gestion du contrôle du sol (GCMP) spécifique au site qui formalise les exigences en matière de surveillance géotechnique, la fréquence d'examen des données et les protocoles décisionnels.

→ Élaborer des plans d'intervention en cas de déclenchement (TARP) pour les opérations à ciel ouvert et souterraines, en définissant les niveaux d'action et les réponses requises en cas de changements dans le déplacement, la pression interstitielle ou les conditions du sol observées.

→ Mettre à jour le GCMP et les TARP en fonction des observations opérationnelles et des résultats de la surveillance.

→ Mettre en œuvre des systèmes de surveillance en temps réel (prismes, radar, LiDAR) dans les secteurs influencés par des structures importantes ou des géométries de fosse sensibles.

→ Mettre en œuvre un programme de surveillance hydrogéologique afin de suivre les niveaux des eaux souterraines et les pressions interstitielles dans les mines à ciel ouvert et souterraines :

- Installer des piézomètres à corde vibrante (VWP) à des endroits clés, notamment sur les parois de la fosse, le pilier de couronne et les zones où l'afflux d'eau souterraine pourrait influencer la stabilité.
- Mettre en place un système automatisé d'enregistrement des données et de seuils d'alarme afin de détecter rapidement toute tendance anormale de la pression interstitielle.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Références

Alius Mine Consulting. (2025). *Étude géomécanique du pegmatite CV5* (rapport factuel n° SHA-001-F-20251114-01). Shaakichiuwaanaan.

ASTM. (2014). Méthodes d'essai standard pour la résistance à la compression et les modules d'élasticité d'échantillons de carottes de roche intactes sous différents états de contrainte et de température. https://doi.org/10.1520/ D7012-14E01

ASTM. (2016). Méthode d'essai standard pour la détermination de l'indice de résistance à la charge ponctuelle des roches et application à la classification de la résistance des roches.

Barton, N., Lien, R., & Lunde, J. (1974). Classification technique des masses rocheuses pour la conception du soutènement des tunnels d' .

BBA. (2023a). *Bases géomécaniques pour la conception des pentes PEA* (rapport technique n° 7535006-000000-40-ERA- 0001-RAA). Shaakichiuwaanaan.

BBA. (2023b). *Étude hydrogéologique de référence – Future mine à ciel ouvert CV5, propriété Corvette Lithium,* (rapport technique n° 7535001-001900-41-ERA-0002-RAA). Shaakichiuwaanaan.

BBA. (2024a). *Rapport factuel de l'étude géotechnique au forage au diamant de 2024, site Corvette CV-5* (rapport technique n° 7535017-000000-4M-ERA-0001-RAA). Shaakichiuwaanaan.

BBA. (2024b). *Rapport factuel sur l'étude géotechnique au forage au diamant de 2024, site CV5* (rapport technique n° 7535017-000000-4M-ERA-0003-R00). Shaakichiuwaanaan.

BBA. (2024c). *Campagne géotechnique pour la phase 2* (rapport factuel n° 7535009-020001-4G-ERA- 0003-RAA). Shaakichiuwaanaan.

BBA. (2024d). *Base de conception géotechnique des pentes, projet Shaakichiuwaanaan CV5 - PROJET* (rapport technique n° 75350017-00000-40-ERA-0002 / RAB). Shaakichiuwaanaan.

BBA. (2024e). *Rapport technique NI 43-101, Évaluation économique préliminaire du projet Shaakichi- uwaanaan* (PEA n° 7535006-000000-40-ERA-0002-R00). Shaakichiuwaanaan.

Belem, T., Gélinas, L. P., & Oke, J. (2022). Une nouvelle solution généralisée pour la résistance requise des trois types de remblai minier cimenté. *Article ARMA 22-878*, 13.

Bewick, R. P., Amann, F., Kaiser, P. K., & Martin, C. D. (2015). Interprétation des résultats des essais UCS pour la conception technique de l' .

Bieniawski, Z. T. (1976). Classification des masses rocheuses en génie civil. *Actes*, *1*, 97–106. Bieniawski, Z. T. (1989). *Classification des masses rocheuses en génie civil*. Wiley.

Carter, T. G. (2014). Guidelines for use of the Scaled Span Method for Surface Crown Pillar Stability Assessment, 34.

Carter, T. G., & Miller, R. (1995). Évaluation des risques liés aux piliers de couronne - aide à la planification pour une remise en état rentable des mines. *Institut des matériaux, des minéraux et des mines*.

Clark, L. M. (1998). *Minimiser la dilution dans l'exploitation minière à ciel ouvert en mettant l'accent sur la conception des chantiers et l' s dynamitage à trous longs dans les veines étroites* [Thèse de doctorat].

Coulomb, C. (1776). Essais sur une application des règles de maximis et minimis à quelques problèmes de statique relatifs à l'architecture. *7*, 343–387.

Day. (2005). *Foundation Engineering Handbook: Design and Construction with 2006 International Building Code* (1st). McGraw-Hill Professional.

Deere, D., Hendron, A., Patton, F., & Cording, E. (1967). Conception de la construction d' s en surface et en proximité de surface dans la roche. *Actes du 8e Symposium américain sur la mécanique des roches*, 237–302.

Éditeur officiel du Québec. (2025). Règlement sur la santé et la sécurité du travail dans les mines (RSSTM). https://www.legisquebec.gouv.qc.ca/fr/document/rc/S-2.1,%20r.%2014%20/

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Gibson, W., De Bruyn, I. A., & Walker., D. J. H. (2007). Considérations relatives à l'optimisation de l'angle des bancs d' , de l'angle des fronts de taille et de la largeur des bermes dans les mines à ciel ouvert.

Goodman, R. E. (1989). *Introduction à la mécanique des roches* (2e édition). John Wiley & Sons.

Guido, S. (2019). *Contributions à la conception géomécanique des chantiers à l'aide d'approches statistiques : Le cas de la mine Éléonore* [Thèse de doctorat, Université Laval].

Heidbach, O., Rajabi, M., Di Giacomo, D., Harris, J., Lammers, S., Morawietz, S., Pierdominici, S., Reiter, K., von Specht, S., Storchak, D., & Ziegler, M. O. (2025). Publication de la base de données World Stress Map 2025. https://doi.org/doi.org/10.5880/WSM.2025.001

Hoek, E. (2006). *Practical Rock Engineering*.

Hoek, E., & Brown, E. T. (1980). *Excavations souterraines dans la roche*. CRC Press.

Hoek, E., & Brown, E. T. (2018). Le critère de rupture de Hoek-Brown et GSI – édition 2018. *Journal of Rock Mechanics and Geotechnical Engineering*, *11*(3), 445–463. https://doi.org/10.1016/j.jrmge (Indice de résistance géologique). 2018.08.001

Hoek, E., Carter, T. G., & Diederichs, M. S. (2013). Quantification de l'indice de résistance géologique Chart. *47e symposium américain sur la mécanique des roches / géomécanique*.

Hoek, E., & Diederichs, M. S. (2006). Estimation empirique du module de masse rocheuse. *International Journal of Rock Mechanics and Mining Sciences*, *43*(2), 203–215. https://doi.org/10.1016/j. ijrmms.2005.06.005

ISRM. (1978). *Méthodes suggérées par l'ISRM pour la description quantitative des discontinuités dans les masses rocheuses* (Vol. Int. J Rock Mech. Min. Sci. & Geomech. Abstr.). Pergamon Press Ltd.

ISRM. (2007). *Méthodes complètes suggérées par l'ISRM pour la caractérisation, les essais et la surveillance des roches : 1974-2006*. Commission sur les méthodes d'essai, Société internationale de mécanique des roches. Itasca Consulting Group. (2025a). FLAC3D — Analyse lagrangienne rapide des milieux continus en trois dimensions.

Itasca Consulting Group. (2025b). IMASS. https://www.itasca.ca/software/imass

Li, L., & Aubertin, M. (2012). Une solution modifiée pour évaluer la résistance requise du remblai exposé dans les chantiers miniers. *Revue canadienne de géotechnique*, *49*(8), 994–1002. https://doi.org/10.1139/t2012- 056

Lorig, L., & Varona, P. (2013). Lignes directrices pour la modélisation numérique du soutènement des roches dans les mines. *Actes du septième symposium international sur le soutènement des sols dans les mines et la construction souterraine* , 81–105. https://doi.org/10.36487/ACG_rep/1304_04_Lorig

Mathews, K. E. (1980). *Prediction of stable excavation spans for mining below 1000 m in hard rock* (rapport technique). Golder Associates.

Mitchell, R., Olsen, R., & Smith, J. (1982). Études de modèles sur les résidus cimentés utilisés dans le remblayage des mines [Pastefill (également utilisé pour le CRF !)], (19), 14–28.

Pakalnis, R. (2015). Méthodes de conception empiriques en pratique [pastefill]. *Actes du séminaire international sur les méthodes de conception dans l'exploitation minière souterraine*, 37–56. https://doi.org/10.36487/ACG_rep/ 1511_0.3_Pakalnis

Perras, M. A., & Diederichs, M. S. (2014). A Review of the Tensile Strength of Rock: Concepts and Testing [BTS not to be used in Hoek-Brown]. *Geotechnical and Geological Engineering*, *32*(2), 525–546. https://doi.org/10.1007/s10706-014-9732-0

Potvin, Y. (1988). *Empirical open stope design in Canada* [Thèse de doctorat]. Université de Colombie-Britannique.

Read, J., & Stacey, P. (Eds.). (2009). *Guidelines for Open Pit Slope Design*. CSIRO Publishing. Rocscience. (2024a). Dips [avril 2024].

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Rocscience. (2024b). SWedge [juillet 2024]. Rocscience.
(2025a). RocPlane [février 2025]. Rocscience. (2025b). Slide2
[mars 2025].
Rose, N. D., Scholz, M., Burden, J., King, M., Maggs, C., & Havaej, M. (2018). Quantification de la perturbation transitoire de la masse rocheuse dans les pentes à ciel ouvert liée à l'excavation minière, 17.
Ryan, T. M., & Pryor, P. R. (2000). Conception des bancs de retenue et des pentes entre les rampes. Dans *Slope Stability in Surface Mining* (pp. 27–38).
Stewart, S. B. V., & Forsyth, W. W. (1995). La méthode de Mathew pour la conception des chantiers à ciel ouvert. *CIM*, *88*(992), 9.
Terzaghi, K., Peck, R. B., & Mesri, G. (1996). *Mécanique des sols dans la pratique de l'ingénierie*. John Wiley & Sons.
Yang, P., Li, L., Aubertin, M., Brochu-Baekelmans, M., & Ouellet, S. (2017). Analyses de stabilité des barricades de stériles conçues pour retenir le remblai en pâte. *International Journal of Geomechanics*, *17*(3), 04016079. https://doi.org/10.1061/ (ASCE) GM.1943-5622.0000740

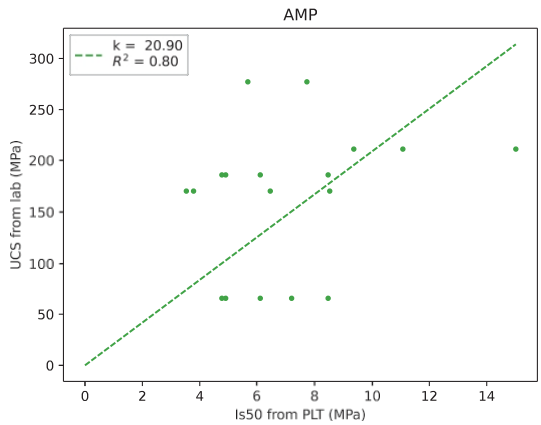
Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

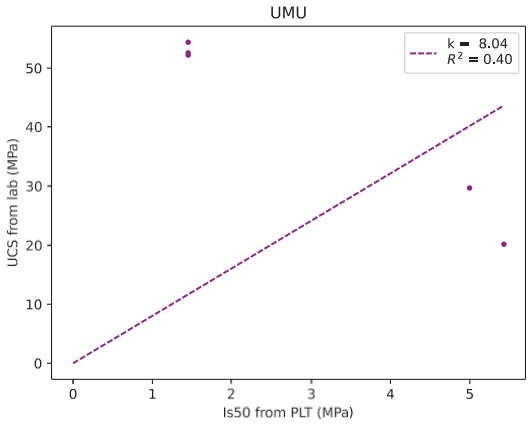
Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

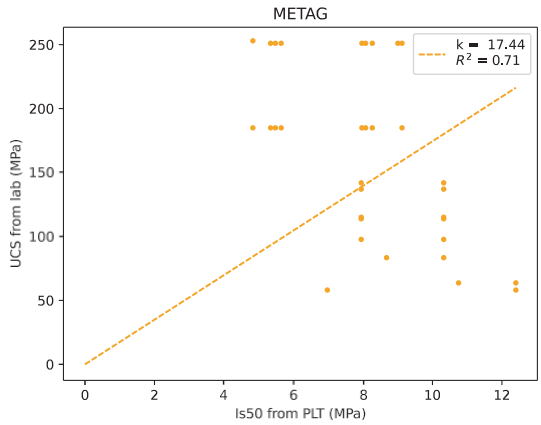
Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

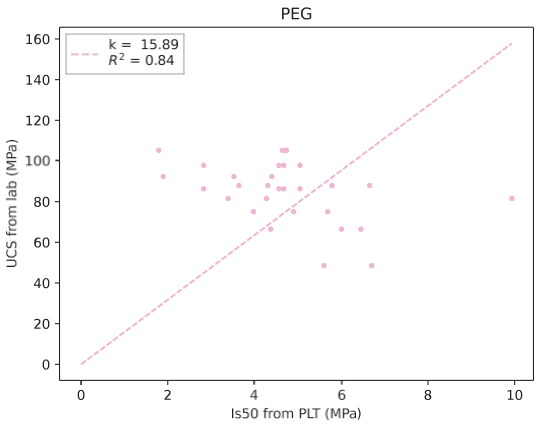
A Facteurs de conversion PLT en UCS

Les données utilisées pour déterminer les facteurs de conversion UCS-PLT (k) sont présentées dans les figures ci-dessous, ainsi que les paramètres de régression linéaire qui en résultent, où k correspond à la pente.









Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

B Projections stéréographiques

Les figures 64 à 77 présentent les projections stéréographiques (hémisphère inférieur) des pôles des discontinuités étudiées et les ensembles de joints interprétés pour chacun des domaines géomécaniques dans la roche fraîche de la mine à ciel ouvert. Il convient de noter que la correction de pondération de Terzaghi est appliquée dans toutes les figures.

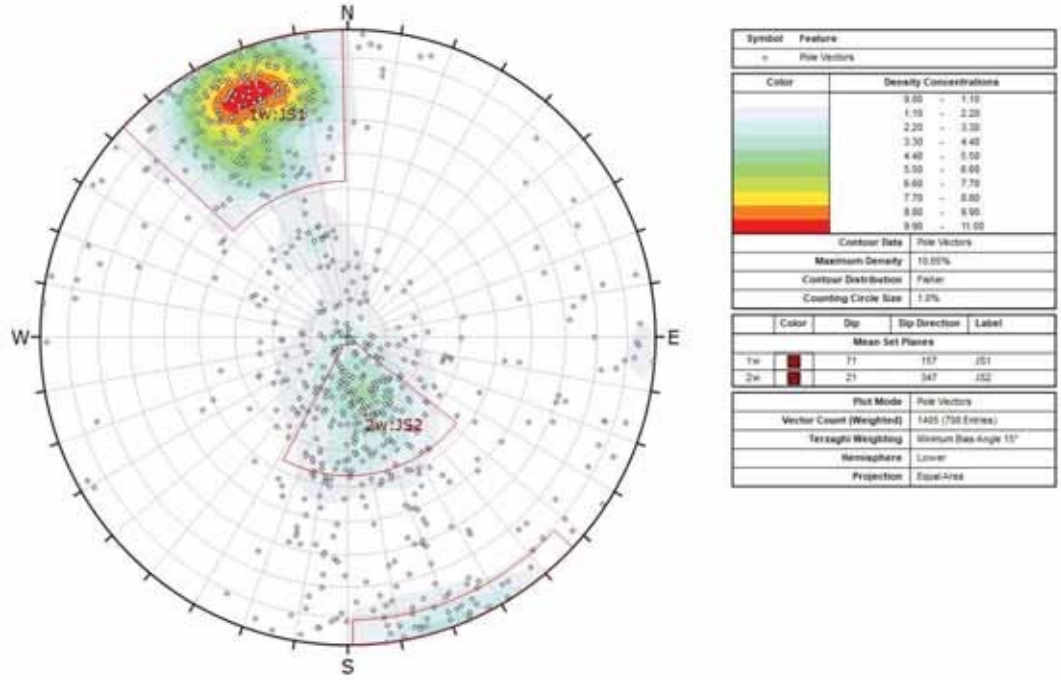


Figure 64. Projections stéréographiques des discontinuités GMD WAll-AMP dans l'amphibolite et ensembles de joints interprétés pour la zone ouest (paroi nord et paroi sud).

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

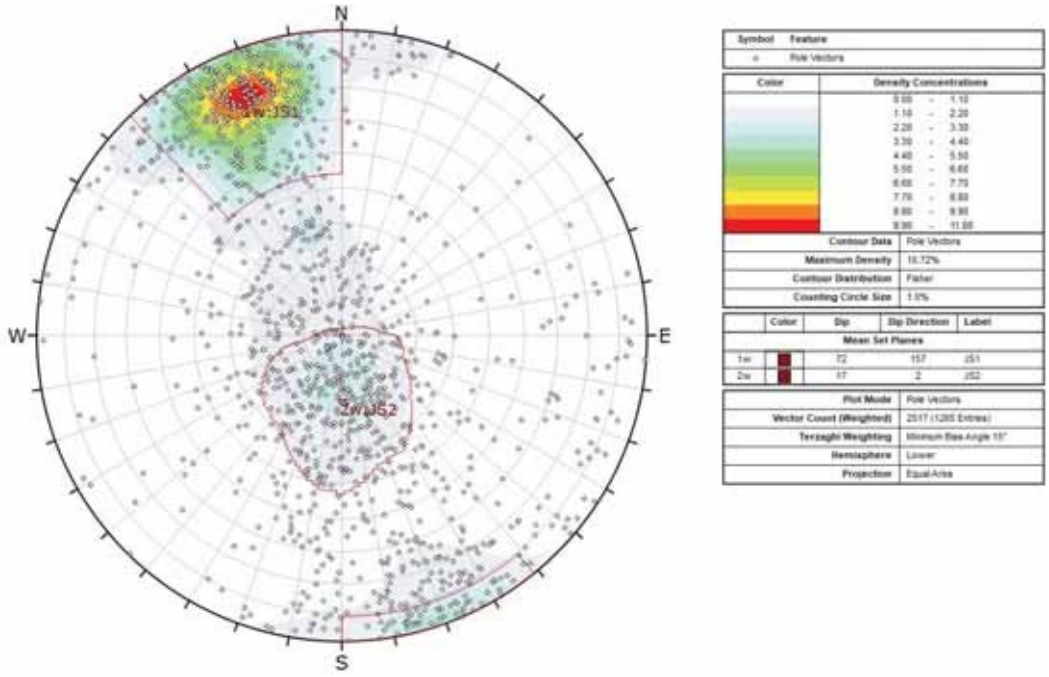


Figure 65. Projections stéréographiques des discontinuités GMD WW-APU dans toutes les lithologies pour la zone ouest (paroi ouest).

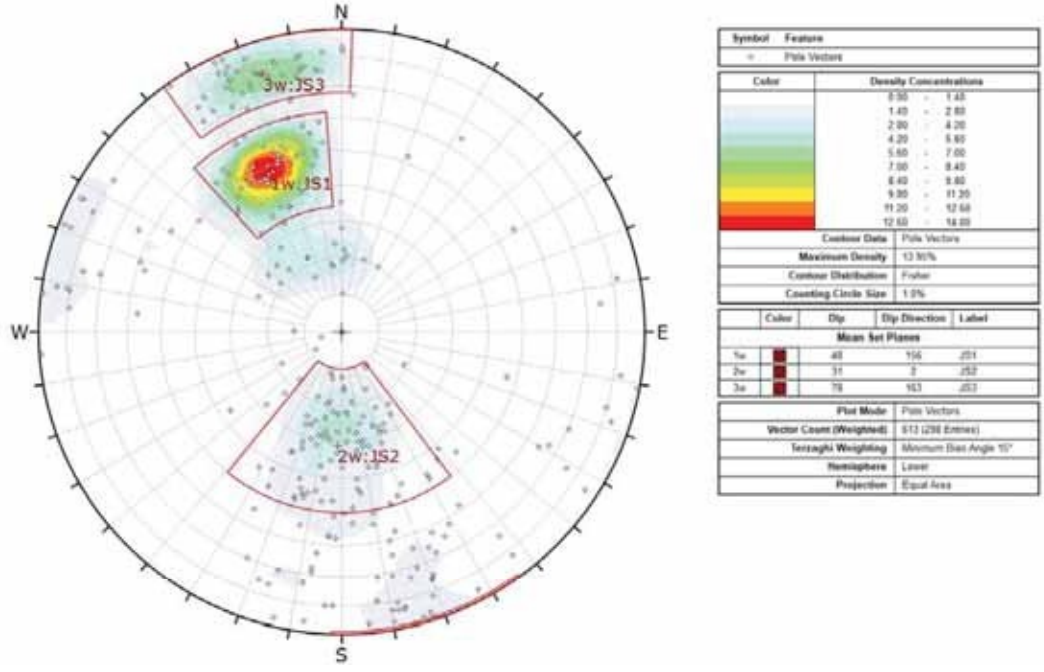


Figure 66. Projections stéréographiques des discontinuités GMD WS-META dans les métasédiments et ensembles de joints interprétés pour la zone ouest (paroi sud).

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

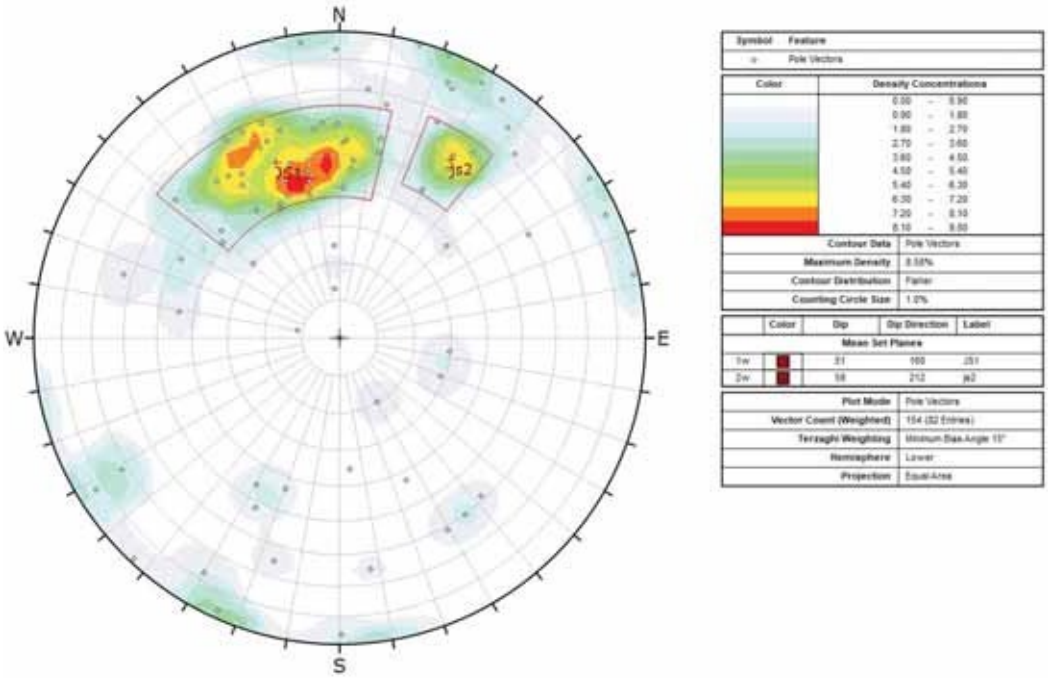


Figure 67. Projections stéréographiques des discontinuités GMD CN-UMU dans les roches ultramafiques et les ensembles de joints interprétés pour la zone centrale (paroi nord).

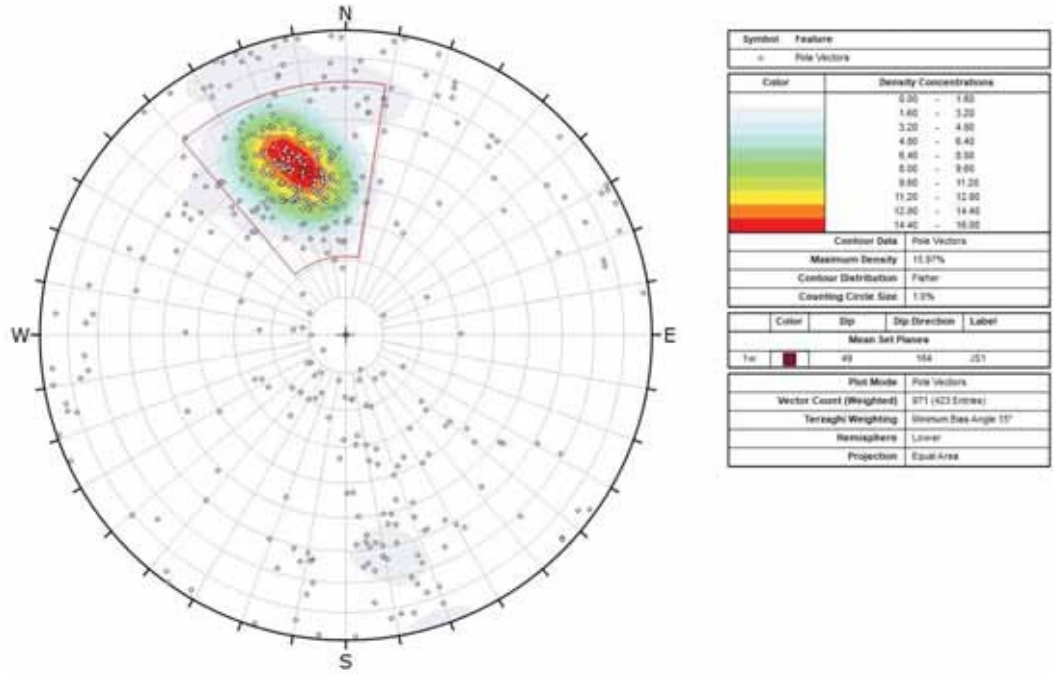


Figure 68. Projections stéréographiques des discontinuités GMD CN-META dans les métasédiments et ensembles de joints interprétés pour la zone centrale (paroi nord).

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

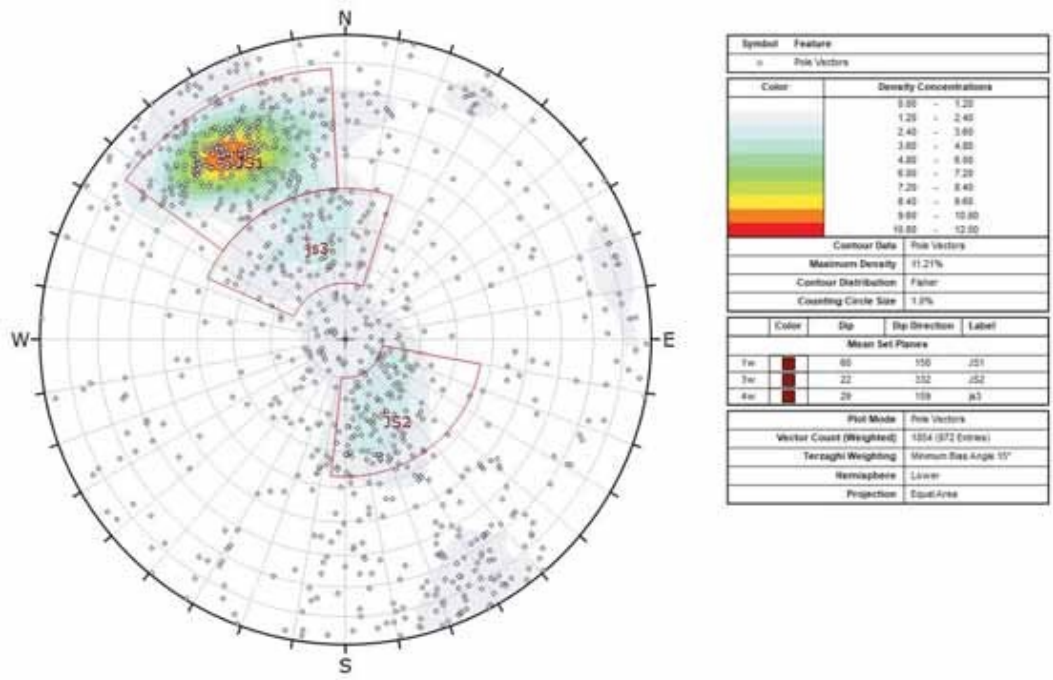


Figure 69. Projections stéréographiques des discontinuités GMD CN-AMP dans l'amphibolite et ensembles de joints interprétés pour la zone centrale (paroi nord).

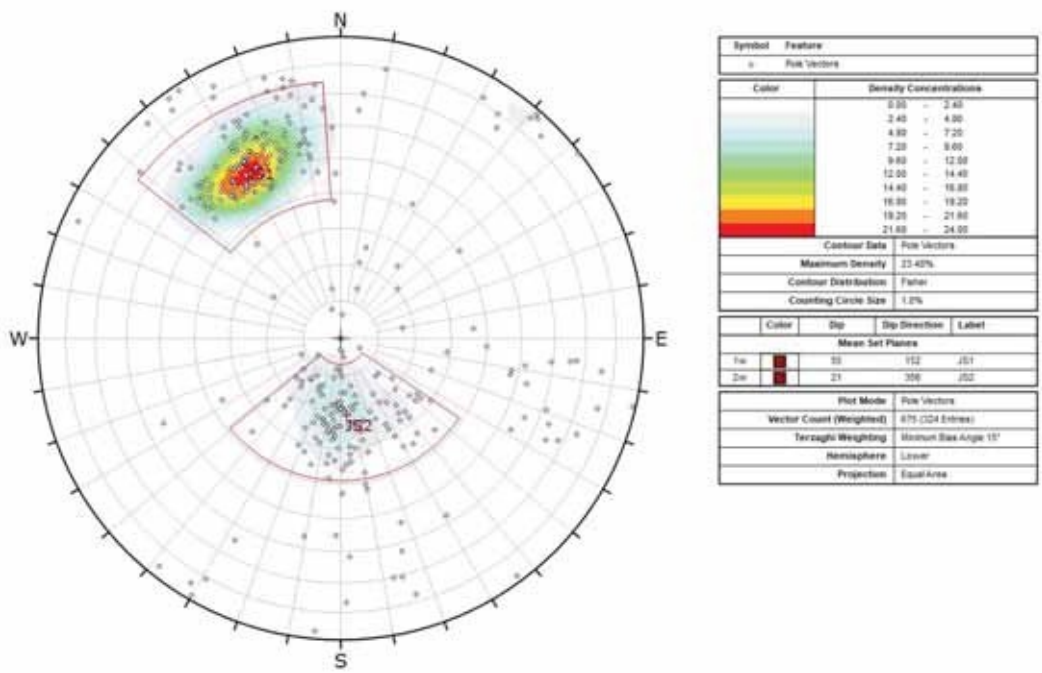


Figure 70. Projections stéréographiques des discontinuités GMD CS-META dans les métasédiments et ensembles de joints interprétés pour la zone centrale (paroi sud).

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

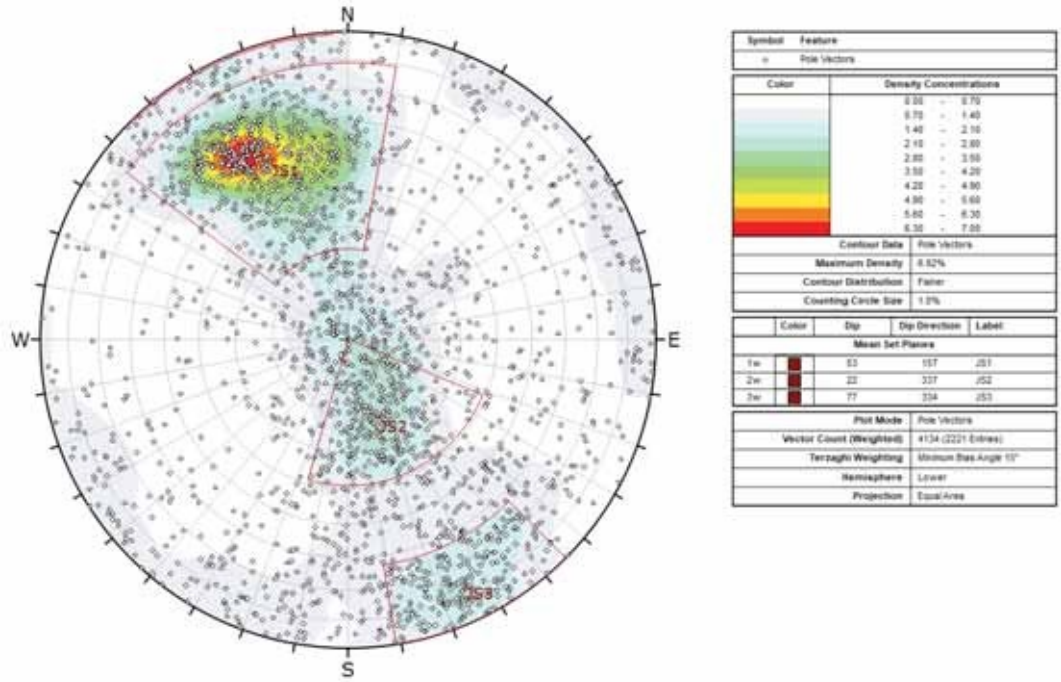


Figure 71. Projections stéréographiques des discontinuités GMD CS-AMP dans l'amphibolite et ensembles de joints interprétés pour la zone centrale (paroi sud).

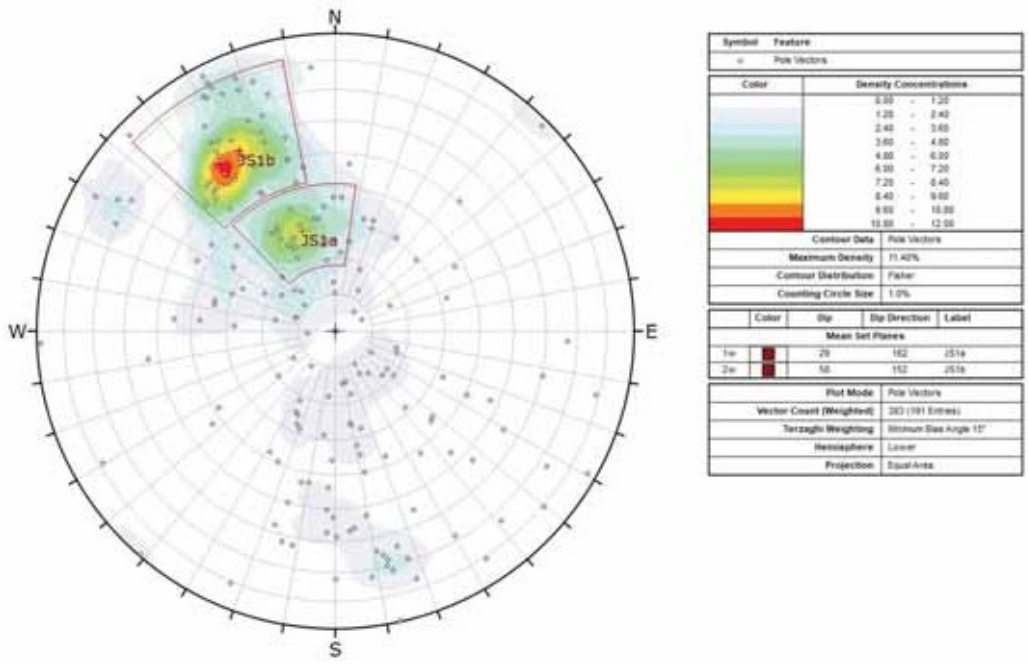


Figure 72. Projections stéréographiques des discontinuités GMD EN-UMU dans les roches ultramafiques et ensembles de joints interprétés pour la zone est (paroi nord).

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

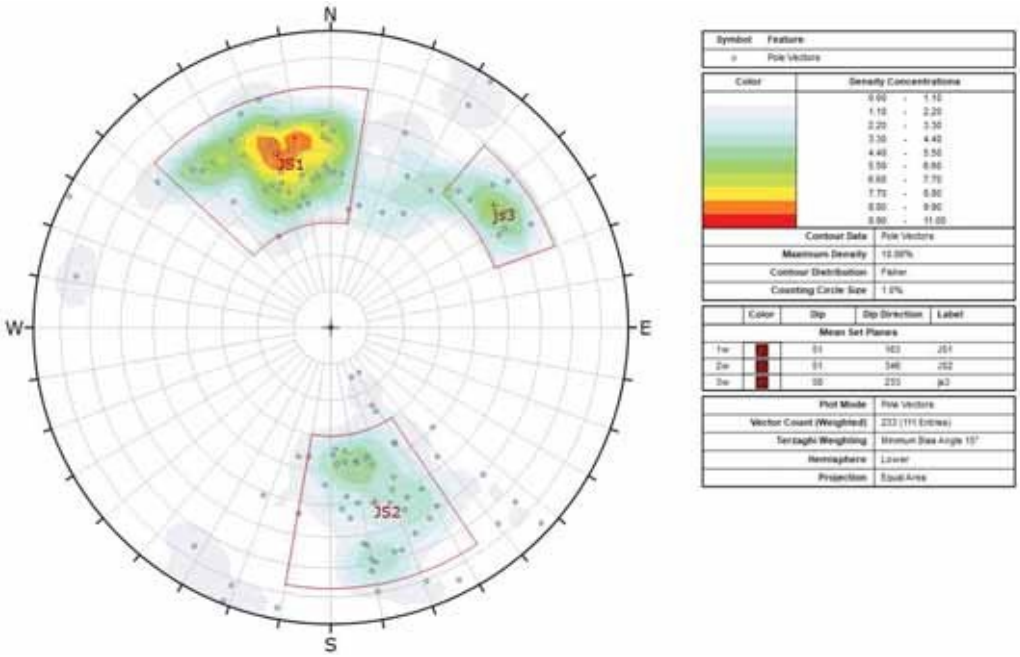


Figure 73. Projections stéréographiques des discontinuités GMD EN-META dans les métasédiments et ensembles de joints interprétés pour la zone est (paroi nord).

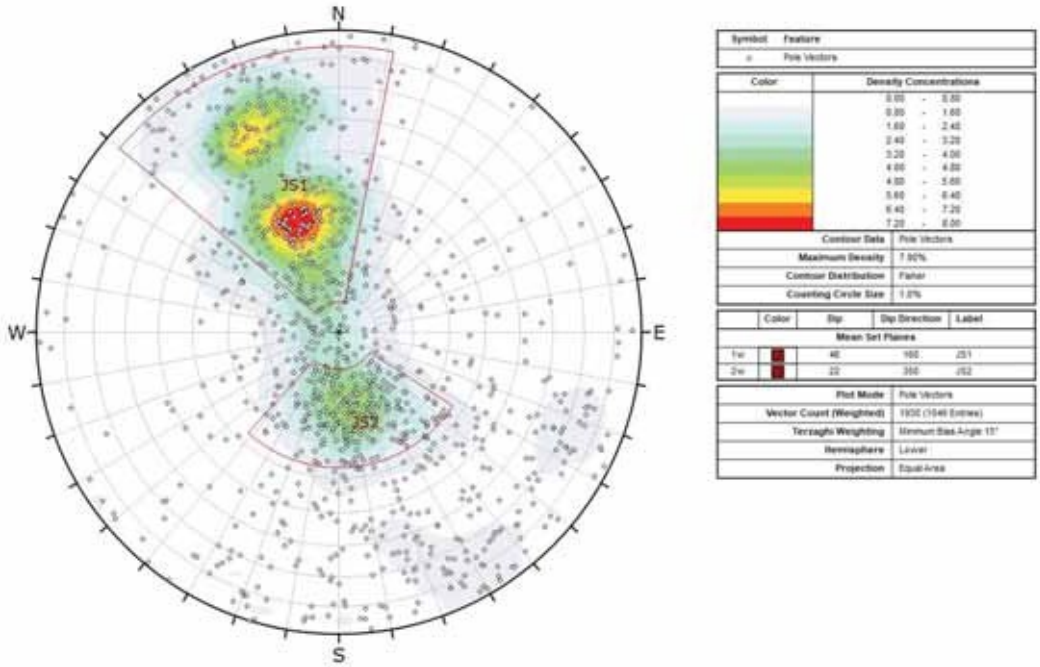


Figure 74. Projections stéréographiques des discontinuités GMD EE-AMPU dans toutes les lithologies pour la zone est (paroi est).

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

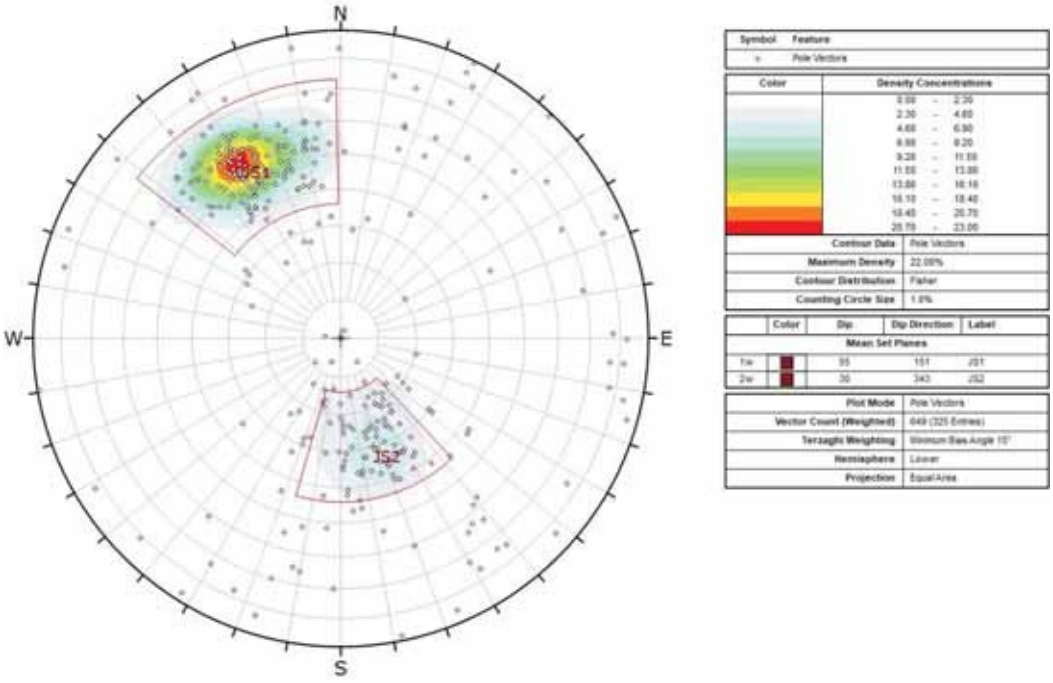


Figure 75. Projections stéréographiques des discontinuités GMD ES-META dans les métasédiments et ensembles de joints interprétés pour la zone est (paroi sud).

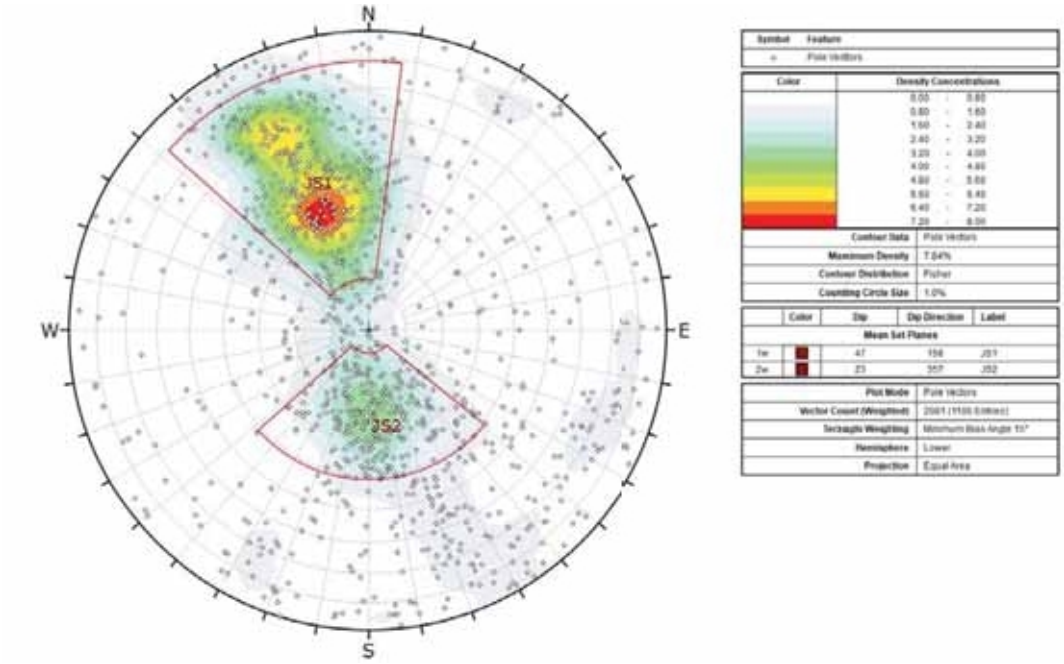


Figure 76. Projections stéréographiques des discontinuités GMD EAll-AMP dans l'amphibolite et ensembles de joints interprétés pour la zone est (paroi nord et paroi sud).

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

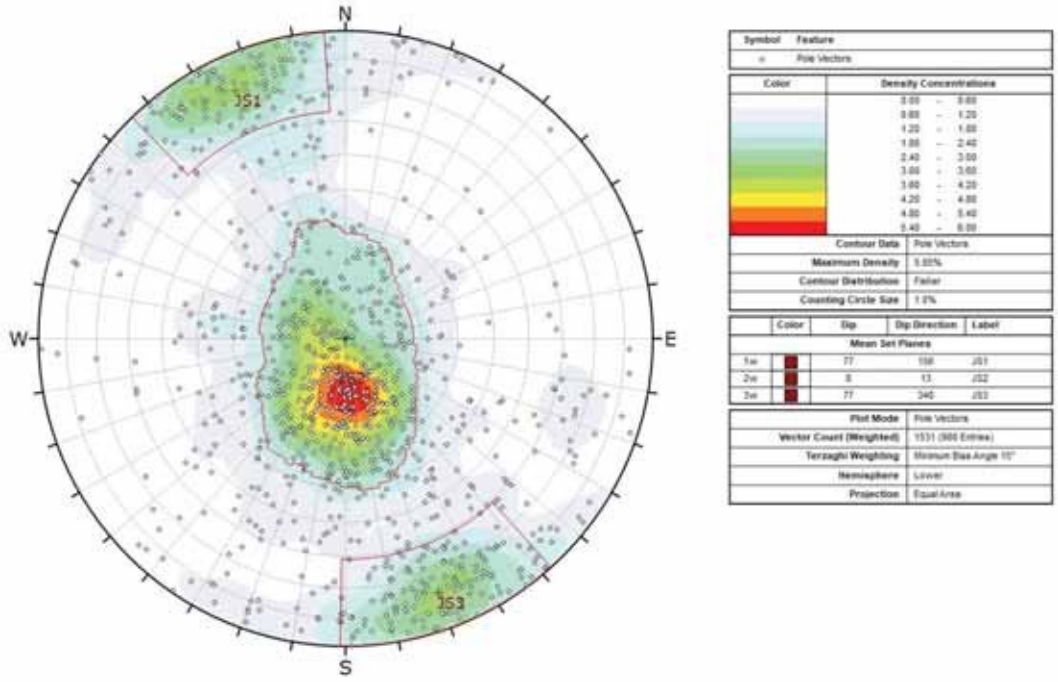


Figure 77. Projections stéréographiques des discontinuités GMD WCE-PEG dans la pegmatite et ensembles de joints interprétés pour les zones ouest, centrale et est.

Les figures 79 à 81 montrent les projections stéréographiques des discontinuités étudiées et des ensembles de joints interprétés. Il convient de noter que la correction de pondération de Terzaghi est appliquée dans toutes les figures.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

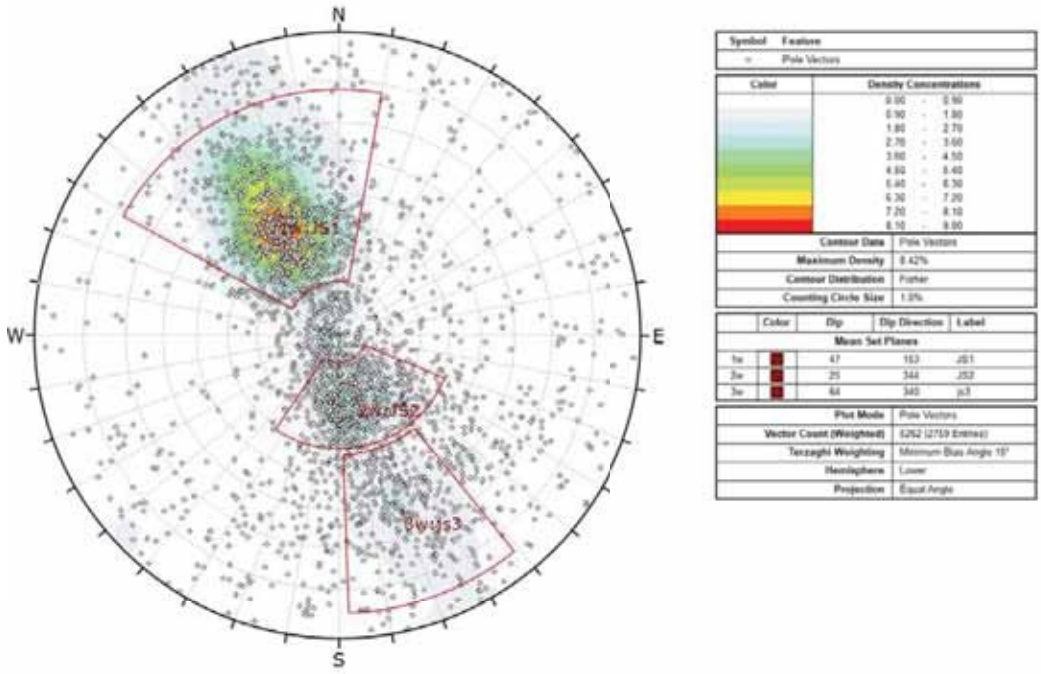


Figure 78. Projections stéréographiques des discontinuités dans l'amphibolite dans la zone de la mine souterraine et ensembles de joints interprétés.

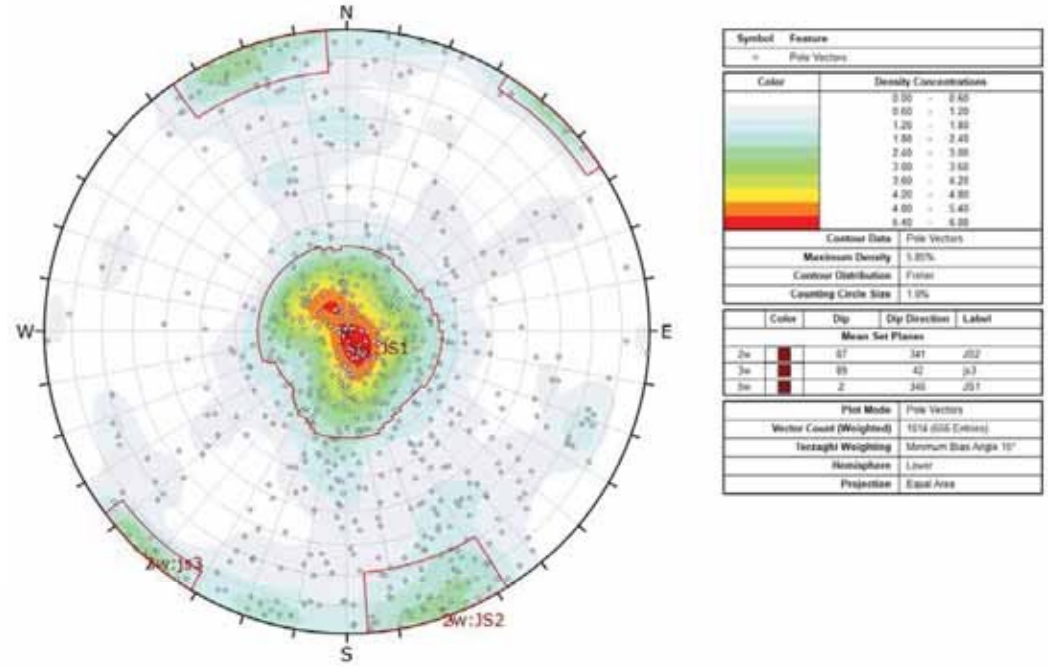


Figure 79. Projections stéréographiques des discontinuités dans la pegmatite dans la zone minière souterraine et ensembles de joints interprétés.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

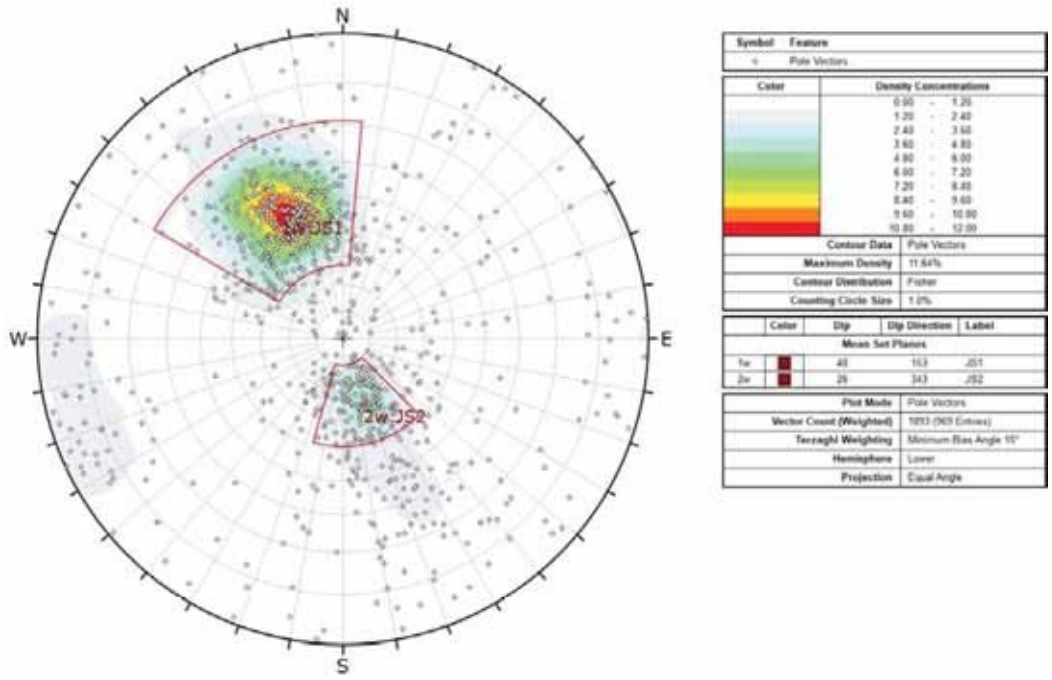


Figure 80. Projections stéréographiques des discontinuités dans les métasédiments de la zone minière souterraine et ensembles de joints interprétés.

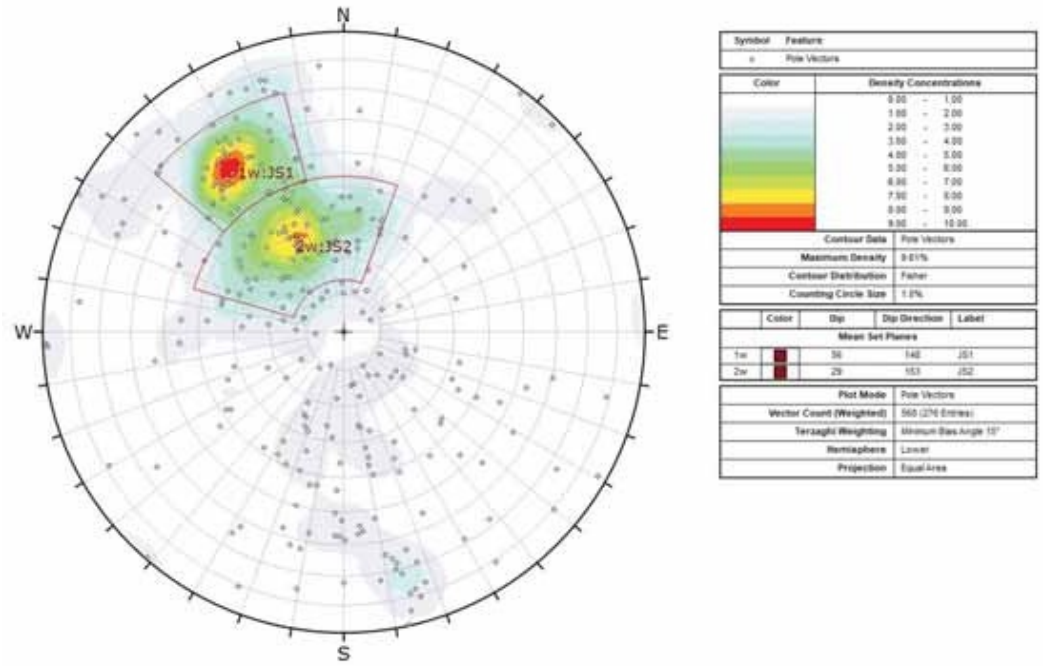


Figure 81. Projections stéréographiques des discontinuités dans les roches ultramafiques de la zone minière souterraine et ensembles de joints interprétés.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

C Caractérisation structurelle détaillée à ciel ouvert

Cette annexe présente la projection stéréographique (hémisphère inférieur) des pôles des discontinuités étudiées par lithologie pour chacune des huit (8) zones définies le long de la longueur de la fosse à des fins de caractérisation. Il convient de noter que certaines zones ne disposent pas de stéréogramme en raison du manque de données collectées dans ces zones ou de l'absence d'unité lithologique dans la zone.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

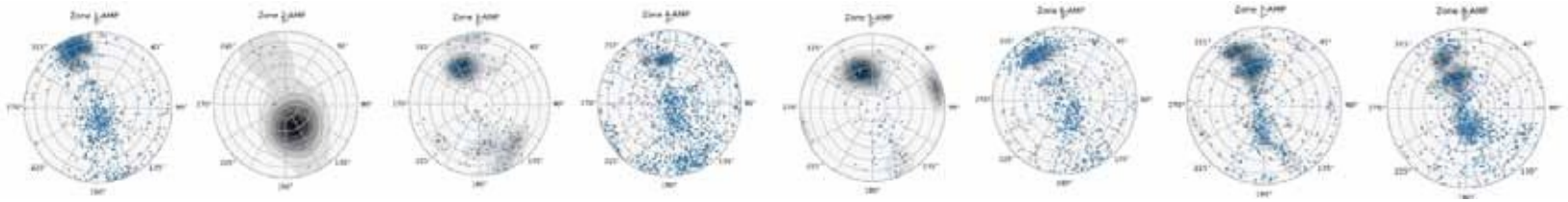


Figure 82. Réseau stéréographique pour les zones 1 à 8 de la mine à ciel ouvert - Amphibolite

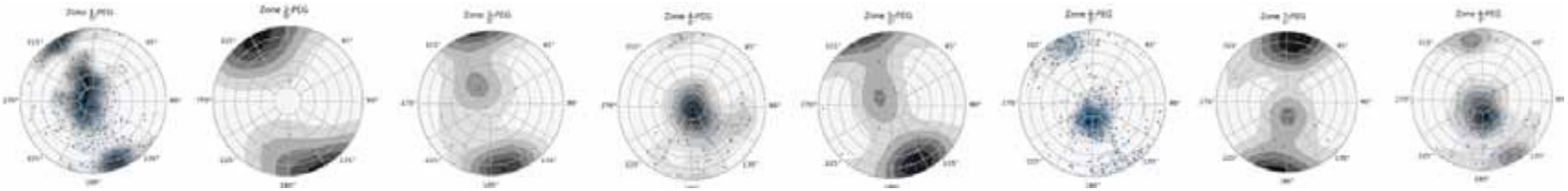


Figure 83 Stéréogramme des zones 1 à 8 de la mine à ciel ouvert - Pegmatite

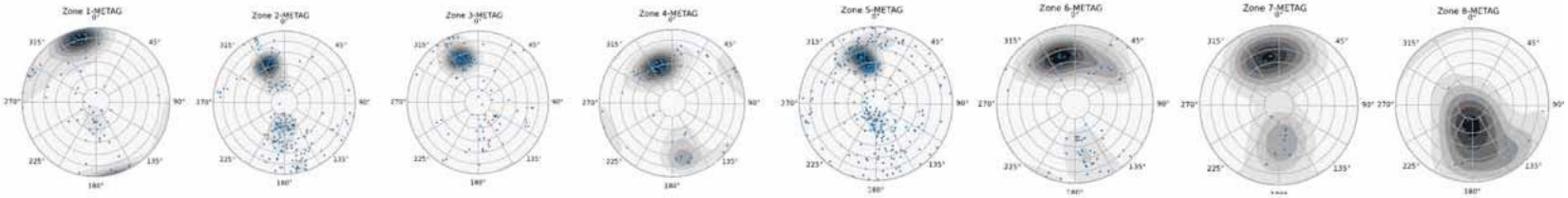


Figure 84. Stéréonet pour les zones 1 à 8 de la mine à ciel ouvert - Métasédiments (Guyer)

Figure 85. Stéréogramme des zones 1 à 8 de la mine à ciel ouvert - Métasédiments (Marbot)

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

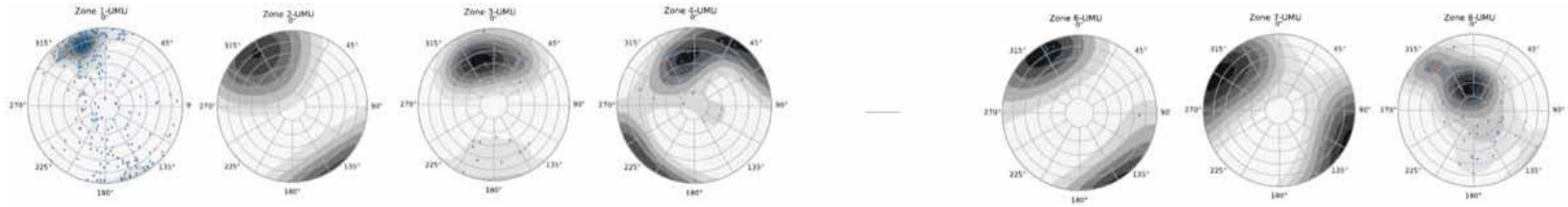


Figure 86. Stéréogramme des zones 1 à 8 de la mine à ciel ouvert - Ultramafique

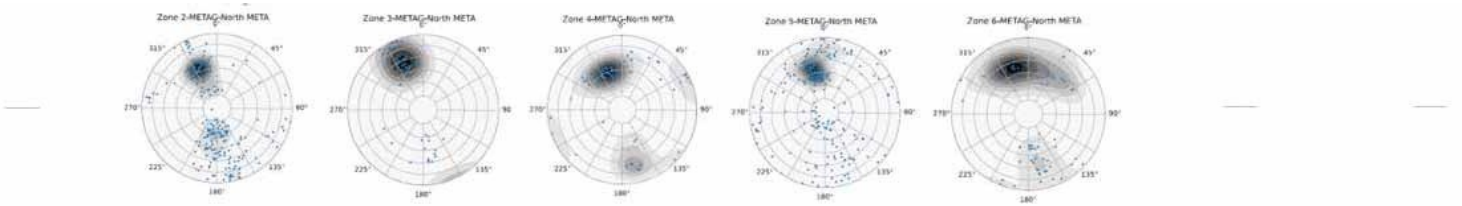


Figure 87. Stéréonet pour les zones 1 à 8 de la mine à ciel ouvert - Métasédiments (Guyer) - Nord

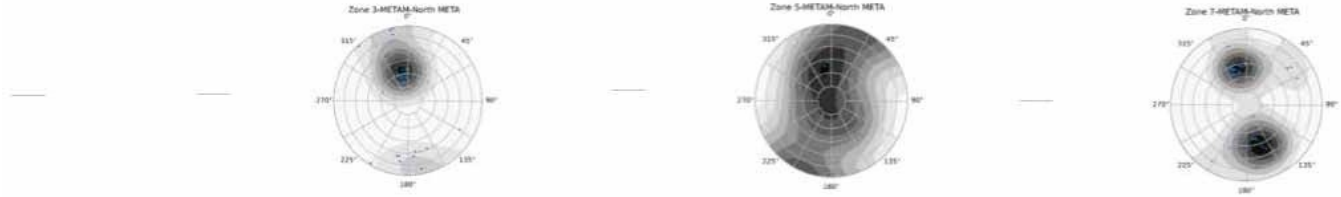


Figure 88. Stéréogramme pour les zones 1 à 8 de la mine à ciel ouvert - Métasédiments (Marbot) - Nord

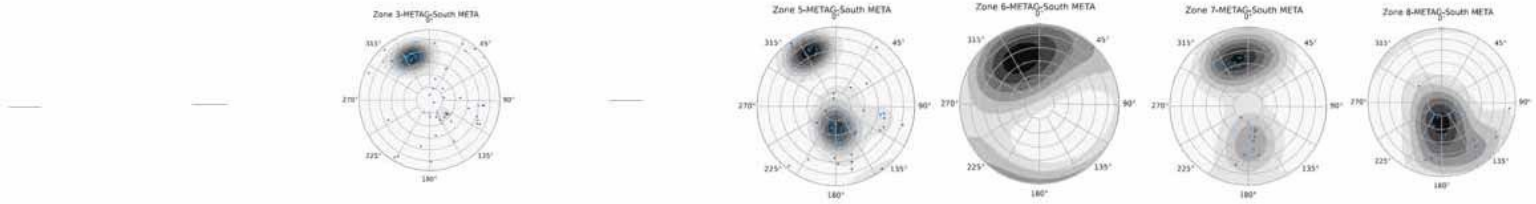


Figure 89. Stéréogramme pour les zones 1 à 8 de la mine à ciel ouvert - Métasédiments (Guyer) - Sud

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

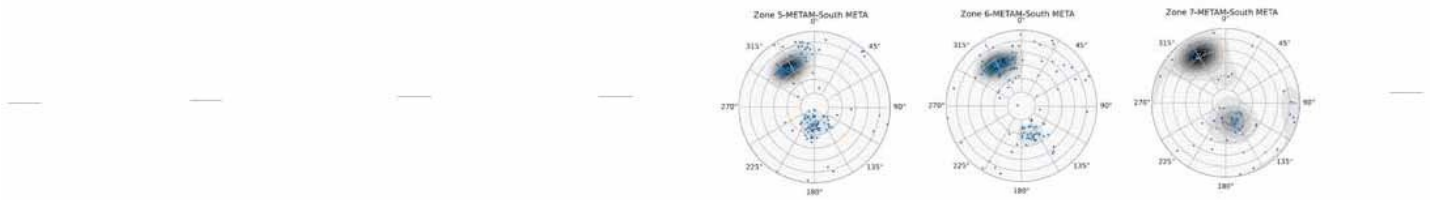


Figure 90. Stéréonet pour les zones 1 à 8 de la mine à ciel ouvert - Métasédiments (Marbot) - Sud

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

D Directives relatives à la mine à ciel ouvert – Mise à jour 2025

En mars 2025, la conception de la mine à ciel ouvert a été optimisée d'un point de vue économique, comme le montre la figure 91, ce qui a entraîné une modification des affleurements lithologiques le long des parois finales de la mine (figure 92). Dans cette configuration mise à jour, la partie ouest de la mine est plus étroite et comprend désormais environ quatre à cinq gradins en hauteur. La géométrie des parois a également évolué, passant d'une configuration précédemment droite à un profil ondulé plus optimisé.

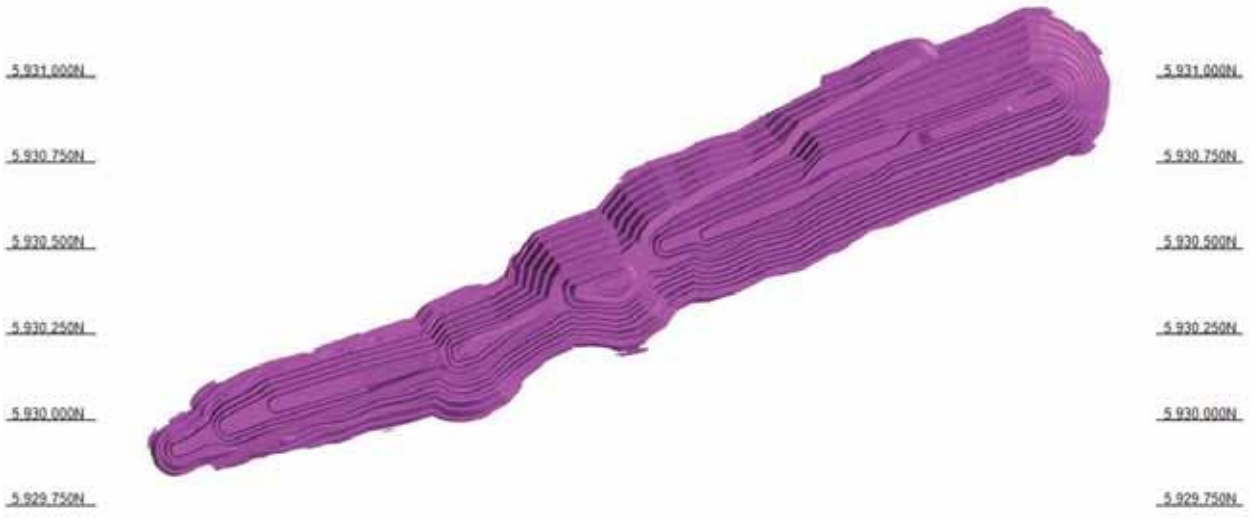
Cette géométrie ondulée introduit des segments convexes locaux le long de la paroi de la fosse. Ces convexités peuvent réduire le confinement de la masse rocheuse et augmenter le risque d'instabilité par rapport aux géométries planes ou concaves. De plus, ces nouvelles orientations de la paroi exposent localement des lithologies dans des directions qui n'avaient pas été analysées auparavant.

Malgré ces changements, l'impact global sur les performances de la paroi devrait rester limité, car la courbure est localisée et ne s'étend pas de manière continue le long du périmètre de la fosse. D'un point de vue opérationnel, on prévoit que le profil de la paroi telle qu'elle sera exploitée sera plus lisse et moins ondulé que la représentation de la conception, ce qui facilitera le fonctionnement des équipements et réduira les effets géométriques localisés.

Compte tenu de ces considérations, la géométrie proposée pour les parois devrait être réévaluée lors de l'ingénierie détaillée afin de confirmer sa faisabilité géotechnique et de s'assurer que les contraintes opérationnelles et les exigences de stabilité sont correctement prises en compte.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification



(a) Vue en plan.

(b) Vue latérale depuis le sud-est.

Figure 91. Conception FS à ciel ouvert fournie par GMS en mars 2025.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Les directives de conception ont été mises à jour pour les secteurs de la fosse, comme le montrent la figure 92 et le tableau 69, qui présentent les directives de conception des pentes pour chaque secteur de la fosse. Ces directives comprennent un (1) secteur pour le domaine des morts-terrains et dix (10) secteurs pour le domaine des roches fraîches.

En raison de la bonne qualité générale et de la résistance de la roche fraîche, la stabilité des pentes devrait être contrôlée principalement par les caractéristiques structurelles plutôt que par la résistance de la masse rocheuse. Toutefois, une attention particulière doit être accordée aux zones de la fosse où l'UMU est exposée, car la conception actuelle de l'étude de faisabilité entraîne une exposition localisée de ce type de roche. Les conceptions futures devraient viser à minimiser l'exposition de l'UMU, soit en exploitant ces zones, soit en évitant complètement les secteurs d'UMU. En outre, il est recommandé de prévoir des bermes géotechniques de 16 m de large autour du milieu des pentes rocheuses d'au moins 160 m de haut afin de réduire l'angle global des pentes et d'offrir une marge de manœuvre supplémentaire pour la conception.

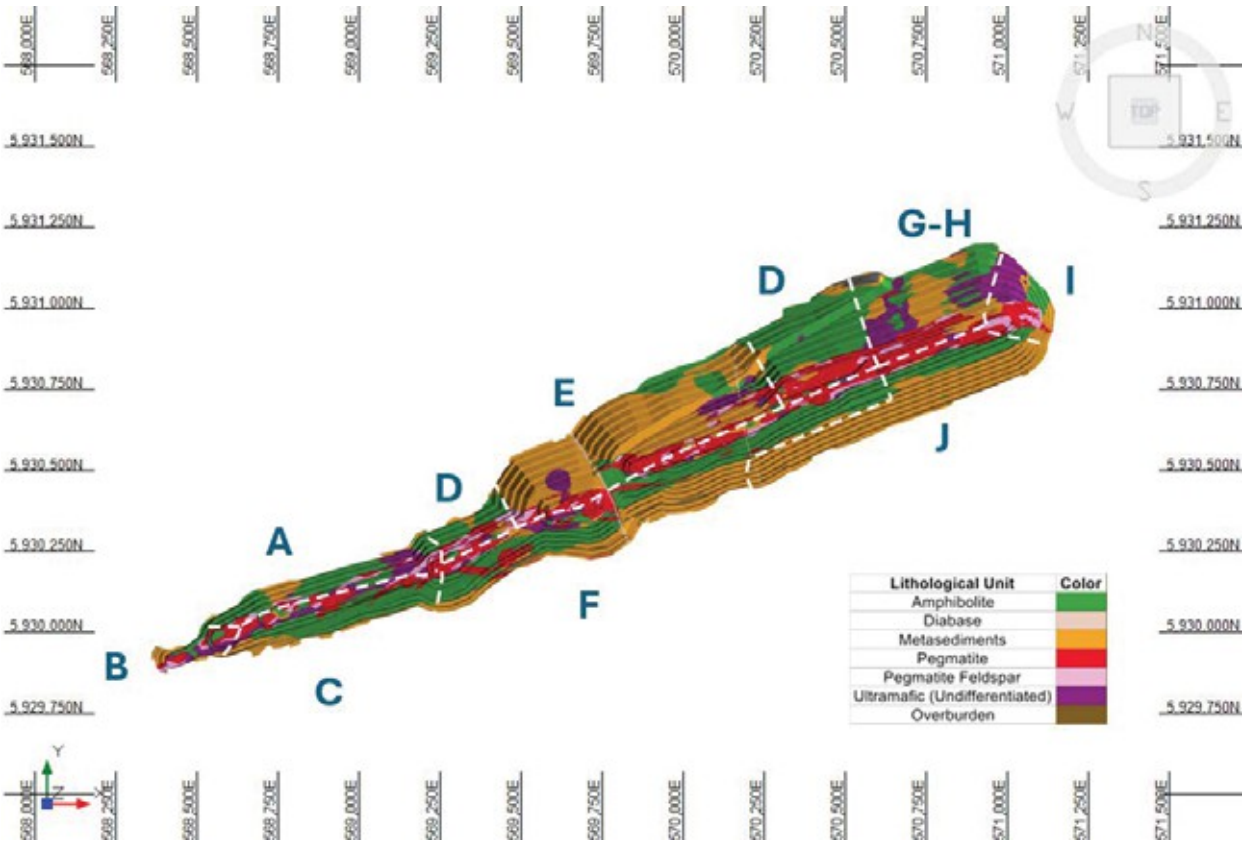


Figure 92. Secteurs à ciel ouvert basés sur la conception de la fosse de mars 2025.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Tableau 69. Directives de conception des pentes à ciel ouvert.

Secteur	GTD/GMD	Critères FS recommandés					
		BH (m)	**BW** (m)	**BFA** (°)	**IRA** (°)	**DD** (°)	**Berme géotechnique**
1	OVB	< 25	0,0	36	36	N/A	10 m entre les morts-terrains et la roche
A	WAll-AMP	20	10,5	68	47	130–200	Au milieu du mur si H > 160 m. Largeur = 16 m (total)
B	WW-APU	20	8,5	75	55	005–130	
C	WAll-AMP, WS-META	20	11,0	75	51	340–005	
D	CN-AMP	20	8,5	59	44	150–165	
E	CN-META, CN-UMU	20	8,5	50	38	140–155	
F	CS-AMP, CS-META	20	11,0	75	51	330–350	
G	EAll-AMP, EN-META	20	8,5	47	36	165–180	
H	EN-UMU	20	8,5	40	32	165–180	
I	EE-AMPU	20	8,5	75	55	180–310	
J	EAll-AMP, ES-AMP	20	12,0	75	49	310–335	

Codes GTD BH Hauteur du banc, BW Largeur du banc, BFA Angle de la face du banc, IRA Angle entre les rampes, DD Plage de direction de la descente, H Hauteur, Domaine géotechnique, GMD Domaine géomécanique.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

E Évaluations détaillées à l'échelle du banc d'essai

Les résultats des analyses à l'échelle du banc obtenus à l'aide de l'approche géomécanique fondée sur les risques sont présentés pour chaque secteur de la fosse dans la série de figures 93 à 107. Les paramètres de conception optimisés sont présentés dans les tableaux 70 à 84. La configuration finale adoptée pour le banc peut différer des résultats optimisés en raison de la normalisation. Il convient de noter que les directives de conception sont également fondées sur des jugements techniques, des hypothèses et l'expérience.

E.1 Secteur A – AMP, mur nord – zone ouest

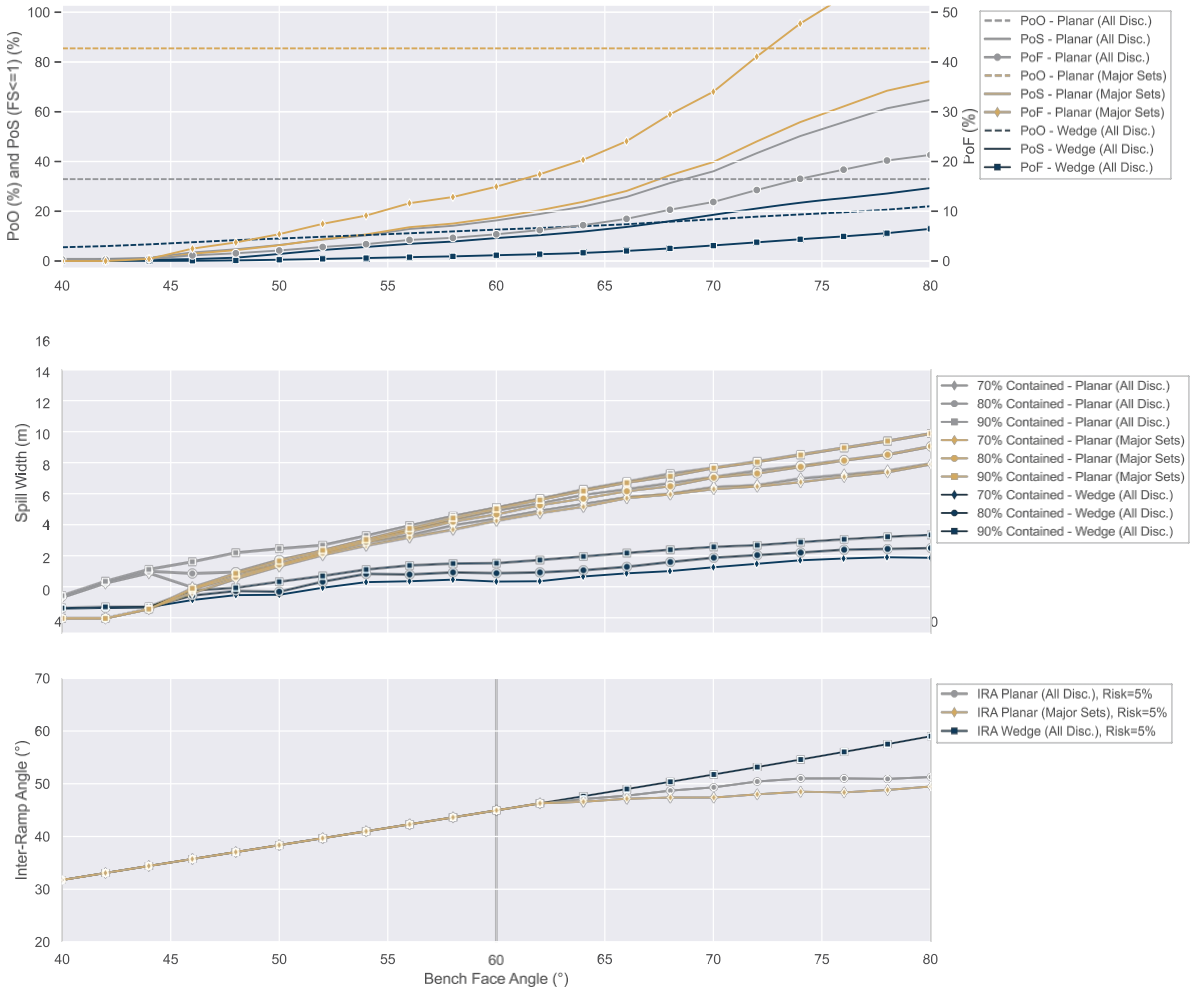


Figure 93. Résultats des analyses de stabilité à l'échelle du banc d'essai – Secteur A (AMP).

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Tableau 70. Paramètres d'optimisation de la conception du banc – Secteur A (AMP)

Paramètre		Valeur
Probabilités [1]		
Planaire [2]	PoO	85,5
	PoS	31,3
	PoF	29,5
Wedge	PoO	15,8
	PoS	16,0
	PoF	2,5
Contraintes de conception		
Limitation		Glissement plan et largeur minimale du banc
Résultats de conception		
Angle de la face du banc (BFA)		68
Confinement du déversement (% confiné, largeur) [3]		85 %, 9,0 m
Largeur du banc (BW)		10,5 m *à partir du maximum (8,5 ; 9,0 + 1,5)*
Angle entre les rampes (IRA)		47

Remarques [1] Probabilités données pour la BFA sélectionnée.
[2] Probabilités données pour l'analyse des ensembles principaux.
[3] Basé sur la longueur limite de déversement au BFA sélectionné, soit à partir d'un glissement plan, soit à partir d'un glissement en coin.

Pour le secteur A dans l'amphibolite, un seul ensemble de discontinuités majeures (JS1) peut poser des problèmes du point de vue du glissement plan. L'ensemble de joints JS1 est principalement composé de foliations, de joints ouverts et fermés, et présente un espacement moyen de 2,3 m entre les joints. Le glissement en coin n'a pas été identifié comme un facteur limitant pour ce secteur et cette lithologie. Le choix du BFA est donc basé sur le PoF plan, et le banc de retenue a été ajusté pour retenir 85 % de la longueur du déversement. Avec ces paramètres, le risque évalué (équation 28) est de 4,4 %.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

E.2 Secteur B – AMP, PEG, UMU, West Wall – Zone ouest.

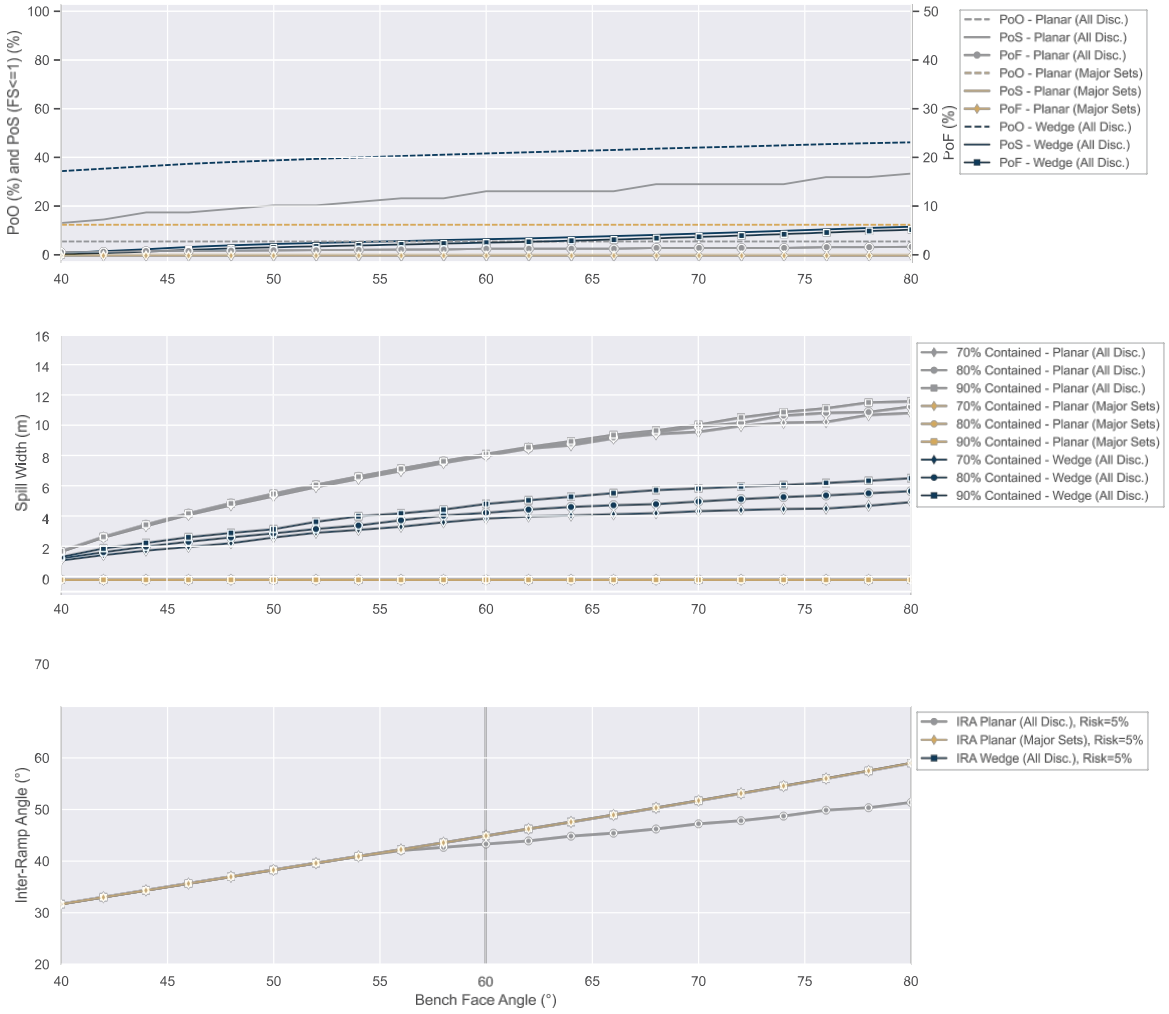


Figure 94. Résultats des analyses de stabilité à l'échelle du banc – Secteur B (AMP, PEG, UMU).

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Tableau 71. Paramètres d'optimisation de la conception du banc – Secteur B (AMP, PEG, UMU)

Paramètre		Valeur
Probabilités [1]		
Planar [2]	PoO	12,3 %
	PoS	0,0
	PoF	0,0
Wedge	PoO	45,1
	PoS	10,1
	PoF	4,6
Contraintes de conception		
Limitation		BFA max.
Résultats de conception		
Angle de la face du banc (BFA)		75
Confinement des déversements (% confiné, largeur) [3]		70 %, 4,7 m
Largeur du banc (BW)		8,5 m *à partir du maximum (8,5 ; 4,7 + 1,5)*
Angle entre les rampes (IRA)		55

Remarques [1] Probabilités données pour le BFA sélectionné.
[2] Probabilités données pour l'analyse des ensembles principaux.
[3] Basées sur la longueur limite de déversement au BFA sélectionné, à partir d'un glissement plan ou en coin.

Pour le secteur B, dans les lithologies intercalées exposées sur la paroi, à savoir l'amphibolite, la pegmatite et l'ultramafique, aucun ensemble de discontinuités étudié ne devrait poser de problème du point de vue du glissement plan. Étant donné que le glissement en coin n'a pas non plus été identifié comme un facteur limitant dans ce secteur, l'angle de la face de la plate-forme recommandé est égal à l'angle maximal autorisé, soit 75°.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

E.3 Secteur C-1 – AMP, paroi sud – zone ouest.

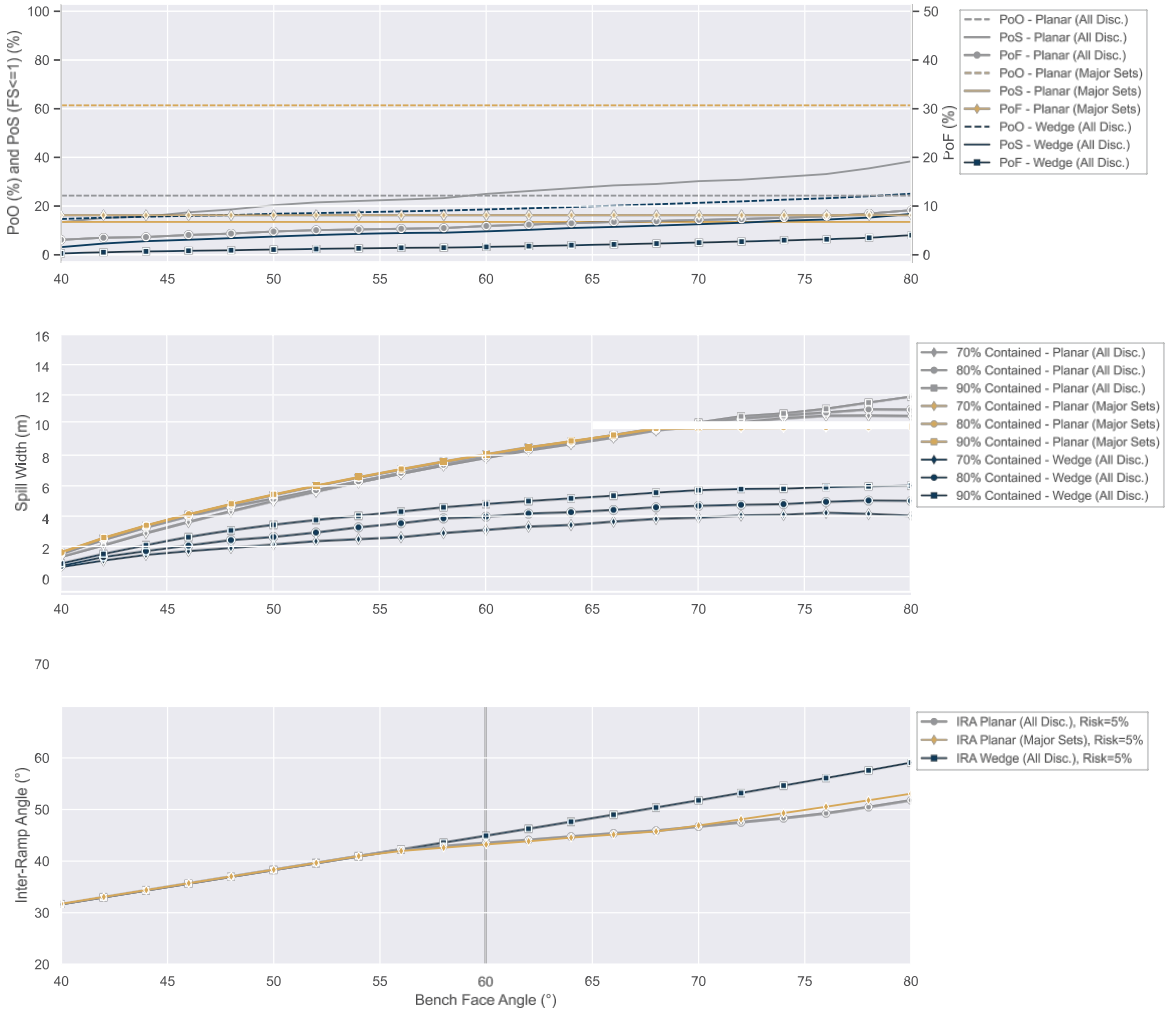


Figure 95. Résultats des analyses de stabilité à l'échelle du banc – Secteur C-1 (AMP).

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Tableau 72. Paramètres d'optimisation de la conception des gradins – Secteur C-1 (AMP)

Paramètre		Valeur
Probabilités [1]		
Planaire [2]	PoO	61,4
	PoS	13,5
	PoF	8,3
Wedge	PoO	22,9
	PoS	14,2
	PoF	3,3
Contraintes de conception		
Limitation minimale du banc		Largeur maximale du BFA et largeur
Résultats de conception		
Angle de la face du banc (BFA)		75
Confinement des déversements (% confiné, largeur) [3]		70 %, 10,0 m
Largeur du banc (BW)		11,5 m[4] *de max(8,5 ; 10,0 + 1,5)*
Angle entre les rampes (IRA)		50°[4]

Remarques [1] Probabilités données pour le BFA sélectionné.
[2] Probabilités données pour l'analyse des ensembles majeurs.
[3] Basées sur la longueur maximale de déversement au BFA sélectionné, à partir d'un glissement plan ou en coin.
[4] Avant normalisation.

Pour le secteur C-1, dans l'amphibolite, un ensemble de discontinuités (JS2) peut poser des problèmes du point de vue du glissement plan. L'ensemble de joints JS2 est principalement composé de joints ouverts et fermés et présente un espacement moyen de 4,86 m. Le glissement en coin n'a pas été identifié comme limitant pour ce secteur et cette lithologie. En raison de l'espacement relativement élevé des joints et afin de normaliser la mise en œuvre des lignes directrices, une largeur de banc de 11 m est recommandée pour ce secteur au lieu de 11,5 m, ce qui donne un IRA de 51° pour ce secteur.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

E.4 Secteur C-2 – META, mur sud – zone ouest.

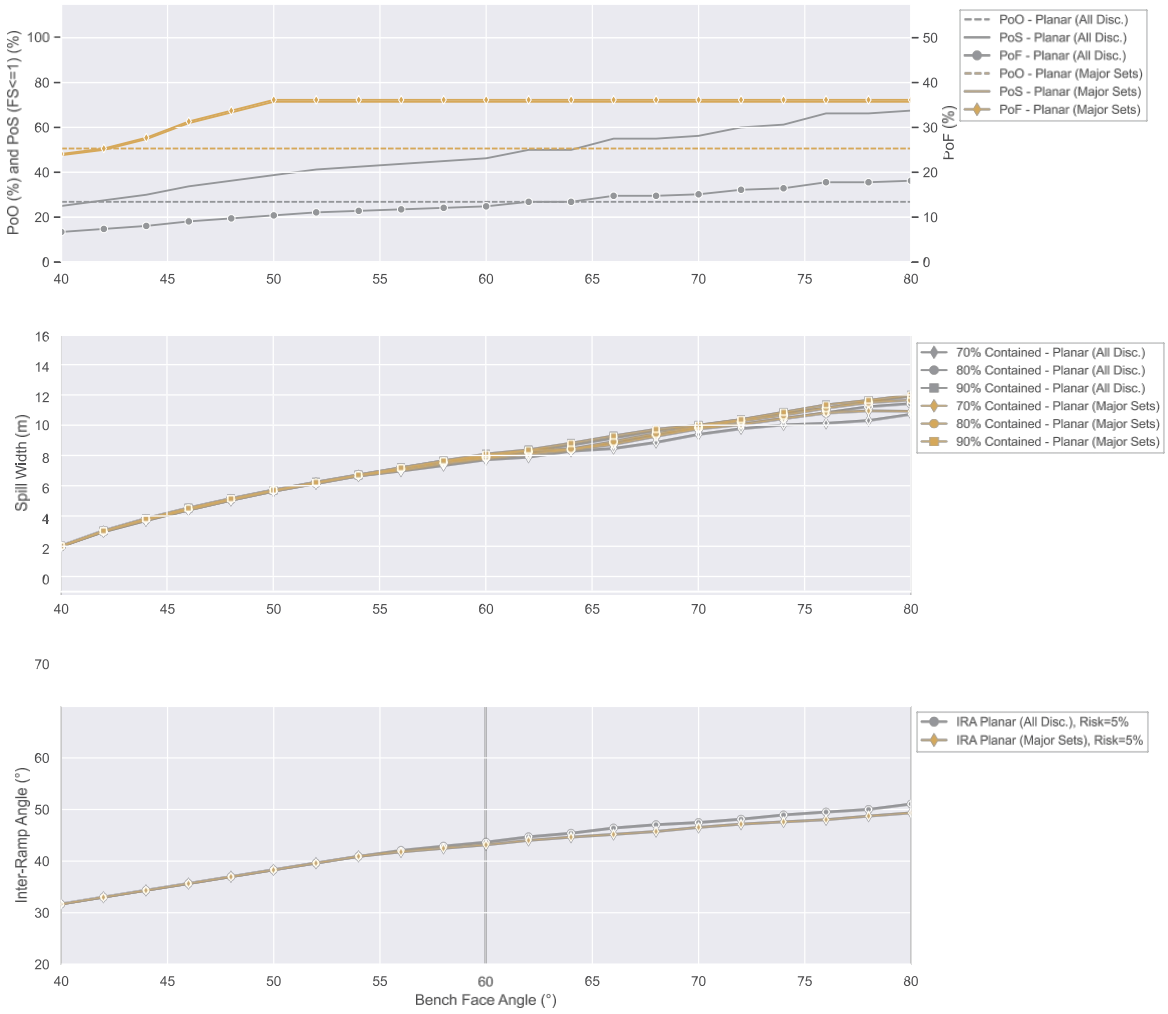


Figure 96. Résultats des analyses de stabilité à l'échelle du banc d'essai – Secteur C-2 (META).

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Tableau 73. Paramètres d'optimisation de la conception du banc – Secteur C-2 (META)

Paramètre		Valeur
Probabilités [1]		
Planaire [2]	PoO	50,6
	PoS	71,4
	PoF	36,1
Wedge	PoO	–
	PoS	–
	PoF	–
Contraintes de conception		
Limitation		Glissement plan et largeur minimale du banc
Résultats de conception		
Angle de face de banc (BFA)		75
Confinement des déversements (% confiné, largeur) [3]		90 %, 11,0 m
Largeur du banc (BW)		12,5 m[4] *de max(8,5 ; 11,0 + 1,5)*
Angle entre les rampes (IRA)		48°[4]

Remarques [1] Probabilités données pour le BFA sélectionné.
[2] Probabilités données pour l'analyse des ensembles principaux.
[3] Basé sur la longueur limite de déversement au BFA sélectionné, soit à partir d'un glissement plan, soit à partir d'un glissement en coin.
[4] Avant la normalisation.

Pour le secteur C-2, dans les métasédiments, un ensemble de discontinuités (JS2) peut poser des problèmes du point de vue du glissement plan. L'ensemble de joints JS2 est principalement composé de joints ouverts et fermés et présente un espacement moyen de 3,90 m. Un PoF de 36 % est atteint à un BFA de 75°, ce qui est légèrement supérieur à l'objectif de 30 %. Cependant, comme le montre la figure 96, le PoF atteint 30 % à 45° et reste à 36 % pour un BFA supérieur à 50°. De plus, seuls un à trois bancs devraient exposer les métasédiments sur la paroi de la fosse. Par conséquent, en raison de l'espacement relativement élevé des joints de JS2, de l'exposition limitée prévue de cette lithologie sur la paroi de la fosse et de la normalisation visant à faciliter la mise en œuvre des lignes directrices, il a été jugé acceptable de recommander un BFA de 75° et une largeur de gradin de 11 m pour ce secteur (au lieu de 12,5 m), ce qui donne un IRA de 51° pour ce secteur. De cette manière, la conception est cohérente dans tout le secteur C. Avec un BFA de 75°, le risque évalué (équation 28) est supérieur à 10 %, ce qui n'est acceptable qu'en raison de l'exposition limitée de cette lithologie sur la paroi de la fosse dans le secteur C.

Le glissement détaillé des coins n'a pas été évalué pour ce secteur et cette lithologie, car il n'a pas été jugé limitatif pour la conception de ce secteur sur la base de l'analyse de la projection stéréographique.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

E.5 Secteur D – AMP, paroi nord – zone centrale.

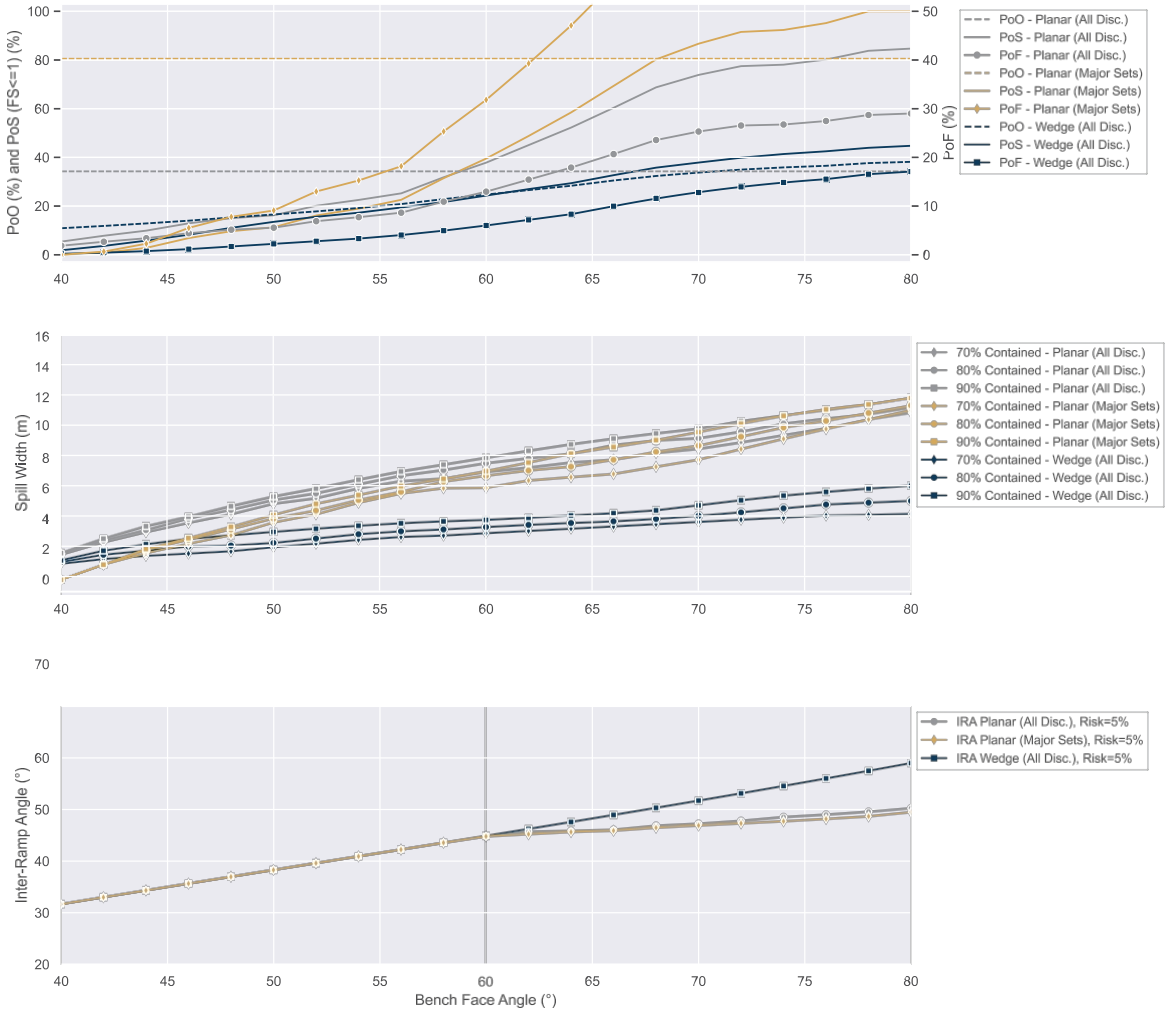


Figure 97. Résultats des analyses de stabilité à l'échelle du banc – Secteur D (AMP).

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Tableau 74. Paramètres d'optimisation de la conception des gradins – Secteur D (AMP)

Paramètre		Valeur
Probabilités [1]		
Planaire [2]	PoO	80,5
	PoS	35,5
	PoF	29,8
Wedge	PoO	23,8
	PoS	23,0
	PoF	5,5
Contraintes de conception		
Limitation		Glissement plan
Résultats de conception		
Angle de la face du banc (BFA)		59
Confinement des déversements (% confiné, largeur) [3]		85 %, 6,8 m
Largeur du banc (BW)		8,5 m *à partir du maximum (8,5 ; 6,8 + 1,5)*
Angle entre les rampes (IRA)		44

Remarques [1] Probabilités données pour la BFA sélectionnée.
[2] Probabilités données pour l'analyse des ensembles majeurs.
[3] Sur la base de la longueur limite de déversement au BFA sélectionné, à partir d'un glissement plan ou en coin.

Pour le secteur D, dans les amphibolites, deux ensembles de discontinuités (JS1 et js3) peuvent poser des problèmes du point de vue du glissement plan. Cependant, en raison de l'espacement plus important des joints dans js3 (3,44 m) et de son inclinaison moyenne (29°) inférieure à l'angle de frottement de l'amphibolite (32°), l'analyse n'a pris en compte que l'ensemble JS1. L'ensemble de joints JS1 est principalement composé de foliations, de joints ouverts et fermés, et présente un espacement moyen des joints de 1,58 m. Le glissement en coin n'a pas été identifié comme limitant pour ce secteur et cette lithologie.

Bien qu'il ne soit pas considéré comme limitatif pour la conception, l'ensemble de joints js3 doit être surveillé en raison de son angle d'inclinaison relativement faible. Un certain biais d'échantillonnage est suspecté, car sept des douze poteaux de cet ensemble peuvent donner l'impression d'un double ensemble de joints avec JS1. Néanmoins, deux forages stratégiquement situés n'ont enregistré aucune mesure structurelle correspondant à JS3, ce qui suggère que cette caractéristique a une importance limitée. Toutefois, une surveillance continue est recommandée.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

E.6 Secteur E-1 – META, paroi nord – zone centrale.

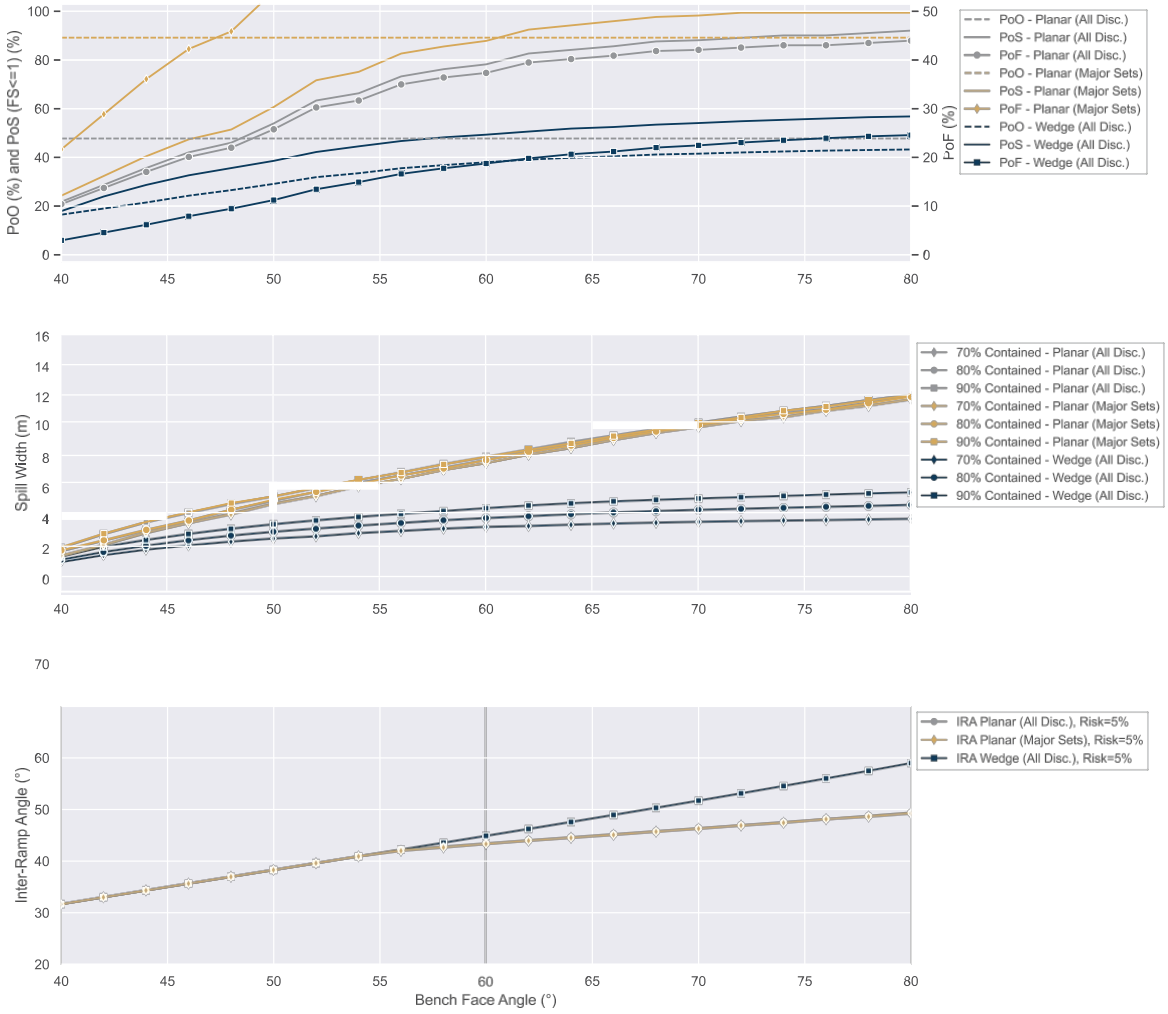


Figure 98. Résultats des analyses de stabilité à l'échelle du banc – Secteur E-1 (META).

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Tableau 75. Paramètres d'optimisation de la conception du banc d'essai – Secteur E-1 (META)

Paramètre		Valeur
Probabilités [1]		
Planaire [2]	PoO	89,2
	PoS	60,7
	PoF	54,1
Wedge	PoO	29,1
	PoS	38,6
	PoF	11,2
Contraintes de conception		
Limitation		Glissement plan
Résultats de conception		
Angle de la face du banc (BFA)		50
Confinement des déversements (% confiné, largeur) [3]		95 %, 5,8 m
Largeur du banc (BW)		8,5 m *à partir du maximum (8,5 ; 5,8 + 1,5)*
Angle inter-rampe (IRA)		38

Remarques [1] Probabilités données pour les BFA sélectionnés.
[2] Probabilités données pour l'analyse des ensembles principaux.
[3] Basé sur la longueur limite de déversement au BFA sélectionné, soit à partir d'un glissement plan ou en coin.

Pour le secteur E-1 dans les métasédiments, un ensemble de discontinuités majeur (JS1) peut poser des problèmes du point de vue du glissement plan. L'ensemble de joints JS1 est principalement composé de foliations, de joints ouverts et fermés, et présente un espacement moyen des joints de 1,02 m.

Un PoF de 54 % est atteint à un BFA de 50°, ce qui dépasse l'objectif de 30 %. Cependant, comme le montre la figure 98, le PoF atteint 30 % à 42°, ce qui serait très limitatif du point de vue de la conception. L'espacement des joints étant faible (1,02 m), la prudence est de mise avec cet ensemble. En ce qui concerne la composition de cet ensemble, les joints de faille et les joints ouverts ont pour la plupart un pendage plus élevé que le pôle moyen de l'ensemble. Sur la projection stéréographique, les pôles de foliation et les joints fermés sont situés autour du pôle moyen de l'ensemble ou en dessous (pendage inférieur). Compte tenu de cela, il est jugé approprié de concevoir ce secteur de fosse avec le pôle moyen de l'ensemble JS1 (inclinaison d'environ 50°). Il est également important de mentionner que dans les deux cas (BFA de 42° et 50°), le risque évalué (équation 28) reste inférieur à l'objectif de 5 %.

Le glissement en coin n'a pas été identifié comme un facteur limitant pour ce secteur et cette lithologie.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

E.7 Secteur E-2 – UMU, paroi nord – zone centrale.

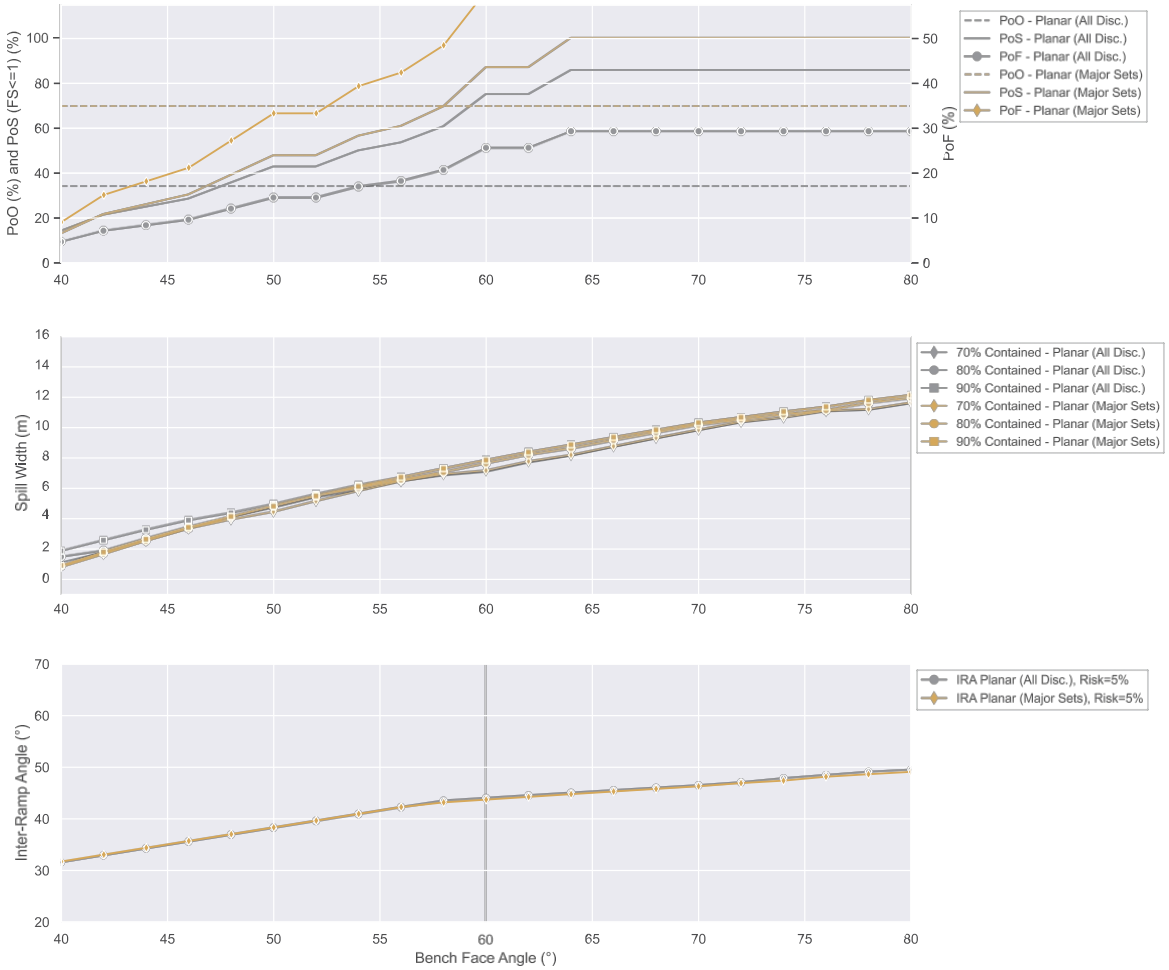


Figure 99. Résultats des analyses de stabilité à l'échelle du banc – Secteur E-2 (UMU).

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Tableau 76. Paramètres d'optimisation de la conception des gradins – Secteur E-2 (UMU)

Paramètre		Valeur
Probabilités [1]		
Planaire [2]	PoO	70,0
	PoS	48,0
	PoF	33,0
Wedge	PoO	–
	PoS	–
	PoF	–
Contraintes de conception		
Limitation		Glissement plan
Résultats de conception		
Angle de face de banc (BFA)		50
Confinement des déversements (% confiné, largeur) [3]		85 %, 4,2 m
Largeur du banc (BW)		8,5 m *à partir du maximum (8,5 ; 4,2 + 1,5)*
Angle entre les rampes (IRA)		38

Remarques [1] Probabilités données pour la BFA sélectionnée.
[2] Probabilités données pour l'analyse des ensembles principaux.
[3] Basé sur la longueur limite de déversement au BFA sélectionné, soit à partir d'un glissement plan, soit à partir d'un glissement en coin.

L'unité ultramafique indifférenciée ne devrait pas être exposée sur une grande partie de la paroi de la fosse ; toutefois, une brève analyse a été effectuée pour la poche d'UMU exposée dans le secteur E. Si une plus grande partie de l'UMU venait à être exposée, cette analyse devrait être réévaluée.

Pour le secteur E-2, dans la roche ultramafique indifférenciée, un seul ensemble de discontinuités (JS1) peut poser des problèmes du point de vue du glissement plan. L'ensemble de joints JS1 est principalement composé de foliations, de failles, de joints ouverts et fermés, et présente un espacement moyen des joints de 0,53 m. Un PoF de 33 % est atteint à un BFA de 50°, ce qui est légèrement supérieur à l'objectif de 30 %. Comme le montre la figure 99, le PoF atteint 30 % à 48°. Seuls un à trois bancs devraient être exposés de manière très localisée sur la paroi de la fosse. Par conséquent, en raison de l'exposition limitée prévue de cette lithologie sur la paroi de la fosse et afin de normaliser la mise en œuvre des lignes directrices, il a été jugé acceptable de recommander un BFA de 50° pour ce secteur. De cette façon, la conception est cohérente dans tout le secteur E. À un BFA de 50°, le risque évalué (équation 28) reste d'environ 5 %.

Le glissement détaillé des coins n'a pas été évalué pour ce secteur et cette lithologie, car il n'a pas été jugé limitatif pour la conception de ce secteur d'après l'analyse de la projection stéréographique.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

E.8 Secteur F-1 – AMP, paroi sud – zone centrale.

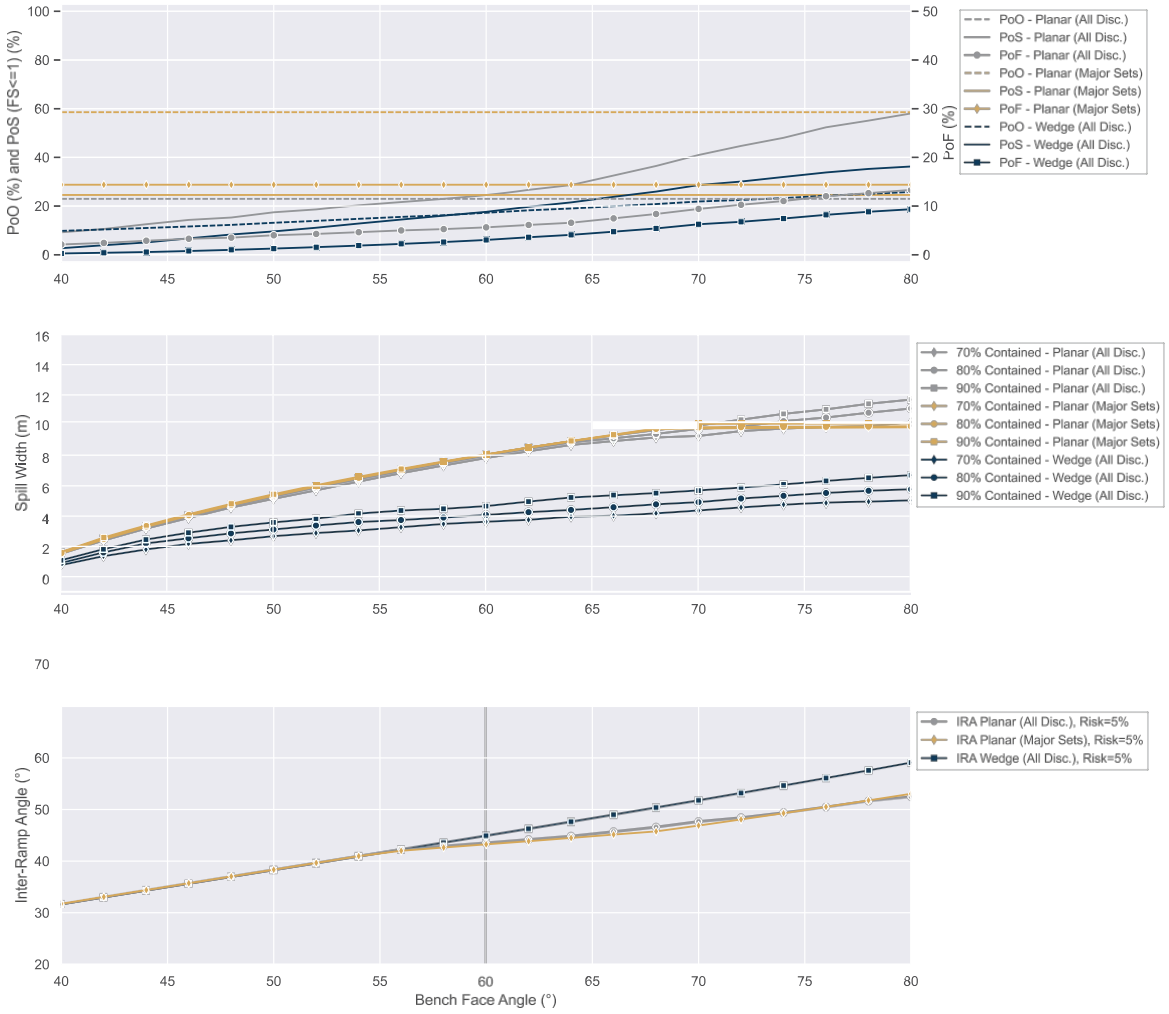


Figure 100. Résultats des analyses de stabilité à l'échelle du banc – Secteur F-1 (AMP).

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Tableau 77. Paramètres d'optimisation de la conception du banc – Secteur F-1 (AMP)

Paramètre		Valeur
Probabilités [1]		
Planaire [2]	PoO	58,6
	PoS	24,6
	PoF	14,4
Wedge	PoO	23,8
	PoS	32,9
	PoF	7,8
Contraintes de conception		
Limitation		BFA max.
Puissances nominales		
Angle de la face du banc (BFA)		75
Confinement des déversements (% confiné, largeur) [3]		70 %, 10,0 m
Largeur du banc (BW)		11,5 m *à partir du maximum (8,5 ; 10,0 + 1,5)*
Angle entre les rampes (IRA)		50

Remarques [1] Probabilités données pour la BFA sélectionnée.
[2] Probabilités données pour l'analyse des ensembles majeurs.
[3] Sur la base de la longueur limite de déversement au BFA sélectionné, à partir d'un glissement plan ou en coin.

Pour le secteur F-1, dans les amphibolites, deux ensembles de discontinuités (JS2 et js3) peuvent poser des problèmes du point de vue du glissement plan. Cependant, étant donné que l'inclinaison moyenne de js3 (77°) est supérieure à la BFA maximale autorisée (75°), l'analyse n'a pris en compte que l'ensemble JS2. L'ensemble de joints JS2 est principalement composé de joints ouverts et fermés et présente un espacement moyen de 5,49 m.

En raison de l'espacement élevé des joints du JS2 (5,49) et dans un souci de normalisation visant à faciliter la mise en œuvre des lignes directrices, il a été jugé acceptable de recommander une largeur de banc de 11 m pour ce secteur (au lieu de 11,5 m), ce qui donne un IRA de 51° pour ce secteur. De cette manière, la conception est cohérente dans tout le secteur F et les parois sud du secteur C. Avec cette largeur de banc suggérée, à un angle de pente de 75°, le risque évalué (équation 28) est légèrement supérieur à 5 %, ce qui est jugé acceptable en raison de l'espacement élevé des joints et des faibles résultats de PoF (14,4 %) pour cette lithologie sur la paroi de la fosse dans le secteur F-1. Le glissement des coins n'a pas été identifié comme un facteur limitant pour ce secteur et cette lithologie.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

E.9 Secteur F-2 – META, mur sud – zone centrale.

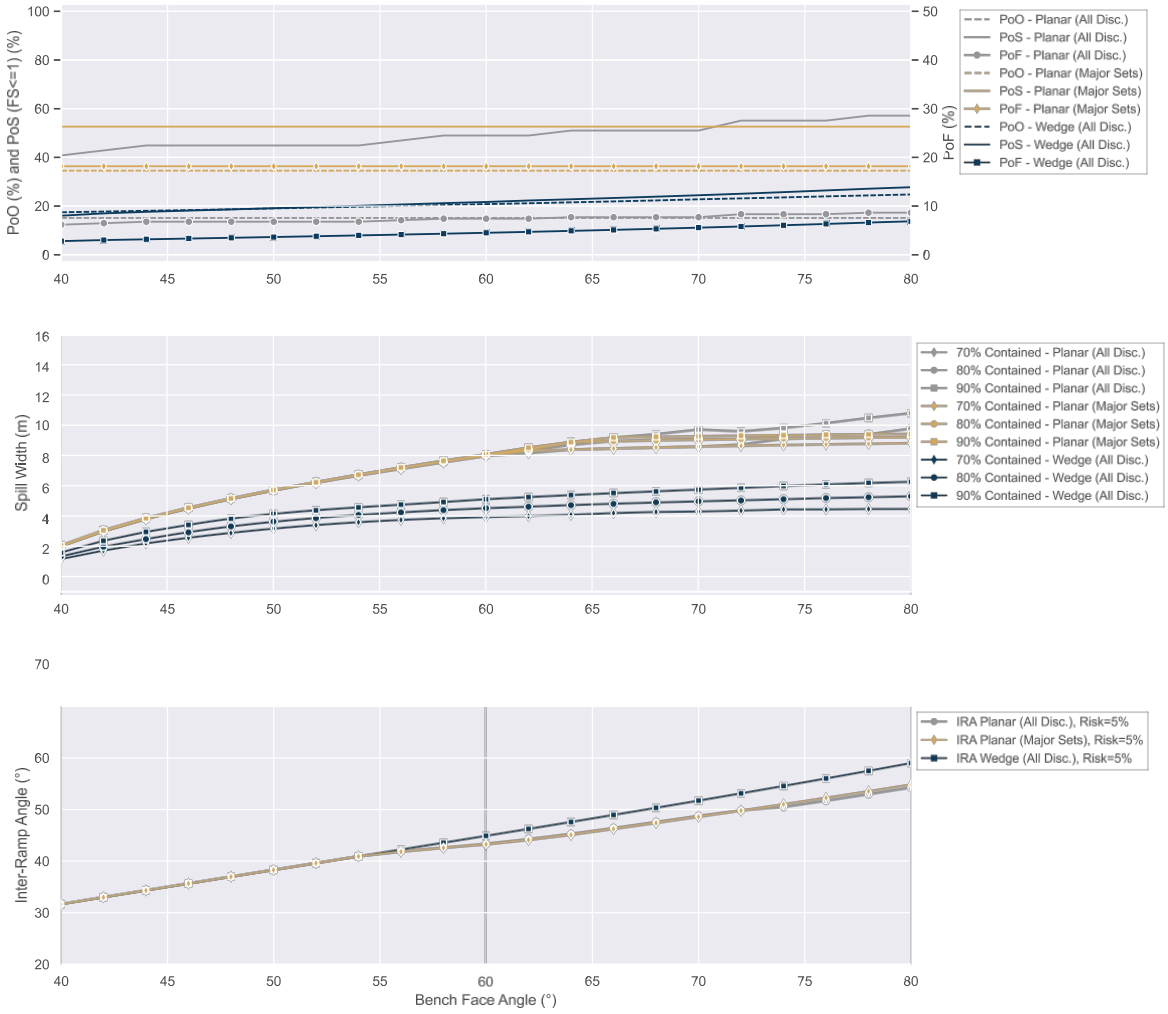


Figure 101. Résultats des analyses de stabilité à l'échelle du banc d'essai – Secteur F-2 (META).

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Tableau 78. Paramètres d'optimisation de la conception du banc – Secteur F-2 (META)

Paramètre		Valeur
Probabilités [1]		
Planaire [2]	PoO	34,6
	PoS	52,6
	PoF	18,2
Wedge	PoO	23,8
	PoS	26,1
	PoF	6,2
Contraintes de conception		
Limitation		BFA max.
Résultats de conception		
Angle de la face du banc (BFA)		75
Confinement du déversement (% confiné, largeur) [3]		75 %, 9,0 m
Largeur du banc (BW)		10,5 m *à partir du maximum (8,5 ; 9,0 + 1,5)*
Angle entre les rampes (IRA)		51,6

Remarques [1] Probabilités données pour la BFA sélectionnée.
[2] Probabilités données pour l'analyse des ensembles majeurs.
[3] Basé sur la longueur limite de déversement au BFA sélectionné, soit à partir d'un glissement plan, soit à partir d'un glissement en coin.

Pour le secteur F-2 dans les métasédiments, un seul ensemble de discontinuités (JS2) peut poser des problèmes du point de vue du glissement plan. L'ensemble de joints JS2 est principalement composé de failles, de joints ouverts et fermés, et présente un espacement moyen des joints de 0,98 m.

À des fins de normalisation, il a été jugé acceptable de recommander une largeur de banc de 11 m pour ce secteur (au lieu de 10,5 m), ce qui donne un angle d'inclinaison relatif (IRA) de 51° pour ce secteur. De cette façon, la conception est cohérente dans tout le secteur F et les parois sud du secteur C. Le glissement en coin n'a pas été identifié comme un facteur limitant pour ce secteur et cette lithologie.

Il convient de noter que le JS2 contient plusieurs failles et joints ouverts ; il est recommandé de le comparer avec le modèle structurel final afin d'évaluer les impacts potentiels sur les hypothèses de conception.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

E.10 Secteur G-1 – AMP, paroi nord – zone est.

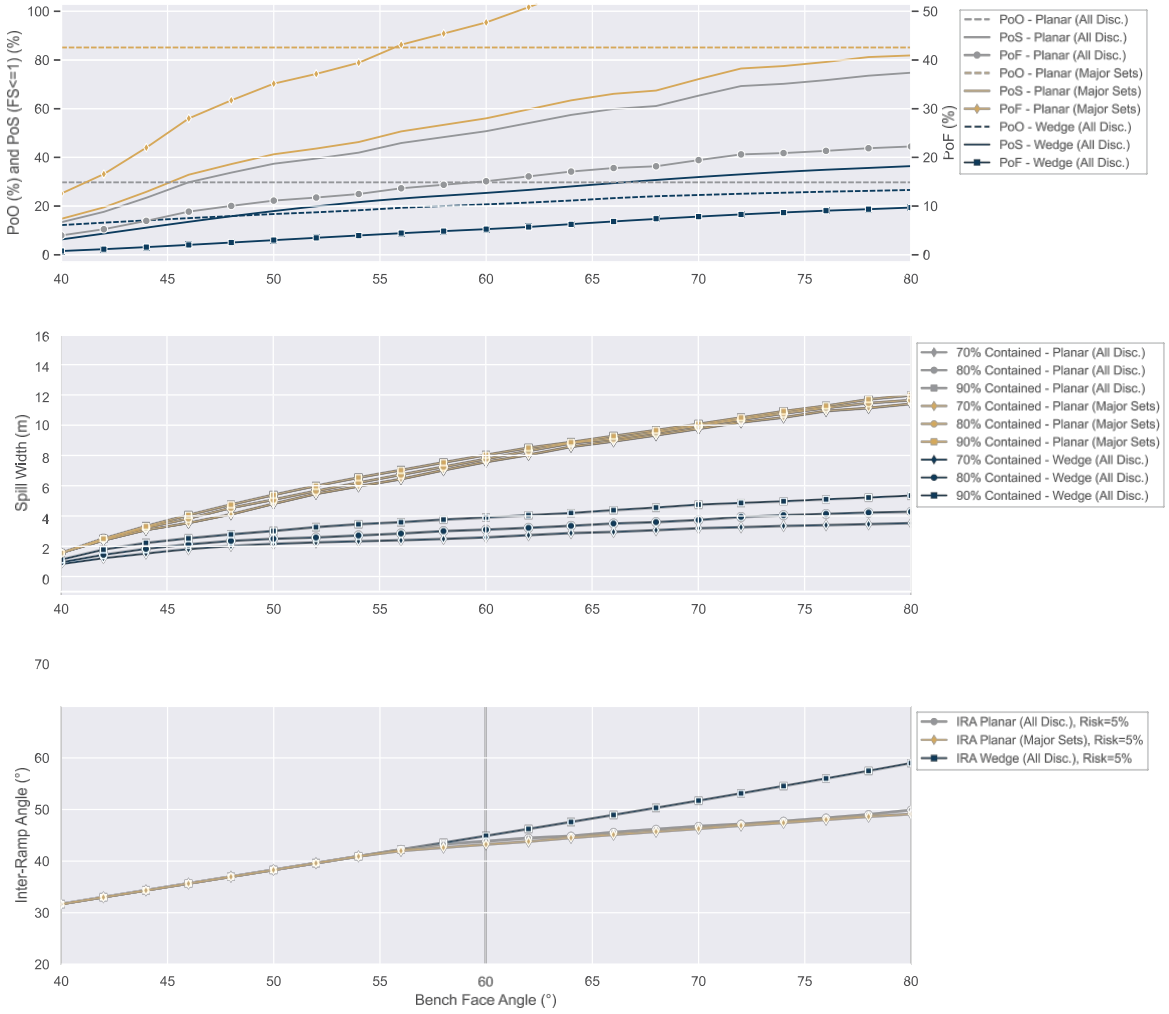


Figure 102. Résultats des analyses de stabilité à l'échelle du banc d'essai – Secteur G-1 (AMP).

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Tableau 79. Paramètres d'optimisation de la conception du banc – Secteur G-1 (AMP)

Paramètre		Valeur
Probabilités [1]		
Planaire [2]	PoO	29,7
	PoS	35,0
	PoF	29,8
Wedge	PoO	15,5
	PoS	14,6
	PoF	2,3
Contraintes de conception		
Limitation		Glissement plan
Résultats de conception		
Angle de la face du banc (BFA)		47
Confinement des déversements (% confiné, largeur) [3]		85 %, 4,5 m
Largeur du banc (BW)		8,5 m *à partir du maximum (8,5 ; 4,5 + 1,5)*
Angle entre les rampes (IRA)		36

Remarques [1] Probabilités données pour la BFA sélectionnée.
[2] Probabilités données pour l'analyse des ensembles principaux.
[3] Basé sur la longueur limite de déversement au BFA sélectionné, soit à partir d'un glissement plan, soit à partir d'un glissement en coin.

Pour le secteur G-1, dans les amphibolites, un seul ensemble de discontinuités (JS1) peut poser des problèmes du point de vue du glissement plan. Il a tendance à être divisé en deux groupes de pôles avec des inclinaisons légèrement différentes, mais a été traité comme un seul ensemble pour l'analyse. L'ensemble de joints JS1 comprend des joints de foliation, de faille, ouverts et fermés. Si l'on ne considère que les joints ouverts, la division en deux groupes est plus apparente (62°/153° et 37°/164°). Cet ensemble limite la conception en raison du problème de glissement plan ; le BFA recommandé est égal à l'inclinaison moyenne des pôles de JS1. Le glissement en coin n'a pas été identifié comme limitant pour ce secteur et cette lithologie.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

E.11 Secteur G-2 – META, mur nord – zone est.

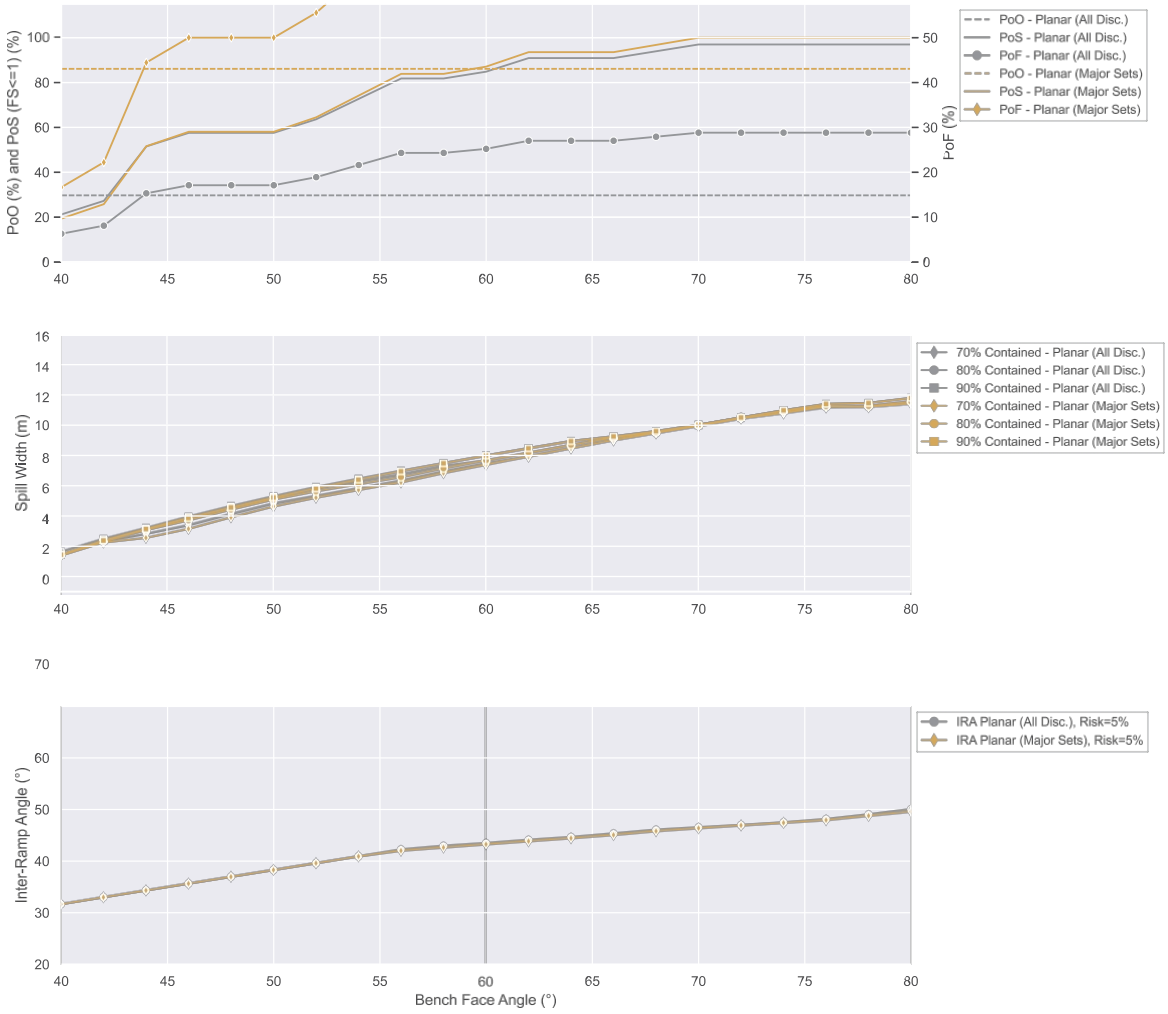


Figure 103. Résultats des analyses de stabilité à l'échelle du banc d'essai – Secteur G-2 (META).

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Tableau 80. Paramètres d'optimisation de la conception du banc – Secteur G-2 (META)

Paramètre		Valeur
Probabilités [1]		
Planaire [2]	PoO	86,1
	PoS	58,6
	PoF	50
Wedge	PoO	–
	PoS	–
	PoF	–
Contraintes de conception		
Limitation		Glissement plan
Résultats de conception		
Angle de la face du banc (BFA)		47
Confinement du déversement (% confiné, largeur) [3]		90 %, 4,4 m
Largeur du banc (BW)		8,5 m *à partir du maximum (8,5 ; 4,4 + 1,5)*
Angle entre les rampes (IRA)		36

Remarques [1] Probabilités données pour la BFA sélectionnée.
[2] Probabilités données pour l'analyse des ensembles principaux.
[3] Basé sur la longueur limite de déversement au BFA sélectionné, soit à partir d'un glissement plan ou en coin.

Pour le secteur G-2 dans les métasédiments, un seul ensemble de discontinuités (JS1) peut poser des problèmes du point de vue du glissement plan. L'ensemble de joints JS1 est principalement contrôlé par la foliation et présente un espacement moyen des joints de 2,36 m.

Un PoF de 50 % est atteint à un BFA de 47°, ce qui est supérieur à l'objectif de 30 %. Comme le montre la figure 103, le PoF atteint 30 % à un peu plus de 42°. Il est jugé acceptable de dépasser le PoF de 30 %, car le BFA de 47° reste inférieur à la pente moyenne du pôle JS1 (51°) (car le type de joint principal est la foliation). Cela permettra d'obtenir une conception plus naturelle, avec une pente suivant approximativement le pôle moyen de la foliation. Par conséquent, dans un souci de normalisation visant à faciliter la mise en œuvre des lignes directrices, il a été jugé acceptable de recommander un BFA de 47° pour ce secteur. De cette manière, la conception est cohérente dans tout le secteur de conception G. Avec un BFA de 47°, le risque évalué (équation 28) reste d'environ 5 %.

Le glissement détaillé des coins n'a pas été évalué pour ce secteur et cette lithologie, car il n'a pas été jugé limitatif pour la conception de ce secteur sur la base de l'analyse de la projection stéréographique.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

E.12 Secteur H – UMU, paroi nord – zone est.

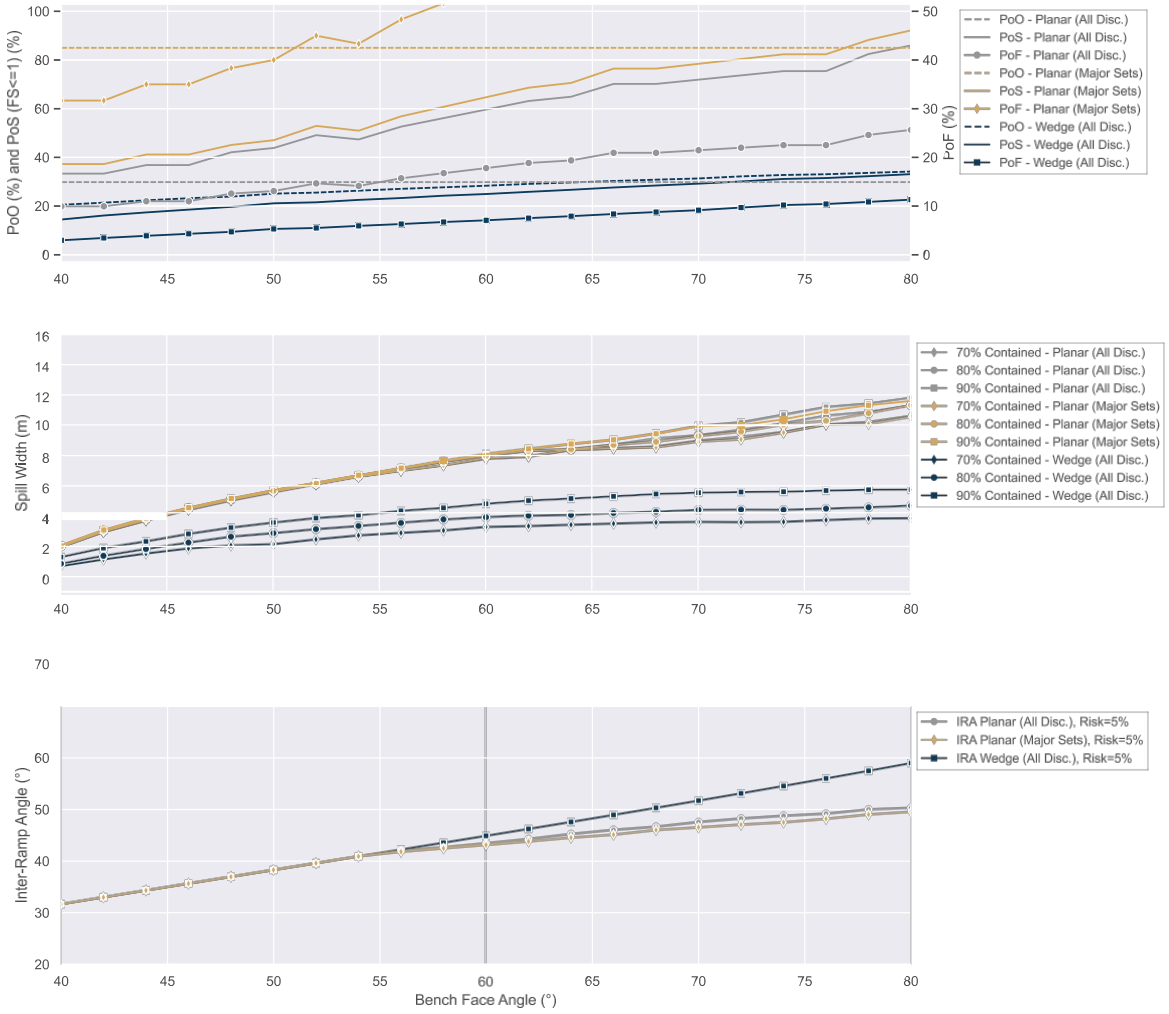


Figure 104. Résultats des analyses de stabilité à l'échelle du banc – Secteur H (UMU).

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Tableau 81. Paramètres d'optimisation de la conception des gradins – Secteur H (UMU)

Paramètre		Valeur
Probabilités [1]		
Planaire [2]	PoO	85
	PoS	37,2
	PoF	31,6
Wedge	PoO	20,9
	PoS	15,3
	PoF	3,2
Contraintes de conception		
Limitation		Glissement plan
Résultats de conception		
Angle de la face du banc (BFA)		40
Confinement des déversements (% confiné, largeur) [3]		85 %, 2,5 m
Largeur du banc (BW)		8,5 m *à partir du maximum (8,5 ; 2,5 + 1,5)*
Angle entre les rampes (IRA)		32

Remarques [1] Probabilités données pour la BFA sélectionnée.
[2] Probabilités données pour l'analyse des ensembles majeurs.
[3] Basé sur la longueur limite de déversement au BFA sélectionné, soit à partir d'un glissement plan ou en coin.

Pour le secteur H, dans l'ultramafique indifférencié, un seul ensemble de discontinuités (JS1a/JS1b) peut poser des problèmes du point de vue du glissement plan. Cet ensemble est divisé en deux groupes de pôles avec des inclinaisons différentes, qui ont tous deux été pris en compte pour l'analyse. Les ensembles se composent de joints de faille, ouverts et fermés, et ont des espacements de joints de 1,23 m (JS1a) et 0,42 m (JS1b). Si l'on ne tient compte que des joints ouverts, ils présentent un pendage moyen de 29°, ce qui est légèrement supérieur à l'angle de frottement pour l'ultramafique (22°). Cet ensemble limite la conception en raison du problème de glissement plan. Le BFA recommandé est de 40°, bien que le PoF associé soit légèrement supérieur à l'objectif de 30 %, car le risque évalué (équation 28) reste inférieur à 5 %. Le glissement en coin n'a pas été identifié comme un facteur limitant pour ce secteur et cette lithologie.

Il convient de noter que peu d'informations sont disponibles pour ce secteur et cette lithologie, et que les informations disponibles indiquent des problèmes potentiels liés aux discontinuités. De plus, le contact avec l'amphibolite s'incline vers la fosse (44,3°).

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

E.13 Secteur I – AMP, PEG, UMU, META, paroi est – zone est.

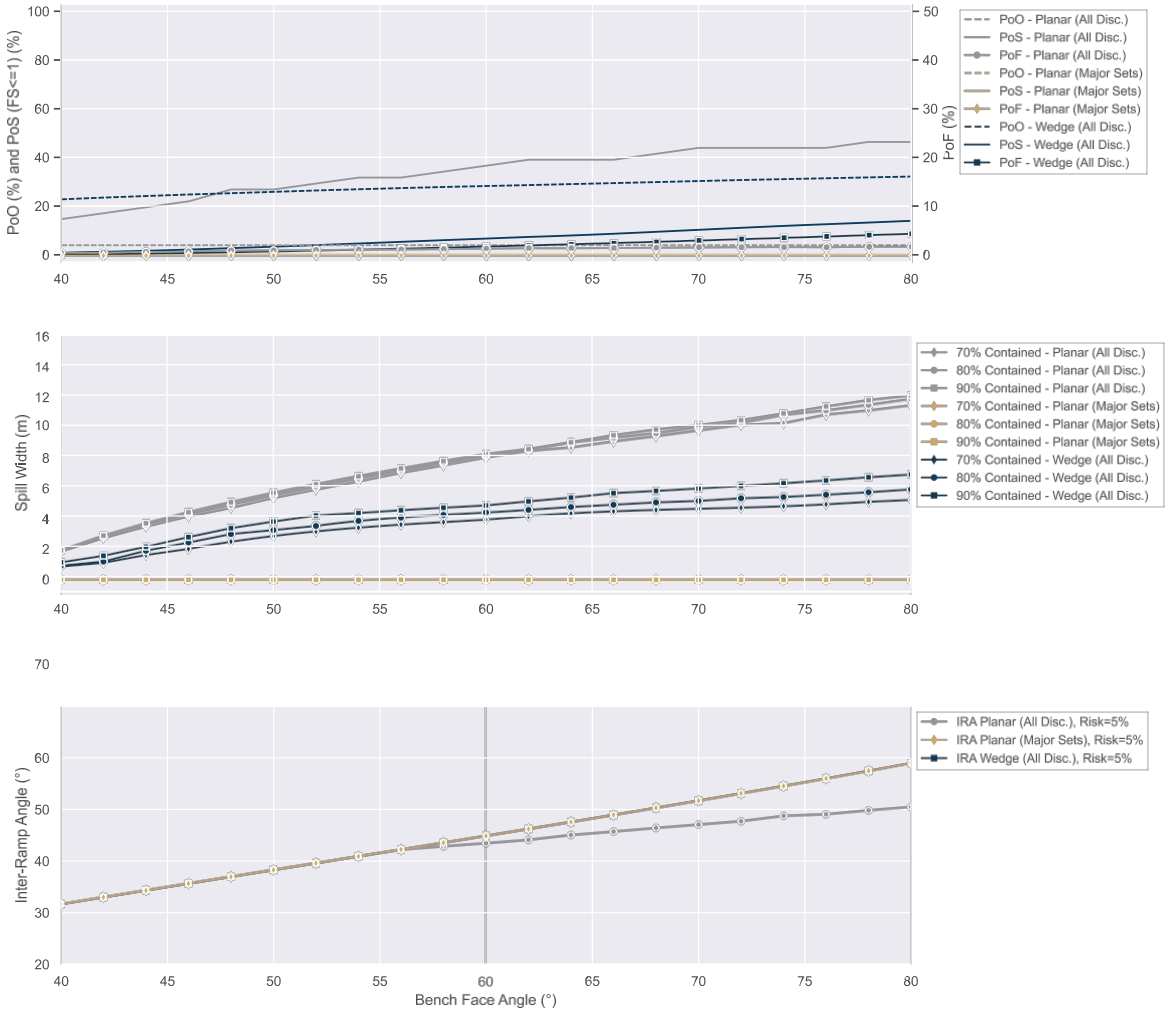


Figure 105. Résultats des analyses de stabilité à l'échelle du banc – Secteur I (AMP, PEG, UMU, META).

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Tableau 82. Paramètres d'optimisation de la conception des gradins – Secteur I (AMP, PEG, UMU, META)

Paramètre		Valeur
Probabilités [1]		
Planaire [2]	PoO	0,0
	PoS	0,0
	PoF	0,0
Wedge	PoO	31,2
	PoS	12,2
	PoF	3,8
Contraintes de conception		
Limitation		BFA max.
Résultats de conception		
Angle de la face du banc (BFA)		75
Confinement du déversement (% confiné, largeur) [3]		70 %, 4,9 m
Largeur du banc (BW)		8,5 m *à partir du maximum (8,5 ; 4,9 + 1,5)*
Angle entre les rampes (IRA)		55

Remarques [1] Probabilités données pour la BFA sélectionnée.
[2] Probabilités données pour l'analyse des ensembles principaux.
[3] Basé sur la longueur limite de déversement au BFA sélectionné, soit à partir d'un glissement plan, soit à partir d'un glissement en coin.

Pour le secteur I, dans les lithologies intercalées exposées sur le mur, à savoir l'amphibolite, la pegmatite, les métasédiments et les roches ultramafiques indifférenciées, aucun ensemble de discontinuités relevées ne devrait poser de problème du point de vue du glissement plan. Étant donné que le glissement en coin n'a pas non plus été identifié comme un facteur limitant dans ce secteur, l'angle de face de banc recommandé est égal à l'angle maximal autorisé, soit 75°.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

E.14 Secteur J-1 – AMP, paroi sud – zone est.

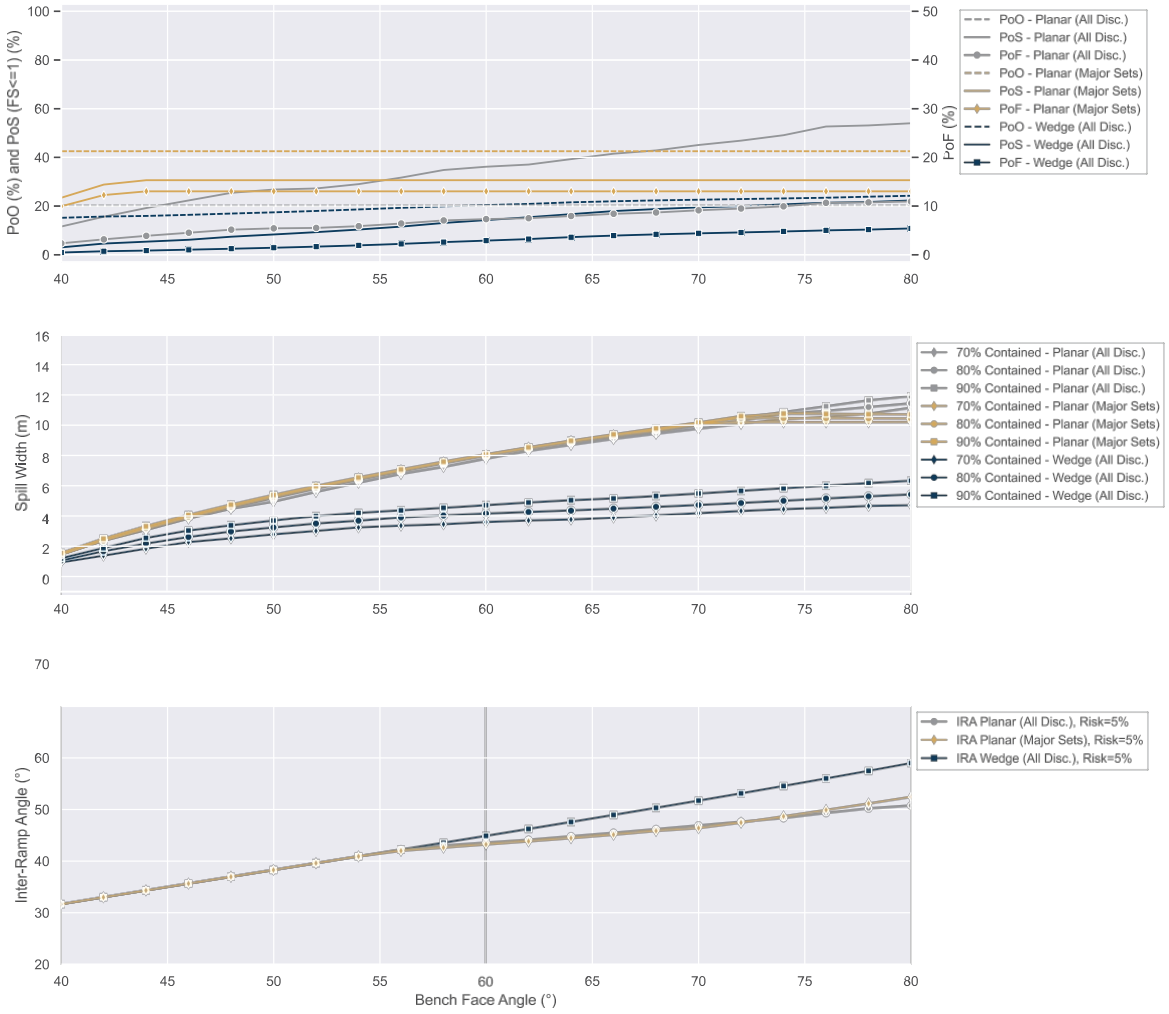


Figure 106. Résultats des analyses de stabilité à l'échelle du banc – Secteur J-1 (AMP).

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Tableau 83. Paramètres d'optimisation de la conception des gradins – Secteur J-1 (AMP)

Paramètre		Valeur
Probabilités [1]		
Planaire [2]	PoO	42,5
	PoS	30,6
	PoF	13,0
Wedge	PoO	23,3
	PoS	21,0
	PoF	4,9
Contraintes de conception		
Limitation		BFA max.
Puissances nominales		
Angle de la face du banc (BFA)		75
Confinement des déversements (% confiné, largeur) [3]		70 %, 10,5 m
Largeur du banc (BW)		12 m *à partir du maximum (8,5 ; 10,5 + 1,5)*
Angle entre les rampes (IRA)		49

Remarques [1] Probabilités données pour la BFA sélectionnée.
[2] Probabilités données pour l'analyse des ensembles majeurs.
[3] Sur la base de la longueur limite de déversement au BFA sélectionné, à partir d'un glissement plan ou en coin.

Pour le secteur J-1 dans les amphibolites, un seul ensemble de discontinuités (JS1) peut poser des problèmes du point de vue du glissement plan. L'ensemble de joints JS1 est principalement composé de failles, de joints ouverts et fermés, et présente un espacement moyen des joints de 3,74 m. Cependant, le PoF plan ne limite pas la conception, car il reste inférieur à l'objectif de 30 %. Étant donné que le glissement en coin n'a pas non plus été identifié comme limitant dans ce secteur, l'angle de face de banc recommandé est égal à l'angle maximal autorisé, soit 75°.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

E.15 Secteur J-2 – META, mur sud – zone est.

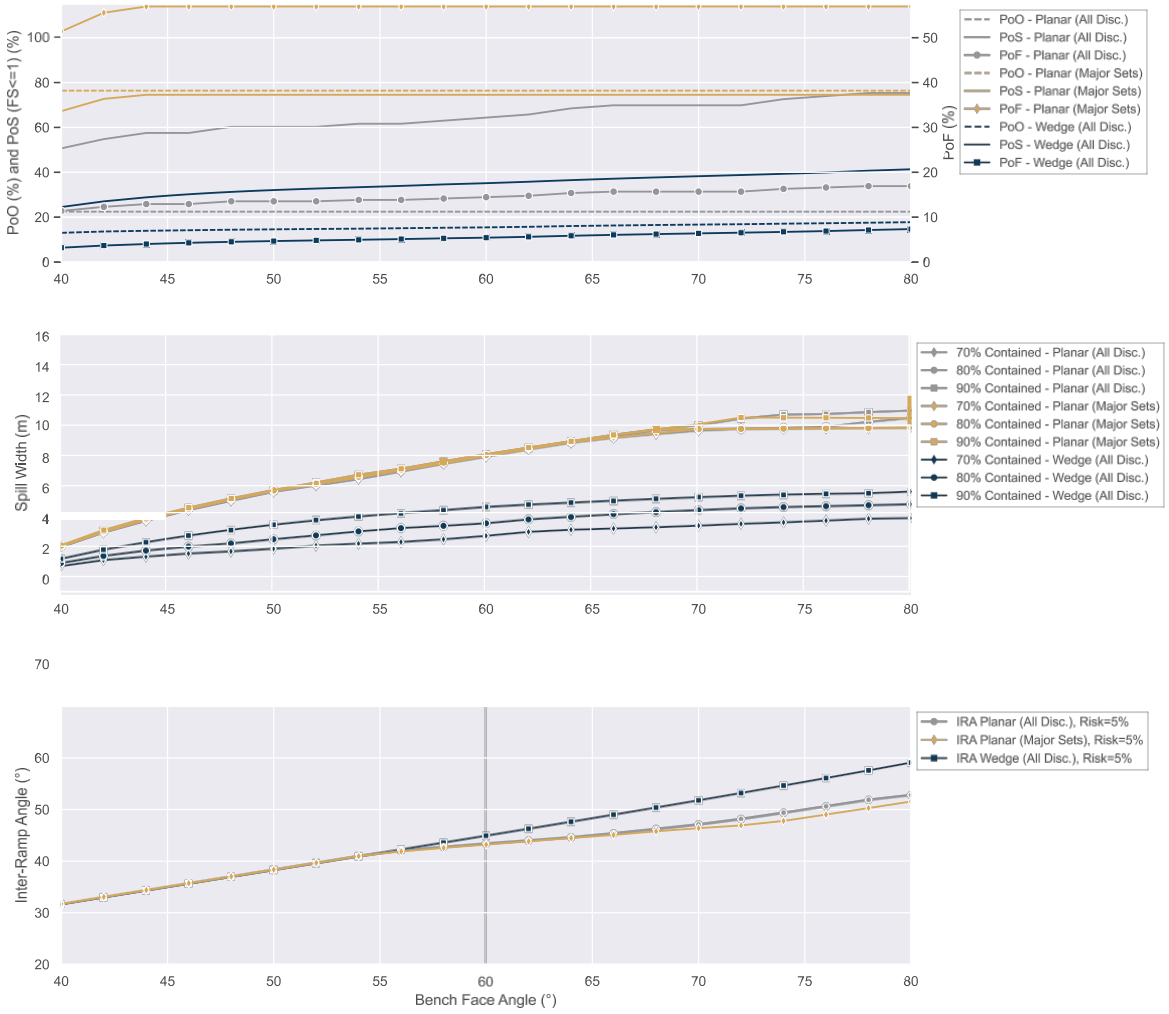


Figure 107. Résultats des analyses de stabilité à l'échelle du banc d'essai – Secteur J-2 (META).

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Tableau 84. Paramètres d'optimisation de la conception du banc – Secteur J-2 (META)

Paramètre		Valeur
Probabilités [1]		
Planaire [2]	PoO	76,4
	PoS	74,5
	PoF	56,9
Wedge	PoO	17,2
	PoS	39,7
	PoF	6,8
Contraintes de conception		
Limitation		Glissement plan
Résultats de conception		
Angle de la face du banc (BFA)		75
Confinement du déversement (% confiné, largeur) [3]		95 %, 11,0 m
Largeur du banc (BW)		12,5 m *à partir du maximum (8,5 ; 11,0 + 1,5)*
Angle entre les rampes (IRA)		48

Remarques [1] Probabilités données pour la BFA sélectionnée.
[2] Probabilités données pour l'analyse des ensembles principaux.
[3] Basé sur la longueur limite de déversement au BFA sélectionné, soit à partir d'un glissement plan, soit à partir d'un glissement en coin.

Pour le secteur J-2 dans les métasédiments, un seul ensemble de discontinuités (JS2) peut poser des problèmes du point de vue du glissement plan. L'ensemble de joints JS2 est principalement composé de joints ouverts et fermés et présente un espacement moyen de 5,75 m entre les joints.

Un PoF de 56,6 % est atteint à un BFA de 47°, ce qui dépasse l'objectif de 30 %. Comme le montre la figure 107, même à un BFA de 40°, le PoF atteint plus de 50 %. Compte tenu de l'espacement important entre les joints, il convient de concevoir la fosse avec un BFA de 75°. De plus, à un BFA de 75°, le risque évalué (équation 28) reste inférieur à 5 %.

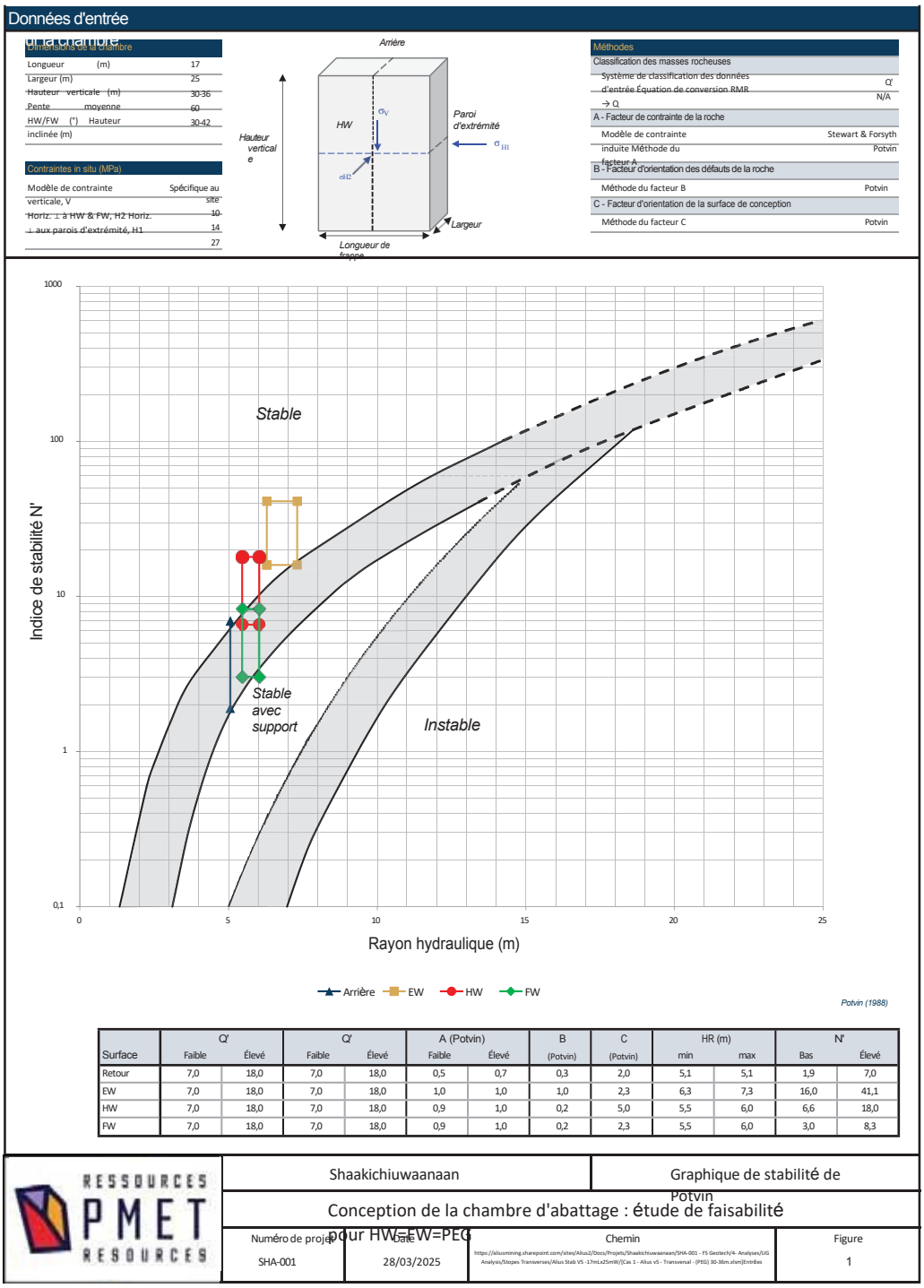
Une bonne surveillance des performances des pentes est recommandée dans cette zone, mais aucune limitation de l'angle de pente maximal (BFA) n'est incluse dans les directives de conception basées sur les analyses. À des fins de normalisation, il a été jugé acceptable de recommander une largeur de gradins de 12 m pour ce secteur (au lieu de 12,5 m), ce qui donne un angle d'inclinaison maximal (IRA) de 49° pour ce secteur. De cette façon, la conception est cohérente dans tout le secteur de conception J. Le glissement en coin n'a pas été identifié comme un facteur limitant pour ce secteur et cette lithologie.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

F Analyses de la stabilité et de la dilution des chantiers ouverts (ELOS)

Les figures 108 à 117 présentent les diagrammes de stabilité des chantiers ouverts de Potvin pour les chantiers transversaux.



Surface	Q' Faible	Q' Élevé	Q' Faible	Q' Élevé	A (Potvin) Faible	A (Potvin) Élevé	B (Potvin)	C (Potvin)	HR (m) min	HR (m) max	N' Bas	N' Élevé
Retour	7,0	18,0	7,0	18,0	0,5	0,7	0,3	2,0	5,1	5,1	1,9	7,0
EW	7,0	18,0	7,0	18,0	1,0	1,0	1,0	2,3	6,3	7,3	16,0	41,1
HW	7,0	18,0	7,0	18,0	0,9	1,0	0,2	5,0	5,5	6,0	6,6	18,0
FW	7,0	18,0	7,0	18,0	0,9	1,0	0,2	2,3	5,5	6,0	3,0	8,3

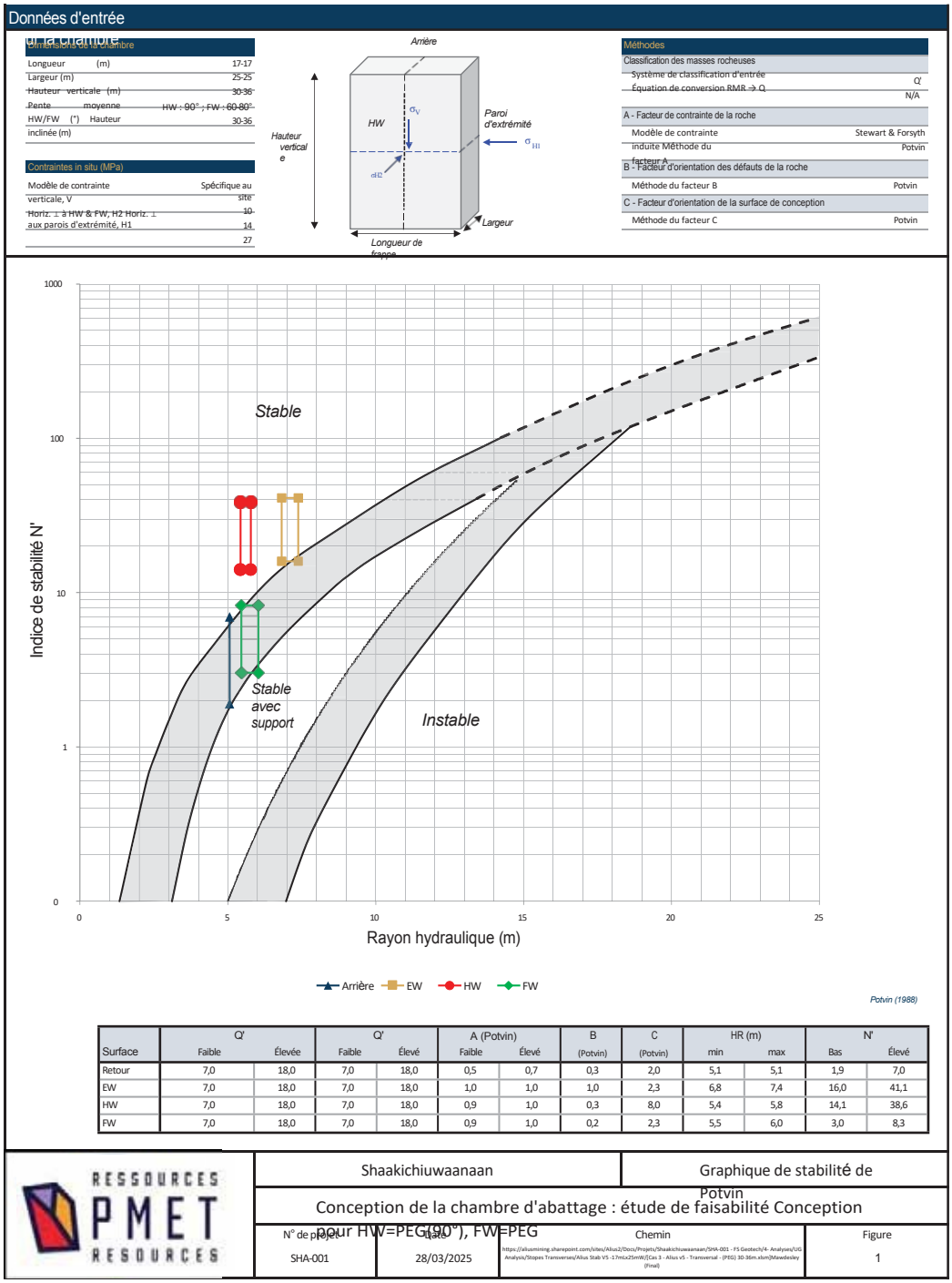
RESSOURCES PMET RESSOURCES

Shaakichiuwaanaan		Graphique de stabilité de Potvin	
Conception de la chambre d'abattage : étude de faisabilité pour HW-FW=PEG			
Numéro de projet	Date	Chemin	Figure
SHA-001	28/03/2025	https://aliusmining.sharepoint.com/sites/Alius2/Docs/Projets/Shaakichiuwaanaan/SHA-001 - FS Geotech/4- Analyses/UG Analysis/Stopes Transverses/Alius Stab V5 -17mLx25mW/[Cas 1 - Alius v5 - Transversal - (PEG) 30-36m.xlsm]Entrées	1

Figure 108. Tableau de stabilité des chantiers à ciel ouvert de Potvin – HW : pegmatite ; FW : pegmatite.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

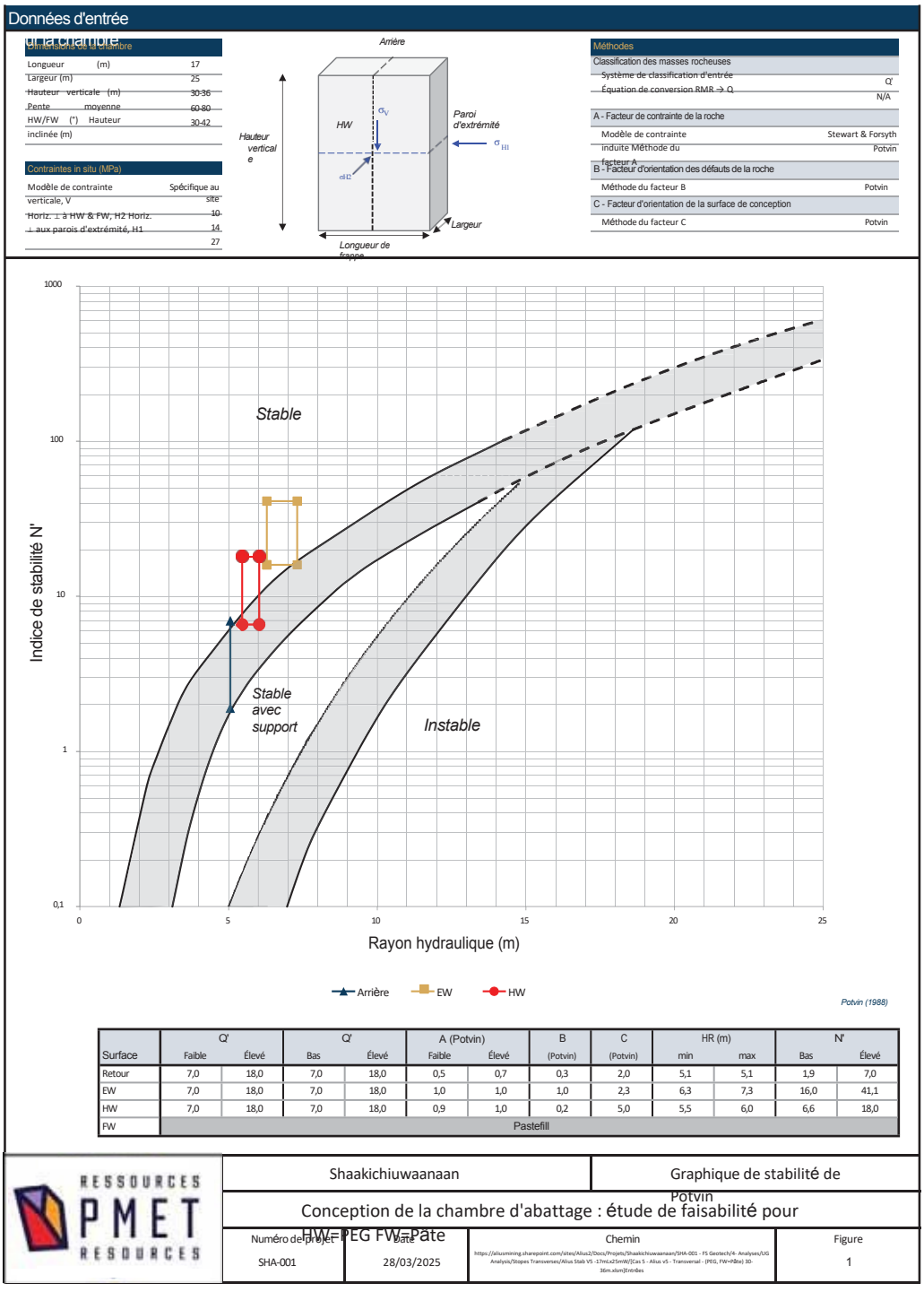


Surface	Q' Faible	Q' Élevée	Q' Faible	Q' Élevé	A (Potvin) Faible	A (Potvin) Élevé	B (Potvin)	C (Potvin)	HR (m) min	HR (m) max	N' Bas	N' Élevé
Retour	7,0	18,0	7,0	18,0	0,5	0,7	0,3	2,0	5,1	5,1	1,9	7,0
EW	7,0	18,0	7,0	18,0	1,0	1,0	1,0	2,3	6,8	7,4	16,0	41,1
HW	7,0	18,0	7,0	18,0	0,9	1,0	0,3	8,0	5,4	5,8	14,1	38,6
FW	7,0	18,0	7,0	18,0	0,9	1,0	0,2	2,3	5,5	6,0	3,0	8,3

Figure 109. Tableau de stabilité des chantiers à ciel ouvert de Potvin – HW : pegmatite (90°) ; FW : pegmatite.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification



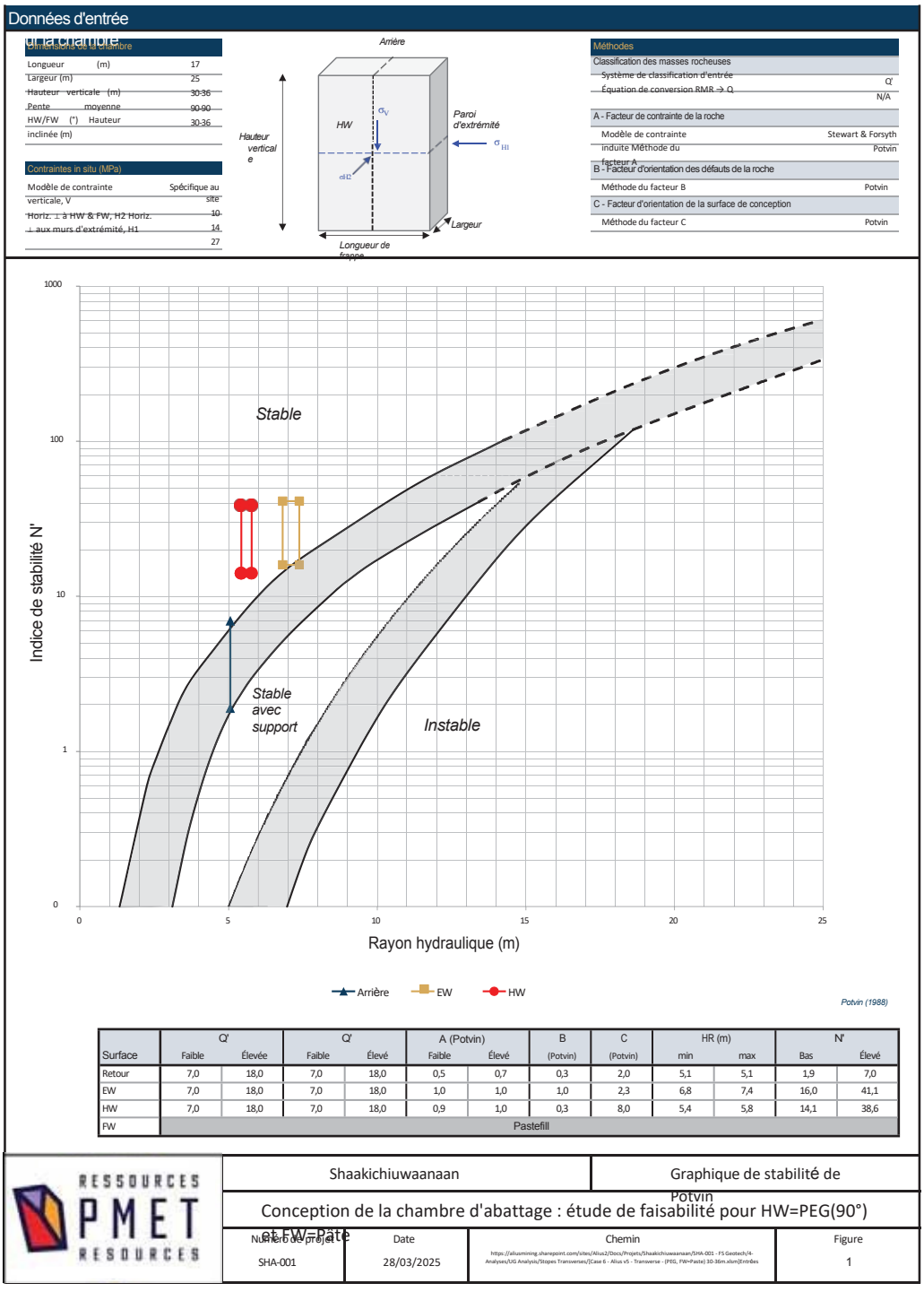
Surface	Q' Faible	Q' Élevé	Q' Bas	Q' Élevé	A (Potvin) Faible	A (Potvin) Élevé	B (Potvin)	C (Potvin)	HR (m) min	HR (m) max	N' Bas	N' Élevé
Retour	7,0	18,0	7,0	18,0	0,5	0,7	0,3	2,0	5,1	5,1	1,9	7,0
EW	7,0	18,0	7,0	18,0	1,0	1,0	1,0	2,3	6,3	7,3	16,0	41,1
HW	7,0	18,0	7,0	18,0	0,9	1,0	0,2	5,0	5,5	6,0	6,6	18,0
FW	Pastefill											

RESSOURCES PMET RESOURCES	Shaakichiuwaanaan	Graphique de stabilité de Potvin
	Conception de la chambre d'abattage : étude de faisabilité pour HW=PEG FW=Pâte	
Numéro de projet SHA-001	Date 28/03/2025	Chemin https://aliusmining.sharepoint.com/sites/Alius2/Docs/Projets/Shaakichiuwaanaan/SHA-001 - FS Geotech/4- Analyses/UG Analysis/Stopes Transverses/Alius Stab V5 -17mLx25mW/[Cas 5 - Alius v5 - Transversal - (PEG, FW=Pâte) 30-36m.slim]Entrées	Figure 1

Figure 110. Tableau de stabilité des chantiers à ciel ouvert de Potvin – HW : pegmatite ; FW : remblai.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification



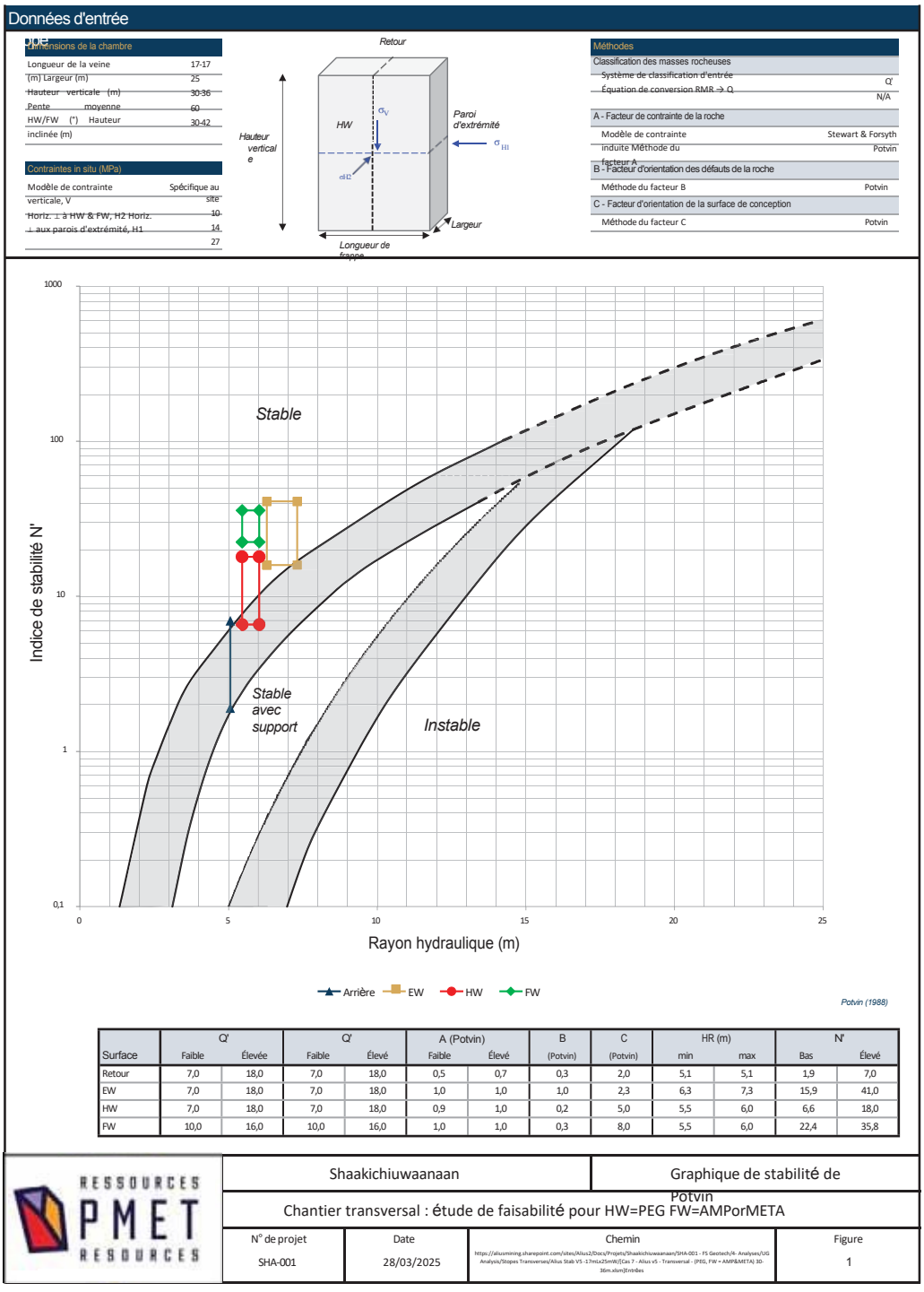
Surface	Q' Faible	Q' Élevée	Q' Faible	Q' Élevé	A (Potvin) Faible	A (Potvin) Élevé	B (Potvin)	C (Potvin)	HR (m) min	HR (m) max	N' Bas	N' Élevé
Retour	7,0	18,0	7,0	18,0	0,5	0,7	0,3	2,0	5,1	5,1	1,9	7,0
EW	7,0	18,0	7,0	18,0	1,0	1,0	1,0	2,3	6,8	7,4	16,0	41,1
HW	7,0	18,0	7,0	18,0	0,9	1,0	0,3	8,0	5,4	5,8	14,1	38,6
FW	Pastefill											

RESSOURCES PMET RESOURCES	Shaakichiuwaanaan	Graphique de stabilité de Potvin
	Conception de la chambre d'abattage : étude de faisabilité pour HW=PEG(90°) et FW=Pate	
Numéro de projet: SHA-001	Date: 28/03/2025	Chemin: https://aliusmining.sharepoint.com/sites/Alius2/Docs/Projets/Shaakichiuwaanaan/SHA-001 - FS Geotech/4-Analyses/UG Analysis/Stopes Transversals/[Case 6 - Alius v5 - Transverse - (PEG, FW=Paste) 30-36m.xlsm]Entrées	Figure: 1

Figure 111. Tableau de stabilité des chantiers à ciel ouvert de Potvin – HW : pegmatite (90°) ; FW : remblai.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification



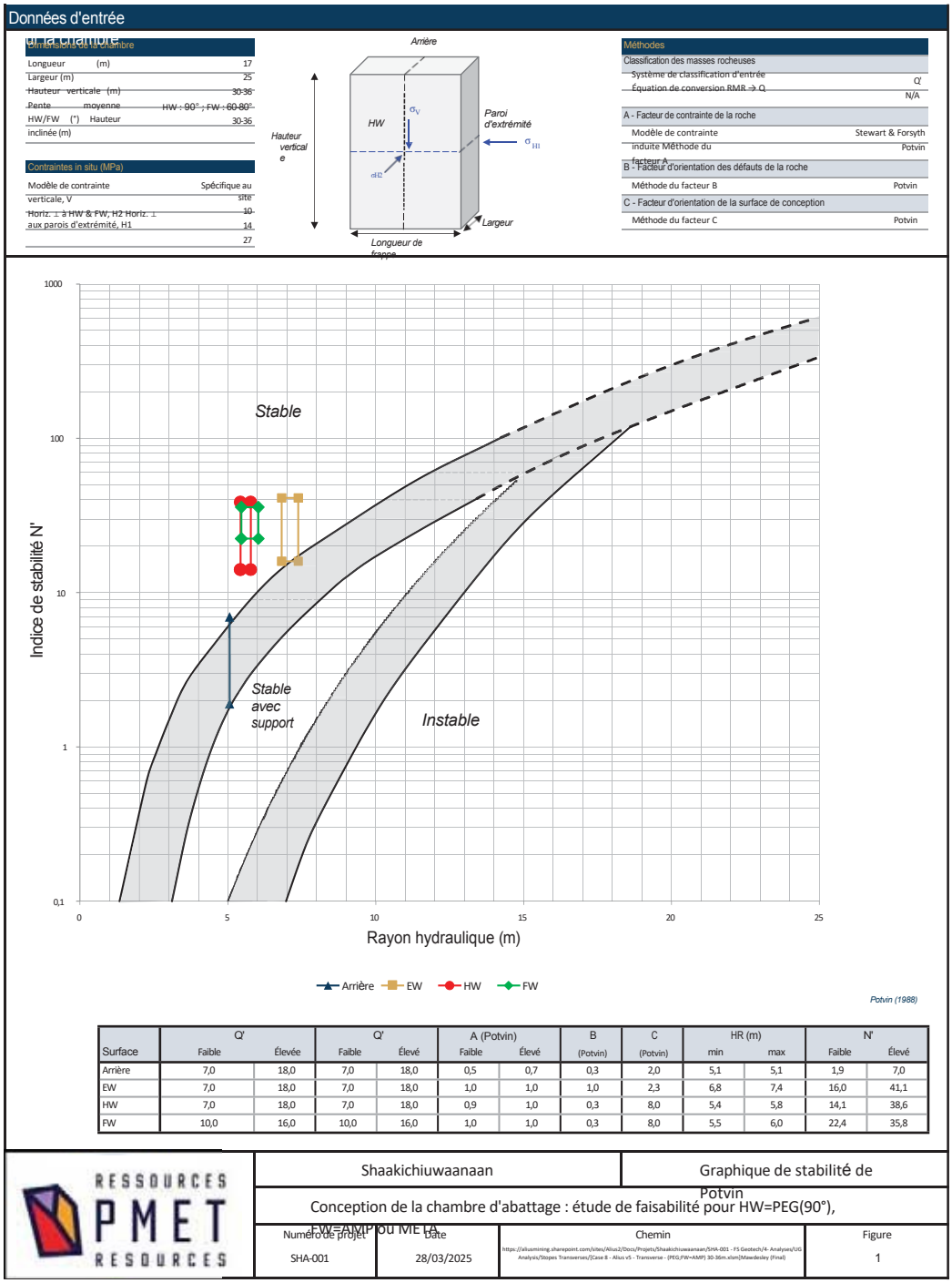
Surface	Q' Faible	Q' Élevée	Q' Faible	Q' Élevé	A (Potvin) Faible	A (Potvin) Élevé	B (Potvin)	C (Potvin)	HR (m) min	HR (m) max	N' Bas	N' Élevé
Retour	7,0	18,0	7,0	18,0	0,5	0,7	0,3	2,0	5,1	5,1	1,9	7,0
EW	7,0	18,0	7,0	18,0	1,0	1,0	1,0	2,3	6,3	7,3	15,9	41,0
HW	7,0	18,0	7,0	18,0	0,9	1,0	0,2	5,0	5,5	6,0	6,6	18,0
FW	10,0	16,0	10,0	16,0	1,0	1,0	0,3	8,0	5,5	6,0	22,4	35,8

RESSOURCES PMET RESOURCES	Shaakichiuwaanaan	Graphique de stabilité de Potvin
	Chantier transversal : étude de faisabilité pour HW=PEG FW=AMPorMETA	
N° de projet: SHA-001	Date: 28/03/2025	Chemin: https://aliusmining.sharepoint.com/sites/Alius2/Docs/Projets/Shaakichiuwaanaan/SHA-001 - FS Geotech/4- Analyses/UG Analysis/Stopes Transverses/Alius Stab V5 -17mLx25mW/[Cas 7 - Alius v5 - Transversal - (PEG, FW = AMP&META) 30-36m.xlsm]Entrées	Figure: 1

Figure 112. Tableau de stabilité des chambres ouvertes de Potvin – HW : pegmatite ; FW : amphibolite ou métasédiments.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification



Surface	Q' Faible	Q' Élevée	Q' Faible	Q' Élevé	A (Potvin) Faible	A (Potvin) Élevé	B (Potvin)	C (Potvin)	HR (m) min	HR (m) max	N' Faible	N' Élevé
Arrière	7,0	18,0	7,0	18,0	0,5	0,7	0,3	2,0	5,1	5,1	1,9	7,0
EW	7,0	18,0	7,0	18,0	1,0	1,0	1,0	2,3	6,8	7,4	16,0	41,1
HW	7,0	18,0	7,0	18,0	0,9	1,0	0,3	8,0	5,4	5,8	14,1	38,6
FW	10,0	16,0	10,0	16,0	1,0	1,0	0,3	8,0	5,5	6,0	22,4	35,8

RESSOURCES PMET RESOURCES

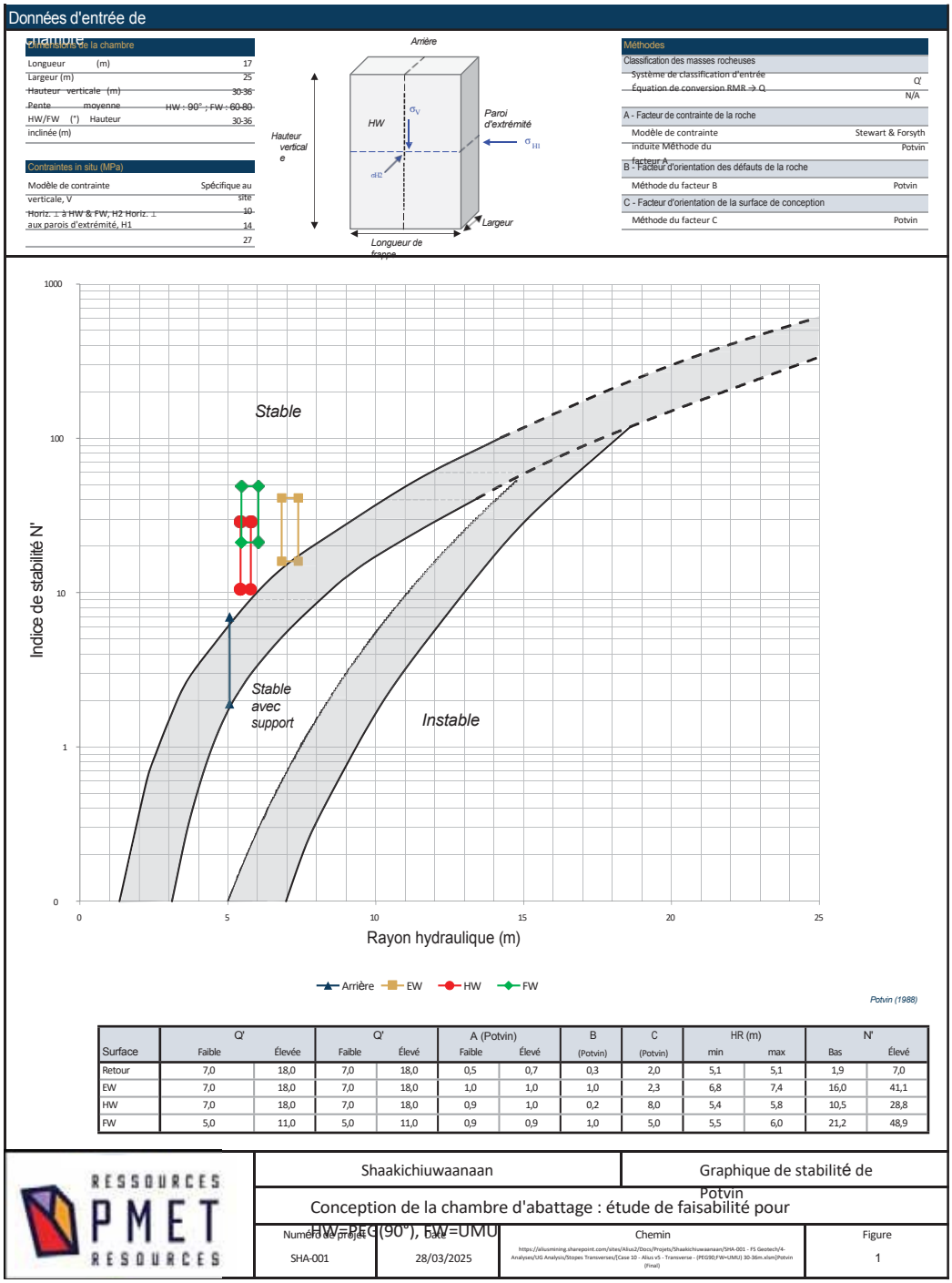
Shaakichiuwaanaan	Graphique de stabilité de Potvin
Conception de la chambre d'abattage : étude de faisabilité pour HW=PEG(90°), FW=AMP ou ME (A	

Numéro de projet	Date	Chemin	Figure
SHA-001	28/03/2025	https://aliusmining.sharepoint.com/sites/Alius2/Docs/Projets/Shaakichiuwaanaan/SHA-001 - FS Geotech/4- Analyses/UG Analysis/Stopes Transverses/[Case 8 - Alius v5 - Transverse - (PEG,FW=AMP) 30-36m.xlsm]Mawdesley (Final)	1

Figure 113. Tableau de stabilité des chantiers à ciel ouvert de Potvin – HW : pegmatite (90°) ; FW : amphibolite ou métasédiments.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

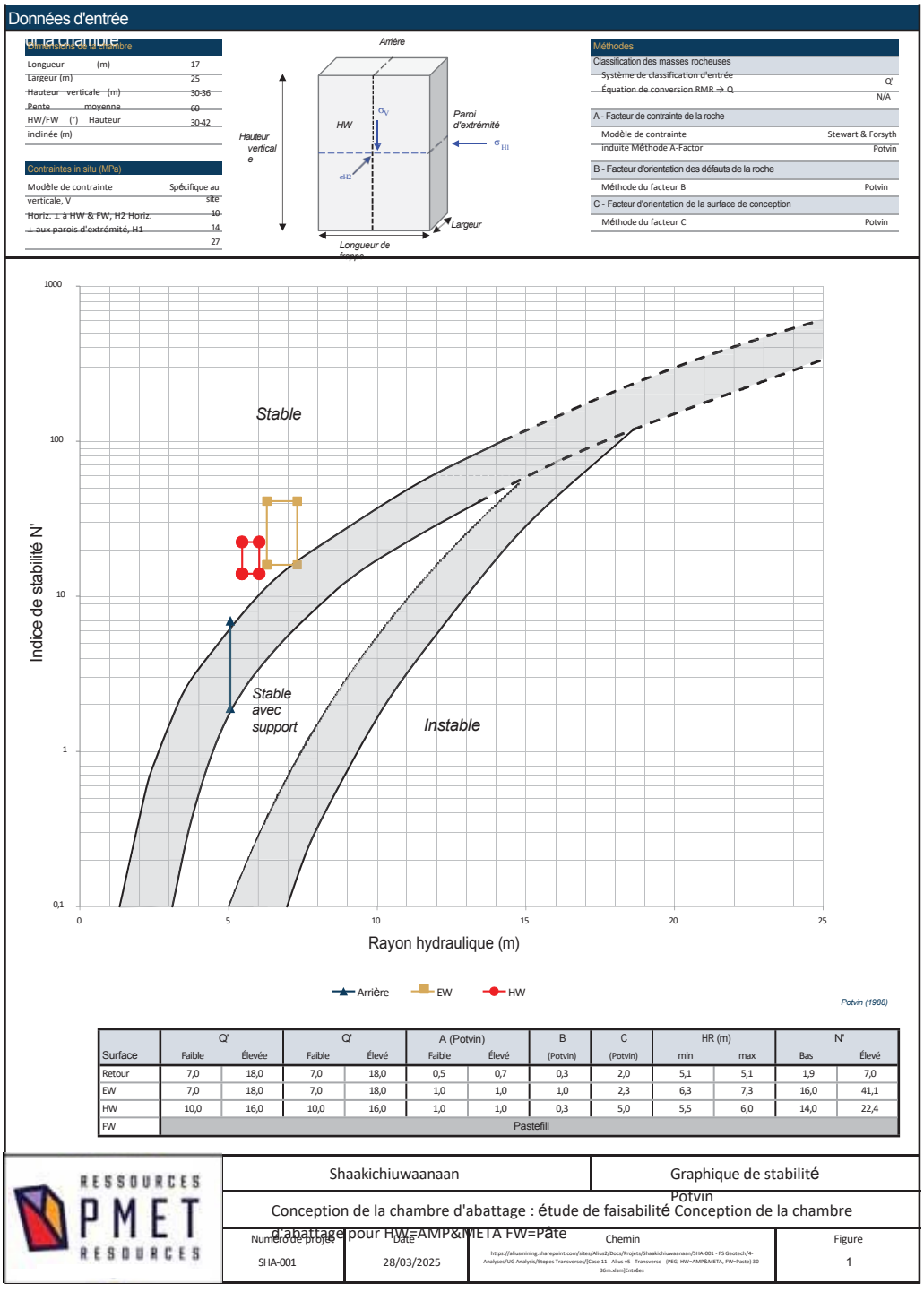


Surface	Q' Faible	Q' Élevée	Q' Faible	Q' Élevé	A (Potvin) Faible	A (Potvin) Élevé	B (Potvin)	C (Potvin)	HR (m) min	HR (m) max	N' Bas	N' Élevé
Retour	7,0	18,0	7,0	18,0	0,5	0,7	0,3	2,0	5,1	5,1	1,9	7,0
EW	7,0	18,0	7,0	18,0	1,0	1,0	1,0	2,3	6,8	7,4	16,0	41,1
HW	7,0	18,0	7,0	18,0	0,9	1,0	0,2	8,0	5,4	5,8	10,5	28,8
FW	5,0	11,0	5,0	11,0	0,9	0,9	1,0	5,0	5,5	6,0	21,2	48,9

Figure 114. Tableau de stabilité des chantiers à ciel ouvert de Potvin – HW : pegmatite (90°) ; FW : ultramafique indifférencié.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification



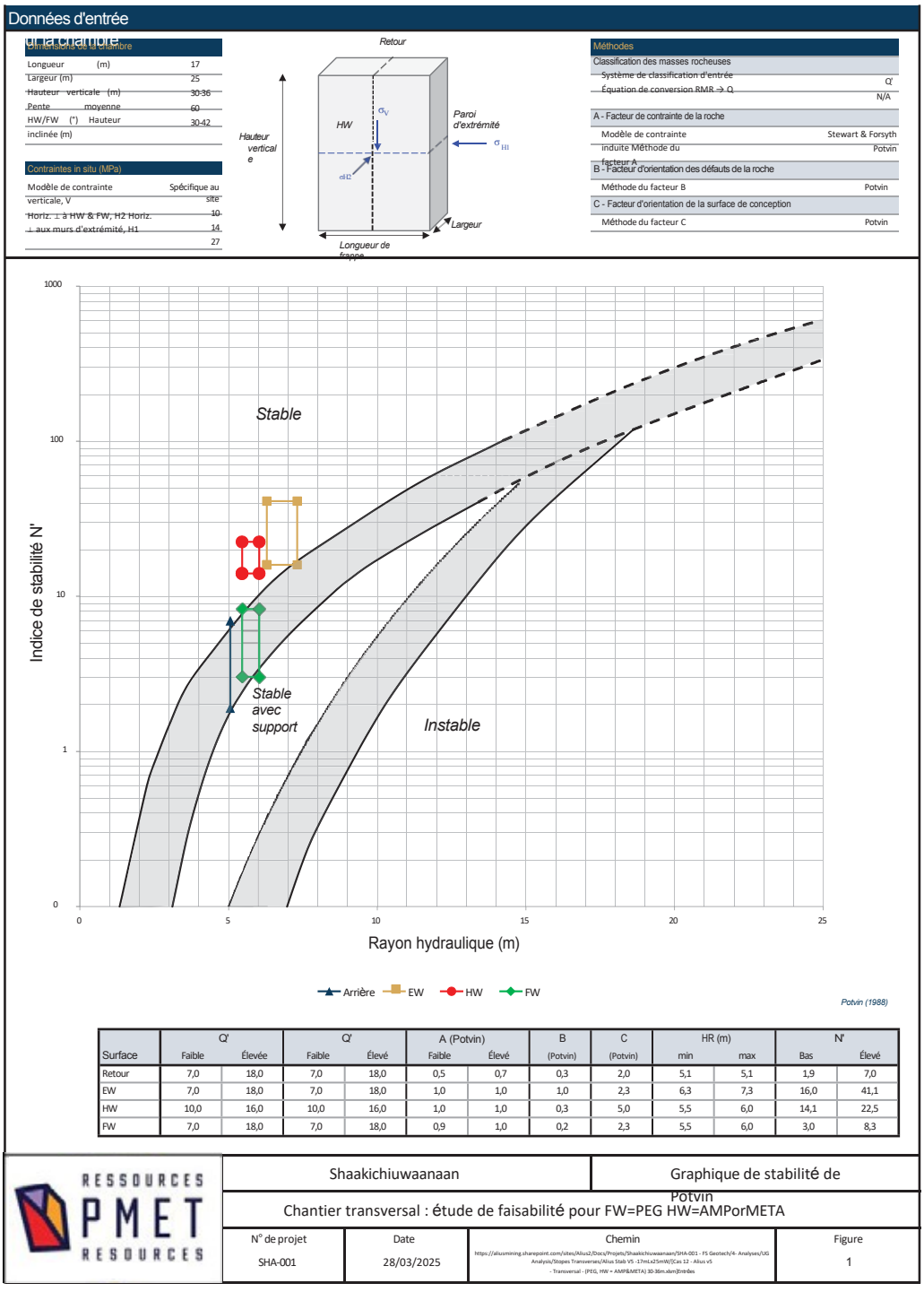
Surface	Q' Faible	Q' Élevée	Q' Faible	Q' Élevé	A (Potvin) Faible	A (Potvin) Élevé	B (Potvin)	C (Potvin)	HR (m) min	HR (m) max	N' Bas	N' Élevé
Retour	7,0	18,0	7,0	18,0	0,5	0,7	0,3	2,0	5,1	5,1	1,9	7,0
EW	7,0	18,0	7,0	18,0	1,0	1,0	1,0	2,3	6,3	7,3	16,0	41,1
HW	10,0	16,0	10,0	16,0	1,0	1,0	0,3	5,0	5,5	6,0	14,0	22,4
FW	Pastefill											

RESSOURCES PMET RESOURCES	Shaakichiuwaanaan	Graphique de stabilité Potvin
	Conception de la chambre d'abattage : étude de faisabilité Conception de la chambre d'abattage pour HW=AMP&META FW=Pâte	
Numéro de projet: SHA-001	Date: 28/03/2025	Chemin: https://aliusmining.sharepoint.com/sites/Alius2/Docs/Projets/Shaakichiuwaanaan/SHA-001 - FS Geotech/4-Analyses/UG Analysis/Stopes Transverses/[Case 11 - Alius v5 - Transverse - (PEG, HW=AMP&META, FW=Paste) 30-36m.xlsm]Entrées
		Figure: 1

Figure 115. Tableau de stabilité des chantiers à ciel ouvert de Potvin – HW : amphibolite ou métasédiments ; FW : remblai.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

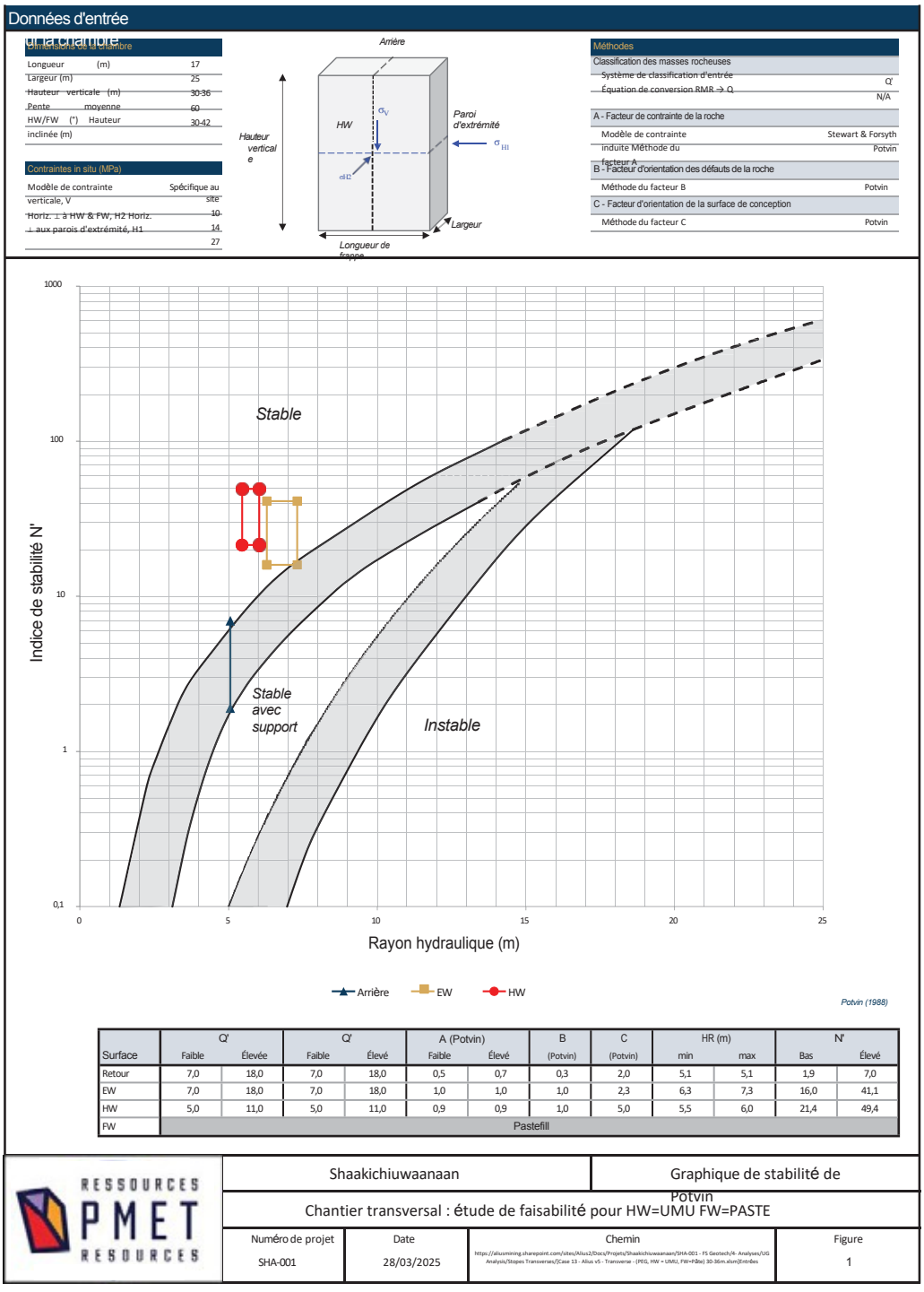


Surface	Q' Faible	Q' Élevée	Q' Faible	Q' Élevé	A (Potvin) Faible	A (Potvin) Élevé	B (Potvin)	C (Potvin)	HR (m) min	HR (m) max	N' Bas	N' Élevé
Retour	7,0	18,0	7,0	18,0	0,5	0,7	0,3	2,0	5,1	5,1	1,9	7,0
EW	7,0	18,0	7,0	18,0	1,0	1,0	1,0	2,3	6,3	7,3	16,0	41,1
HW	10,0	16,0	10,0	16,0	1,0	1,0	0,3	5,0	5,5	6,0	14,1	22,5
FW	7,0	18,0	7,0	18,0	0,9	1,0	0,2	2,3	5,5	6,0	3,0	8,3

Figure 116. Tableau de stabilité des chantiers à ciel ouvert de Potvin – HW : amphibolite ou métasédiments ; FW : pegmatite.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification



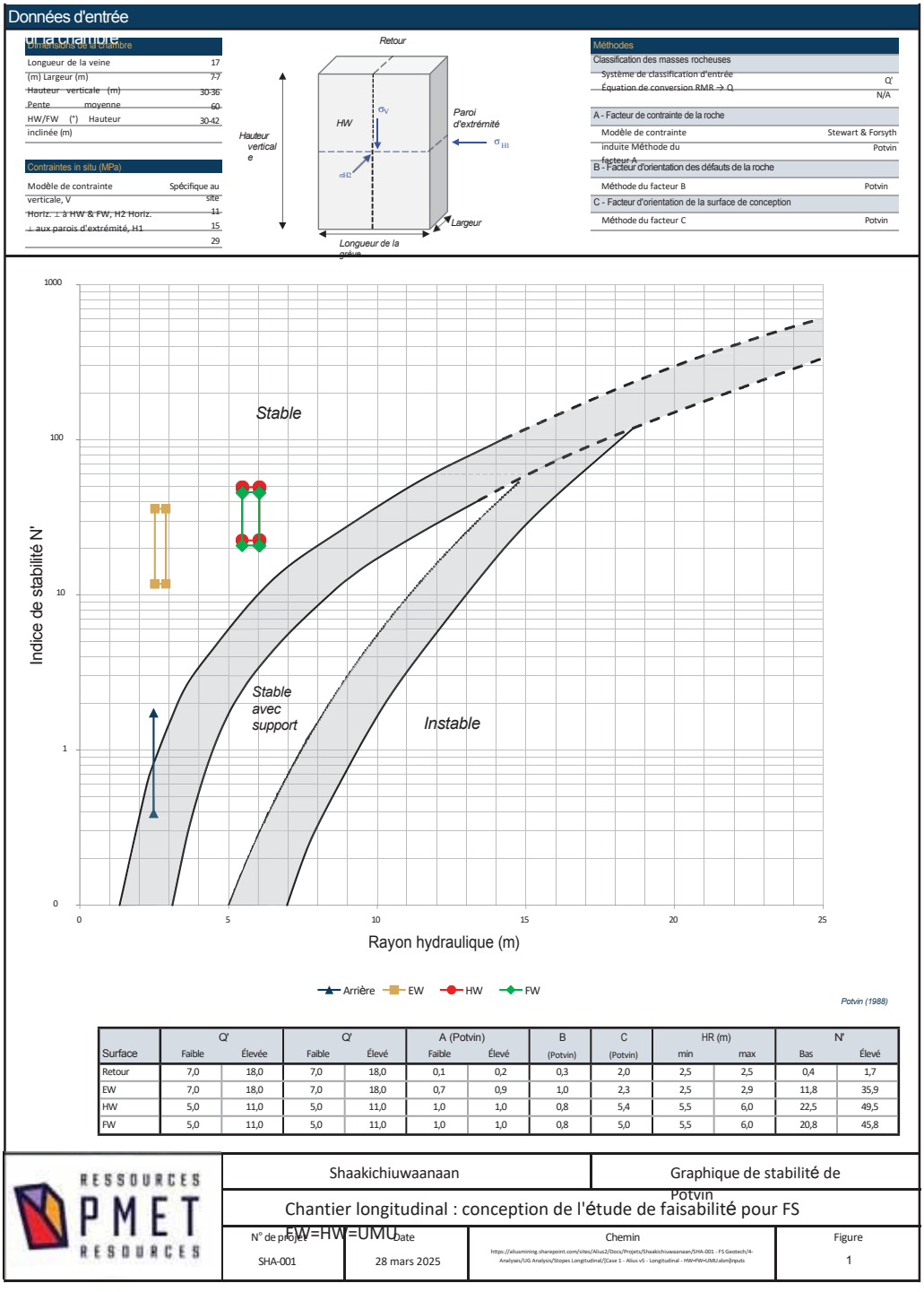
Surface	Q' Faible	Q' Élevée	Q' Faible	Q' Élevé	A (Potvin) Faible	A (Potvin) Élevé	B (Potvin)	C (Potvin)	HR (m) min	HR (m) max	N' Bas	N' Élevé
Retour	7,0	18,0	7,0	18,0	0,5	0,7	0,3	2,0	5,1	5,1	1,9	7,0
EW	7,0	18,0	7,0	18,0	1,0	1,0	1,0	2,3	6,3	7,3	16,0	41,1
HW	5,0	11,0	5,0	11,0	0,9	0,9	1,0	5,0	5,5	6,0	21,4	49,4
FW	Pastefill											

Figure 117. Tableau de stabilité des chantiers à ciel ouvert de Potvin – HW : ultramafique indifférencié ; FW : remblai.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Les figures 118 à 119 présentent la stabilité des galeries ouvertes pour les chantiers longitudinaux.



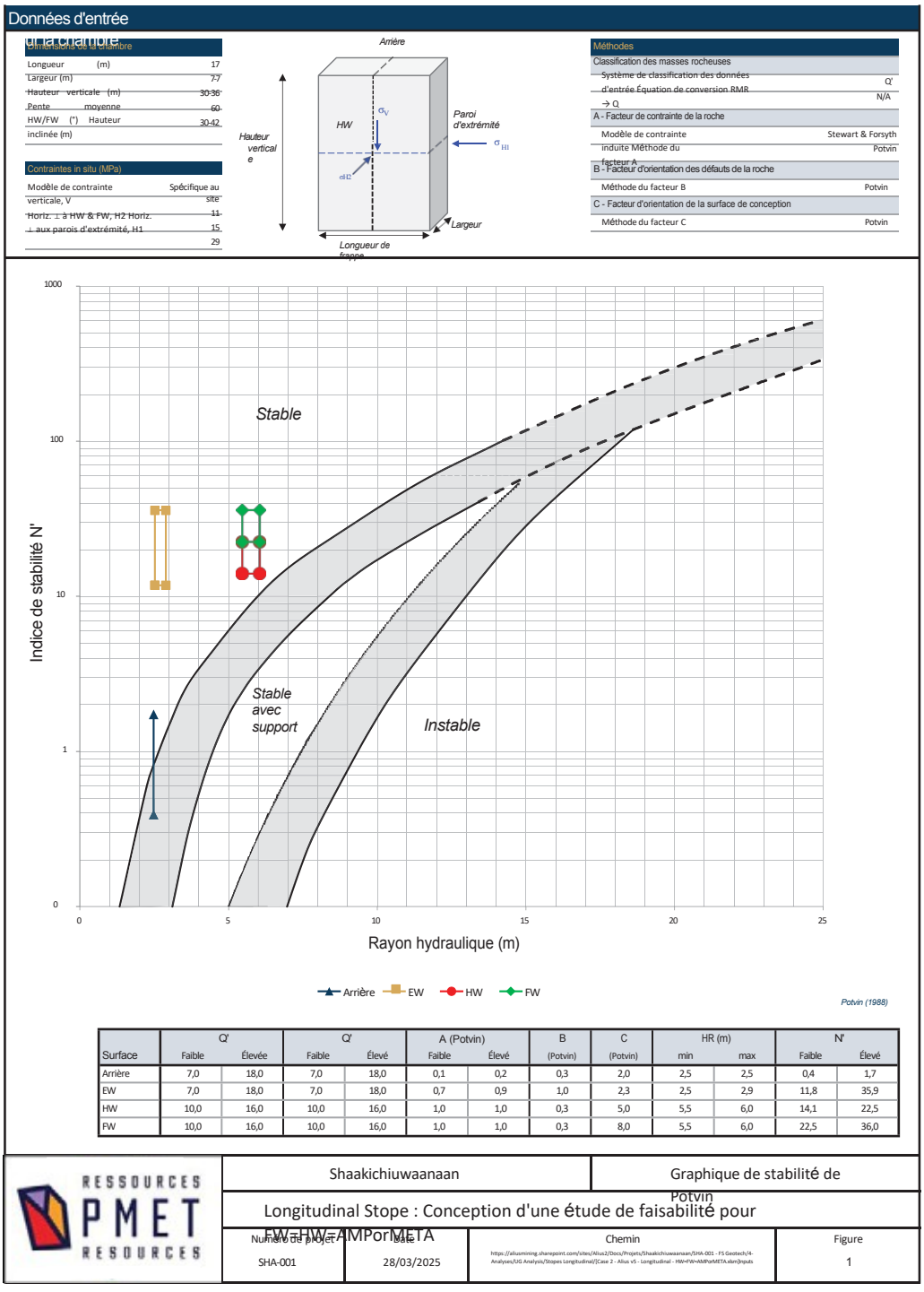
Surface	Q' Faible	Q' Élevée	Q' Faible	Q' Élevé	A (Potvin) Faible	A (Potvin) Élevé	B (Potvin)	C (Potvin)	HR (m) min	HR (m) max	N' Bas	N' Élevé
Retour	7,0	18,0	7,0	18,0	0,1	0,2	0,3	2,0	2,5	2,5	0,4	1,7
EW	7,0	18,0	7,0	18,0	0,7	0,9	1,0	2,3	2,5	2,9	11,8	35,9
HW	5,0	11,0	5,0	11,0	1,0	1,0	0,8	5,4	5,5	6,0	22,5	49,5
FW	5,0	11,0	5,0	11,0	1,0	1,0	0,8	5,0	5,5	6,0	20,8	45,8

RESSOURCES PMET RESOURCES	Shaakichiuwaanaan	Graphique de stabilité de Potvin
	Chantier longitudinal : conception de l'étude de faisabilité pour FS	
	N° de projet: SHA-001	Date: 28 mars 2025
	Chemin: https://aliusmining.sharepoint.com/sites/Alius2/Docs/Projets/Shaakichiuwaanaan/SHA-001 - FS Geotech/4-Analyses/UG Analysis/Stopes Longitudinal/[Case 1 - Alius v5 - Longitudinal - HW=FW=UMU.xlsm]Inputs	Figure: 1

Figure 118. Tableau de stabilité des chantiers à ciel ouvert de Potvin – HW : ultramafique indifférencié ; FW : ultramafique indifférencié.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification



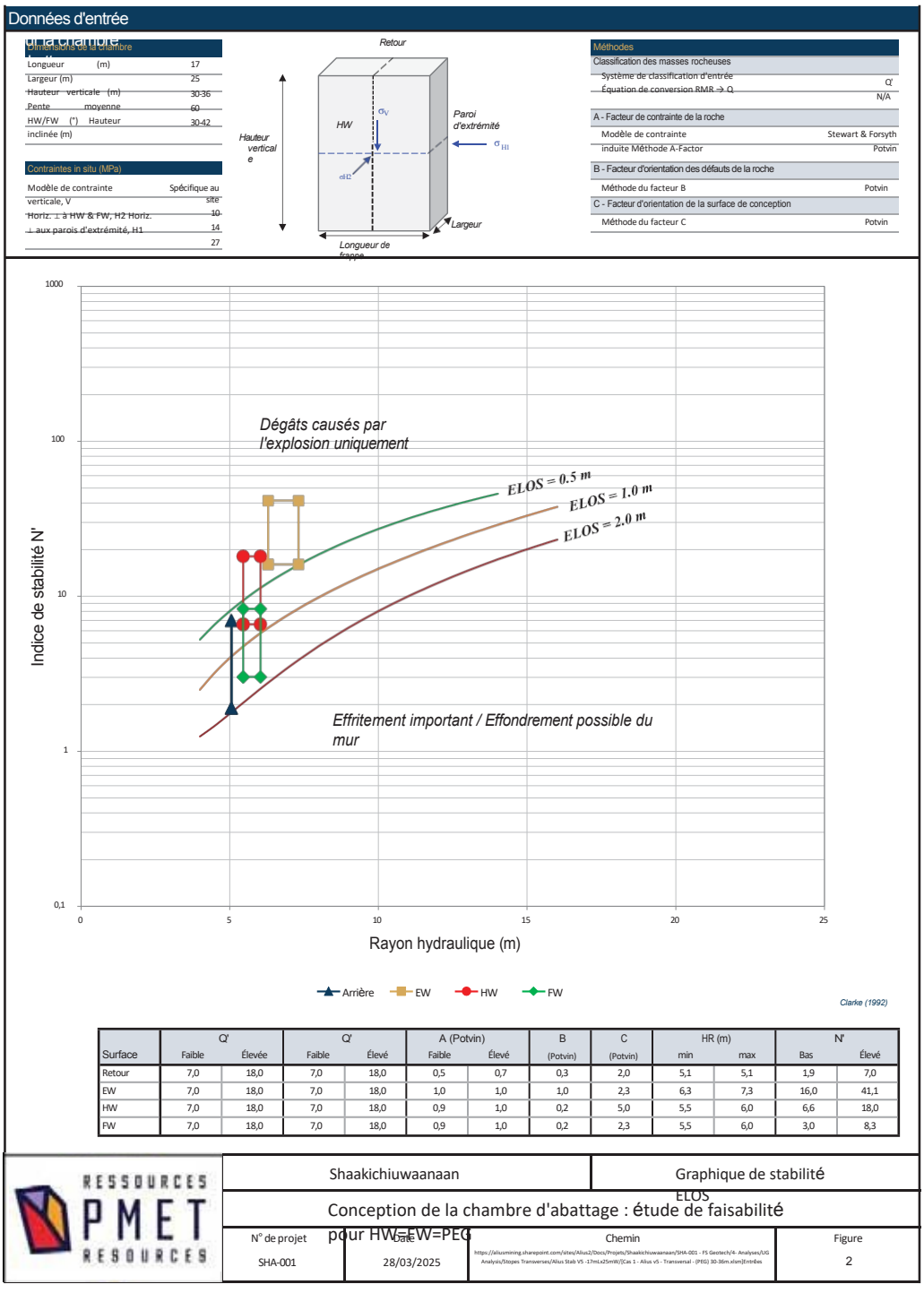
Surface	Q' Faible	Q' Élevée	Q' Faible	Q' Élevé	A (Potvin) Faible	A (Potvin) Élevé	B (Potvin)	C (Potvin)	HR (m) min	HR (m) max	N' Faible	N' Élevé
Arrière	7,0	18,0	7,0	18,0	0,1	0,2	0,3	2,0	2,5	2,5	0,4	1,7
EW	7,0	18,0	7,0	18,0	0,7	0,9	1,0	2,3	2,5	2,9	11,8	35,9
HW	10,0	16,0	10,0	16,0	1,0	1,0	0,3	5,0	5,5	6,0	14,1	22,5
FW	10,0	16,0	10,0	16,0	1,0	1,0	0,3	8,0	5,5	6,0	22,5	36,0

Figure 119. Tableau de stabilité des chantiers à ciel ouvert de Potvin – HW : amphibolite ou métasédiments ; FW : amphibolite ou métasédiments.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Les figures 120 à 129 présentent le diagramme ELOS pour les chantiers transversaux.

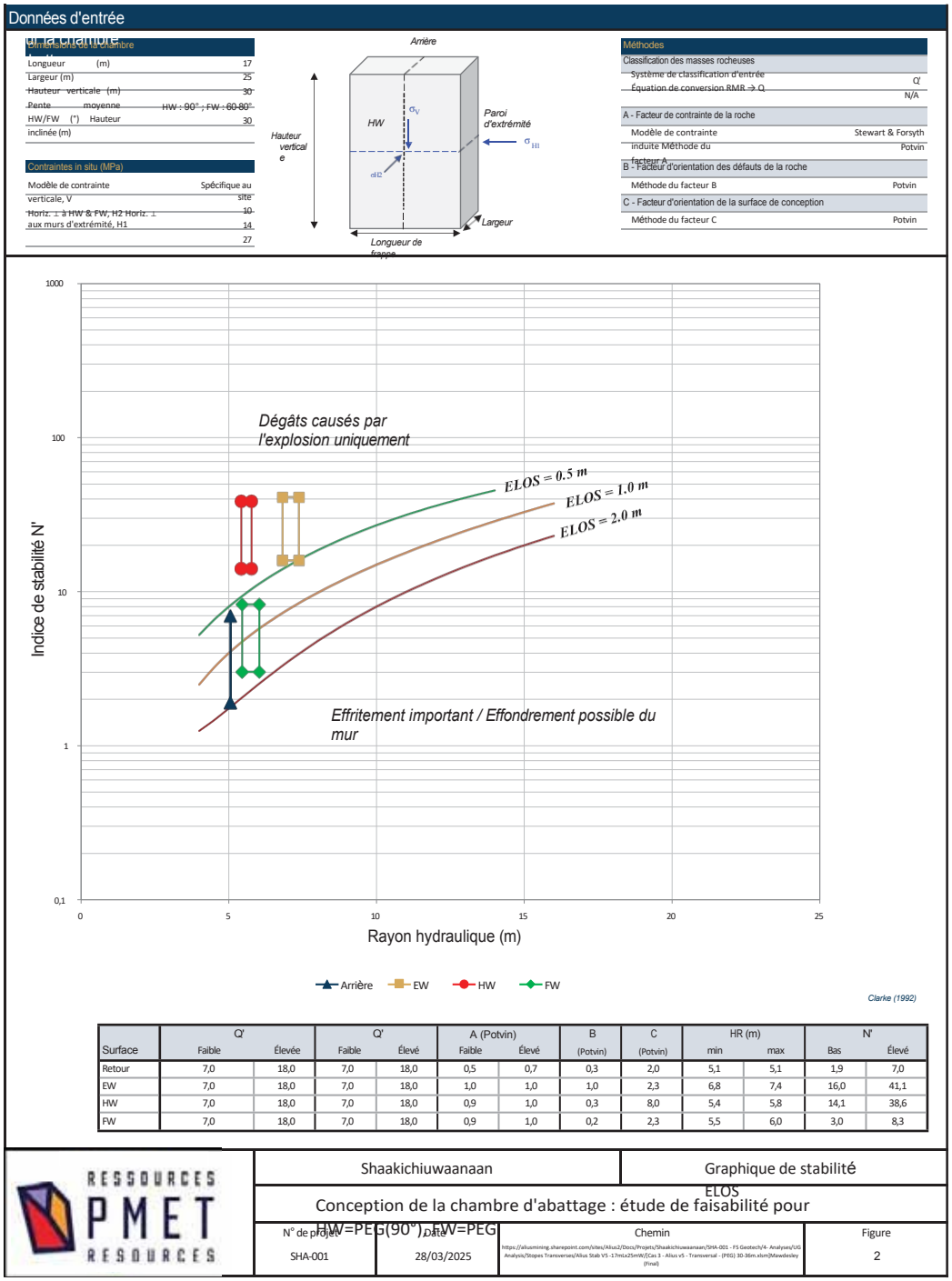


Surface	Q' Faible	Q' Élevée	Q' Faible	Q' Élevé	A (Potvin) Faible	A (Potvin) Élevé	B (Potvin)	C (Potvin)	HR (m) min	HR (m) max	N' Bas	N' Élevé
Retour	7,0	18,0	7,0	18,0	0,5	0,7	0,3	2,0	5,1	5,1	1,9	7,0
EW	7,0	18,0	7,0	18,0	1,0	1,0	1,0	2,3	6,3	7,3	16,0	41,1
HW	7,0	18,0	7,0	18,0	0,9	1,0	0,2	5,0	5,5	6,0	6,6	18,0
FW	7,0	18,0	7,0	18,0	0,9	1,0	0,2	2,3	5,5	6,0	3,0	8,3

Figure 120. Tableau ELOS – HW : pegmatite ; FW : pegmatite.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

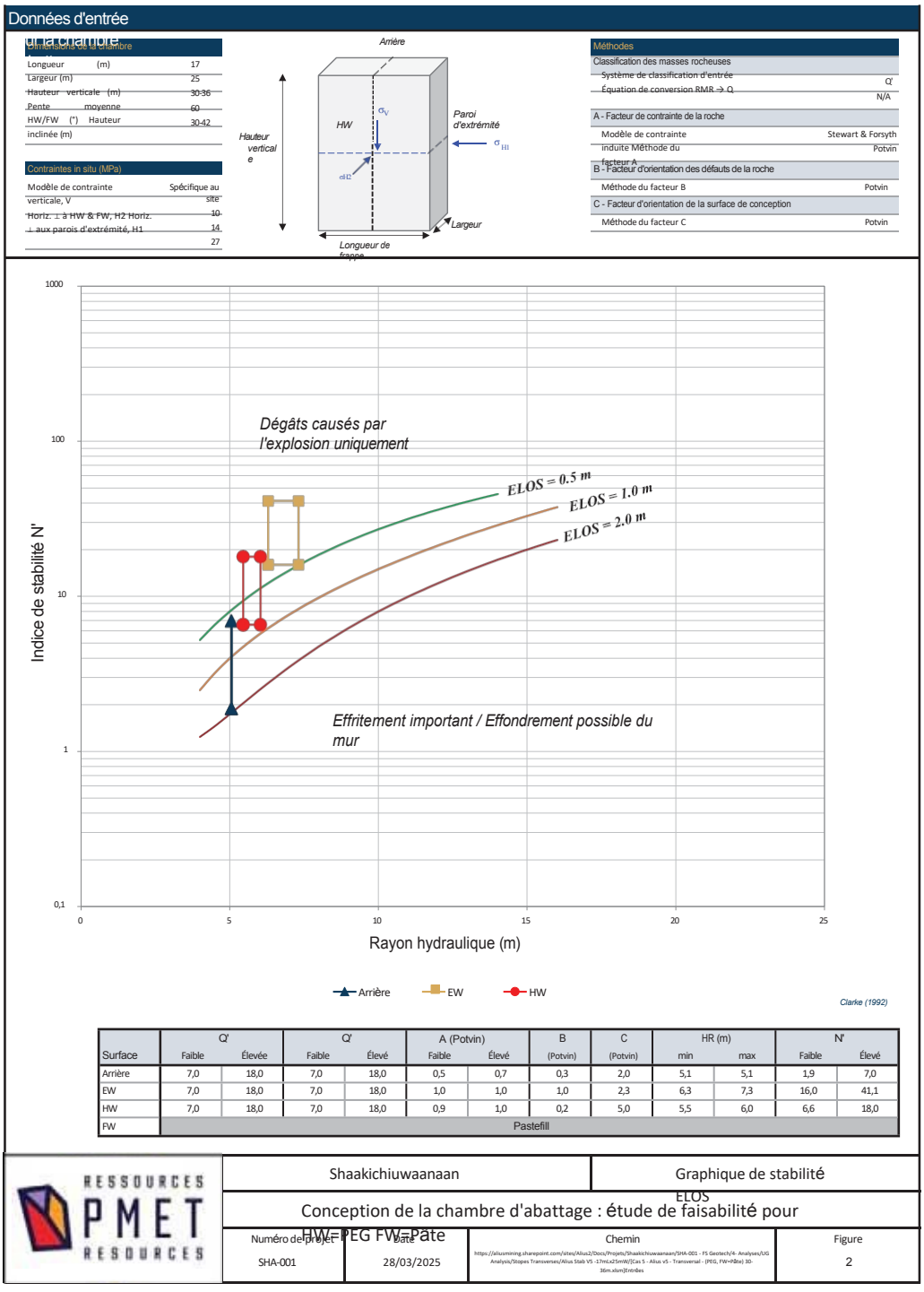


Surface	Q' Faible	Q' Élevée	Q' Faible	Q' Élevé	A (Potvin) Faible	A (Potvin) Élevé	B (Potvin)	C (Potvin)	HR (m) min	HR (m) max	N' Bas	N' Élevé
Retour	7,0	18,0	7,0	18,0	0,5	0,7	0,3	2,0	5,1	5,1	1,9	7,0
EW	7,0	18,0	7,0	18,0	1,0	1,0	1,0	2,3	6,8	7,4	16,0	41,1
HW	7,0	18,0	7,0	18,0	0,9	1,0	0,3	8,0	5,4	5,8	14,1	38,6
FW	7,0	18,0	7,0	18,0	0,9	1,0	0,2	2,3	5,5	6,0	3,0	8,3

Figure 121. Tableau ELOS – HW : pegmatite (90°) ; FW : pegmatite.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification



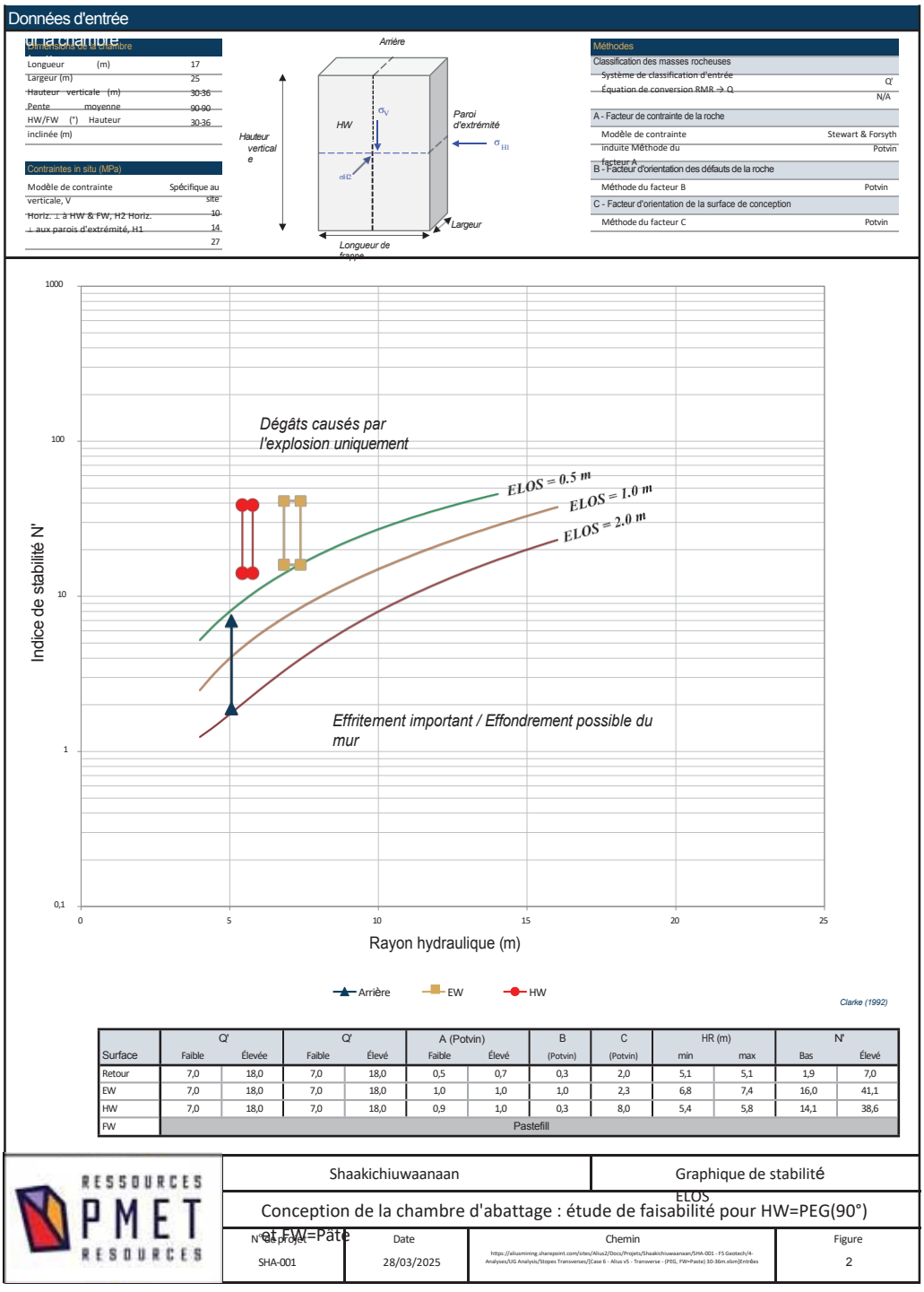
Surface	Q' Faible	Q' Élevée	Q' Faible	Q' Élevé	A (Potvin) Faible	A (Potvin) Élevé	B (Potvin)	C (Potvin)	HR (m) min	HR (m) max	N' Faible	N' Élevé
Arrière	7,0	18,0	7,0	18,0	0,5	0,7	0,3	2,0	5,1	5,1	1,9	7,0
EW	7,0	18,0	7,0	18,0	1,0	1,0	1,0	2,3	6,3	7,3	16,0	41,1
HW	7,0	18,0	7,0	18,0	0,9	1,0	0,2	5,0	5,5	6,0	6,6	18,0
FW	Pastefill											

RESSOURCES PMET RESOURCES	Shaakichiuwaanaan	Graphique de stabilité ELOS
	Conception de la chambre d'abattage : étude de faisabilité pour HW=PEG FW=Pâte	
Numéro de projet: SHA-001	Date: 28/03/2025	Chemin: https://aliusmining.sharepoint.com/sites/Alius2/Docs/Projets/Shaakichiuwaanaan/SHA-001 - FS Geotech/4- Analyses/UG Analysis/Stopes Transverses/Alius Stab V5 -17mLx25mW/[Cas 5 - Alius v5 - Transversal - (PEG, FW=Pâte) 30-36m.alsm]Entrées	Figure: 2

Figure 122. Tableau ELOS – HW : pegmatite ; FW : remblai.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

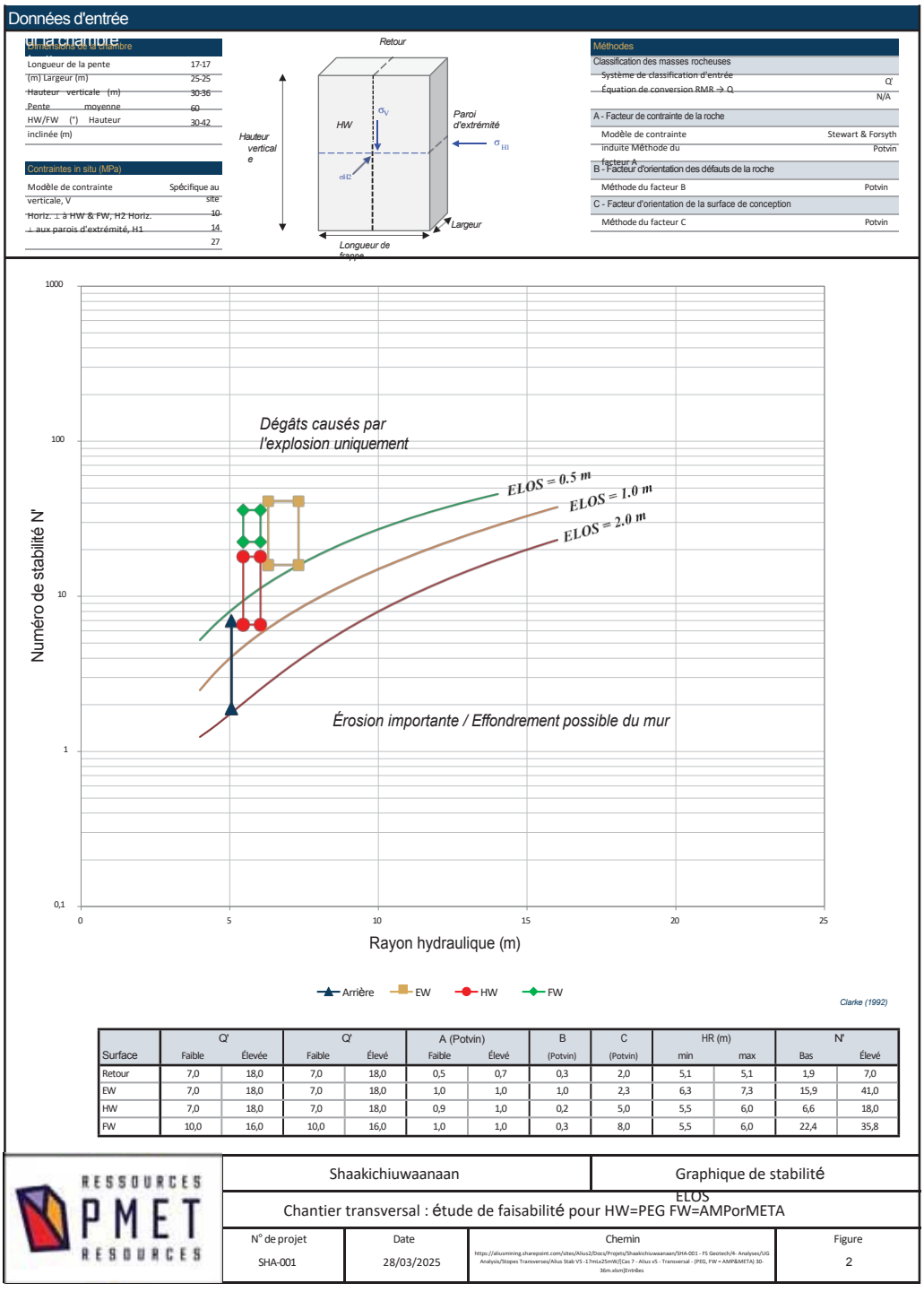


Surface	Q' Faible	Q' Élevée	Q' Faible	Q' Élevé	A (Potvin) Faible	A (Potvin) Élevé	B (Potvin)	C (Potvin)	HR (m) min	HR (m) max	N' Bas	N' Élevé
Retour	7,0	18,0	7,0	18,0	0,5	0,7	0,3	2,0	5,1	5,1	1,9	7,0
EW	7,0	18,0	7,0	18,0	1,0	1,0	1,0	2,3	6,8	7,4	16,0	41,1
HW	7,0	18,0	7,0	18,0	0,9	1,0	0,3	8,0	5,4	5,8	14,1	38,6
FW	Pastefill											

Figure 123. Tableau ELOS – HW : pegmatite (90°) ; FW : remblai.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

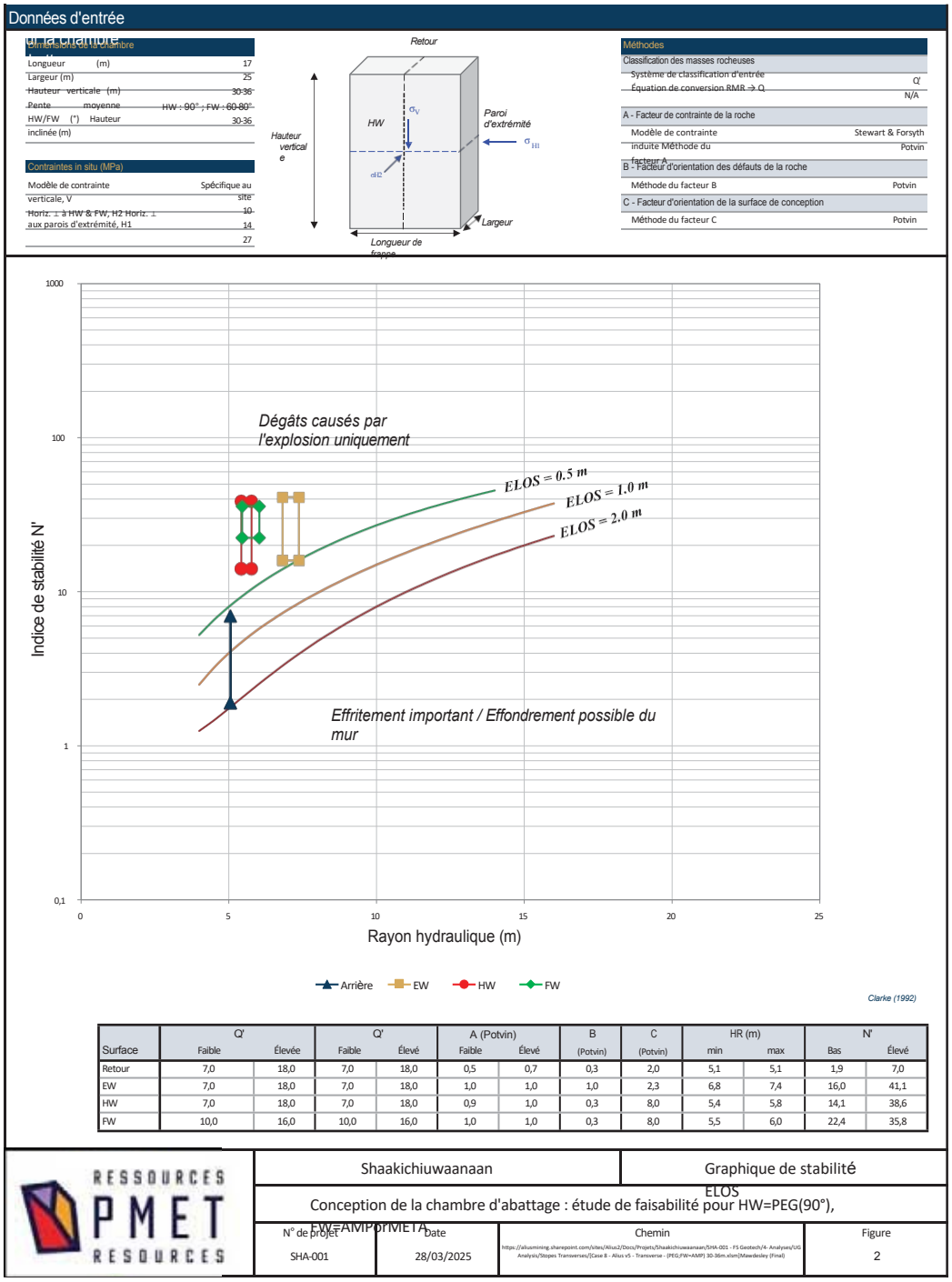


Surface	Q' Faible	Q' Élevée	Q' Faible	Q' Élevé	A (Potvin) Faible	A (Potvin) Élevé	B (Potvin)	C (Potvin)	HR (m) min	HR (m) max	N' Bas	N' Élevé
Retour	7,0	18,0	7,0	18,0	0,5	0,7	0,3	2,0	5,1	5,1	1,9	7,0
EW	7,0	18,0	7,0	18,0	1,0	1,0	1,0	2,3	6,3	7,3	15,9	41,0
HW	7,0	18,0	7,0	18,0	0,9	1,0	0,2	5,0	5,5	6,0	6,6	18,0
FW	10,0	16,0	10,0	16,0	1,0	1,0	0,3	8,0	5,5	6,0	22,4	35,8

Figure 124. Tableau ELOS – HW : pegmatite ; FW : amphibolite ou métasédiments.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification



Surface	Q' Faible	Q' Élevée	Q' Faible	Q' Élevé	A (Potvin) Faible	A (Potvin) Élevé	B (Potvin)	C (Potvin)	HR (m) min	HR (m) max	N' Bas	N' Élevé
Retour	7,0	18,0	7,0	18,0	0,5	0,7	0,3	2,0	5,1	5,1	1,9	7,0
EW	7,0	18,0	7,0	18,0	1,0	1,0	1,0	2,3	6,8	7,4	16,0	41,1
HW	7,0	18,0	7,0	18,0	0,9	1,0	0,3	8,0	5,4	5,8	14,1	38,6
FW	10,0	16,0	10,0	16,0	1,0	1,0	0,3	8,0	5,5	6,0	22,4	35,8

RESSOURCES PMET RESOURCES

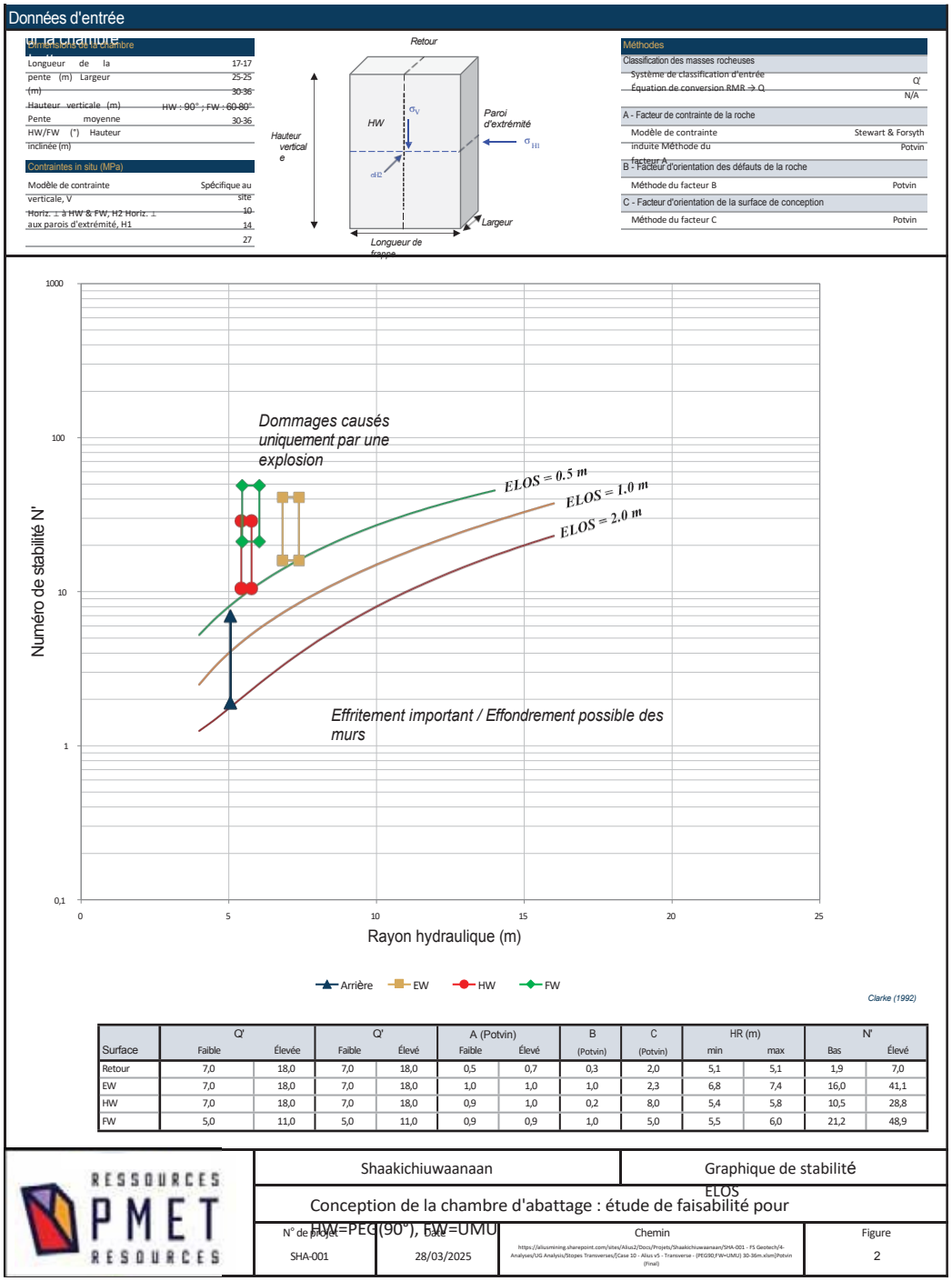
Shaakichiuwaanaan	Graphique de stabilité ELOS
Conception de la chambre d'abattage : étude de faisabilité pour HW=PEG(90°), FW=AMP/PMETA	

N° de projet	Date	Chemin	Figure
SHA-001	28/03/2025	https://aliusmining.sharepoint.com/sites/Alius2/Docs/Projets/Shaakichiuwaanaan/SHA-001 - FS Geotech/4- Analyses/UG Analysis/Stopes Transverses/[Case 8 - Alius v5 - Transverse - (PEG,FW=AMP) 30-36m.xlsm]Mawdesley (Final)	2

Figure 125. Tableau ELOS – HW : pegmatite (90°) ; FW : amphibolite ou métasédiments.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification



Surface	Q' Faible	Q' Élevée	Q' Faible	Q' Élevé	A (Potvin) Faible	A (Potvin) Élevé	B (Potvin)	C (Potvin)	HR (m) min	HR (m) max	N' Bas	N' Élevé
Retour	7,0	18,0	7,0	18,0	0,5	0,7	0,3	2,0	5,1	5,1	1,9	7,0
EW	7,0	18,0	7,0	18,0	1,0	1,0	1,0	2,3	6,8	7,4	16,0	41,1
HW	7,0	18,0	7,0	18,0	0,9	1,0	0,2	8,0	5,4	5,8	10,5	28,8
FW	5,0	11,0	5,0	11,0	0,9	0,9	1,0	5,0	5,5	6,0	21,2	48,9

RESSOURCES PMET RESOURCES

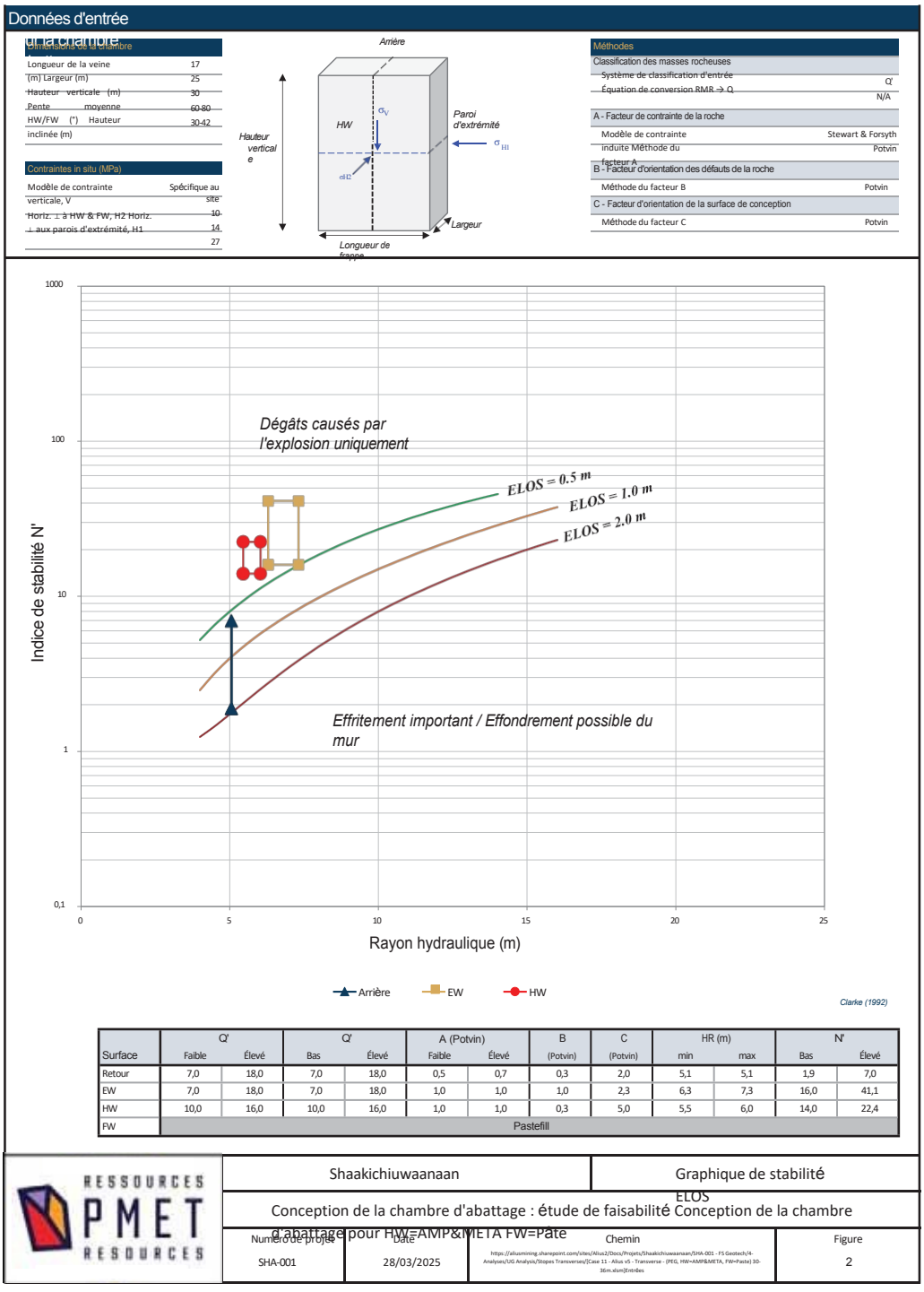
Shaakichiuwaanaan	Graphique de stabilité ELOS
Conception de la chambre d'abattage : étude de faisabilité pour HW=PEG(90°), FW=UMU	

N° de projet	Date	Chemin	Figure
SHA-001	28/03/2025	https://aliusmining.sharepoint.com/sites/Alius2/Docu/Projets/Shaakichiuwaanaan/SHA-001 - FS Geotech/4-Analyses/UG Analysis/Stopes Transverses/[Case 10 - Alius v5 - Transverse - (PEG90/FW=UMU) 30-36m.xlsm]Potvin (Final)	2

Figure 126. Tableau ELOS – HW : pegmatite (90°) ; FW : ultramafique indifférencié.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

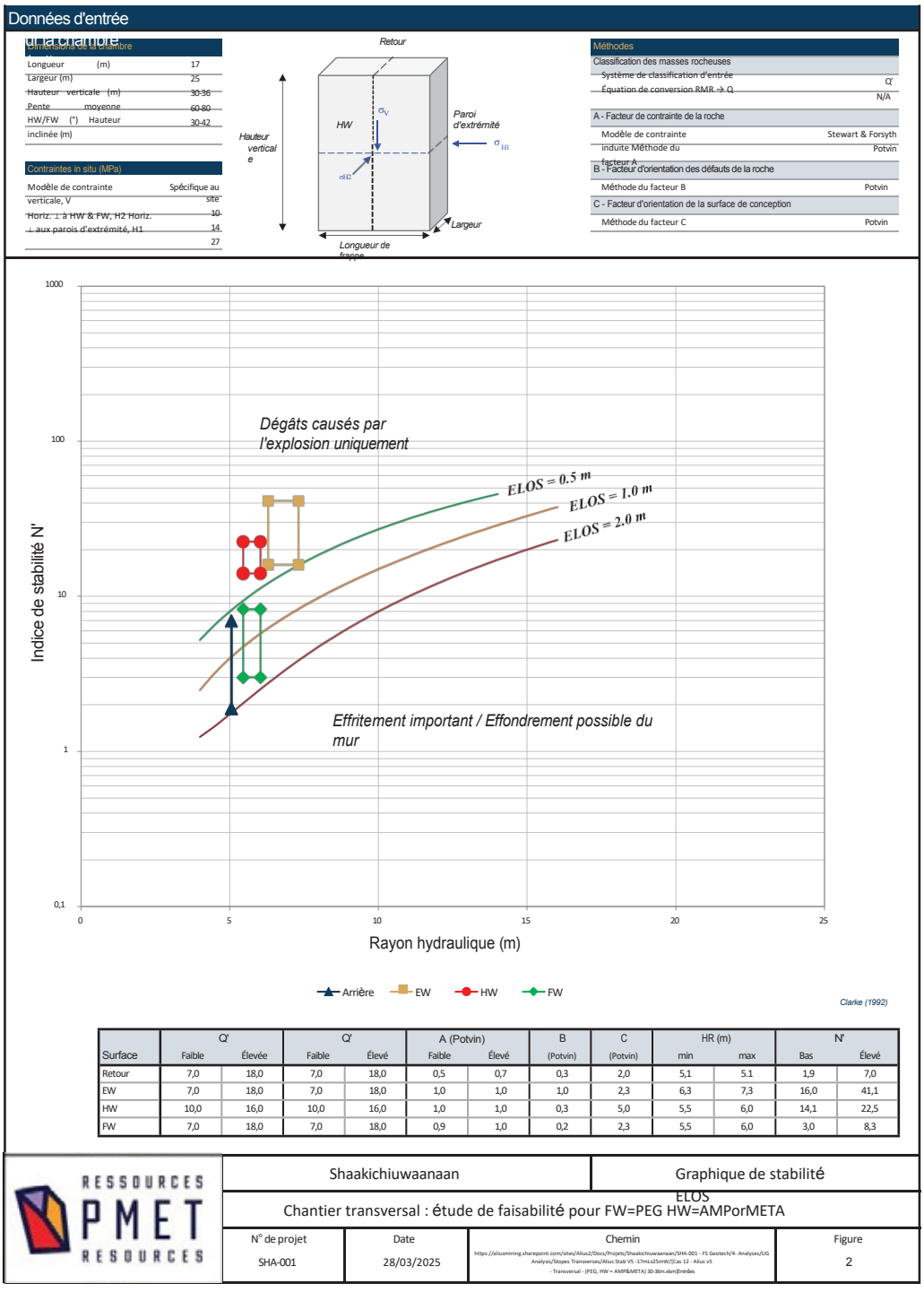


Surface	Q' Faible	Q' Élevé	Q' Bas	Q' Élevé	A (Potvin) Faible	A (Potvin) Élevé	B (Potvin)	C (Potvin)	HR (m) min	HR (m) max	N' Bas	N' Élevé
Retour	7,0	18,0	7,0	18,0	0,5	0,7	0,3	2,0	5,1	5,1	1,9	7,0
EW	7,0	18,0	7,0	18,0	1,0	1,0	1,0	2,3	6,3	7,3	16,0	41,1
HW	10,0	16,0	10,0	16,0	1,0	1,0	0,3	5,0	5,5	6,0	14,0	22,4
FW	Pastefill											

Figure 127. Tableau ELOS – HW : amphibolite ou métasédiments ; FW : remblai.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification



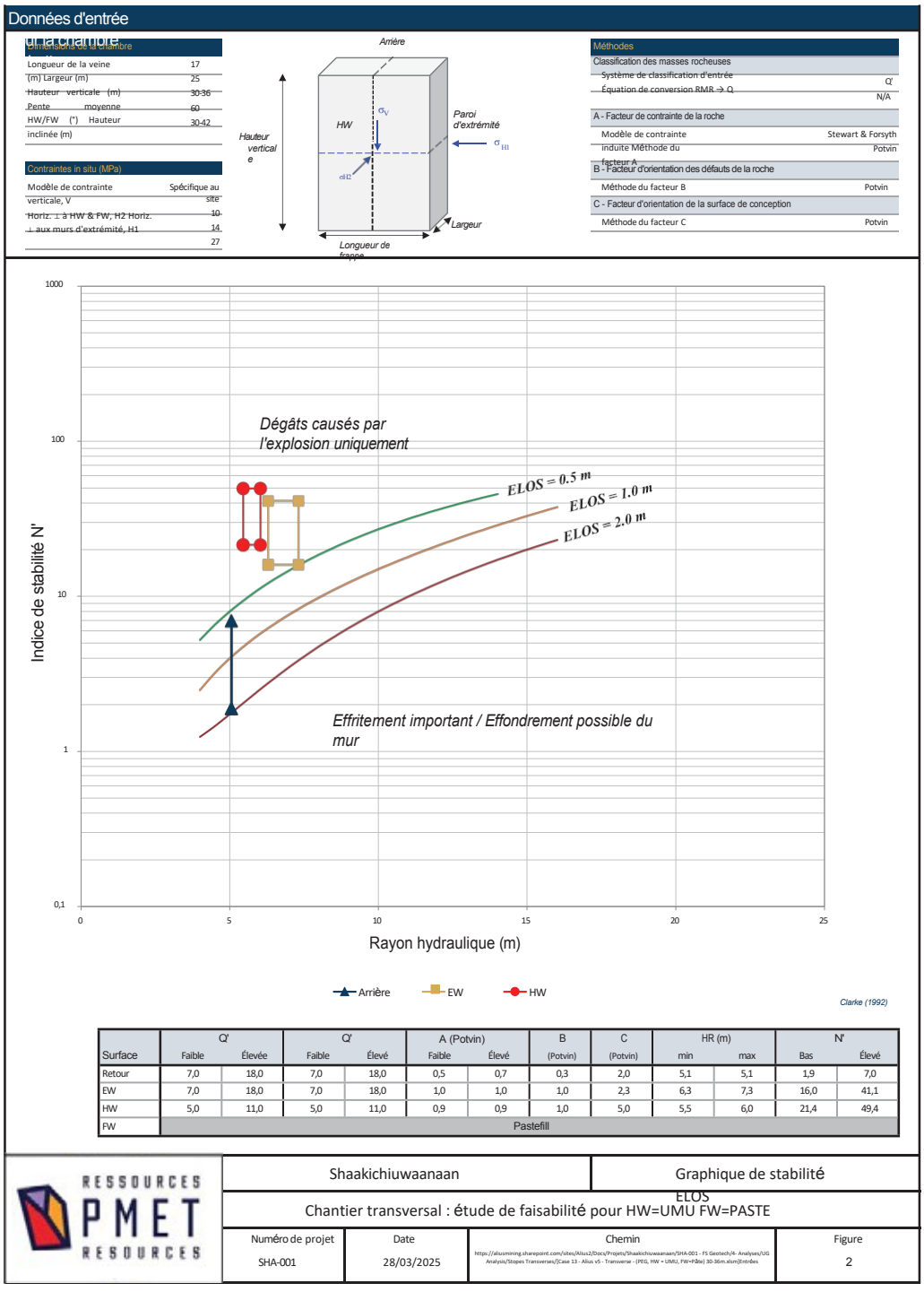
Surface	Q' Faible	Q' Élevée	Q' Faible	Q' Élevé	A (Potvin) Faible	A (Potvin) Élevé	B (Potvin)	C (Potvin)	HR (m) min	HR (m) max	N' Bas	N' Élevé
Retour	7,0	18,0	7,0	18,0	0,5	0,7	0,3	2,0	5,1	5,1	1,9	7,0
EW	7,0	18,0	7,0	18,0	1,0	1,0	1,0	2,3	6,3	7,3	16,0	41,1
HW	10,0	16,0	10,0	16,0	1,0	1,0	0,3	5,0	5,5	6,0	14,1	22,5
FW	7,0	18,0	7,0	18,0	0,9	1,0	0,2	2,3	5,5	6,0	3,0	8,3

RESSOURCES PMET RESOURCES	Shaakichiuwaanaan	Graphique de stabilité ELOS
	Chantier transversal : étude de faisabilité pour FW=PEG HW=AMPorMETA	
	N° de projet: SHA-001	Date: 28/03/2025
	Chemin: https://aliusmining.sharepoint.com/sites/Alius2/Docs/Projets/Shaakichiuwaanaan/SHA-001 - FS Geotech/4- Analyses/UG Analysis/Stopes Transverses/Alius Stab V5 -17mLx25mW/[Cas 12 - Alius v5 - Transversal - (PEG, HW = AMP&META) 30-36m.xlsm]Entrées	Figure: 2

Figure 128. Tableau ELOS – HW : amphibolite ou métasédiments ; FW : pegmatite.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification



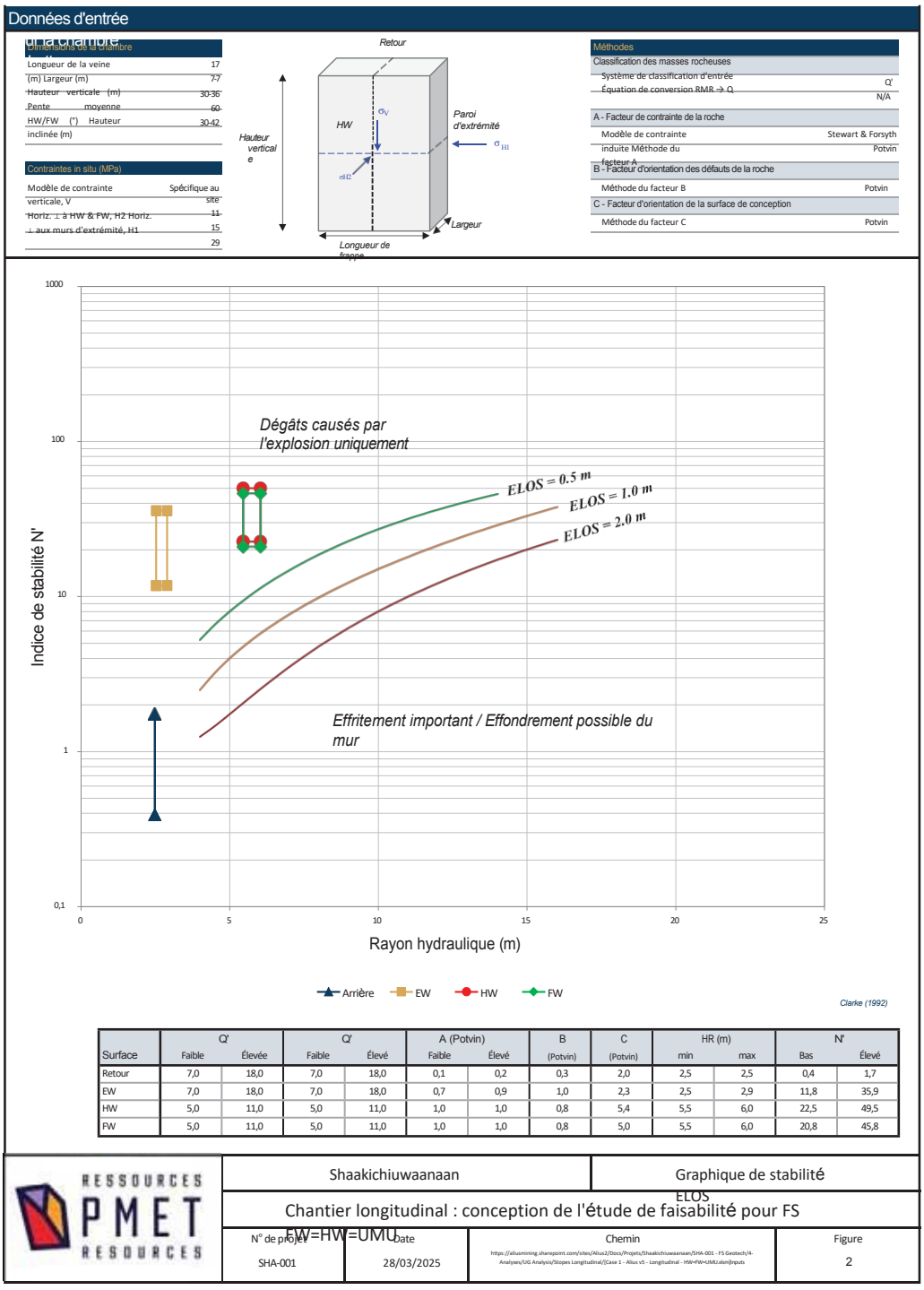
Surface	Q' Faible	Q' Élevée	Q' Faible	Q' Élevé	A (Potvin) Faible	A (Potvin) Élevé	B (Potvin)	C (Potvin)	HR (m) min	HR (m) max	N' Bas	N' Élevé
Retour	7,0	18,0	7,0	18,0	0,5	0,7	0,3	2,0	5,1	5,1	1,9	7,0
EW	7,0	18,0	7,0	18,0	1,0	1,0	1,0	2,3	6,3	7,3	16,0	41,1
HW	5,0	11,0	5,0	11,0	0,9	0,9	1,0	5,0	5,5	6,0	21,4	49,4
FW	Pastefill											

Figure 129. Tableau ELOS – HW : ultramafique indifférencié ; FW : remblai.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Les figures 130 à 131 présentent le tableau ELOS pour les chantiers longitudinaux.



Surface	Q' Faible	Q' Élevée	Q' Faible	Q' Élevé	A (Potvin) Faible	A (Potvin) Élevé	B (Potvin)	C (Potvin)	HR (m) min	HR (m) max	N' Bas	N' Élevé
Retour	7,0	18,0	7,0	18,0	0,1	0,2	0,3	2,0	2,5	2,5	0,4	1,7
EW	7,0	18,0	7,0	18,0	0,7	0,9	1,0	2,3	2,5	2,9	11,8	35,9
HW	5,0	11,0	5,0	11,0	1,0	1,0	0,8	5,4	5,5	6,0	22,5	49,5
FW	5,0	11,0	5,0	11,0	1,0	1,0	0,8	5,0	5,5	6,0	20,8	45,8

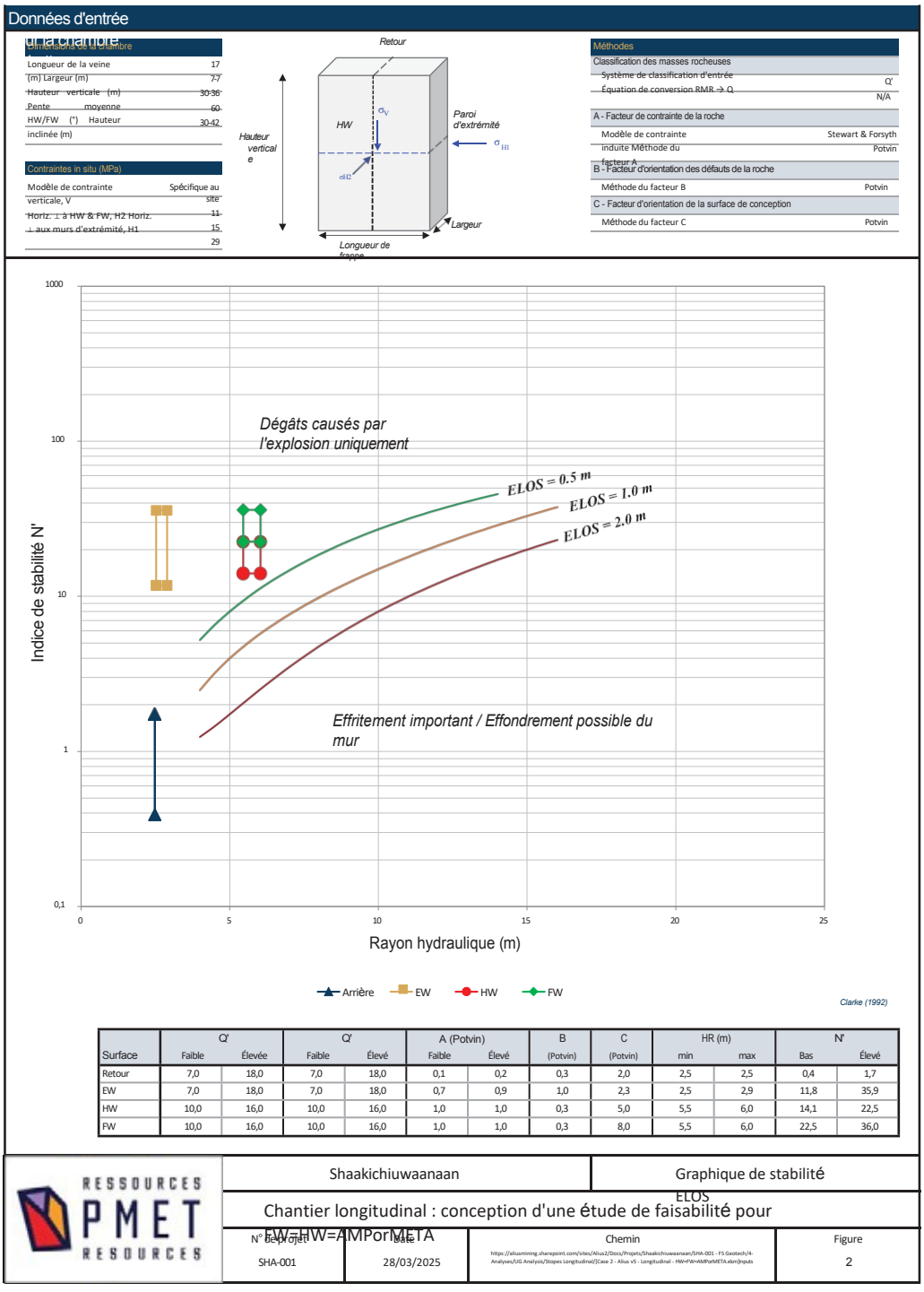
RESSOURCES PMET RESOURCES	Shaakichiuwaanaan	Graphique de stabilité ELOS
	Chantier longitudinal : conception de l'étude de faisabilité pour FS	
	N° de projet: SHA-001	Date: 28/03/2025
	Chemin: https://aliusmining.sharepoint.com/sites/Alius2/Docs/Projets/Shaakichiuwaanaan/SHA-001 - FS Geotech/4-Analyses/UG Analysis/Stopes Longitudinal/[Case 1 - Alius v5 - Longitudinal - HW=FW=UMU.xlsm]Inputs	Figure: 2

FW=HW=UMU

Figure 130. Tableau ELOS – HW : ultramafique indifférencié ; FW : ultramafique indifférencié.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification



Surface	Q' Faible	Q' Élevée	Q' Faible	Q' Élevé	A (Potvin) Faible	A (Potvin) Élevé	B (Potvin)	C (Potvin)	HR (m) min	HR (m) max	N' Bas	N' Élevé
Retour	7,0	18,0	7,0	18,0	0,1	0,2	0,3	2,0	2,5	2,5	0,4	1,7
EW	7,0	18,0	7,0	18,0	0,7	0,9	1,0	2,3	2,5	2,9	11,8	35,9
HW	10,0	16,0	10,0	16,0	1,0	1,0	0,3	5,0	5,5	6,0	14,1	22,5
FW	10,0	16,0	10,0	16,0	1,0	1,0	0,3	8,0	5,5	6,0	22,5	36,0

Figure 131. Tableau ELOS – HW : amphibolite ou métasédiments ; FW : amphibolite ou métasédiments.

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

G Évaluation de la résistance du remblai cimenté

La méthode modifiée du remblai exposé proposée par Li et Aubertin (2012) et la solution généralisée développée par Belem et al. (2022) sont présentées ci-dessous sur la base de la terminologie utilisée dans la figure 132.

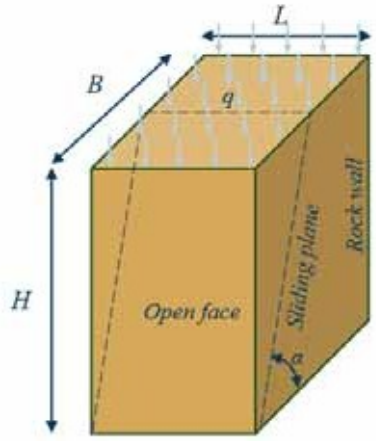


Figure 132. Configuration de la chambre adoptée pour l'évaluation des exigences en matière de résistance du remblai (reproduite à partir de Li et Aubertin (2012)).

La méthode proposée par Li et Aubertin (2012) estime la résistance requise du remblai en pâte cimentée pour les chantiers où le remblai est exposé. L'approche repose sur deux critères de validité basés sur le rapport hauteur/largeur du chantier et la pente du remblai :

$$Critère : \frac{H}{B} \geq \tan \alpha \qquad \textit{(équation 43)}$$

Où H = hauteur de la chambre (m) B = largeur de la chambre (m) $\alpha = 45^{2} + \varphi$ (°)
φ = Angle de frottement interne du remblai (°)

Dans ce cas, la cohésion requise du remblai est calculée à l'aide de l'équation suivante :

$$c = \frac{(p_0 + \gamma \cdot H^*)/2}{FoS - \frac{\tan\varphi}{\tan\alpha} \cdot \sin(2\alpha)^{-1} + \frac{\gamma b \cdot H^*}{L}} \qquad \textit{(équation 44)}$$

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Où c = Cohésion du remblai (kPa)
$H^* = H - \frac{B\tan\alpha}{2}$ est la hauteur équivalente du bloc en coin (m)
p_0 = Charge supplémentaire sur le remblai (kN) γ = Poids unitaire du remblai (kN/m^3) FoS = Facteur de sécurité cible (–)
r_b = Rapport d'adhérence de l'interface remblai-roche (–)
L = Longueur de la chambre (m)

Si le critère ci-dessus n'est pas respecté, le critère suivant s'applique :

$$Critère : \frac{H}{B} < \tan\alpha \quad \textit{(équation 45)}$$

Dans ce cas, la cohésion est calculée à l'aide d'une autre expression :

$$c = \frac{p_0 + (\gamma \cdot H)/2}{2 \quad FoS - \frac{(\tan)\varphi}{\tan\alpha} \cdot \sin(2\alpha)^{-1} + \frac{r_b \cdot H}{L}} \quad \textit{(équation 46)}$$

Une fois la cohésion déterminée pour l'un ou l'autre critère, la résistance à la compression non confinée requise du remblai peut être évaluée comme suit :

$$\text{UCS} = 2\,c \cdot \tan\left(45 + \frac{\varphi}{2}\right) \quad \textit{(équation 47)}$$

Où UCS = résistance à la compression non confinée du remblai (kPa)

La solution généralisée de Belem et al. (2022) s'applique à tous les types de chantiers. La résistance CPB requise est obtenue à l'aide de cette expression simplifiée :

$$\text{UCS} = \frac{q \cdot S + \gamma \cdot H^* \cdot W}{F^{-1} + C + T} \quad \textit{(eq.48)}$$

Où S = Facteur de surcharge, équation 49 W = Facteur de poids du bloc, équation 50 F = Facteur de sécurité, équation 51
$C + T$ = Facteur de cohésion et de traction, équation 52
q = Charge supplémentaire sur le remblai (kPa)
γ = Poids unitaire du remblai (kPa/m)

Les variables S, W, F et $C + T$ sont définies ci-dessous :

$$S = 1 - m \cdot f \quad \textit{(équation 49)}$$

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Où m = nombre de contacts latéraux (0, 1 ou 2)

f = coefficient, $f = \frac{H^*}{L \cdot (K \cdot \tan \delta)}$

K = Coefficient de pression du sol (–)

δ = Angle de frottement interne du remblai (°)

$$W = 1 - 0{,}5\, m \cdot f \qquad \textit{(équation 50)}$$

$$F = \text{FoS} \cdot \tan \alpha - \tan \varphi^{J} \cdot \sin(2\alpha) \qquad \textit{(équation 51)}$$

Où $\alpha = \frac{\pi}{4} + \frac{\varphi}{2}$ (°)

φ^* = Angle de frottement effectif du remblai, $\varphi^* = \frac{\delta}{R_f}$

R_f = Facteur de réduction/dégradation $\frac{\delta}{\phi}$ (–)

$$C + T = \frac{R_c}{\tan \alpha} \quad 0{,}5\, m \, \frac{H^*}{L} + \frac{nH^J}{B} \cdot \tan \beta \qquad \textit{(équation 52)}$$

Où R_c = rapport adhérence-cohésion, $R_c = \frac{C_b}{c'}$

C_b = Cohésion à l'interface (°)

c^* = Cohésion interne du remblai (°)

n = Nombre de contacts avec la paroi arrière (0 ou 1)

$H^* = H - (B \cdot \tan \alpha)\, \beta$

$= \frac{\pi}{4} + \frac{\delta}{2}$ (°)

Copyright © 2026 Alius Mine Consulting Inc. Tous droits réservés.

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Ce rapport a été traduit de l'anglais par PMET au moyen d'outils d'intelligence artificielle et le contenu n'a pas fait l'objet d'une vérification

Annexe K

Étude d'évaluation des impacts en cas de bris de digue du barrage du Lac 001 (Atkins, 2026c)

AtkinsRéalis	NOTE TECHNIQUE Projet Shaakichiuwaanaan – Gestion de l'eau et des Résidus		
	Numéro de document : PMT-003-4GA-MEM-0001 Réf. AtkinsRéalis: 708538-6300-4HER-001	**Rév.** VB	**Date :** March 5, 2026

Titre du document: **ANALYSE DES RUPTURES DE BARRAGE ET CLASSIFICATION DES CONSÉQUENCES POUR LES BARRAGES DU LAC 001**

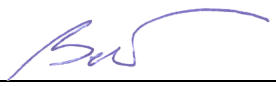
Client: **PMET RESOURCES INC.**

Projet: **PROJET SHAAKICHIUWAANAAN – GESTION DE L'EAU ET DES RÉSIDUS – OPTIMISATION DE L'ÉTUDE DE FAISABILITÉ**

Préparé par: Abdolvahid Mohammadian, Ph.D, P.Eng.
Titre : Ingénieur en hydrotechnique
#PEO : 100578122

Révisé par: Holman Tellez, M.Sc.A., ing.
Titre : Ingénieur hydrotechnique expert
#OIQ : 6083507

Approuvé par: Bruno Morissette, ing.
#OIQ: 125157



Avis au lecteur

Le présent rapport est une traduction de la version anglophone du rapport portant le même numéro. En cas de disparité entre ces 2 rapports, la version anglophone prime.

Le présent rapport a été préparé et les travaux qui y sont mentionnés ont été réalisés par AtkinsRéalis Canada Inc. (AtkinsRéalis), à l'usage exclusif de Patriot Battery Metals Inc., qui a participé à l'élaboration de la portée des travaux et en comprend les limites. La méthodologie, les résultats, les conclusions et les recommandations contenus dans le présent rapport sont fondés uniquement sur la portée des travaux et sont soumis aux considérations de temps et de budget décrites dans la proposition et/ou le contrat en vertu desquels le présent rapport a été publié. Toute utilisation, confiance ou décision prise par un tiers sur la base du présent rapport relève de la seule responsabilité dudit tiers. AtkinsRéalis décline toute responsabilité pour les dommages que pourrait subir ou encourir un tiers à la suite de l'utilisation, de la confiance accordée ou de toute décision prise sur la base du présent rapport.

Les constatations, conclusions et recommandations contenues dans le présent rapport (i) ont été élaborées d'une manière conforme au niveau de compétence normalement exercé par des professionnels exerçant actuellement dans des conditions similaires dans le domaine, et (ii) reflètent le meilleur jugement d'AtkinsRéalis sur la base des informations disponibles au moment de la préparation du présent rapport. Aucune autre garantie, expresse ou implicite, n'est donnée concernant les services professionnels fournis à Patriot Battery Metals Inc. ou les résultats, conclusions et recommandations contenus dans le présent rapport. Les résultats et conclusions contenus dans le présent rapport ne sont valables qu'à la date du rapport et peuvent être basés, en partie, sur des informations fournies par des tiers. Si certaines informations s'avèrent inexactes, si de nouvelles informations sont découvertes ou si les paramètres du projet changent, des modifications du présent rapport peuvent s'avérer nécessaires.

Ce rapport doit être lu dans son intégralité, car des sections sorties de leur contexte peuvent être trompeuses. En cas de divergence entre la version préliminaire (projet) et la version finale de ce rapport, c'est la version finale qui prévaut. Aucune partie de ce rapport n'est destinée à constituer ou à fournir un avis juridique.

Le contenu du présent rapport est confidentiel et exclusif. À l'exception de Patriot Battery Metals Inc., la copie ou la distribution du présent rapport, ainsi que l'utilisation ou l'exploitation des informations qu'il contient, en tout ou en partie, ne sont pas autorisées sans l'autorisation écrite expresse de Patriot Battery Metals Inc. et d'AtkinsRéalis.

Liste des révisions

#	Prép.	Rév.	App.	Date	Pages	Remarques
VA	AM			2026-02-23	Toutes	Soumis pour revue interne
VB	AM	HT	BM	2026-03-04	Toutes	Soumis pour revue client

AtkinsRéalis - Sensible / Sensible [FR]

Table des matières

1 I NTRODUCTION 1

1.1 Contexte 1

1.2 Mandat 1

1.3 Zone d'étude 2

1.4 Aperçu de la méthodologie 3

2 Données hydrotechniques 4

2.1 Débit de crue 4

3 Caractéristiques des barrages 6

4 Paramètres de rupture 8

5 Scénario de rupture 10

6 Modélisation des inondations 12

6.1 Configuration du modèle numérique 12

6.2 Conditions aux limites 13

7 Résultats de la rupture du barrage 14

8 Analyse des conséquences et classification des barrages 19

8.1 Analyse des conséquences 19

8.1.1 Sur la population à risque (PAR) et pertes potentielles en vies humaines 22

8.1.2 Dommages environnementaux et culturels 22

8.1.3 Dommages infrastructurels et économiques 22

8.2 Classification des barrages 23

9 RÉFÉRENCES 24

AtkinsRéalis - Sensible / Sensible [FR]

Liste des tableaux

Tableau -3-1 Caractéristiques générales des barrages de confinement TSF 6
Tableau -4-1 Paramètres de rupture et valeurs adoptées pour les barrages du lac 001.....9
Tableau -7-1 Résultats du modèle à certains emplacements principaux (conditions météorologiques favorables).....15
Tableau -7-2 Résultats du modèle à certains endroits principaux (conditions induites par les inondations).....16
Tableau -8-1 Classification des conséquences d'une rupture de barrage (CDA 2013).....21
Tableau -8-2 Résumé de la classification des barrages.....23

Liste des figures

Figure -1-1 Zone d'étude et emplacement des éléments clés.....2
Figure -2-1 Débit entrant, débit sortant et niveau d'eau dans le lac 001 4
Figure -2-2 Bassin versant du lac 027 et ses sous-bassins versants.....5
Figure -2-3 Hydrogrammes PMF des sous-bassins versants se déversant dans le lac 027 5
Figure -31- Coupe type du barrage West-Pit.....6
Figure -3-2 Coupe type du barrage East-Pit (barrage central dans Figure -33) 7
Figure -3-3 Vue en plan des barrages de retenue ; à gauche : barrage West-Pit ; à droite : barrages East-Pit.....7
Figure -4-1 Schéma de la rupture et définition des paramètres 8
Figure -5-1 Hydrogrammes de rupture du barrage West-Pit.....11
Figure -6-1 Grille du modèle numérique.....12
Figure -7-1 Emplacements critiques sélectionnés pour l'analyse des conséquences 14
Figure -7-2 Zone inondée par temps clément (colorée en fonction de la profondeur incrémentielle de l'inondation) 17
Figure -7-3 Zone inondée dans des conditions d'inondation (couleurs correspondant à la profondeur maximale de l'inondation) 17
Figure -7-4 : Comparaison entre les conditions de rupture et de non-rupture (scénario d'inondation) .18

AtkinsRéalis - Sensible / Sensible [FR]

1 I NTRODUCTION

1.1 Contexte

AtkinsRéalis a réalisé l'étude de faisabilité des opérations minières à ciel ouvert et souterraines associées au projet minier Shaakichiuwaanaan, dans le nord du Québec.

L'exploitation à ciel ouvert nécessite la construction de deux barrages de retenue d'eau dans le Lac 001 :

- **Barrage de retenue de la fosse ouest (phase 1) :**

Ce barrage sera construit avant le développement de la fosse ouest afin d'isoler la partie ouest du Lac 001 et de maintenir le niveau du lac à environ 373 m au-dessus du niveau de la mer. Un fossé de dérivation a été proposé pour rediriger les flux du Lac 001 vers le Lac 005 autour du périmètre nord de la fosse.

- **Barrage de retenue East Pit (phase 2) :**

Un deuxième barrage de dérivation sera construit pour l'agrandissement de la fosse Est afin de maintenir le niveau d'eau du Lac 001 et d'assurer le contournement continu des flux autour de la zone minière.

Ces barrages, en tant que structures de retenue d'eau, ont été initialement classés dans la catégorie CDA (2007) sur la base d'une évaluation simplifiée sur ordinateur des conditions en aval prévues pendant les futures opérations de la fosse. L'évaluation actuelle vise à valider la classification globale précédente et à caractériser les conséquences potentielles dans les zones en aval.

1.2 Mandat

AtkinsRéalis a été mandaté par PMET pour réaliser l'analyse de rupture de barrage (DBA) et la classification des barrages pour les barrages proposés des fosses Ouest et Est du Lac 001.

L'objectif de ce travail est le suivant:

- Évaluer les scénarios de rupture potentiels pour les deux barrages dans des conditions météorologiques normales et extrêmes.
- Évaluer les dommages en aval à partir des cartes d'inondation et des principaux paramètres de rupture et d'inondation, notamment la profondeur, la vitesse et le temps d'arrivée des eaux.
- Déterminer/valider les classifications appropriées des barrages en fonction des conséquences d'une rupture, conformément aux directives applicables en matière de sécurité des barrages (c'est-à-dire la CDA).

AtkinsRéalis - Sensible / Sensible [FR]

1.3 Zone d'étude

Figure -1-1 illustre la zone d'étude et l'emplacement des éléments clés du lac 001 au lac 027. La sortie naturelle existante du Lac 001 relie le Lac 001 au Lac 027.

Le système de barrages de coupure et le canal de dérivation ont été conçus pour rediriger en toute sécurité les écoulements du Lac 001, garantissant ainsi que la partie amont du lac soit complètement isolée de la zone minière tout en maintenant des débits normaux pendant toute la durée d'exploitation de la mine. Afin de gérer efficacement les écoulements d'eau autour de la fosse, le canal de dérivation a été conçu avec une hauteur de fond de déversoir fixée à 373 m.

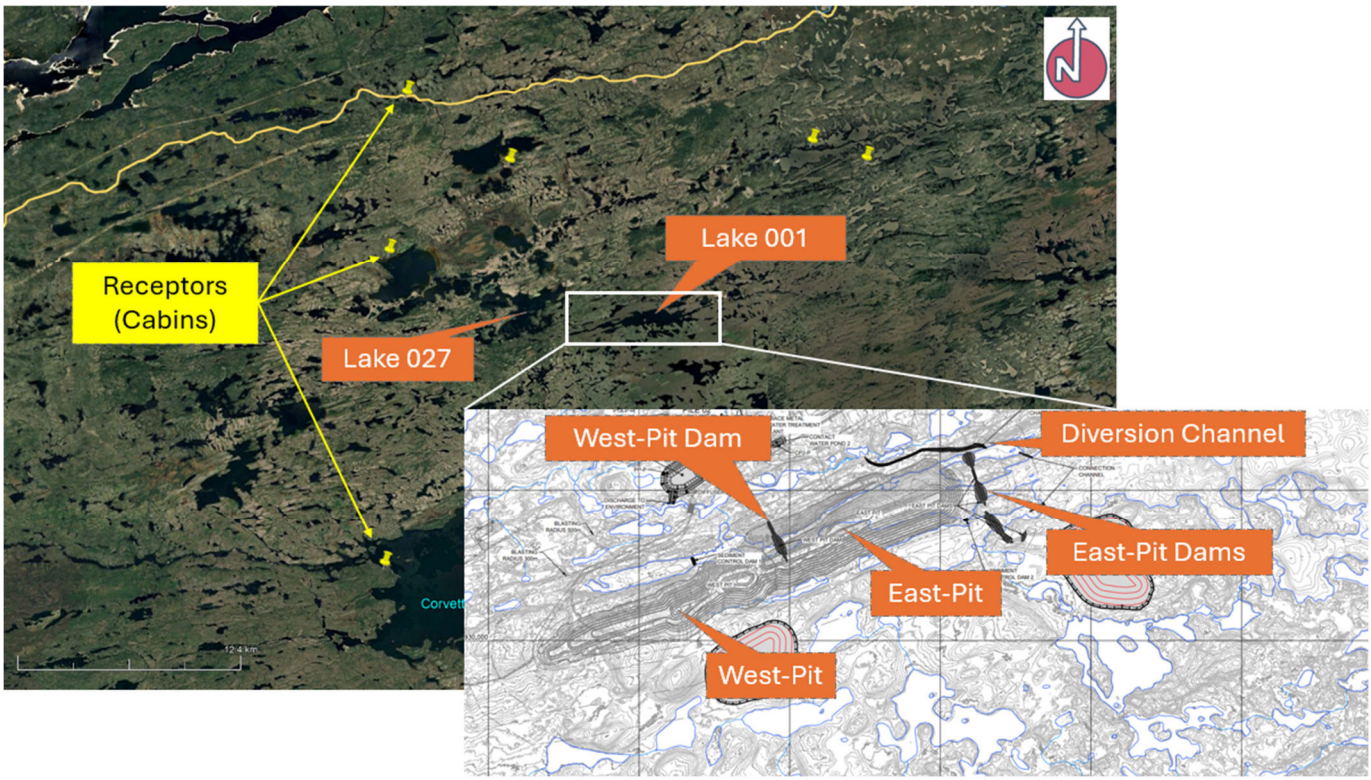


Figure -1-1 Zone d'étude et emplacement des éléments clés

AtkinsRéalis - Sensible / Sensible [FR]

1.4 Aperçu de la méthodologie

Une analyse de rupture de barrage (DBA) a été réalisée afin d'évaluer les conséquences potentielles d'une rupture sur les zones en aval du Lac 001. Conformément aux recommandations de la CDA, deux conditions hydrologiques ont été évaluées comme conditions initiales du site :

- Temps clément (ou journée ensoleillée) ; et
- Conditions d'inondation (ou jour de pluie).

AtkinsRéalis a examiné les modes de rupture crédibles pour les barrages de retenue du Lac 001 conformément aux directives de la CDA, en tenant compte de l'ensemble des mécanismes déclencheurs potentiels dans les catégories de modes de rupture structurels, géotechniques, hydrauliques et de ruissellement. L'examen a confirmé qu'une rupture de barrage est considérée comme crédible dans des conditions hydrologiques de beau temps (fonctionnement normal) et de crue.

La méthodologie de la CDA pour l'évaluation des conséquences et l'analyse des ruptures a été appliquée, et les étapes clés de cette approche sont décrites dans les sections suivantes.

AtkinsRéalis - Sensible / Sensible [FR]

2 Données hydrotechniques

2.1 Débit de crue

Sur la base des conclusions de l'étude de faisabilité (AtkinsRéalis, 2026), le débit de crue maximal probable (PMF) a été adopté comme débit de crue de référence (IDF) pour la conception des barrages de retenue du Lac 001 et du canal de dérivation associés. Un modèle hydrologique conceptuel a été développé dans HEC-HMS afin d'estimer les débits PMF vers le Lac 001.

Le bassin versant qui alimente le lac 001 couvre une superficie d'environ 106 km². Le PMF a été généré à partir de la probabilité maximale de précipitations (PMP) estivales sur 72 heures, soit 412,6 mm, telle que déterminée dans l'étude hydrologique de référence (AtkinsRéalis 2025). Cette donnée PMP a été appliquée dans le modèle HEC-HMS afin de produire l'hydrogramme PMF pour le bassin versant du lac 001.

Les résultats du modèle ont donné un débit maximal de PMF vers le Lac 001 d'environ 536 m³/s. La**Figure -**2-1 présente le parcours de cette crue à travers le lac et l'hydrogramme de débit sortant correspondant, avec un pic de 94,3 m³/s. Le niveau maximal simulé du lac atteint 377 m. Sur la base de ce niveau, et en prévoyant une marge de sécurité de 1,5 m, l'élévation requise de la crête du barrage de coupure est d'environ 378,5 m (AtkinsRéalis 2026).

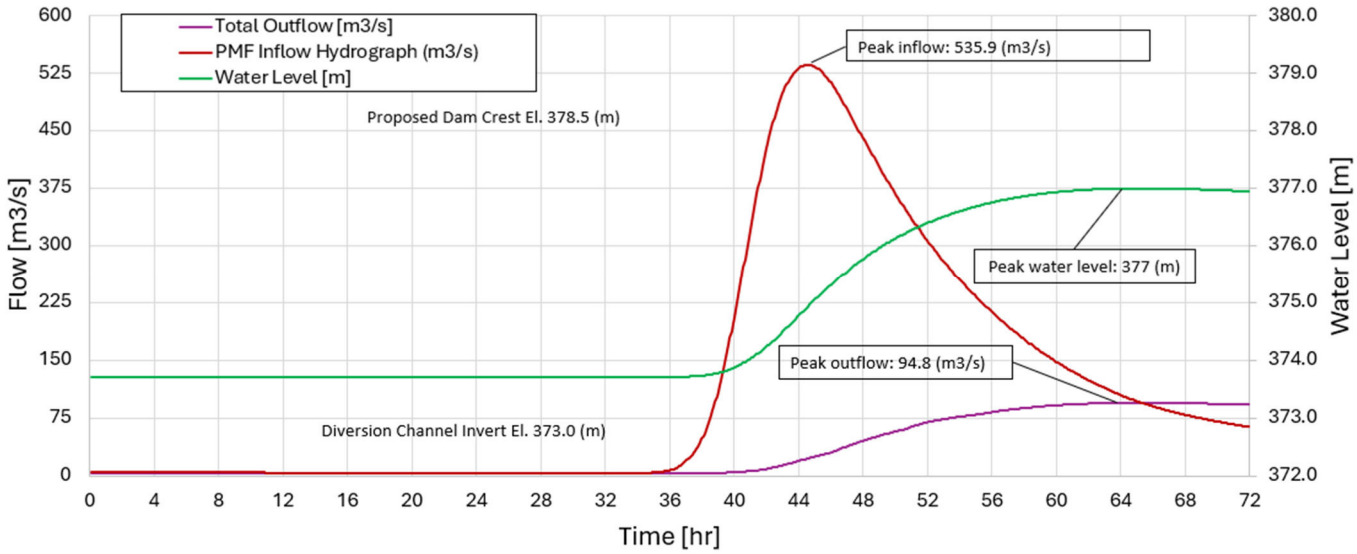


Figure -2-1 Débit entrant, débit sortant et niveau d'eau dans le lac 001

AtkinsRéalis - Sensible / Sensible [FR]

Figure -2-2 . Pour ce bassin versant, un modèle hydrologique distinct a été développé à l'aide du logiciel HEC-HMS, en appliquant le même PMP estival de 72 heures pour simuler les conditions PMF. Les résultats hydrographiques de ce modèle ont été présentés à la**Figure -2-3** et utilisés comme données d'entrée pour le modèle HEC-RAS décrit dans la **Section6** .

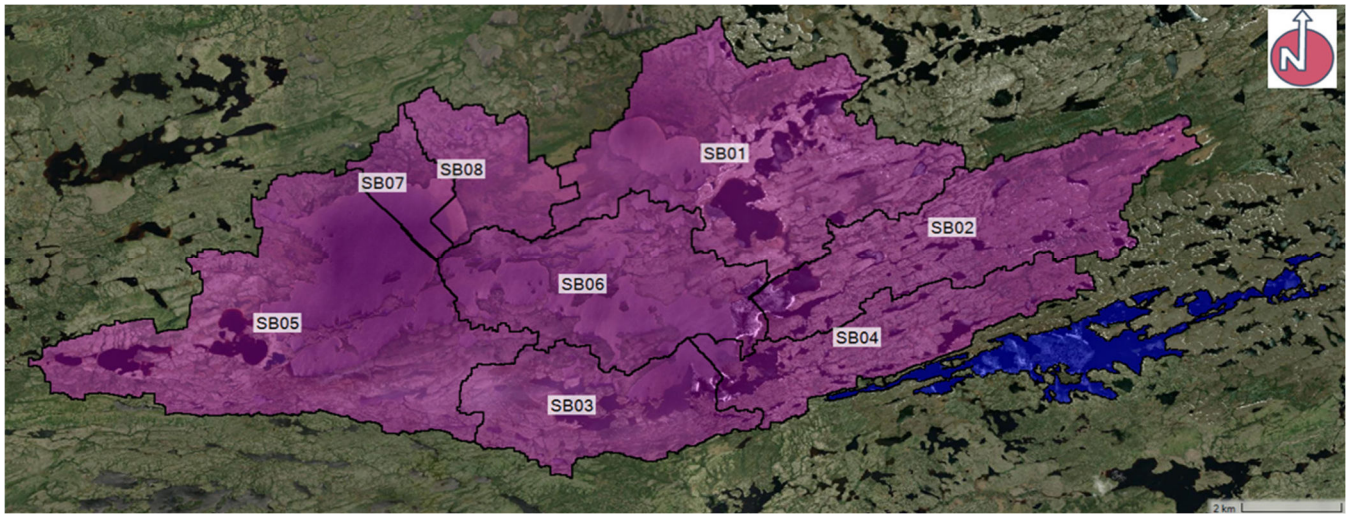


Figure -2-2 Bassin versant du lac 027 et ses sous-bassins versants

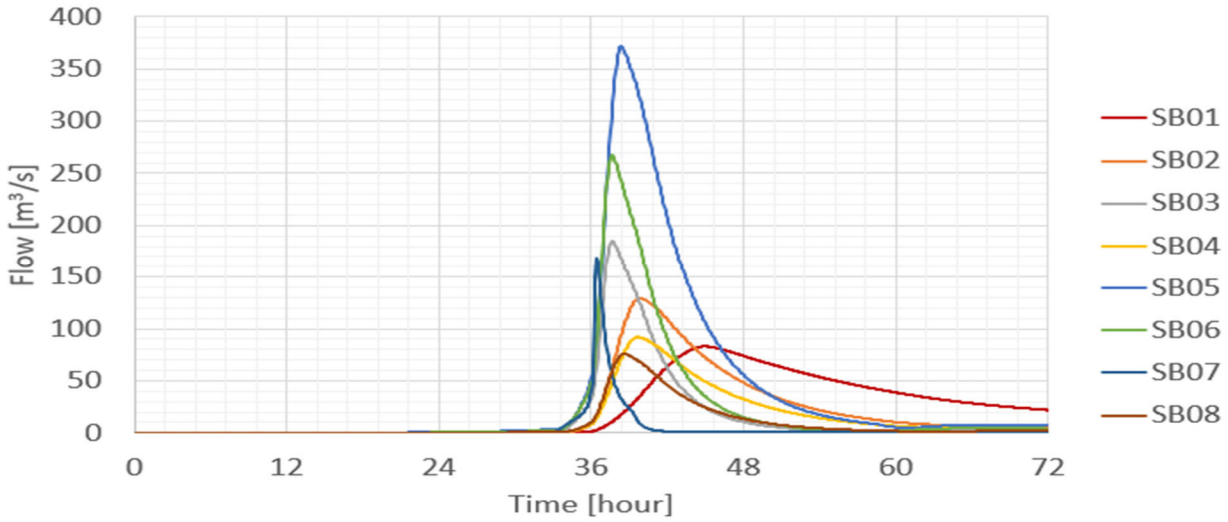


Figure -2-3 Hydrogrammes PMF des sous-bassins versants se déversant dans le lac 027

AtkinsRéalis - Sensible / Sensible [FR]

3 Caractéristiques des barrages

Tableau -3-1 présente les principales caractéristiques techniques des barrages des fosses Ouest et Est. Le barrage de la fosse Ouest est constitué d'un seul remblai, tandis que la configuration du barrage de la fosse Est comprend trois remblais distincts. Aux fins de l'analyse de rupture du barrage, seules les caractéristiques du remblai critique (le plus profond) des barrages de la fosse Est sont indiquées.

Tableau -3-1 Caractéristiques générales des barrages de confinement TSF

Barrage	Maximum [m]	Fondation Niveau [m]	Crête Altitude [m]	Crête Longueur [m]	Crête Largeur [m]	En amont Pente	En aval Pente
Fosse Est	12	366,5	378,4	20	6	3H:1V	3H:1V
Fosse Ouest	8,5	370	378,4	310	6	3H:1V	3H:1V

Les sections types et les vues en plan des barrages des fosses Ouest et Est sont présentées aux **Figure -**3-1 à **Figure -3-3** .

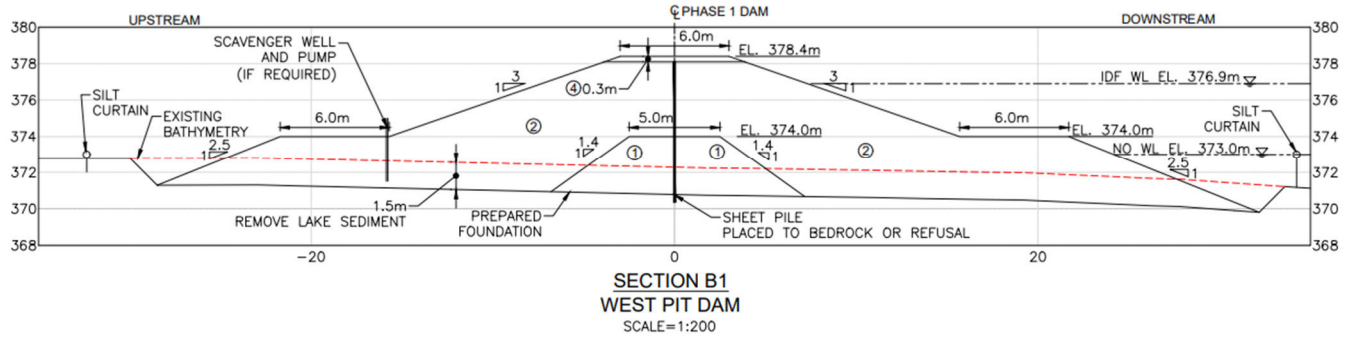


Figure -3-1- Coupe type du barrage West-Pit

AtkinsRéalis - Sensible / Sensible [FR]

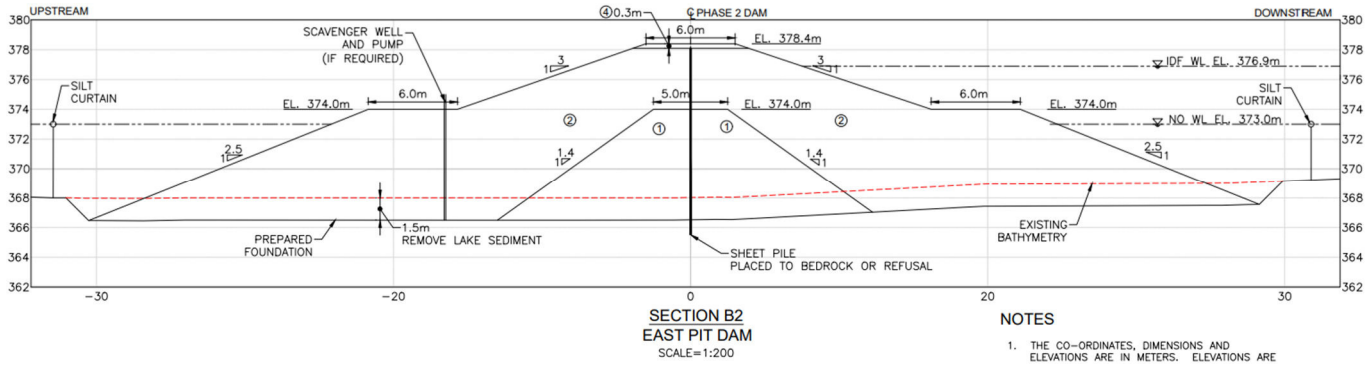


Figure -3-2 Coupe type du barrage de la fosse Est (barrage central dansFigure -3-3)

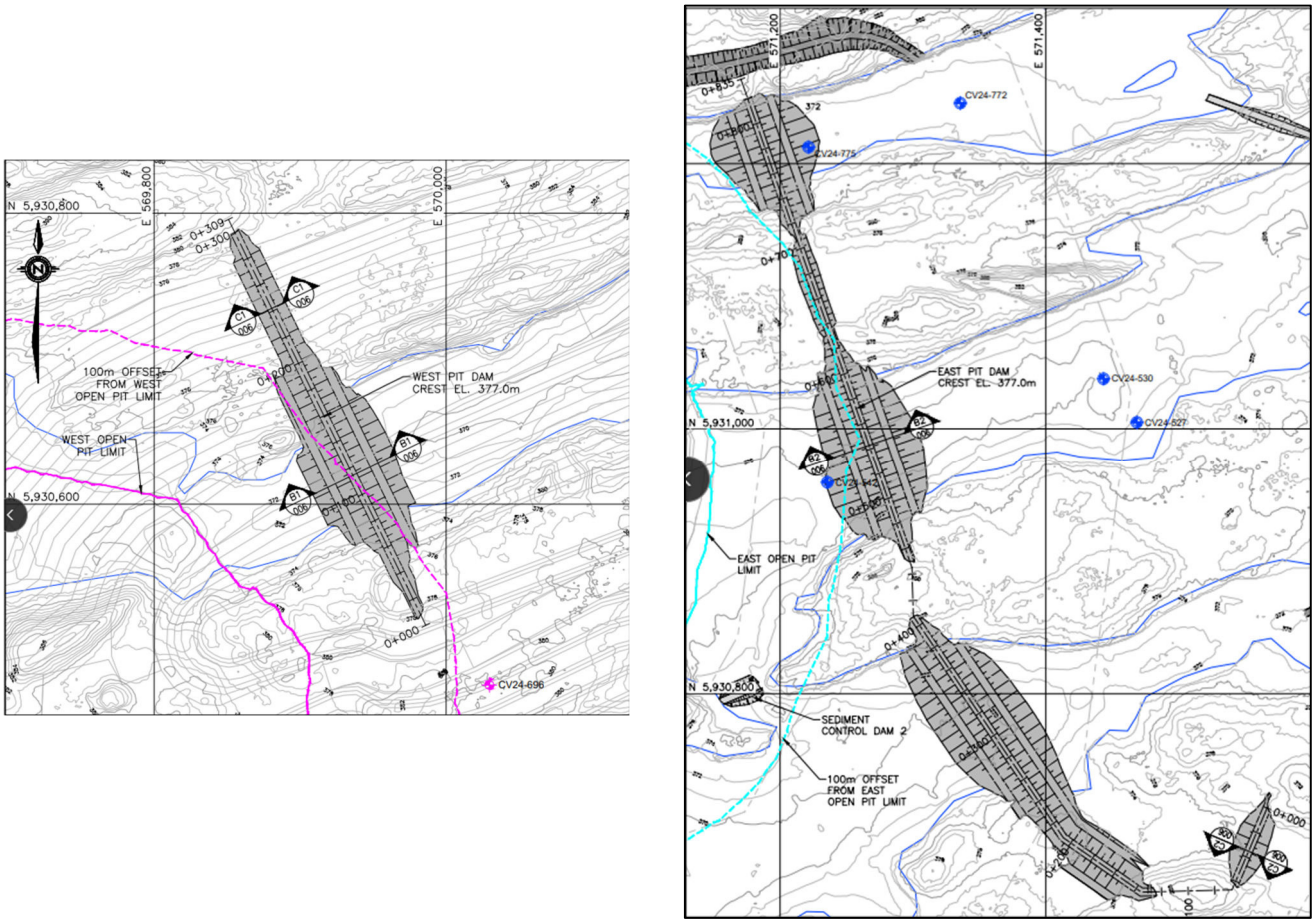
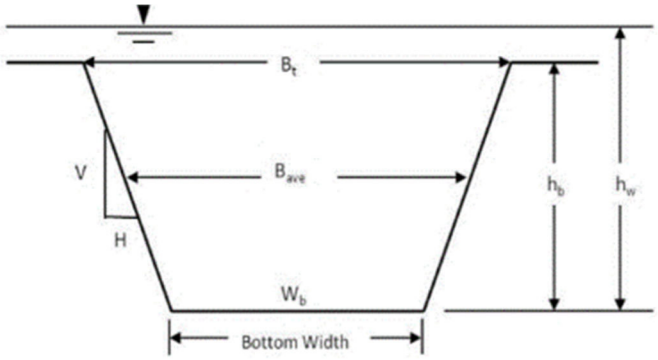


Figure -3-3 Vue en plan des barrages de retenue; à gauche: barrage de la fosse Ouest; à droite: barrages de la fosse Est

4 Paramètres de rupture

L'hydrogramme d'écoulement de rupture a été défini à l'aide de paramètres de rupture empiriques dérivés des directives industrielles et du comportement statistique observé lors de ruptures historiques de barrages adaptés aux remblais de retenue d'eau.**Tableau -4-1** présente les plages recommandées par la CDA (2021) pour ces paramètres et les valeurs adoptées pour les barrages de retenue du lac 001. Les paramètres comprennent la largeur de la rupture (en fonction de la hauteur du barrage), l'inversion de la rupture, les pentes latérales de la rupture et le temps de formation de la rupture. Les paramètres de rupture sont définis comme présenté à la**Figure -**4-1 .

Ces paramètres régissent le débit de pointe et la forme de l'hydrogramme et sont sélectionnés pour représenter des mécanismes de rupture crédibles dans les deux conditions hydrologiques. Pour les scénarios de temps clément, on a supposé que la rupture était survenue lors d'un mode de défaillance de tuyauterie, conforme aux mécanismes structurels/géotechniques et liés à l'infiltration généralement évalués dans des conditions normales d'exploitation. Pour les scénarios induits par les inondations, on a adopté un mode de rupture initié par un débordement, représentant les conditions de charge hydraulique associées à l'IDF.



- B_{ave} : largeur moyenne de la brèche,
- B_t : largeur supérieure de la brèche,
- W_b : largeur inférieure de la brèche,
- V:H : pentes latérales de la brèche,
- h_b : hauteur de la rupture, et
- h_w : hauteur de la colonne d'eau et profondeur des résidus.

Figure -4-1 Schéma de la rupture et définition des paramètres

Tableau -4-1 Paramètres de rupture et valeurs adoptées pour les barrages du lac 001

Paramètre	Plages suggérées	Adoptées
Largeur moyenne de la brèche (B_{ave})	• 1 h_b à 5 h_b • 0,5 h_bà 5 h_b (USACE 2007)	5 h_b
Pente du côté de la brèche (V:H)	• 1V:0,25H à 1V:1H (FERC 2015) • 1V:0H à 1V:1H (USACE 2007)	1H:1V
Élévation du fond de la brèche (W_b)	• Niveau du sol	Niveau du sol (hauteur totale)
Temps de développement de la brèche (T_f)	• 0,1 à 1 heure (FERC 2015) • 0,1 à 4 heures (USACE 2007)	0,1 heure

La géométrie et le temps de développement de la rupture adoptés sont utilisés dans le module de rupture de barrage du modèle HEC-HMS pour générer les hydrogrammes d'écoulement de la rupture, qui sont ensuite appliqués dans le modèle hydrodynamique pour délimiter l'étendue des inondations et soutenir la classification des conséquences (décrite dans la **Section6**).

5 Scénario de rupture

AtkinsRéalis a examiné les scénarios de rupture potentiels pour les barrages Stages des fosses Ouest et Est et a identifié les conditions les plus défavorables pour l'analyse de la rupture. La capacité de stockage totale de la mine à ciel ouvert est d'environ 67,1 Mm³, tandis que le lac 001 contient environ 18,3 Mm³ à son niveau normal de fonctionnement et jusqu'à environ 30 Mm³ à la hauteur de la crête du barrage.

Comme la mine à ciel ouvert se trouve en aval des barrages de la fosse Est, une rupture de ces structures entraînerait le drainage du lac 001 dans la mine, qui a une capacité suffisante pour contenir entièrement le volume du lac. Par conséquent, les conséquences en aval d'une rupture du barrage de la fosse Est se limitent à la zone de la mine à ciel ouvert.

En revanche, une rupture du barrage de la fosse Ouest entraînerait le déversement du lac 001 vers le bassin versant du Lac 027, ce qui entraînerait des répercussions en aval au-delà de l'empreinte minière. Une rupture du barrage au début des opérations du barrage de la fosse Ouest (c'est-à-dire avant ou pendant la première phase d'excavation de la fosse) provoquerait d'importantes inondations en aval. Par conséquent, AtkinsRéalis a conclu que le début de l'exploitation du barrage de la fosse Ouest représente le scénario de défaillance le plus critique, et l'analyse de rupture du barrage a été réalisée pour cette condition.

Les paramètres de rupture ont été appliqués au barrage de la fosse Ouest afin de générer des hydrogrammes de débit de rupture dans des conditions météorologiques favorables et dans des conditions d'inondation à l'aide du modèle HEC-HMS. Étant donné que l'élévation minimale des fondations du barrage de la fosse Ouest est de 370 m, seule l'eau stockée au-dessus de cette élévation est libérée en cas de rupture.

Dans des conditions météorologiques favorables, la rupture est supposée se produire au niveau d'eau normal de fonctionnement de 373 m. Dans des conditions de crue (jours de pluie), le niveau d'eau du lac a été fixé au niveau maximal atteint lors du passage de la crue de référence (IDF). Pour une analyse prudente, le déversoir du canal de dérivation a été supposé non fonctionnel en raison d'un blocage potentiel par des débris, de la végétation ou de la glace. Dans cette hypothèse, le niveau d'eau maximal simulé dans le lac 001 s'élève à 377,5 m, qui est utilisé comme niveau de début de rupture pour le scénario de crue.

Il convient de noter que la hauteur de la crête du barrage, fixée à 378,5 m, a été déterminée lors de l'étude de faisabilité sur la base d'une distance de franc-bord de 1,5 m au-dessus du niveau d'eau de l'IDF (377,0 m). Une analyse plus détaillée étant recommandée, sur la base de l'action du vent, on peut s'attendre à ce qu'un franc-bord minimum de 0,6 m soit adopté. En adoptant cette valeur de 0,6 m de franc-bord, l'élévation maximale de la crête serait de 377,6 m. Dans cette hypothèse, le niveau maximal de l'eau pourrait atteindre 377,5 m (avec un déversoir non fonctionnel). Cela pourrait entraîner un début de débordement qui provoquerait une rupture du barrage en cas d'inondation.

Figure -5-1 présente les hydrogrammes de débit de rupture produits dans le module de rupture de barrage HEC-HMS pour des conditions météorologiques favorables et des conditions de crue. Le scénario météorologique favorable donne un débit de pointe d'environ 400 m³/s, tandis que le scénario de crue donne un débit de pointe nettement plus élevé, d'environ 1 650 m³/s.

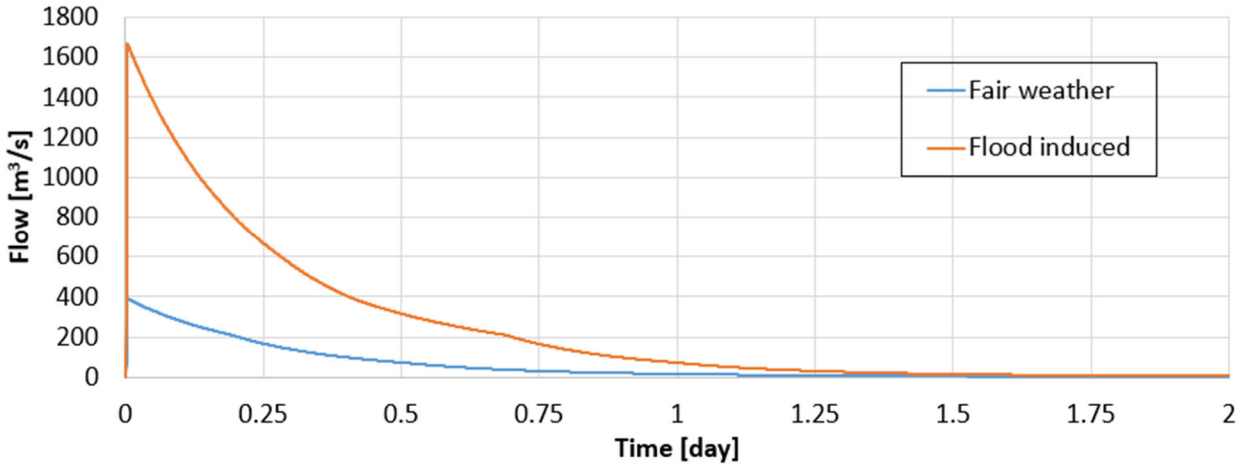


Figure -5-1 Hydrogrammes de rupture du barrage de la fosse Ouest

AtkinsRéalis - Sensible / Sensible [FR]

6 Modélisation des inondations

6.1 Configuration du modèle numérique

Un modèle hydraulique bidimensionnel a été développé dans HEC-RAS v6.7 (USACE, 2025) afin de simuler les inondations causées par la rupture d'un barrage. La limite amont du modèle se situe au niveau du barrage de la fosse Ouest. Des simulations préliminaires ont été utilisées pour étendre le domaine afin de capturer entièrement l'étendue probable de l'inondation maximale (PMF).

Le routage des crues est effectué à l'aide du module Shallow-Water Equations (équations d'impulsion complète) du modèle. Les principales données d'entrée du modèle sont le terrain représenté par un modèle numérique d'élévation (MNE) et une zone d'écoulement en 2D discrétisée en un maillage de calcul. La taille des cellules a été affinée par des tests itératifs afin d'équilibrer la stabilité numérique, la résolution spatiale et l'efficacité de calcul. Sur la base des résultats de la simulation initiale, la grille du modèle a été affinée dans la zone d'inondation afin d'améliorer la précision de l'étendue prévue de l'inondation et des voies d'écoulement.**Figure -6-1** affiche le domaine du modèle 2D utilisé pour les simulations d'inondation.

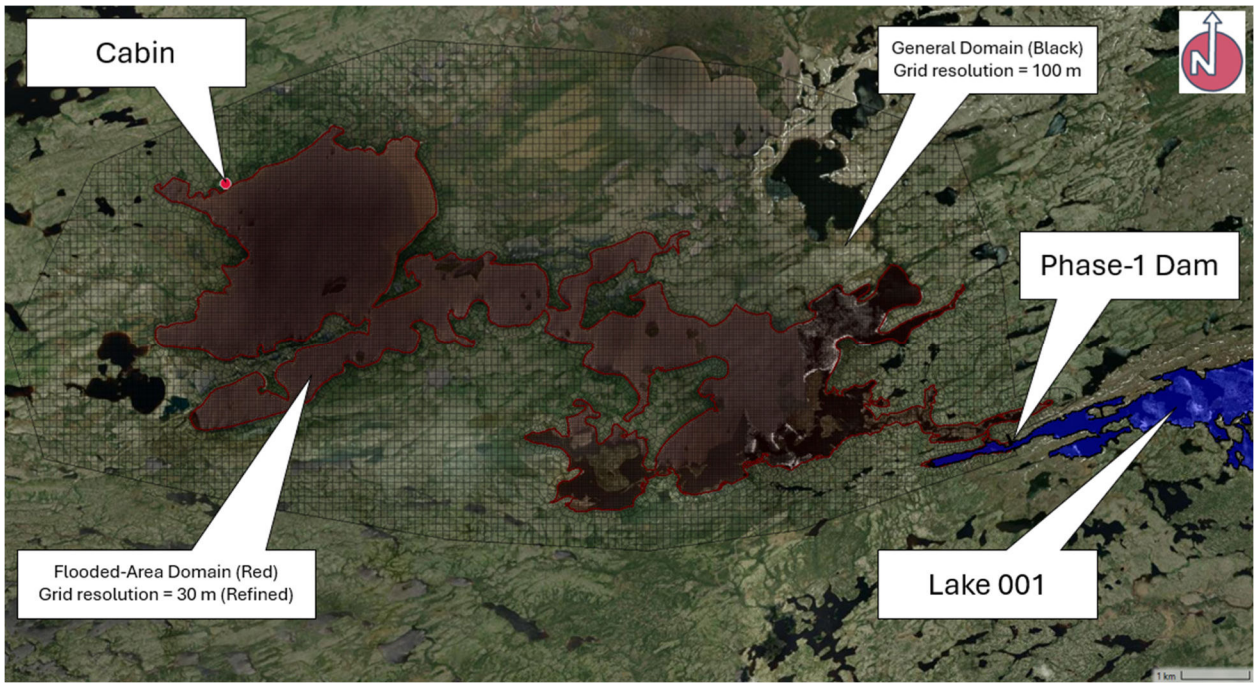


Figure -6-1 Grille du modèle numérique

AtkinsRéalis - Sensible / Sensible [FR]

6.2 Conditions aux limites

Les conditions aux limites pour le modèle d'inondation 2D consistent en des hydrogrammes de débit de rupture de barrage appliqués à l'emplacement du barrage de la fosse Ouest (limite amont) et une condition de profondeur normale à la sortie du lac 027 (limite aval).

Dans des conditions météorologiques favorables, seul l'hydrogramme de débit de rupture est appliqué à la limite amont.

Pour les conditions induites par les inondations, deux simulations ont été réalisées :

- PMF sans rupture du barrage, où les hydrogrammes PMF sont appliqués.
- PMF avec rupture du barrage, où les hydrogrammes PMF et l'hydrogramme de débit de rupture sont appliqués.

L'effet incrémental de la rupture dans des conditions PMF est évalué en comparant les inondations prévues dans les scénarios PMF seul et PMF avec rupture.

Le modèle a été calibré en ajustant le coefficient de rugosité n de Manning. Sur la base des caractéristiques du bassin versant et de la plaine inondable, une valeur de n = 0,03 pour la rivière et de 0,07 pour la plaine inondable ont été appliquées à l'ensemble de la grille de calcul. Le pas de temps du modèle et la durée totale de la simulation ont été optimisés par essais et erreurs afin de garantir la stabilité numérique et de permettre aux pics de la vague de crue de se propager pleinement à travers le domaine.

7 Résultats de la rupture du barrage

Cinq points critiques ont été sélectionnés dans la zone touchée par les inondations, comme le montre la **Figure Figure** -7-1 . Pour chaque point d'intérêt, les paramètres suivants sont indiqués :

- **Élévation maximale de la surface de l'eau :** niveau maximal de l'eau enregistré pendant la simulation.
- **Profondeur maximale de l'eau :** profondeur de l'inondation par rapport au niveau d'eau avant l'événement (normal).
- **Vitesse d'écoulement maximale :** vitesse maximale atteinte lors du passage de la vague de crue.
- **Heure d'arrivée de la vague :** temps écoulé entre le début de la rupture et la première arrivée de la vague de crue.
- **Temps jusqu'au pic :** temps écoulé entre le début de la rupture et le niveau maximal de l'inondation.
- **Profondeur d'eau incrémentielle :** Profondeur maximale de l'inondation due à la rupture du barrage par temps clair (jour ensoleillé) ou différence entre les conditions PMF avec rupture et PMF seule (jour de pluie).

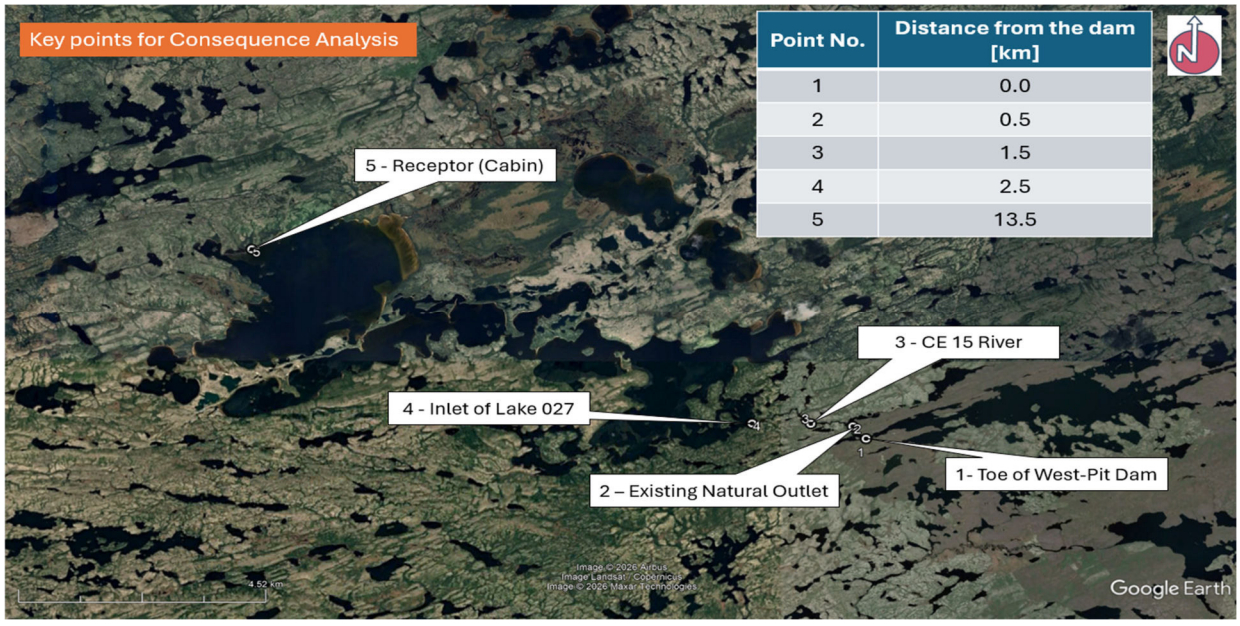


Figure -7-1 Emplacements critiques sélectionnés pour l'analyse des conséquences

Les résultats des simulations de rupture du barrage par temps clair sont résumés dans le **TableauTableau -**7-1

Les résultats indiquent qu'en cas de rupture par temps clair, la profondeur de l'eau pourrait atteindre environ 5,6 m près du barrage et environ 1,4 m à la sortie du lac 001. À la rivière CE 15, les profondeurs maximales peuvent dépasser 2 m. Les emplacements les plus proches du barrage (points 1 et 2) connaissent les profondeurs et les vitesses les plus élevées. Le long de la rive ouest du Lac 027 (point 5, emplacement des récepteurs), les impacts de l'inondation sont plus limités, avec des profondeurs maximales généralement inférieures à 0,6 m. Le temps d'arrivée des vagues et le temps nécessaire pour atteindre leur pic sont respectivement d'environ 12 heures et 96 heures pour les récepteurs.

Tableau -7-1 Résultats du modèle à certains emplacements principaux (conditions météorologiques favorables)

Point n°	Distance par rapport au barrage [km]	Niveau d'eau maximal [m]	Vitesse maximale de l'eau [m/s]	Heure d'arrivée de la vague [h]	Temps jusqu'au pic [h]	Profondeur incrémentielle de l'eau [m]
1 : Pied du barrage fosse Est	0,0	374,8	3,4	< 1	< 1	5,6
2 : Débouché naturel existant	0,5	373,2	3,4	< 1	< 1	1,4
3 : Rivière CE 15	1,5	368,4	2,5	< 1	1,4	2,3
4 : Entrée du lac 027	2,5	365,8	1,1	< 1	2,2	1,3
5 : Récepteur (cabine)	13,5	365,1	0,01	12	96	0,6

Tableau **-7-2** résume les résultats du modèle hydrodynamique pour les conditions induites par les inondations. Dans ces conditions hydrologiques, la profondeur de l'eau dans la zone inondée augmente considérablement, en particulier en aval du barrage. Le scénario PMF avec rupture entraîne une augmentation progressive de la profondeur de 2,1 m à la sortie du Lac 001, de 2,8 m à la rivière CE-015 et de 1,1 m au Lac 027.

Dans l'ensemble du domaine modélisé, les ondes de crue atteignent leur pic aux endroits les plus en aval (emplacement des récepteurs) environ 12 heures après le début de la rupture dans des conditions météorologiques favorables et 27 heures dans des conditions induites par les inondations.

Tableau -7-2 Résultats du modèle à certains endroits principaux (conditions induites par les inondations)

Point n°	Emplacement	PMF (rupture)					PMF (sans rupture)	Incrémental
		Niveau d'eau maximal [m]	Profondeur maximale de l'eau [m]	Vitesse maximale de l'eau [m/s]	Temps d'arrivée des vagues [h]	Temps jusqu'au pic [h]	Profondeur maximale de l'eau [m]	Profondeur de l'eau [m]
1	Pied du barrage de la fosse Est	376,3	7,0	5,4	< 1	< 1	0,0	7,0
2	Déversoir naturel existant	373,8	2,1	5,0	< 1	< 1	0,0	2,1
3	Rivière CE 15	370,3	4,3	4,3	< 1	< 1	1,5	2,8
4	Entrée du lac 027	367,6	3,1	2,3	< 1	24	2,0	1,1
5	Récepteur (cabine)	367,6	3,1	0,1	4	27	2,0	1,1

Les **Figure -7-2** et**Figure -7-3** présentent respectivement la zone inondée suite à la rupture dans des conditions météorologiques favorables et dans des conditions d'inondation. De plus, la**Figure -7-4** montre la superposition des conditions avec et sans rupture dans le scénario d'inondation. L'impact supplémentaire de la zone inondée n'est pas significatif lorsque l'on compare les conditions avec et sans rupture dans le scénario d'inondation.

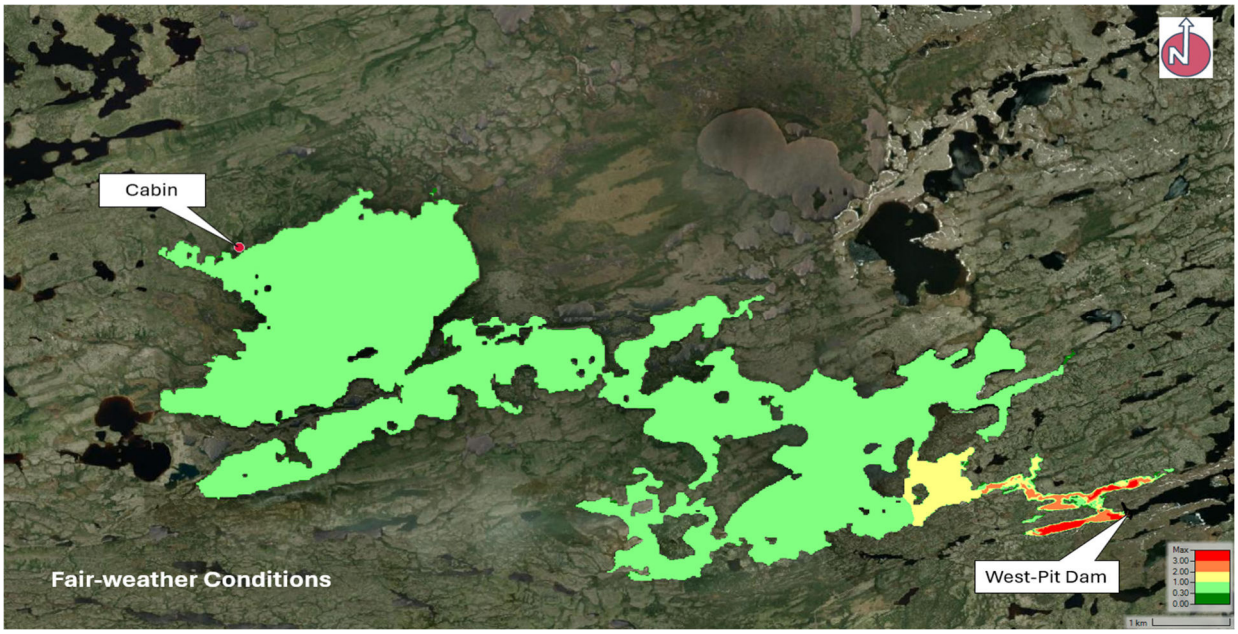


Figure -7-2 Zone inondée par temps clément (colorée en fonction de la profondeur incrémentielle de l'inondation)

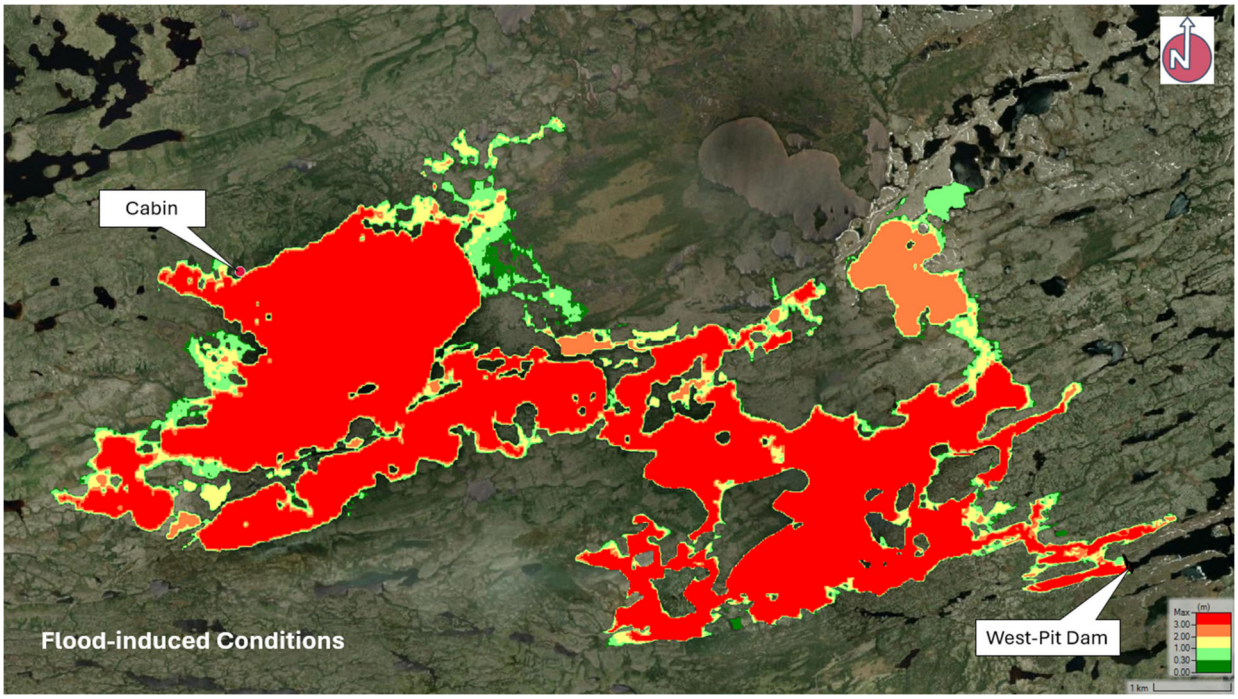


Figure -7-3 Zone inondée dans des conditions d'inondation (couleurs correspondant à la profondeur maximale de l'inondation)

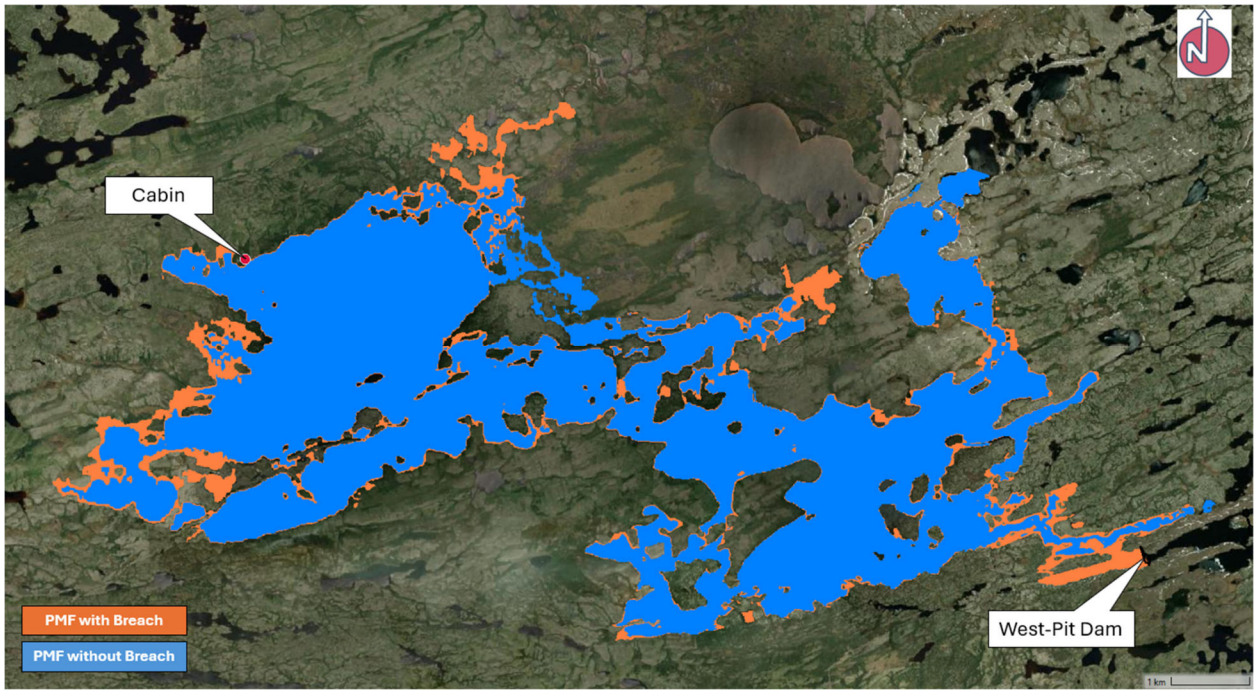


Figure -7-4 : Comparaison entre les conditions de rupture et de non-rupture (scénario d'inondation)

AtkinsRéalis - Sensible / Sensible [FR]

8 Analyse des conséquences et classification des barrages

8.1 Analyse des conséquences

L'objectif de cette analyse est de classer les barrages en fonction des conséquences supplémentaires en aval à la suite d'une rupture de barrage, conformément aux recommandations de la CDA (CDA 2013), telles que présentées dans

AtkinsRéalis - Sensible / Sensible [FR]

Tableau -8-1 . L'évaluation des conséquences supplémentaires d'une rupture de barrage est basée sur les directives de l'industrie, les méthodologies généralement adoptées, les antécédents de défaillance et le jugement technique.

AtkinsRéalis - Sensible / Sensible [FR]

Tableau -8-1 Classification des conséquences d'une rupture de barrage (CDA 2013)

Dam class	Population at risk [note 1]	Incremental losses		
		Loss of life [note 2]	Environmental and cultural values	Infrastructure and economics
Low	None	0	Minimal short-term loss No long-term loss	Low economic losses; area contains limited infrastructure or services
Significant	Temporary only	Unspecified	No significant loss or deterioration of fish or wildlife habitat Loss of marginal habitat only Restoration or compensation in kind highly possible	Losses to recreational facilities, seasonal workplaces, and infrequently used transportation routes
High	Permanent	10 or fewer	Significant loss or deterioration of *important* fish or wildlife habitat Restoration or compensation in kind highly possible	High economic losses affecting infrastructure, public transportation, and commercial facilities
Very high	Permanent	100 or fewer	Significant loss or deterioration of *critical* fish or wildlife habitat Restoration or compensation in kind possible but impractical	Very high economic losses affecting important infrastructure or services (e.g., highway, industrial facility, storage facilities for dangerous substances)
Extreme	Permanent	More than 100	Major loss of *critical* fish or wildlife habitat Restoration or compensation in kind impossible	Extreme losses affecting critical infrastructure or services (e.g., hospital, major industrial complex, major storage facilities for dangerous substances)

Note 1. Definitions for population at risk:

None—There is no identifiable population at risk, so there is no possibility of loss of life other than through unforeseeable misadventure.

Temporary—People are only temporarily in the dam-breach inundation zone (e.g., seasonal cottage use, passing through on transportation routes, participating in recreational activities).

Permanent—The population at risk is ordinarily located in the dam-breach inundation zone (e.g., as permanent residents); three consequence classes (high, very high, extreme) are proposed to allow for more detailed estimates of potential loss of life (to assist in decision-making if the appropriate analysis is carried out).

Note 2. Implications for loss of life:

Unspecified—The appropriate level of safety required at a dam where people are temporarily at risk depends on the number of people, the exposure time, the nature of their activity, and other conditions. A higher class could be appropriate, depending on the requirements. However, the design flood requirement, for example, might not be higher if the temporary population is not likely to be present during the flood season.

8.1.1 Sur la population à risque (PAR) et pertes potentielles en vies humaines

Pour déterminer la population à risque (PAR), le nombre total d'habitations dans les zones inondables est identifié. Les coordonnées des habitations permanentes (récepteurs/chalets) ont été fournies par le client. L'emplacement de ces récepteurs (chalets) est présenté à la**Figure -1-1** . Comme le montrent les figures d'inondation de **la Section7** , un seul chalet se trouve dans la zone inondable, sur la rive ouest du Lac 027. Après examen des résultats hydrodynamiques et de l'élévation de la cabane, il a été constaté que l'élévation maximale de la surface de l'eau dans le lac près de l'emplacement de cette cabane est de 365,1 m et de 367,6 m lors d'une rupture dans des conditions météorologiques favorables et lors d'une inondation, respectivement. L'élévation minimale du terrain à l'emplacement de cette cabane est de 369,4 m. Par conséquent, la cabane se trouve à environ 1,8 m au-dessus de l'élévation maximale des eaux en cas de rupture du barrage dans des conditions normales, et la zone d'inondation permanente n'est pas affectée par une rupture du barrage dans les deux scénarios de rupture.

En cas de rupture par temps clair, les travailleurs temporaires dans le secteur de la fosse pourraient être touchés. AtkinsRéalis estime qu'au moins une personne pourrait être exposée à un risque pour sa sécurité, entraînant un risque potentiel de perte de vie (PLL). Conformément aux lignes directrices de la CDA, cela correspond à une classification « élevée » en termes de PLL.

En cas de rupture dans des conditions d'inondation, la population temporaire (travailleurs) est peu susceptible d'être présente pendant la saison des inondations, et donc aucune perte de vie n'est à prévoir.

8.1.2 Dommages environnementaux et culturels

La rupture du barrage de la fosse Ouest entraînerait le déversement d'eau douce (sans contact) du lac 001 dans le cours d'eau naturel reliant le lac 001 au lac 027, ainsi que dans le lac 027 lui-même. Aucune perte ou dégradation importante de l'habitat du poisson n'est prévue dans le système en aval. Cependant, la classification du barrage pourrait se situer dans la fourchette « faible à importante » tant dans des conditions météorologiques favorables que dans des conditions d'inondation.

Les principaux effets environnementaux comprennent une augmentation temporaire du niveau de l'eau, une érosion localisée et un dépôt de sédiments le long du cours d'eau qui relie les deux lacs, ainsi qu'une élévation du niveau de l'eau dans le lac 027. La classification globale des conséquences est similaire pour les deux scénarios de rupture.

8.1.3 Dommages infrastructurels et économiques

Pour évaluer les dommages supplémentaires aux infrastructures et les pertes économiques, la CDA (2013) recommande de ne prendre en compte que les dommages causés à des tiers. Le site est une zone isolée sans bâtiment ni infrastructures industriels/économiques. Dans les deux scénarios de rupture, l'inondation touche principalement les zones végétalisées, le chenal principal de la rivière, les plaines inondables adjacentes et les lacs connectés, ainsi que le Lac 027.

AtkinsRéalis - Sensible / Sensible [FR]

8.2 Classification des barrages

La classification finale suggérée pour les barrages (barrages fosse Ouest/fosse Est) du lac 001 a été déterminée sur la base de la classification maximale des trois catégories décrites dans les sections précédentes : sécurité des personnes, dommages économiques ou dommages environnementaux. Les résultats de l'évaluation sont présentés dans le **TableauTableau** -8-2 . La classification finale et globale proposée pour les barrages est donc « haute » en terme de conséquences.

Tableau -8-2 Résumé de la classification des barrages

Conditions hydrologiques	Population à risque	Risque potentiel de pertes humaines	Valeur environnementale et culturelle	Infrastructures et économie	Global
Temps clément (journée ensoleillée)	Important	Élevée	Important	Faible	Élevé
Inondation (jour de pluie)	Faible	Faible	Significatif	Faible	

AtkinsRéalis - Sensible / Sensible [FR]

9 RÉFÉRENCES

AtkinsRéalis (2026). Étude de faisabilité pour la gestion des résidus, des stériles et de l'eau. Document AtkinsRéalis n° CASN-A-370-GE-REP-001.

AtkinsRéalis, (2025). Hydrologie de référence, document n° CASN-A-370-HY-REP-001.

CDA (2007). Lignes directrices sur la sécurité des barrages. Association canadienne des barrages.

CDA (2013). Lignes directrices sur la sécurité des barrages 2007 (édition 2013). Association canadienne des barrages.

FERC. (2015). Lignes directrices techniques pour l'évaluation des projets hydroélectriques. Chapitre II : Sélection et adaptation des crues de conception pour les barrages. Commission fédérale de réglementation de l'énergie.

USACE. (2007). Évaluation des risques pour la sécurité des barrages. Corps des ingénieurs de l'armée américaine, Boîte à outils pour l'analyse des ruptures de barrages.

USACE. (2025). Système d'analyse fluviale HEC-RAS, manuel d'utilisation. (Version 6.7). Corps des ingénieurs de l'armée américaine, Centre d'ingénierie hydrologique.

AtkinsRéalis - Sensible / Sensible [FR]

Annexe L

Analyse comparative des scénarios de restauration (Atkins, 2025)

NOTE : Le présent document constitue une traduction française du rapport original rédigé en anglais. La traduction a été effectuée avec l'aide de COPILOT. En cas de divergence, d'ambiguïté ou de différence d'interprétation entre la version française et la version anglaise, ***la version anglaise prévaut****.*

Pour information

À : Mme Cathryn Moffett			
De : Sandra Pouliot, Mamadou Lamarana Diallo			
Date :	17 avril 2025	Projet :	Projet Shaakichiuwaanaan – Gestion des eaux et des résidus
Réf. : 702381-9002-4EER-0001			
Objet : Critères pour l'analyse comparative des options potentielles de fermeture			

1. Introduction

Innova souhaite produire une étude de faisabilité conforme au NI 43-101 (FS) pour le projet minier Shaakichiuwaanaan. AtkinsRéalis a été mandaté pour fournir les intrants nécessaires à la préparation des volets liés à la gestion des résidus miniers et à la gestion de l'eau (typiquement présentés à la section 18). L'objectif du présent mémo est dans un premier temps de fournir les critères qui guideront la sélection des concepts de restauration des infrastructures du projet. Dans un second temps, il vise à expliquer le fonctionnement des critères de l'outil, ainsi que leur pondération. Cette revue doit être complétée en préparation à l'analyse comparative prévue le 28 avril 2025.

Les infrastructures dont les concepts doivent être évalués sont :

- La halde à stériles 002 (stériles potentiellement générateurs d'acide et potentiellement lixiviables en métaux, stériles à faible risque et résidus)
- La fosse à ciel ouvert

Les critères généraux de conception établis pour la restauration sont :

- La stratégie de restauration doit tenir compte des contraintes opérationnelles.
- Éliminer les risques inacceptables à la santé et assurer la sécurité du public.
- Assurer une stabilité géotechnique et géochimique à long terme.
- Limiter la production et la dispersion de contaminants susceptibles d'affecter le milieu récepteur et, à long terme, viser une réduction de toute forme d'entretien et de suivi.
- Permettre une restauration progressive.
- Assurer l'acceptabilité sociale.
- Rendre le site visuellement acceptable et compatible avec l'usage futur.

NOTE : Le présent document constitue une traduction française du rapport original rédigé en anglais. La traduction a été effectuée avec l'aide de COPILOT. En cas de divergence, d'ambiguïté ou de différence d'interprétation entre la version française et la version anglaise, ***la version anglaise prévaut****.*

- Assurer la constructibilité.
- Minimiser les coûts de fermeture.

Plus précisément, les éléments suivants représentent des options non-viables :

- Concept historiquement non-accepté par les autorités gouvernementales.
- Données insuffisantes pour permettre l'obtention des permis dans les délais requis.

Pour orienter la sélection des meilleures options de fermeture parmi celles identifiées pour chacun des infrastructures, une analyse comparative sera réalisée à l'aide de l'outil de décision *Sustainability+*, développé par AtkinsRéalis, lequel intègre les trois (3) sphères du développement durable dans la comparaison des options de fermeture (communauté, environnement et économie), ainsi qu'un quatrième pilier d'ingénierie pour les considérations techniques.

De plus, l'objectif de cet exercice est de sélectionner les meilleures options qui seront ensuite optimisées pour le plan de fermeture devant être déposé au MRNF.

La présente note informative présente les choix de critères de comparaison pour l'analyse des options potentielles de fermeture. L'examen et la pondération des critères par Innova devront être réalisés en prévision de la séance de travail prévue le **28 avril 2025**.

2. Méthode d'évaluation des options de fermeture

Les options potentielles présélectionnées seront comparées entre elles à l'aide de l'outil décisionnel basé sur des critères identifiés. Cet outil intègre les trois sphères du développement durable (communauté, environnement, économie) ainsi qu'un pilier technique. L'analyse permet de choisir l'option la plus équilibrée entre les contraintes communautaires, environnementales, économiques et faisabilité technique. L'analyse permet également d'identifier les critères pour lesquels des efforts supplémentaires sont nécessaires afin de rendre un scénario ou une option plus acceptable.

Pour chacune des quatre (4) sphères, les critères à évaluer sont regroupés en catégories distinctes. Chacune de ces catégories représente un enjeu important pour chaque option de fermeture. D'un à huit critères sont analysés dans chaque catégorie. Les critères ont été sélectionnés de manière à limiter la redondance d'une catégorie à l'autre et ainsi éviter une surreprésentation. Le **Tableau 2-1** ci-dessous résume les catégories et critères proposés pour l'étude comparative des options potentielles de restauration présélectionnées.

NOTE : Le présent document constitue une traduction française du rapport original rédigé en anglais. La traduction a été effectuée avec l'aide de COPILOT. En cas de divergence, d'ambiguïté ou de différence d'interprétation entre la version française et la version anglaise, ***la version anglaise prévaut****.*

Tableau 2-1. Catégories et critères proposés pour l'analyse comparative des options de restauration présélectionnées

Sphère	Catégorie	Critères
Communauté	Santé et sécurité	• Risque pour les travailleurs durant la construction (exposition à la poussière, camionnage intensif, etc.)
	Qualité de vie	• Circulation sur les routes d'accès (aussi utilisées par les communautés) • Accès aux zones d'activités traditionnelles
	Emploi	• Disponibilité de la main-d'œuvre qualifiée • Bénéfices économiques locaux pour les communautés
	Acceptabilité sociale	• Acceptabilité sociale du projet • Usages futurs du territoire
Environnement	Matériaux	• Disponibilité des matériaux requis • Distance de bancs d'emprunts • Impact sur l'environnement (bancs d'emprunts à restaurer)
	Eau	• Qualité de l'eau de surface attendue après restauration • Qualité des eaux de drainage attendues après restauration • Impact sur le réseau hydrique existant
	Énergie	• Équipements motorisés requis pour les travaux (heures*équipement/jour) • Utilisation d'énergie renouvelable
	Air	• Génération de poussières durant les travaux • Étendue des zones exposées à la poussière durant les travaux
	Biodiversité	• Type de végétation (usage d'espèces indigènes) • Présence d'espèces menacées et vulnérables et/ou d'écosystèmes forestiers exceptionnels près du site

NOTE : Le présent document constitue une traduction française du rapport original rédigé en anglais. La traduction a été effectuée avec l'aide de COPILOT. En cas de divergence, d'ambiguïté ou de différence d'interprétation entre la version française et la version anglaise, ***la version anglaise prévaut****.*

Sphère	**Catégorie**	**Critères**
Économie	Coûts en capital de fermeture	• Mise en œuvre et construction • Coût des matériaux
	Coûts d'entretien et de post-fermeture	• Coûts de suivi et d'entretien • Infrastructures nécessitant un entretien à long terme
Fiabilité	Technologie	• Technologies éprouvées? • Est-ce que les données de base utilisées sont complètes et fiables? • Est-ce que les travaux sont simples ou complexes (constructibilité)?
	Risques naturels	• Sensibilité aux risques sismiques • Sensibilité aux incertitudes climatiques (gestion des eaux, pergélisol, etc.)
	Flexibilité	• Est-ce que le concept peut facilement s'adapter à des changements dans la conception, contraintes économiques, pénuries de matériaux, restauration progressive, etc.
	Permis	• Connaissance du concept par les autorités • Facilité d'obtention des permis

NOTE : Le présent document constitue une traduction française du rapport original rédigé en anglais. La traduction a été effectuée avec l'aide de COPILOT. En cas de divergence, d'ambiguïté ou de différence d'interprétation entre la version française et la version anglaise, ***la version anglaise prévaut****.*

Un score de -2, -1, 0, 1 ou 2 est attribué à chaque critère. Le **Tableau 2-2** ci-dessous présente le système de notation des critères proposés, lesquels peuvent être quantitatifs, qualitatifs ou comparatifs. Dans cette analyse, les options sont comparées entre elles plutôt qu'à un scénario de référence (« base case »).

Tableau 2-2. Système de notation proposé

Score	Description
-2	Très mauvais
-1	Mauvais
0	Neutre
1	Bon
2	Très bon

Une analyse de sensibilité peut ensuite être réalisée en appliquant la pondération correspondant aux catégories souhaitées. Par exemple, si la catégorie « Eau » est pondérée comme étant de « Haute priorité », le score de tous les critères de cette catégorie sera multiplié par 2. Ainsi, si les scores des critères se situent dans la zone positive (neutre à très bon), le résultat global sera augmenté de manière plus importante, ce qui favorisera les options ayant obtenu de bons résultats pour la catégorie « Eau ». À l'inverse, si les scores des critères se situent dans la zone négative (neutre à très mauvais), le résultat global sera diminué davantage, ce qui pénalisera les options ayant obtenu de faibles scores dans cette catégorie.

La valeur maximale de la note non pondérée est de 2, tandis que la valeur maximale pondérée est de 4. Toutefois, la pondération sera déterminée en fonction des priorités définies par l'équipe du projet Shaakichiuwaanaan. Les pondérations applicables aux options sont présentées dans le Tableau 2-4.

Tableau 2-4 – Valeurs de pondération

Pondération	Valeur
Faible priorité	0,5
Requise	1
Haute priorité	2

NOTE : Le présent document constitue une traduction française du rapport original rédigé en anglais. La traduction a été effectuée avec l'aide de COPILOT. En cas de divergence, d'ambiguïté ou de différence d'interprétation entre la version française et la version anglaise, ***la version anglaise prévaut****.*

En préparation de la séance d'analyse comparative prévue le 28 avril, l'équipe du projet Shaakichiuwaanaan doit définir la pondération à appliquer à chaque catégorie pour l'analyse multicritère présentée au Tableau 2-5.

Tableau 2-5 – Pondération des categories à être sélectionnées par Innova pour l'analyse comparative

	Catégorie	Pondération	Évaluation
	COMMUNAUTÉ		
A	Santé et sécurité	ex. Haute	2
B	Qualité de vie		
C	Emploi		
D	Acceptabilité sociale		
	ENVIRONNEMENT		
E	Matériaux		
F	Eau		
G	Énergie		
H	Air		
I	Biodiversité		
	ÉCONOMIE		
J	Coûts en capital de restauration		
K	Coûts de post-restauration		
	FIABILITÉ		
L	Technologie		
M	Risques naturels		
N	Flexibilité		
O	Permis		

Les résultats de l'analyse comparative, tant non pondérés que pondérés, seront ensuite présentés sous forme de figures et de graphiques dans le rapport final portant sur la sélection du scénario de fermeture pour la halde à stériles 002 et la fosse à ciel ouvert.

For information

To : Ms. Cathryn Moffett			
From : Sandra Pouliot, Mamadou Lamarana Diallo			
Date :	April 17, 2025	**Project :**	Shaakichiuwaanaan Project – Waste and Water Management
Réf. :	702381-9002-4EER-0001		
Subject :	**Criteria for comparative analysis of potential closure options**		

1. Introduction

Innova wish to produce a NI43-101 compliant Feasibility Study (FS) report for the Shaakichiuwaanaan Mining Project. AtkinsRéalis was mandated to provide the inputs required to complete the mine waste and water management portions of the report (generally part of Section 18). Thus, the objective of this memo is firstly to provide reviews required for the selection of concepts for the restoration of the project's infrastructure. Secondly, to explain how the sustainability+ tool criteria work and how it is weighted. This review must be completed in preparation for the comparative analysis scheduled for April 28, 2025.

The sectors whose concepts are being evaluated are

- Stockpile 002 (Potentially metal leaching/acid generating waste rock, Low Risk waste rock and Tailings);
- Open pit

In general, the general design criteria established for the restoration are:

- The restoration strategy must take account of operational constraints.
- Eliminate unacceptable health risks and ensure the safety of the public.
- Ensure long-term geotechnical and geochemical stability.
- Limit the production and spread of contaminants that may affect the receiving environment and, in the long term, aim to reduce any form of maintenance and monitoring.
- Allow progressive restoration.
- Ensuring social acceptability.
- Return the site to a visually acceptable condition compatible with future use.
- Ensuring constructability.
- Minimize closure costs.

More specifically, the following criteria will constitute a NO-GO (not to be considered) in the selection of options:

- Known non-acceptance by government authorities.
- Insufficient data to allow permits to be obtained within operational constraints.

To guide the selection for the best closure options from those identified for each of these sectors, a comparative analysis will be carried out using the Sustainability + (decision-making tool), developed by AtkinsRéalis and which consists of integrating the three (3) spheres of sustainable development into the comparison of closure options (community, environment and economy) and a fourth engineering pillar for technical considerations..
In addition, the purpose of this exercise is to select the best options that will be optimized for the closure plan to be filled with the MNRF.

This informative note presents the choices for the comparison criteria of the analysis of the possible closure options considered. The review and weighing of the criteria by Innova will have to be carried out in anticipation of the working session scheduled for the comparative analysis meeting scheduled for April 28, 2025.

2. Method of Assessing Possible Closure Options

The pre-selected potential options will be compared with each other using the decision tool based on identified criteria and will help to select the one with the best potential. In this tool, criteria are developed in the three (3) spheres of sustainable development (community, environment and economy) and a fourth engineering pillar: technique. The analysis of options according to the principles of sustainable development makes it possible to make the most balanced choice possible between community, environmental and economic constraints, while not neglecting the technical feasibility of closure scenarios. The analysis also makes it possible to target the criteria where more effort is needed to make a scenario/option more acceptable.

Within each of these four (4) spheres, the criteria to be assessed are grouped into distinct categories. Each of these categories represents an important issue for each closure option. From one to eight criteria are analyzed in each category. The criteria have been chosen to limit redundancy from one category to another and thus avoid over-representation. **Table 2-1** below summarizes the categories and criteria proposed for the comparative study of the preselected potential restoration options.

Table 2-1 Categories and criteria proposed for the comparative study of the shortlisted potential closure options

Sphere	Category	Criteria
Community	Health & Safety	> Risk for workers during construction (exposure to dust, intensive trucking, etc.)
	Quality of life	>Circulation on access roads during works (also used by communities)
		> Access to area for traditional activities
	Employment	> Availability of qualified labour
		> Long-term local economic benefits for the communities
	Social acceptability	> Social acceptability of the project
		> Future land use
Environment	Materials	> Availability of required materials
		> Distance from granular material sources
		> Impact on environment (borrow pit areas to reclaim)
	Water	> Surface water quality expected after restoration
		> Expected quality of seepage water after restoration
		> Impact on the existing surface water network
	Energy	> Motorized equipment planned for works (hours*equipment/day)
		> Use of renewable energy sources
	Air	> Generation of dust during works
		> Area exposed to dust elements during works
	Biodiversity	>Type of vegetation (use of native species)

Sphere	Category	Criteria
		> Presence of threatened and vulnerable species and/or exceptional forest ecosystems near the site
Economy	Closure capital costs	> Implementation and construction of the infrastructure > Materials costs
	Maintenance and post-restoration costs	> Maintenance and monitoring costs > Type of infrastructure to be maintained over the long term.
Reliability	Technology	> Are the technologies used for this project well understood, proven and reliable? > Is the basic data used for the concept complete and reliable? > Are the planned works simple or complex (constructability)?
	Natural risks	> Is the concept vulnerable to seismic risks? (Infrastructure and foundations) > Is the concept sensitive to uncertainties related to weather and climate change (water management, permafrost, etc.)?
	Flexibility	> The concept can be easily adapted to changes in design, economic constraints, material shortages, progressive restoration, etc.
	Permits	> Government authorities are familiar with the concept and permits will be easily obtained

A score of -2, -1, 0, 1 or 2 can be assigned to each criterion. Table 2-2 below shows the scoring system for the proposed criteria, which can be quantitative, qualitative or comparative. In this analysis, the options are compared to each other, rather than against a "base case" scenario.

Table 2-2 Proposed criteria scoring

Score	Description
-2	Very bad
-1	Bad
0	Neutral
1	Good
2	Very good

The score for each criterion will be decided in collaboration with key project personnel from Innova and AtkinsRéalis at the working session scheduled for April 28, 2025. However, to increase its efficiency, AtkinsRéalis will assign a score for each criterion before the working session. During the session, each criterion will be reviewed for the potential closure options selected. Table 2-3 below illustrates how the results will be tallied.

Table 2-3 Method for calculating unweighted results

Sphere	Category	Criteria	Calculation	Result
Community	Health & Safety	C1	X1 = C1	Y1 = average of X1 to X4
	Quality of life	C2	X2 = C2	
	Employment	C3	X3 = C3	
	Social acceptability	C4	X4 = C4	
Environment	Materials	C5	X5 = C5	Y2 = average of X5 to X9
	Water	C6 C7 C8	X6 = average of C6 to C8	
	Energy	C9	X7 = C9	
	Air	C10	X8 = C10	
	Biodiversity	C11 C12	X9 = average of C11 and C12	
	Restoration capital costs	C13	X10 = average of C13 and C14	Y3 = average of X10 to X11

Sphere	Category	Criteria	Calculation	Result
Economy		C14		
	Maintenance and post-restoration costs	C15	X11 = C15	
Reliability	Technology	C16 C17	X12 = average of C16 to C17	Y4 = average of X12 to X15
	Natural risks	C18	X13 = C18	
	Flexibility	C19 C20	X14 = average of C19 to C20	
	Permits	C21	X15 = C21	

A sensitivity analysis can then be performed by applying the weighting according to the desired categories. For example, if the "Water" category is weighted as "High Priority," the score for all criteria in that category will be multiplied by 2. Therefore, if the scores of the criteria are in the positive zone (neutral to very good), the overall result will be increased by a greater value, which will favour the options that had good scores in the "Water" category. Conversely, if the scores of the criteria are in the negative zone (neutral to very poor), the overall result will be decreased by a higher value, which will penalize the option with poor scores in the "Water" category. The maximum value of the unweighted grade will be 2, while with weighted it will be 4. However, the weighing will be decided based on the priority of the Shaakichiuwaanaan project team. Weighing for the options are presented in **Table 2-4**.

Table 2-4 Weighing values

Weighing	Value
Low priority	0,5
Required	1
High priority	2

In preparation for the comparative analysis session scheduled for April 28, the Shaakichiuwaanaan project team needs to define the weighing for each category for the multicriteria analysis in **Table 2-5**.

Table 2-5 Weighing of categories to be chosen by Innova for the comparative analysis

	Category	Weighting	Rating
	COMMUNITY		
A	Health & Safety	e.g., High	2
B	Quality of life		
C	Employment		
D	Social acceptability		
	ENVIRONMENT		
E	Materials		
F	Water		
G	Energy		
H	Air		
I	Biodiversity		
	ECONOMY		
J	Restoration capital costs		
K	Maintenance and post-restoration costs		
	RELIABILITY		
L	Technology		
M	Natural risks		
N	Flexibility		
O	Permits		

The results of the comparative analysis, unweighted and weighted, will then be presented in figures and graphs in the final report on the selection of closure scenario for stockpile 002 and the open pit.

Annexe M

Plan de végétalisation (GCM Enviro, 2026a)

GCM ENVIRO SYNERGIES

L'EXPERTISE À **ÉCHELLE HUMAINE**

PLAN DE VÉGÉTALISATION– PROJET MINIER SHAAKICHIUWAANAAN

ENV0682-1502-00

Lithium Innova inc. – Baie-James

16 février 2026

Baie-James (Québec)

PLAN DE VÉGÉTALISATION

PROJET MINIER SHAAKICHIUWAANAAN

ENV0682-1502-00

No de référence GCM : 24-2164-0682

Préparé par : Marianne Côté, biol. M. Sc.
GCM Enviro Synergies

Vérifié par : Jean-Sébastien Berthelot, biol. M. Sc. Env., n^{o} ABQ : 3878
GCM Enviro Synergies

Révision	Émission	Date
00	**FINALE**	**2026.02.16**

ÉQUIPE DE RÉALISATION – GCM ENVIRO SYNERGIES

Jean-Sébastien Berthelot, biologiste, M. Sc. Env.	Chargé de discipline, révision
Marianne Côté, biologiste, M. Sc.	Rédaction et cartographie
Ariane Chalifoux, stagiaire en biologie	Rédaction
France Thibeault	Édition

ÉQUIPE DE RÉALISATION – LITHIUM INNOVA INC. – BAIE-JAMES

Cathryn Moffett	Vice-présidente – Environnement et autorisations
Andréanne Séguin	Directrice – Environnement

HISTORIQUE DES RÉVISIONS

Révision					Commentaires (raison de la révision)
Rév.	**Préparé par**	**Vérifié par**	**Date**	**Sections révisées**	
PA	M. Côté	J.-S. Berthelot	2025.12.04	–	Pour commentaires
00	M. Côté	J.-S. Berthelot	2026.02.16	2.3 et 3.1.5	Finale

Référence à citer :

GCM Enviro Synergies. 2026. Plan de végétalisation – Projet minier Shaakichiuwaanaan. ENV0682-1502-00. iii + 28 p. et annexes

TABLE DES MATIÈRES

1 Introduction 1
1.1 Mise en contexte 1
1.2 Parties prenantes impliquées 2
2 Planification de la végétalisation 3
2.1 Objectif général de végétalisation 3
2.2 Sites et Modèles de Référence 4
2.3 Zonage du site et contraintes 5
2.4 Objectifs spécifiques 7
3 Conception et mise en œuvre des travaux de végétalisation 9
3.1 Inventaire et caractérisation des matériaux 9
3.2 Élaboration du patron de végétalisation et mise en œuvre 12
3.3 Essais à différentes échelles 20
3.4 Impact de la végétation sur un système de recouvrement 21
3.5 Vérification de la qualité des travaux 23
4 Entretien, suivi et correction 24
4.1 Entretien 24
4.2 Suivi et correction 24
5 Synthèse et recommandations 26
6 Références 27

LISTE DES TABLEAUX

Tableau 2-1. Description des zones à restaurer et contraintes associées 6
Tableau 2-2. Objectifs spécifiques de végétalisation par zone 7
Tableau 3-1. Mesures d'atténuation pour chaque risque ou menace. 11
Tableau 3-2. Superficies à scarifier et coûts estimés par zone 13
Tableau 3-3. Superficie et volume des matériaux à recouvrir dans les zones ciblées 14
Tableau 3-4. Volume et masse d'amendement à appliquer par zone 15
Tableau 3-5. Composition du mélange indigène 16
Tableau 3-6. Superficies à ensemencer et morphologie du terrain par zone 17
Tableau 3-7. Espèces ligneuses retenues 18
Tableau 3-8. Stratégie de plantation d'îlots ciblés par zone 18
Tableau 3-9. Échéancier des travaux du plan de végétalisation 19
Tableau 3-10. Résumé des travaux par phase selon les zones 19
Tableau 4-1. Types d'indicateurs de suivi 24

LISTE DES ANNEXES

A. Carte du site
B. Fiches techniques des espèces sélectionnées
B1) Mélange indigène (GRAMINORD)
B2) Espèces ligneuses retenues pour la plantation d'îlots
C. Plan de suivi technique de la végétalisation par zone

1 INTRODUCTION

1.1 MISE EN CONTEXTE

Le site minier Shaakichiuwaanaan, appartenant à Ressources PMET inc. (PMET) — auparavant Métaux de batteries Patriot inc. jusqu'en septembre 2025 — et exploité par sa filiale québécoise Lithium Innova inc. (Innova), se trouve à environ 220 km à l'est de Radisson, dans la région de la Baie-James. Le projet vise l'exploitation du gisement de pegmatite à spodumène **CV5**, lequel fait l'objet d'activités d'exploration avancées et de travaux de conception en vue de son développement minier.

En vertu des articles 232.1 et 232.4 de la *Loi sur les mines*, les activités d'extraction de lithium exigent le dépôt, auprès du ministère des Ressources naturelles et des Forêts (MRNF), d'un plan de restauration accompagné d'une garantie financière couvrant les coûts anticipés des travaux. De plus, la directive d'étude d'impact (section 3.11) requiert l'intégration du plan de restauration dans l'étude d'impact environnementale et sociale (ÉIES) et sa soumission au COMEX, conformément au cadre réglementaire applicable au territoire nordique et à la Baie-James.

Le présent plan de végétalisation, élaboré dans ce contexte, constitue une composante du plan de restauration conceptuel du site Shaakichiuwaanaan. Il s'appuie sur les recommandations de l'annexe 9 du *Guide de préparation du plan de restauration des sites miniers au Québec* (MRNF, 2024), ainsi que sur le document *Synthèse sur la mise en végétation en contexte de restauration minière* (Guittonny, Cadet, & Hotton, 2022).

Bien qu'il s'agisse d'un plan final, certaines analyses et caractérisations spécifiques sont toujours en cours et leurs résultats viendront préciser certains paramètres techniques. Dans cette optique, le plan présente :

- les orientations de végétalisation retenues pour le site ;
- les approches et méthodes recommandées selon l'état actuel des connaissances ;
- les éléments d'information manquants ou à confirmer, lorsqu'applicable ;
- les spécifications de mise en œuvre prévues pour les différentes composantes à restaurer ;
- les mesures de suivi nécessaires pour assurer l'établissement durable de la végétation.

Ce plan est donc complet et conforme aux exigences réglementaires, tout en intégrant la flexibilité nécessaire à d'éventuels ajustements à la lumière des données techniques et environnementales qui seront obtenues au fil de l'avancement du projet.

1.2 PARTIES PRENANTES IMPLIQUÉES

La réussite du projet de végétalisation dépend d'une collaboration étroite avec les différentes parties prenantes, en particulier les communautés autochtones locales concernées, dont la participation est essentielle à toutes les étapes du processus.

Les ministères gouvernementaux, notamment le ministère de l'Environnement, de la Lutte contre les changements climatiques, de la Faune et des Parcs (MELCCFP), ainsi que le ministère des Ressources naturelles et des Forêts (MRNF), jouent également un rôle central pour assurer la conformité réglementaire et environnementale du projet. Des discussions spécifiques sont en cours avec ces instances concernant les modalités de végétalisation ainsi que les enjeux liés à la conservation ou à la restauration de la biodiversité locale.

La liste actuelle des parties prenantes est préliminaire et sera précisée à mesure que les échanges progresseront avec les communautés et les autorités locales. Le présent plan de végétalisation pourra être mis à jour afin de refléter les orientations, préoccupations et visions exprimées par ces parties prenantes avec le dépôt de la prochaine révision du plan de réaménagement et de restauration.

2 PLANIFICATION DE LA VÉGÉTALISATION

2.1 OBJECTIF GÉNÉRAL DE VÉGÉTALISATION

Le présent plan de végétalisation vise à réintégrer progressivement le site dans son environnement naturel en réduisant les impacts environnementaux et en favorisant la recolonisation par des espèces végétales indigènes adaptées aux conditions du domaine bioclimatique du site. L'objectif est de rapprocher le site d'un écosystème fonctionnel et durable, sans créer de contraintes d'entretien à long terme.

Ce plan permet également de guider les choix techniques en matière de type de sol, de recouvrement et de composition végétale, en cohérence avec les objectifs spécifiques par zone.

D'après le *Rapport sectoriel – Végétation et milieux humides* (WSP, 2025), la zone d'étude se situe dans le domaine bioclimatique de la pessière à lichens (sous-domaine de l'Ouest), caractérisé par la dominance de l'épinette noire (*Picea mariana*) et la présence d'un tapis de lichens. Le plan de végétalisation vise à reconstituer un écosystème de type pessière noire à lichens, représentatif des conditions naturelles régionales et adapté aux contraintes locales de sol et de climat.

L'usage futur du site correspond à une zone naturelle à vocation écologique et faunique, compatible avec la remise en état durable du territoire et la valorisation des usages traditionnels cris. Ce site restauré n'aura pas de vocation industrielle ni récréative intensive et retrouvera ses fonctions écologiques naturelles.

L'atteinte de l'état final visé est envisagée sur un horizon de 25 à 40 ans, suivant une trajectoire de succession végétale typique du milieu boréal : stabilisation des sols et colonisation par les espèces pionnières (0–5 ans), installation des communautés résineuses et arbustives boréales (5–20 ans), puis formation d'une pessière noire à lichens fonctionnelle et stable (20–40 ans).

Par ailleurs, le plan de végétalisation s'inscrit dans le cadre du *Guide de préparation du plan de réaménagement et de restauration des sites miniers au Québec* (MRNF, 2024) qui précise les objectifs suivants :

- Éliminer les risques inacceptables pour la santé et la sécurité des personnes ;
- Éliminer la production et la propagation de contaminants susceptibles d'affecter le milieu récepteur ;
- Remettre le site dans un état satisfaisant ;
- Éliminer, à long terme, toute forme d'entretien et de suivi ;
- Rendre le site compatible avec un usage futur déterminé.

2.2 SITES ET MODÈLES DE RÉFÉRENCE

Afin d'identifier les impacts du projet ainsi que dans le contexte d'une étude d'impact, Innova a mandaté WSP Canada (WSP) afin de produire un rapport sectoriel *Végétation et milieux humides* (WSP, 2025).

La zone d'étude WSP est principalement caractérisée par des milieux terrestres soit 73,1 %. Plus du tiers de la zone d'inventaire correspond à des peuplements en régénération à la suite de feux de forêt. L'aspect perturbé de ces milieux en fait de bons sites de référence. Ces milieux sont caractérisés par une strate arbustive composée principalement d'épinette noire (*Picea mariana*) et de pin gris (*Pinus banksiana*) avec un recouvrement supérieur à 10 %. On y retrouve également du bouleau glanduleux (*Betula glandulosa*), le cassandre caliculé (*Chamaedaphne calyculata*), le thé du labrador (*Rhododendron groenlandicum*) et le bleuet à feuilles étroites (*Vaccinium angustifolium).* En ce qui concerne la strate herbacée, celle-ci est de faible densité, mais on y retrouve notamment la deschampsie flexueuse (*Avenella flexuosa*), la clintonie boréale (*Clintonia borealis),* le quatre-temps (*Cornus canadensis*), le lycopode de Sitka (*Diphasiastrum sitchense*) et le maïanthème du Canada (*Maianthemum canadense* subsp. *canadense*).

En ce qui concerne les sols, les dépôts de surface dominants de ce type de peuplement sont du sable ou des horizons organiques minces sur le roc.

Les sites de référence retenus visent à représenter les conditions naturelles d'un écosystème boréal de type pessière noire à lichens, tel que défini dans le *Rapport sectoriel – Végétation et milieux humides* (WSP, 2025). Les peuplements en régénération post-feu sont considérés comme des modèles écologiques valides pour les stades initiaux de succession, tandis que les pessières matures environnantes constituent le modèle de référence final.

Certaines zones non perturbées du site minier Shaakichiuwaanaan, lorsque leur intégrité écologique est confirmée, serviront également de référence locale pour la composition du sol, la biodiversité locale et la dynamique végétale.

Des indicateurs écologiques seront utilisés pour comparer les résultats de végétalisation aux valeurs de référence, notamment :

- Recouvrement végétal total : 70–90 % à maturité ;
- Recouvrement de la strate arbustive : ≥ 10 % d'espèces caractéristiques ;
- Proportion d'espèces indigènes : > 95 % ;
- Diversité floristique : ≥ 70 % des espèces dominantes des sites de référence ;
- Épaisseur du sol organique : > 5 cm après 20 ans ;
- Taux de survie des plantations : > 80 % après 5 ans.

Conformément aux recommandations de Gann et al. (2019), plusieurs modèles séquentiels sont considérés pour refléter la succession naturelle des écosystèmes boréaux, permettant d'évaluer la progression écologique du site dans le temps.

2.3 ZONAGE DU SITE ET CONTRAINTES

Le zonage du site a été défini afin de planifier les interventions de végétalisation selon les conditions biophysiques, la nature des matériaux en surface et les contraintes environnementales présentes.

Le zonage a été établi à partir d'une analyse intégrée des conditions physiques, chimiques et biologiques du site, en considérant le type de matériau en surface, la stabilité géotechnique, la pente, la texture et la fertilité des sols, ainsi que la proximité des sources naturelles de propagules. Cette approche est conforme aux recommandations du *Guide de végétalisation des sites miniers* (Guittonny, Cadet, & Hotton, 2022) et du MRNF (2024).

Les zones ont été délimitées à partir des unités de dépôt et d'aménagement (haldes à stériles, parcs à résidus, zones de chemins, fosses, zones d'infrastructures), des observations topographiques et de la nature des substrats. Chaque zone présente des contraintes et des potentiels distincts pour la végétalisation, en fonction notamment de la compaction, de la teneur en matière organique, de la texture, du drainage et de l'exposition.

Le projet minier Shaakichiuwaanaan présente diverses zones identifiées sur la carte du site de l'Annexe A. Le Tableau 2-1 présente les caractéristiques de celles-ci.

Selon leur niveau de contrainte, les zones présentant des sols nus, des rejets grossiers ou des conditions limitantes en nutriments feront l'objet d'une approche de végétalisation active, comprenant la mise en place de substrat, l'ajout d'amendements organiques et la sélection d'espèces adaptées pour assurer une stabilisation rapide. Les zones plus stables, possédant déjà un recouvrement végétal partiel, seront traitées par une approche adaptative ou passive, favorisant la recolonisation naturelle et la connectivité écologique avec les milieux environnants.

L'ensemble du zonage vise à orienter la restauration vers des conditions écologiques similaires à celles des pessières à lichens locales décrites dans l'étude sectorielle (WSP, 2025), où l'épinette noire (*Picea mariana*) et le pin gris (*Pinus banksiana*) dominent une strate arbustive et muscinale ouverte. Chaque zone de végétalisation cherche ainsi à reproduire, selon son potentiel, la structure et la composition typiques de ces milieux boréaux.

Ce zonage constitue une base conceptuelle qui sera ajustée à la suite des caractérisations détaillées sur le terrain et des suivis de performance de la végétalisation. Ces ajustements permettront d'appliquer une gestion adaptative, en modulant les interventions selon les résultats observés et l'évolution écologique du site au fil du temps.

Tableau 2-1. Description des zones à restaurer et contraintes associées

Zone (ID)	Superficie (m²)	Superficie (ha)	Zones	Description des travaux	Contrainte potentielle
1 (Halde Mt M)	670 612	67,1	Empreinte des haldes à mort-terrain 004 et 005 Halde à minerai (HG, LG et ROM PAD) et plateforme de transfert des stériles de l'exploitation souterraine	Scarification, ensemencement hydraulique et îlot de végétalisation	Forte compaction
2 (Empreinte)	1 043 018	104,3	Empreintes activités minières (zone industrielle, chemins, lignes électriques et bâtiments) et halde à matières organiques	Scarification, recouvrement et ensemencement hydraulique	Forte compaction, fondations des bâtiments à couvrir, nécessité de recouvrir et végétaliser pour régénération rapide
3 (Stérile)	836 574	83,7	Halde à stériles 001	Amendement, ensemencement hydraulique et îlot de végétalisation	Forte compaction, faible fertilité, pentes instables, risques d'érosion
4 (Co-disposition)	2 318 593	231,9	Halde de co-disposition 002	Gestion des sols (recouvrement), amendement et ensemencement hydraulique	Risques de lixiviation et besoin de gestion spécifique (minimum de racine)
5 (Bassins)	448 327	44,8	Bassins de la filière de traitement des eaux (4 bassins) et de collecte du secteur industriel (2 bassins) Bassins de collecte du secteur de la halde à stériles 001 (2 bassins) et bassins de collecte du secteur de la halde de co-disposition 002 (2 bassins)	Ensemencement hydraulique	Pente et sol instable
Total	**5 331 412**	**533,1**	-	-	-

À noter que le site minier est encore en phase conceptuelle. Des analyses de terrain détaillées seront nécessaires avant la fermeture de la mine pour confirmer les zones et ajuster les contraintes et la description des travaux en fonction de ces contraintes.

2.4 OBJECTIFS SPÉCIFIQUES

Les objectifs spécifiques de végétalisation traduisent les intentions générales du projet en cibles mesurables et opérationnelles, adaptées aux conditions du site et à chacune des zones définies.

Ils visent à assurer la stabilité des sols, à rétablir des fonctions écologiques durables et à favoriser la recolonisation par des espèces végétales indigènes adaptées au climat boréal.

Les objectifs spécifiques sont définis en fonction des trois attributs écosystémiques de la restauration écologique : la composition (diversité et origine des espèces végétales), la structure (strates végétales et densité de recouvrement) et la fonction (stabilisation des sols, rétention hydrique, dynamique naturelle). Ces principes s'appuient sur les recommandations de Cooke et Johnson (2002)et de Gann et al. (2019).

Tableau 2-2. Objectifs spécifiques de végétalisation par zone

Zone (ID)	Objectifs spécifiques	
	Biologiques/écologiques	Physiques/fonctionnels
1 (Halde Mt M)	• Atteindre une couverture végétale de ≥ 75 % en 5 ans. • Réintroduire des espèces végétales indigènes, en mettant l'accent sur la biodiversité. • Assurer la pérennité des espèces plantées.	• Stabiliser les sols. • Réduire l'érosion superficielle. • Réduire l'impact sur la qualité de l'eau.
2 (Empreinte)	• Atteindre une couverture végétale de ≥ 75 % en 5 ans. • Assurer la pérennité des espèces plantées.	• Améliorer la fertilité du sol.
3 (Stérile)	• Atteindre une couverture végétale de ≥ 75 % en 5 ans. • Réintroduire des espèces végétales indigènes, en mettant l'accent sur la biodiversité. • Assurer la pérennité des espèces plantées.	• Stabiliser les sols, en particulier les pentes. • Réduire le ruissellement et l'érosion superficielle. • Améliorer la structure et la fertilité du sol. • Réduire l'impact sur la qualité de l'eau.
4 (Co-disposition)	• Atteindre une couverture végétale de ≥ 75 % en 5 ans. • Assurer la pérennité des espèces plantées.	• Maintenir l'intégrité de la barrière à l'eau et à l'oxygène, éviter la pénétration racinaire profonde. • Réduire le ruissellement et l'érosion superficielle. • Réduire l'impact sur la qualité de l'eau.
5 (Bassins)	• Atteindre une couverture végétale de ≥ 75 % en 5 ans. • Assurer la pérennité des espèces plantées.	• Stabiliser les sols, en particulier les pentes.

À noter que le site minier est encore en phase conceptuelle. Des analyses de terrain détaillées seront nécessaires avant la fermeture de la mine pour confirmer que les objectifs spécifiques des zones restent pertinents.

Les cibles sont envisagées selon les trois horizons temporels décrits ci-après.

- **Court terme (1 à 3 ans)** : stabilisation physique des surfaces et contrôle de l'érosion ;
- **Moyen terme (3 à 5 ans)** : établissement d'une couverture végétale stable (> 75 %) et d'un enracinement fonctionnel ;
- **Long terme (5 à 10 ans)** : développement d'un couvert végétal auto-entretenu et d'une composition floristique représentative des pessières boréales locales.

Le suivi de l'atteinte des objectifs reposera sur des indicateurs mesurables, notamment :

- le taux de recouvrement végétal global et par strate ;
- la richesse spécifique et la proportion d'espèces indigènes ;
- la stabilité physique des sols (érosion, affaissement) ;
- la reprise des fonctions hydriques et biologiques du sol.

Ces indicateurs permettront d'évaluer la progression vers les valeurs cibles définies à partir des sites de référence (section 2.2) et de mesurer le succès écologique du projet.

Les résultats des suivis serviront à ajuster les méthodes de végétalisation au besoin, conformément à une approche de gestion adaptative. Cette approche vise à garantir que les trajectoires de restauration demeurent cohérentes avec l'écosystème boréal de référence et avec les objectifs de durabilité à long terme du plan de réaménagement.

3 CONCEPTION ET MISE EN ŒUVRE DES TRAVAUX DE VÉGÉTALISATION

3.1 INVENTAIRE ET CARACTÉRISATION DES MATÉRIAUX

L'inventaire et la caractérisation des matériaux constituent une étape essentielle dans la planification de la végétalisation. Cette section présente les matériaux envisagés pour la mise en végétation du site minier Shaakichiuwaanaan, les hypothèses sur leur provenance, leur gestion et les mesures d'atténuation prévues, en se basant sur les informations disponibles à ce stade du projet.

3.1.1 MATÉRIAUX ENVISAGÉS POUR LA VÉGÉTALISATION

À ce stade conceptuel, les volumes précis des matériaux disponibles n'ont pas encore été calculés. Les hypothèses retenues sont présentées ci-après.

- **Sols et matériaux provenant du site**

  Les principaux matériaux destinés à la végétalisation proviendront du site lui-même, notamment :

  - **Stériles miniers** provenant de la halde à stériles 001 ;
  - **Dépôts meubles** décapés sur les zones d'exploitation et entreposés aux haldes à mort-terrain 004 et 005 ;
  - **Infrastructures démantelées**, telles que digues, plateformes ou bassins, pouvant fournir du matériel meuble adapté.

- **Matériaux externes**

  - **Sable** provenant d'une sablière locale externe, utilisé comme composant de substrat pour améliorer la texture et le drainage des sols dégradés.

- **Amendements organiques et fertilisants**

  - Des **apports organiques** tels que du compost issu de matières végétales locales (terre végétale et débris ligneux issus du déboisement, entreposés dans la halde à matières organiques) ou de déchets organiques seront envisagés.
  - Des mesures d'innovation et solutions locales pourront être testées, par exemple l'utilisation de matières organiques disponibles sur site (tourbières excédentaires ou biomasse forestière) pour améliorer la matière organique des sols.

- **Matériel végétal**

  - Des graines et plants indigènes locaux, compatibles avec le climat rigoureux de la Baie-James, seront utilisés pour la végétalisation des zones restaurées.

3.1.2 HYPOTHÈSES SUR LA DISPONIBILITÉ ET CARACTÉRISTIQUES DES MATÉRIAUX

Type de matériau	Provenance envisagée	Commentaires
Sols meubles / terre végétale	Haldes à mort-terrain, haldes à matières organiques, infrastructures démantelées	Caractéristiques exactes (pH, texture, fertilité, MO) à confirmer dans les phases ultérieures
Stériles miniers	Haldes à stériles et co-disposition	Nécessite un traitement (reprofilage, amendement) avant végétalisation
Sable	Sablière externe	Utilisé pour améliorer le drainage et la structure du substrat
Amendements organiques	Halde à matières organiques Déchets domestiques locaux	Les quantités présentes sur la halde à matières organiques sont encore à confirmer. Du compost des déchets domestiques pourrait être également utilisé. Voir la section 3.2.2.3 pour plus d'information.
Matériel végétal	Graines et plants indigènes	Provenance locale ; sélection adaptée au climat et aux contraintes des sols

3.1.3 CONDITIONS D'ENTREPOSAGE ET GESTION

Dans l'état conceptuel actuel, la majorité des matériaux destinés à la restauration proviendront des zones d'entreposage utilisées durant l'exploitation minière. Ces zones seront maintenues en place jusqu'à ce que les matériaux nécessaires soient mobilisés pour les travaux de restauration.

Toutefois, des volumes limités de matériaux provenant des haldes ou des zones de décapage pourraient être entreposés temporairement à proximité des secteurs d'intervention, lorsque cela permet d'optimiser l'avancement des travaux.

De plus, un espace d'entreposage temporaire sera aménagé pour les matériaux externes au site, notamment ceux requis comme compléments de substrat ou amendements.

Les principes généraux suivants guideront l'entreposage et la gestion de ces matériaux :

- **Entreposage temporaire sur des surfaces stables et bien drainées** afin de limiter l'érosion, la compaction et les pertes de matière ;
- **Protection des matériaux sensibles** par un recouvrement temporaire ou le maintien d'une végétation pionnière lorsque nécessaire ;
- **Séparation des matériaux selon leur nature**, afin d'éviter les mélanges indésirables et de faciliter leur réutilisation ciblée ;
- **Suivi ponctuel de la qualité des matériaux entreposés**, incluant des vérifications de paramètres tels que le pH, la texture ou la teneur organique, avec mesures correctives au besoin avant leur utilisation.

3.1.4 RESSOURCES ET LOGISTIQUE

Les ressources disponibles pour la végétalisation à ce stade conceptuel comprennent :

- Machinerie pour scarification, transport et mise en place des matériaux ;
- Main-d'œuvre pour la manipulation et la préparation des sols ;
- Capacités logistiques pour le transport des matériaux externes (sable) et l'entreposage temporaire ;
- Budget et planification des approvisionnements à préciser dans les phases suivantes.

3.1.5 RISQUES ET MESURES D'ATTÉNUATION

Les principales menaces pour le succès de la végétalisation identifiées à ce stade sont détaillées au Tableau 3-1.

Tableau 3-1. Mesures d'atténuation pour chaque risque ou menace.

Risque / menace	Mesures d'atténuation prévues
Herbivores	Protection temporaire par clôtures ou barrières mécaniques
Perturbations climatiques (vents, gel, sécheresse)	Choix d'espèces résistantes, utilisation de paillis et amendements organiques
Érosion et lessivage	Reprofilage des sols, hydroensemencement, installation de drains temporaires
Dégradation de sols stockés	Recouvrement temporaire, suivi de la qualité, incorporation d'amendements
Espèces envahissantes	Contrôle strict des semences, suivi écologique régulier
Feux de forêt	Sélection d'espèces tolérantes au feu, maintien de zones coupe-feu, gestion de la biomasse sèche et surveillance accrue en période à risque

3.1.6 PROCHAINES ÉTAPES

- **Quantification précise des matériaux** disponibles sur le site ;
- **Caractérisation physico-chimique** des sols, stériles et amendements ;
- **Test de solutions innovantes** pour l'utilisation de biomasse et matière organique locale (compost, MO tourbière) ;
- **Validation expérimentale** des mélanges de substrats et méthodes d'entreposage avant application à grande échelle ;
- **Planification détaillée** des ressources, logistique et suivi environnemental.

3.2 ÉLABORATION DU PATRON DE VÉGÉTALISATION ET MISE EN ŒUVRE

L'élaboration du patron de végétalisation planifie les traitements nécessaires pour permettre aux sols et aux communautés végétales d'atteindre les valeurs cibles établies à l'étape 4 du processus de restauration. Ces traitements doivent être choisis de manière à améliorer les propriétés physiques (ex. scarification, restructuration, apport de matériaux granulaires), chimiques (ex. amendements organiques, fertilisation ciblée) et biologiques (ex. inoculation, plantes-abris, semences indigènes) des matériaux supports caractérisés à l'étape 5.

Le patron précise également :

- l'épaisseur des matériaux de support à appliquer selon les zones ;
- les espèces à privilégier selon les objectifs écologiques ;
- le choix du matériel végétal (graines, transplants, semis) ;
- les modalités de mise en place (hydroensemencement, semis direct, plantation) ;
- la séquence optimale des travaux dans le temps et dans l'espace, afin de maximiser l'implantation des espèces et minimiser les risques d'érosion, de dessiccation ou de pertes de semences.

3.2.1 RÉSUMÉ DES DIFFÉRENTES PHASES SUGGÉRÉES

La mise en œuvre du patron de végétalisation est structurée en trois phases principales, avec une phase corrective optionnelle. Chaque phase est appliquée zone par zone afin de respecter les particularités géomorphologiques, écologiques et opérationnelles du site.

Phase 1 — Préparation initiale

- Ramassage des déchets et sécurisation du site.
- Mise en place ou réfection des matériaux de recouvrement lorsque requis (argile, dépôts meubles, géotextile, géomembrane).
- Reprofilage localisé pour assurer la stabilité et le drainage adéquat.

Phase 2 — Amélioration des sols et mise en végétation herbacée

- Travaux de préparation du sol (scarification superficielle ou restructuration selon les zones).
- Application des amendements organiques, lorsque nécessaires (ex. fumier granulé).
- Ensemencement de la plante-abri afin d'améliorer la microstructure du sol, réduire l'érosion et faciliter l'installation des espèces cibles.
- Hydroensemencement du mélange de semences indigènes.

Phase 3 — Implantation ligneuse en îlots

- Plantation d'arbres et arbustes autochtones dans des îlots ciblés, lorsque compatible avec les objectifs écologiques et les conditions du substrat.
- Mise en place d'îlots de 50 à 100 m² favorisant la colonisation forestière progressive.

Phase 4 — Travaux correctifs (au besoin)

- Réensemencements localisés ;
- Plantation additionnelle ;
- Contrôle de la compétition ;
- Ajustements selon les résultats des suivis.

Finalement, des suivis agronomiques annuels avec un rapport d'un agronome confirmant la reprise végétale sont requis.

3.2.2 AMÉLIORATION DES SOLS

L'amélioration des sols comprend plusieurs techniques visant à optimiser les propriétés physiques, chimiques et biologiques des matériaux de support, conformément aux recommandations de l'étape 6 du guide (MRNF, 2024). Les interventions varient selon les zones, en fonction de la profondeur de recouvrement, du risque de lixiviation, de la compaction ou de la présence de résidus miniers actifs.

3.2.2.1 TRAVAUX DE PRÉPARATION DE SOL

Avant l'ensemencement, une scarification superficielle du sol sera réalisée à l'aide d'une herse à maillage flexible, choisie en fonction des conditions particulières du terrain. Cette intervention est essentielle dans le contexte de faibles épaisseurs de recouvrement et de compaction hétérogène.

La scarification vise à briser la croûte de surface dans les zones de forte compaction afin de créer des microsites favorables à la germination. L'opération sera effectuée perpendiculairement à la pente, lorsque pertinente, afin de limiter la formation de sillons orientés dans le sens de la pente, ce qui réduira les risques de ruissellement des semences vers le bas du terrain en cas de précipitations.

Le Tableau 3-2 présente les superficies par zone nécessitant une préparation de sol, ainsi que les coûts estimés associés à ces travaux.

Tableau 3-2. Superficies à scarifier et coûts estimés par zone

Zone	Superficie (m^2)
1 (Halde Mt M)	677 000
2 (Empreinte)	1 790 000
Total (m^2)	**2 467 000**

3.2.2.2 RECOUVREMENT DE MATÉRIAUX

Les travaux de recouvrement ont pour objectifs la stabilisation, la réduction de la migration des contaminants, l'amélioration de la capacité de rétention en eau et la création d'un substrat propice à l'établissement de la végétation. Ces travaux seront adaptés en fonction des caractéristiques des zones.

Pour les zones 1 (Halde Mt M) et 5 (Bassins), aucun recouvrement n'est requis.

Sur la zone 2 (Empreinte), une couche de dépôt meuble de 150 mm sera ajoutée sur l'empreinte des bâtiments, plus précisément sur les fondations de béton brisées.

Sur la zone 3 (Stérile), une couche de dépôts meubles de 200 mm sera étendue sur la halde à stérile afin de restaurer une couverture naturelle et de favoriser l'établissement de la végétation.

Pour la zone 4 (Co-disposition), considérant le potentiel générateur acide et de lixiviation des matériaux de la halde, une intervention plus complexe est envisagée. Elle comprend un recouvrement technique multimatrice : une couche de 1,5 m d'argile, suivie d'une couche de sable de protection, puis l'installation d'une géomembrane HDPE, de géotextile et, finalement, d'une couche d'enrochement. Cette composition vise à isoler les résidus, prévenir la lixiviation et offrir un support stable à la végétalisation.

Pour le moment, il s'agit des seules zones où l'ajout de matériaux est envisagé, mais cela devra être réévalué avant la fermeture.

Le Tableau 3-3 présente un résumé du type de matériau à appliquer selon les zones ainsi que leur volume.

Tableau 3-3. Superficie et volume des matériaux à recouvrir dans les zones ciblées

Zone (ID)	Type	Épaisseur (m)	Volume (m^3)
2 (Empreinte)	Dépôts meubles	0,15	268 500
3 (Stérile)	Dépôts meubles	0,30	278 000
4 (Co-disposition)	Sable + géomembrane + géotextile et sable	0,35	861 000
Total	-	-	**1 407 500**

3.2.2.3 AMENDEMENT

Afin d'améliorer la qualité des sols et de favoriser l'établissement de la végétation, l'ajout d'une couche de matière organique est recommandé dans certaines zones du site avant l'ensemencement. Plus précisément, une couche de 200 mm de matière organique devra être appliquée sur les superficies ciblées des zones 3 (Stérile) et 4 (Co-disposition).

Le matériau principal proposé pour l'amendement est un mélange de mort-terrains provenant du site, combiné à du compost produit à partir des débris ligneux issus du déboisement ainsi que des boues sanitaires et restants de cuisine. Ce mélange vise à restituer de la matière organique et à améliorer la fertilité et la structure du sol.

Un fumier de poule granulaire pourra être utilisé **en complément**, si la quantité de matière organique disponible sur le site est insuffisante ou si un apport supplémentaire est nécessaire pour atteindre les niveaux de fertilité requis. Dans ce cas, il sera appliqué à un taux recommandé de 1 000 kg/ha (soit 0,1 kg/m^2). La quantité de fumier à se procurer ainsi que sa nécessité devront être confirmées dans les plans subséquents, lorsque la caractérisation des matériaux organiques du site et la confirmation de leur disponibilité auront été réalisées.

Le Tableau 3-4 présente les volumes estimés de matière organique à appliquer et la masse de fumier requise, selon le taux d'application prévu.

Tableau 3-4. Volume et masse d'amendement à appliquer par zone

Zone (ID)	Épaisseur (m)	Volume à appliquer (m^3)	Masse de fumier requise (kg)
3 (Stérile)	0,20	167 315	16 731,5
4 (Co-disposition)	0,20	463 719	46 371,9
Total	-	**631 034**	**63 103,4**

3.2.3 VÉGÉTALISATION

La stratégie de végétalisation vise à rétablir une couverture végétale durable et fonctionnelle sur l'ensemble du site, en favorisant l'établissement d'espèces végétales indigènes vivaces adaptées aux conditions écologiques locales du climat boréal. Ce choix permet de restaurer les caractéristiques naturelles du milieu, tout en assurant la résilience de la végétation aux stress environnementaux, incluant les changements climatiques.

La végétalisation s'effectuera selon deux modalités :

- Hydroensemencement à l'aide d'un mélange agronomique de semences herbacées adaptées sur la majorité des superficies du site ;
- Plantation manuelle de semis dans des îlots ciblés, incluant des espèces d'arbres et d'arbustes récoltées ou cultivées localement, pour renforcer l'établissement ligneux.

Cette combinaison permet une restauration progressive, mais efficace, en créant des noyaux de végétation forestière à partir desquels la colonisation naturelle pourra s'étendre.

Selon le rapport sectoriel *Végétation et milieux humides* (WSP, 2025), environ 80,2 % de la zone d'étude est constituée de végétation terrestre, dominée par des peuplements de forêts résineuses (44,4 %) et de peuplements en régénération post-feu (34,3 %). En revanche, les landes à lichens, les arbustaies, les boisés mixtes ou feuillus, ainsi que les affleurements rocheux (0,001 %) sont peu représentés.

Dans cette optique, la composition de la végétalisation post-fermeture vise à refléter cette distribution écologique, en recréant un paysage similaire à celui qui caractérisait le site avant l'exploitation. La composition des mélanges végétaux et des essences forestières a été établie en cohérence avec cette distribution écologique, afin de recréer un paysage cohérent avec le contexte naturel de la région.

3.2.3.1 PLANTE-ABRI

Les plantes-abris sont des graminées annuelles semées en même temps que les espèces vivaces afin de stabiliser rapidement le sol, de limiter l'érosion et de favoriser l'établissement des autres espèces végétales du mélange (MAPAQ, 2024).

Dans le cadre du présent projet, l'Élyme du Canada (*Elymus canadensis*) a été choisi comme plante-abri. Il s'agit d'une espèce indigène vivace à courte vie, présentant une croissance rapide et disparaissant au bout de quelques années. Le taux dépend de la période d'hydroensemencement, allant de 2 g/m^2 au printemps à 4 g/m^2 à l'automne.

Il est suggéré que des cellules expérimentales soient réalisées sur le site afin de valider l'efficacité de cette plante dans le contexte de la végétalisation sur le site. D'autres plantes non indigènes, mais adaptées aux conditions du nord du Québec, pourraient également être employées dans le cas où cette plante rencontrerait des problèmes selon les caractéristiques des zones du site.

3.2.3.2 ENSEMENCEMENT DU MÉLANGE INDIGÈNE

Afin d'assurer une couverture végétale rapide et de limiter l'érosion des sols, un ensemencement hydraulique de semences indigènes est prévu dans l'ensemble des zones à restaurer. Un mélange herbacé indigène a été élaboré dans l'objectif de refléter les communautés végétales pré-existantes et de favoriser une succession écologique naturelle, conformément aux recommandations (Ceccon, González, & Martorell, 2016; Barr, Jonas, & Paschke, 2017).

Considérant que le projet est encore en phase de préfaisabilité et que la caractérisation des matériaux n'est pas encore complétée, un mélange commercial a été sélectionné pour le présent plan. Ce mélange est adapté aux zones de rusticité zéro, au plein soleil ou à la mi-ombre, et comprend des espèces tolérant à la fois des conditions fraîches et humides et des conditions plus sèches, permettant ainsi une meilleure adaptation aux variations d'humidité du site.

Ce mélange devra être réévalué une fois que les caractéristiques du sol seront connues, et certaines espèces pourraient être ajustées selon la disponibilité commerciale. Des expérimentations en cellules pourraient également être réalisées afin de confirmer la viabilité du mélange dans les conditions spécifiques du site et, si nécessaire, d'identifier les ajustements requis pour assurer la germination et la survie des semences dans les différentes zones.

Le taux d'application prévu pour le mélange herbacé est de 108 kg/ha, soit 10,8 g/m². Le Tableau 3-5 présente la composition de chacun des mélanges, exprimée en pourcentage massique.

Tableau 3-5. Composition du mélange indigène

Espèces herbacées (108 kg/ha)			**Pourcentage massique (%)**
Nom français	Nom latin	Autochtone	
Agrostide scabre	*Agrostis scabra*	Oui	**1,00**
Beckmannie à écailles unies	*Beckmannia syzigachne*	Oui	**20,00**
Brome cilié	*Bromus ciliatus*	Oui	**20,00**
Carex vulpinoïde	*Carex vulpinoidea*	Oui	**1,20**
Deschampsie cespiteuse	*Deschampsia cespitosa*	Oui	**10,00**
Élyme à chaumes rudes	*Elymus trachycaulus*	Oui	**35,00**
Pâturin alpin	*Poa alpina*	Oui	**4,50**
Pâturin des marais	*Poa palustris*	Oui	**2,50**
Pâturin des prés	*Poa pratensis*	Oui	**3,50**
Trisète à épi	*Koaleria spicata*	Oui	**2,00**
Quenouilles à feuilles larges	*Typha latifolia*	Oui	**0,30**
		Total	100

Les fiches techniques des espèces sélectionnées se retrouvent à l'Annexe B. La viabilité du mélange sur le site devra être évaluée lors des essais à différentes échelles (section 3.3).

Le mélange d'espèces herbacées est appliqué sur l'ensemble des zones, en proportion des superficies à restaurer. Le Tableau 3-6 présente les superficies prévues pour chaque zone, leur morphologie (terrain plat ou en pente), ainsi que l'estimation des coûts associés à l'ensemencement hydraulique.

Tableau 3-6. Superficies à ensemencer et morphologie du terrain par zone

Zone (ID)	Superficie (m^2)	Forme du terrain
1 (Halde Mt M)	677 000	**Plat**
2 (Empreinte)	1 790 000	**Plat**
3 (Stérile)	927 000	**Pente**
4 (Co-disposition)	2 461 000	**Pente**
5 (Bassins)	531 000	**Plat**
Total	**6 386 000**	**-**

3.2.3.3 PLANTATION D'ÎLOTS CIBLÉS

En complément de l'hydroensemencement herbacé, des îlots de plantation ligneuse seront aménagés dans des secteurs ciblés. Cette approche vise à recréer une structure végétale stratifiée en accélérant l'établissement des strates arbustive et arborée. Les îlots agiront comme noyaux de régénération, favorisant la dispersion des propagules à plus long terme.

La sélection des essences repose sur les résultats des inventaires réalisés en 2023–2024, qui montrent une très forte dominance régionale de l'épinette noire ainsi que la présence fréquente de pin gris, et de manière plus ponctuelle, de bouleau à papier dans les milieux terrestres. Ces espèces structurent la majorité des groupements inventoriés — notamment les pessières à mousses (43 milieux), les pessières à lichens (33 milieux), les pinèdes grises (8 milieux) et certaines régénérations forestières. Elles sont également adaptées aux sols sableux à drainage variable, qui caractérisent la plupart des sites du projet.

Les essences utilisées proviendront préférablement de semences ou de semis cultivés localement, afin d'assurer leur adaptation aux conditions climatiques du Nord-du-Québec et de limiter les risques associés à l'introduction de matériel génétiquement inadapté.

Le Tableau 3-7 présente les essences retenues ainsi que leur proportion respective dans le mélange de plantation. La superficie moyenne de chaque îlot sera comprise entre 50 et 100 m², avec une densité de plantation variant entre 1,5 m et 2,0 m entre les semis. Cela correspond à environ 150 à 300 plants par îlot, selon la taille et la configuration du terrain.

La sélection actuelle des plantes ligneuses s'appuie sur la caractérisation écologique du site ; cependant, à la suite d'échanges avec les parties prenantes, les îlots pourraient être adaptés pour intégrer des espèces d'intérêt communautaire (ex. plantes alimentaires, médicinales ou culturelles). Une telle bonification nécessiterait une analyse plus fine des sols et du drainage afin d'assurer l'adéquation écologique avec les îlots ciblés.

Tableau 3-7. Espèces ligneuses retenues

Espèces ligneuses			Pourcentage de présence (%)
Nom français	Nom latin	Autochtone	
Épinette noire	*Picea mariana*	Oui	40
Pin gris	*Pinus banksiana*	Oui	35
Bouleau à papier	*Betula papyrifera*	Oui	25
		Total	100

Les fiches techniques des espèces sélectionnées se retrouvent à l'Annexe B.

Le Tableau 3-8 détaille la stratégie d'implantation des îlots ligneux selon les zones de végétalisation identifiées, en précisant la superficie totale estimée des îlots planifiés pour chaque secteur. Ce calcul repose sur l'hypothèse que les îlots occuperont environ 10 % de la superficie des zones où cette approche est jugée pertinente. Cette proportion demeure indicative et pourra être réévaluée en fonction des conditions observées lors de la mise en œuvre des travaux de restauration.

Tableau 3-8. Stratégie de plantation d'îlots ciblés par zone

Zone (ID)	Superficie (m^2)	Pertinence pour îlots	Recommandations spécifiques
1 (Halde Mt M)	677 000	Oui	Créer environ 65 000 m^2 d'îlots dans les zones les moins compactées.
2 (Empreinte)	1 790 000	Non	Non recommandé (compaction, infrastructures résiduelles).
3 (Stérile)	927 000	Oui	Créer environ 90 000 m^2 d'îlots sur les replats. Stabilisation des talus par enracinement profond.
4 (Co-disposition)	2 461 000	Non	Non recommandé (lixiviation, gestion fine des racines).
5 (Bassins)	531 000	Non	Non recommandé (zones humides, instabilité).
Total	**6 386 000**	-	-

3.2.3.4 PLANIFICATION DES TRAVAUX

L'échéancier détaillé des travaux sera précisé au moment de la fermeture, en fonction des conditions spécifiques du site et des disponibilités logistiques. Il est toutefois recommandé d'exécuter les phases 1 et 2 au printemps de la première année de restauration, suivies de la phase 3 à l'été de la même année. Un suivi de l'établissement de la végétation doit être réalisé à l'automne, afin d'évaluer le succès de l'implantation et d'ajuster les interventions subséquentes au besoin.

Selon les résultats de ce premier suivi, la phase 4 pourrait être planifiée pour le printemps ou l'été de l'année suivante, si des ajustements ou des travaux correctifs sont requis. Par ailleurs, un suivi agronomique annuel est recommandé pour les cinq premières années suivant la restauration, afin de documenter l'évolution de la végétation et de détecter d'éventuelles problématiques.

Le Tableau 3-9 présente un aperçu général de l'échéancier proposé des interventions selon les différentes phases.

Tableau 3-9. Échéancier des travaux du plan de végétalisation

Travaux	Période
Phase 1	Printemps - Année 1 de restauration
Phase 2	Printemps - Année 1 de restauration
Phase 3	Été - Année 1 de restauration
Suivi de l'établissement	Automne - Année 1 de restauration
Phase 4 *si nécessaire	Printemps/été - Année 2 de restauration
Suivi agronomique	Années 1 à 5 post-restauration

Le Tableau 3-10 présente les travaux de végétalisation prévus par zone et par phase, en précisant les interventions spécifiques à chaque étape. Une vocation fonctionnelle a été attribuée à chaque zone en fonction des objectifs de restauration, de son positionnement spatial sur le site minier et de son potentiel d'intégration dans l'écosystème.

Tableau 3-10. Résumé des travaux par phase selon les zones

Zone (ID)	Phase	Travaux	Vocation
1 (Halde Mt M)	1	Ramassage de déchets	**Biodiversité – Herbacée et arborescente et Habitat petite faune**
	2	Ensemencement de la plante-abri	
	2	Préparation du sol par la herse	
	2	Ensemencement du mélange herbacé	
	3	Plantation de semis dans des îlots ciblés	
2 (Empreinte)	1	Ramassage de déchets/bennes et clôture	**Zone tampon faunique**
	1	Recouvrement de dépôts meubles des fondations	
	2	Ensemencement de la plante-abri	
	2	Ensemencement du mélange herbacé	
3 (Stérile)	1	Ramassage de déchets	**Stabilisation des sols et biodiversité – Herbacée et arborescente**
	1	Reprofilage et recouvrement d'argile	
	2	Application de l'amendement	
	2	Ensemencement de la plante-abri	
	2	Préparation du sol par la herse	
	2	Ensemencement du mélange herbacé	
	3	Plantation de semis dans des îlots ciblés	
4 (Co-disposition)	1	Ramassage de déchets	**Prairie ouverte (pollinisateurs)**
	1	Gestion des sols (recouvrement)	
	2	Application de l'amendement	
	2	Ensemencement de la plante-abri	
	2	Préparation du sol par la herse	
	2	Ensemencement du mélange herbacé	
5 (Bassins)	1	Ramassage de déchets	**Végétation de transition**
	2	Ensemencement de la plante-abri	
	2	**Ensemencement du mélange herbacé**	

3.3 ESSAIS À DIFFÉRENTES ÉCHELLES

Avant l'application du patron de végétalisation à grande échelle, il est recommandé de procéder à une validation expérimentale par des essais réalisés à différentes échelles. Cette étape vise à adapter les traitements aux conditions spécifiques du site, particulièrement lorsque les connaissances sur les contraintes édaphiques ou écologiques sont limitées. Des essais seront donc menés à petite échelle avant la fermeture, d'abord en conditions contrôlées, puis en milieu réel (in situ). Ces essais permettront d'évaluer la germination des semences, l'efficacité de la plante-abri, la compatibilité des espèces indigènes entre elles, la survie des plants ligneux ainsi que la réaction des sols à l'application d'amendements. Cette démarche vise à optimiser les résultats et les coûts, en permettant d'ajuster le patron de végétalisation final en fonction des observations issues des essais préliminaires. Des projets de recherche additionnels, incluant la transplantation expérimentale de lichens, pourraient être menés en collaboration avec des partenaires académiques. Leur conception devra répondre aux cadres réglementaires (Gann et al., 2019) et les avancements de tels projets seront communiqués aux parties prenantes.

3.3.1 PROJETS DE RECHERCHE : UTILISATION DE LICHEN

La caractérisation du site de WSP (2025) indique la présence de lichens sur le site, avec la présence de pressière à lichen et de lande de lichens. La présence de landes et pessières à lichen témoigne d'une niche écologique importante.

Bien que plusieurs recherches aient démontré la faisabilité de la transplantation, de l'ensemencement ou de la dispersion assistée de lichens, ces approches demeurent peu appliquées dans un contexte de restauration minière. Les travaux de Duncan (2011) et Kong (2022) montrent que les Cladonia nordiques présentent une croissance lente et une forte dépendance au microclimat, tandis que Rapai (2017) a démontré que la transplantation de fragments ou de tapis stabilisés peut réussir sous conditions favorables. Les études montrent que des micro-organismes comme les mousses, les lichens et les cyanobactéries peuvent contribuer à stabiliser les sols miniers. Leur présence aide à réduire l'érosion et à améliorer graduellement la qualité du substrat (Ficko, 2022 ; Poudel, 2022). Ce potentiel est encore plus intéressant lorsqu'on utilise des bryophytes locales, c'est-à-dire des espèces de mousses déjà adaptées aux conditions de la région (Campeau, 2010). Plus récemment, certaines recherches indiquent même qu'il serait possible de cultiver en laboratoire des composantes des lichens afin de produire des fragments plus résistants, qui pourraient ensuite être utilisés pour soutenir la revégétalisation des sites miniers (Qiao, 2025).

Toutefois, puisqu'il n'existe pas encore d'inventaire détaillé des lichens présents sur le site, il est difficile d'estimer précisément leur disponibilité ou de confirmer quelles espèces seraient adaptées pour être transplantées. Dans ce contexte, et conformément aux attentes du MRNF, des projets pilotes apparaissent nécessaires pour valider la pertinence de ces approches sur le site.

Ceux-ci pourraient viser à :

- vérifier si la transplantation de colonies locales est réalisable ;
- mesurer dans quelle mesure les lichens, les mousses et d'autres micro-organismes contribuent à stabiliser les sols miniers ;
- mieux comprendre leur rôle dans la biodiversité présente après la restauration.

Ces essais permettraient de réduire les incertitudes actuelles et d'évaluer le véritable potentiel des lichens comme outil de restauration écologique dans les conditions nordiques du site.

3.4 IMPACT DE LA VÉGÉTATION SUR UN SYSTÈME DE RECOUVREMENT

La mise en végétation des zones restaurées a été réalisée en considérant les effets potentiels de la végétation sur les systèmes de recouvrement à long terme. Comme le soulignent plusieurs synthèses (Fourie & Tibbett, 2007; MEND Program, 2014; Bussière, Guittonny, & Wilson, Guide de bonnes pratiques en restauration minière dans un contexte de changements climatiques, 2022; Bussière & Guittonny, Restauration des sites miniers : concepts et bonnes pratiques, 2021), la végétation contribue positivement à la stabilisation écologique et physique des surfaces, mais elle peut également compromettre certaines fonctions techniques des recouvrements si elle n'est pas adéquatement considérée dès la conception.

3.4.1 EFFETS GÉNÉRAUX DE LA VÉGÉTATION SUR LES RECOUVREMENTS

L'établissement de mélanges herbacés indigènes par hydroensemencement et la plantation ponctuelle de ligneux en îlots ciblés ont été retenus comme approche principale. Ces couverts végétaux visent à stabiliser les pentes, réduire l'érosion et influencer le bilan hydrique par évapotranspiration — un effet particulièrement pertinent dans les systèmes de type stockage-relargage.

Toutefois, la littérature montre que l'enracinement profond des espèces ligneuses peut créer des macrospores augmentant la conductivité hydraulique, favoriser l'infiltration et accroître la diffusion d'oxygène dans les couches sensibles (Jackson & al., 1996; Schenk & Jackson, 2002; Bussière & Guittonny, Restauration des sites miniers : concepts et bonnes pratiques, 2021). Ces processus peuvent compromettre la performance des recouvrements de type barrière à l'eau ou à l'oxygène.

Les risques associés doivent être anticipés, car la végétation évolue naturellement au fil du temps. Les études synthétiques du MEND (2014), de DeJong et al. (2015), de Smirnova et al. (2011) et de Proteau et al. (2020) démontrent que des arbustes et arbres recolonisent souvent les sites miniers dès les premières années, même lorsque seules des herbacées ont été implantées. Cette succession végétale peut modifier la profondeur d'enracinement, et donc le bilan hydrique des recouvrements.

3.4.2 APPROCHE PAR ZONE ET CONSIDÉRATIONS TECHNIQUES

Afin de réduire les risques, un zonage de la végétalisation a été appliqué conformément aux recommandations du Guide (Bussière, Guittonny, & Wilson, Guide de bonnes pratiques en restauration minière dans un contexte de changements climatiques, 2022).

Les zones 1 (Halde Mt M) et 5 (Bassins) ne comportent pas de système de recouvrement technique donc, la végétation n'y pose pas d'enjeu structurel.

Dans la zone 2 (Empreinte), un recouvrement de matériaux meubles sera mis en place sur les anciennes fondations bétonnées afin de permettre l'implantation d'une couverture végétale. Compte tenu de la forte compaction du substrat, limitant l'enracinement profond ; seule une végétalisation herbacée par hydroensemencement est prévue. Considérant qu'aucune plantation de semis n'est envisagée, aucun risque n'est associé à la bio-intrusion, car ce recouvrement ne vise pas à limiter l'eau ou l'oxygène.

En zone 3 (Stérile), un recouvrement d'argile sera mis en place lors du reprofilage des pentes. Une végétalisation mixte par hydroensemencement de mélanges herbacés indigènes et par plantation de semis en îlots ciblés sera réalisée. Ce recouvrement ne constitue pas une barrière fonctionnelle ; par conséquent, la présence de racines profondes ne soulève pas d'enjeu particulier. Au contraire, l'enracinement des plantes ligneuses contribuera à la stabilisation du sol.

Enfin, la zone 4 (Co-disposition) est pourvue d'un recouvrement multicouche conçu comme barrière à l'eau et à l'oxygène. Afin de préserver son intégrité, aucune plantation d'espèces ligneuses n'est autorisée et seule une végétation herbacée indigène sera établie. Cette approche suit les bonnes pratiques pour les recouvrements sensibles (Bussière, Guittonny, & Wilson, Guide de bonnes pratiques en restauration minière dans un contexte de changements climatiques, 2022; Bussière & Guittonny, Restauration des sites miniers : concepts et bonnes pratiques, 2021).

3.4.3 INTÉGRATION DE LA VÉGÉTATION DANS LES MODÈLES DE PERFORMANCE

Conformément aux recommandations du Guide, les effets de la végétation sur le bilan hydrique et la consommation d'oxygène devront être intégrés dans les modèles numériques d'hydrogéologie non saturée. Cela inclut notamment :

- la profondeur d'enracinement des espèces probables,
- la profondeur maximale d'enracinement,
- la densité racinaire,
- l'évolution temporelle liée à la succession végétale,
- les effets anticipés des changements climatiques (Bussière, Guittonny, & Wilson, 2022; Botula, Guittonny, Bussière, & Bresson, 2019).

Ces paramètres permettent d'évaluer la performance à long terme des recouvrements en tenant compte de la végétation future plutôt que du couvert initial seulement.

3.4.4 SUCCESSION VÉGÉTALE ET SUIVI

La végétation évoluera naturellement au fil des décennies, comme démontré dans de nombreux cas d'étude (Smirnova & al., 2011; Mudrák & al., 2016; Proteau & al., 2020). Une colonisation progressive par des arbustes et des arbres de l'écosystème environnant est probable, ce qui peut modifier le régime hydrique ou entraîner une bio-intrusion dans les zones sensibles.

Pour les recouvrements vulnérables (zone 3 [Stérile]), un programme de suivi est recommandé afin de :

- détecter l'apparition d'espèces ligneuses indésirables,
- ajuster la gestion de la végétation si nécessaire,
- réévaluer périodiquement la performance hydrogéologique.

3.4.5 ANALOGUES NATURELS ET RÉSILIENCE

L'utilisation d'analogues naturels est encouragée pour anticiper les trajectoires de végétation et évaluer la performance future des recouvrements (Sterett, 2017; Albright, 2010). Ces analogues peuvent aider à imaginer des scénarios réalistes de végétation mature, ce qui est important pour la planification à long terme des systèmes de recouvrement.

Cependant, dans le contexte du projet Shaakichiuwaanaan, qui est encore à un stade conceptuel, les informations disponibles sur les sols et les conditions environnementales des recouvrements sont limitées. Il est donc difficile de définir un modèle d'analogue complet à ce stade. Des données supplémentaires seront nécessaires lors des phases ultérieures pour caractériser le sol, la végétation et les paramètres hydrogéotechniques, afin d'établir des modèles ou scénarios fiables pour la conception et la planification de la restauration.

3.5 VÉRIFICATION DE LA QUALITÉ DES TRAVAUX

Tout au long de la mise en œuvre du patron de végétalisation, des mécanismes de vérification doivent être mis en place pour s'assurer que les travaux sont réalisés conformément aux plans et devis. Cela inclut, entre autres, la vérification de l'épaisseur des matériaux de support, le respect des choix d'espèces, la qualité du matériel végétal et la conformité des techniques d'implantation.

Un surveillant de chantier devra être présent pour documenter tout écart entre les travaux réalisés et ceux prévus dans le plan. Cette documentation est essentielle pour garantir la qualité de la restauration et pour permettre des ajustements rapides en cas de problème.

4 ENTRETIEN, SUIVI ET CORRECTION

Après la mise en place des travaux de végétalisation, une gestion adaptative devra être assurée pour accompagner le développement du couvert végétal et corriger tout écart aux objectifs de végétalisation. Cette gestion repose sur deux volets : l'entretien et le suivi.

4.1 ENTRETIEN

Des interventions ponctuelles seront réalisées durant les deux premières années, soit pendant les travaux de restauration. Entre autres, le suivi de fin de première saison de croissance permettra de déterminer si la mise en œuvre de la phase 4 sera nécessaire l'année suivante.

Les actions d'entretien incluent :

- La fertilisation localisée ou l'ensemencement en cas de faible taux de germination ;
- Le contrôle des espèces exotiques envahissantes (EEE) ou non désirées ;
- L'irrigation ponctuelle si des conditions de sécheresse critiques compromettent la reprise ;
- La réparation des surfaces érodées ou endommagées par des perturbations (animaux, intempéries).

Les décisions d'intervention seront prises en concertation avec les parties prenantes, sur la base des constats faits lors des inspections de suivi.

4.2 SUIVI ET CORRECTION

Un programme de suivi structuré sera mis en place sur une période minimale de cinq (5) ans suivant la mise en œuvre de la végétalisation. Il visera à :

- Vérifier la progression vers les objectifs propres à chaque zone ;
- Détecter les écarts ou dégradations nécessitant des interventions correctives ;
- Confirmer l'autosuffisance écologique du système végétalisé.

Les suivis seront réalisés en fin d'été/début d'automne, à l'aide de méthodes adaptées au contexte de chaque zone. Les indicateurs seront choisis en lien direct avec les objectifs établis. Ils incluront notamment les éléments présentés au Tableau 4-1.

Tableau 4-1. Types d'indicateurs de suivi

Attributs	Exemples d'indicateurs
Composition végétale	Indice de biodiversité des espèces, proportion d'espèces indigènes, présence d'espèces non désirées ou EEE
Structure du couvert	Taux de recouvrement des herbacés et semis ligneux (%), hauteur moyenne, biomasse estimée, survie des semis
Fonction du sol	Stabilité de surface, taux d'érosion, taux d'infiltration, pH, teneur en matière organique (MO)
Fonction des recouvrements	Infiltration excessive, présence de racines profondes (zones techniques)

Des rapports annuels de suivi seront transmis au MRNF pour toute la période de cinq ans. Si les objectifs sont atteints avant la fin du suivi, une demande pourra être déposée pour mettre fin au suivi, accompagnée d'une évaluation démontrant que l'écosystème est stable et autonome.

Un plan détaillé de suivi et de correction de la végétalisation, adapté à chaque zone, est présenté à l'Annexe C. Cette annexe contient des fiches techniques par zone, qui rappellent les objectifs spécifiques et les travaux de végétalisation réalisés. Elles précisent également les indicateurs de suivi retenus, la méthodologie d'évaluation, les seuils de performance attendus et les mesures correctives envisagées en cas d'écart. Ces fiches serviront de référence pour la mise en œuvre du programme de suivi post-restauration et l'ajustement des interventions selon une approche de gestion adaptative.

5 SYNTHÈSE ET RECOMMANDATIONS

Le plan de végétalisation du site minier Shaakichiuwaanaan repose sur le plan conceptuel actuel, mais il est conçu pour évoluer au fur et à mesure de l'avancement du projet et des mises à jour du plan de restauration. Les analyses de terrain détaillées et le suivi des travaux permettront d'ajuster les zones de végétalisation, les contraintes et les méthodes employées afin de répondre aux conditions réelles du site. Pour assurer la réussite à long terme, il est recommandé de privilégier des espèces indigènes adaptées aux conditions locales de lumière et d'humidité, favorisant une résilience écologique et une couverture végétale durable. Les zones sensibles à l'érosion, aux pentes abruptes ou aux variations hydriques doivent être protégées par des techniques telles que l'hydroensemencement, la plantation ciblée et, si nécessaire, des mesures mécaniques de stabilisation.

Un suivi régulier et structuré de la végétation est essentiel pour détecter rapidement toute anomalie ou tout impact défavorable sur l'intégrité des recouvrements et pour planifier les interventions correctives appropriées. Ce suivi doit inclure l'évaluation de la croissance, de la densité, de la couverture végétale et de la profondeur d'enracinement. Des essais pilotes et expérimentations à différentes échelles permettront de confirmer la viabilité des mélanges de semences et des techniques de végétalisation dans les conditions spécifiques du site, et d'apporter les ajustements nécessaires.

L'entretien régulier, la gestion des espèces envahissantes et la lutte contre l'érosion doivent être intégrés au programme de suivi afin de garantir le maintien des fonctions écologiques et techniques des recouvrements à long terme. La planification doit également tenir compte des effets anticipés des changements climatiques sur la végétation et sur le bilan hydrique des recouvrements. Enfin, l'implication continue des parties prenantes, incluant les communautés locales et les autorités réglementaires, est cruciale pour assurer la transparence, la conformité et la réussite globale de la restauration écologique.

Ainsi, le plan demeure flexible et adaptable, permettant une végétalisation progressive et optimisée, tout en intégrant les enseignements issus du suivi, des essais et des échanges avec les parties prenantes, afin de garantir la performance durable des recouvrements et la résilience écologique du site.

6 REFERENCES

Albright, W. e. (2010). *Using analogues to predict vegetation and soil development on mine reclamation sites. .* ournal of Environmental Management, 91(5), pp. 1025–1035.

Barr, S., Jonas, J. L., & Paschke, M. (2017). *Optimizing seed mixture diversity and seeding rates for grassland restoration. .* Restoration Ecology, 25(3), 396-404. .

Botula, Y. D., Guittonny, M., Bussière, B., & Bresson, E. (2019). *Will tree colonisation increase the risks of serious performance loss of engineered covers under climate change in Québec, Canada? .* In Mine Closure 2019: Proceedings of the 13th International Conference on Mine Closure (pp. 607-620). Australian Centre for Geomechanics.

Bussière, B., & Guittonny, L. (2021). *Restauration des sites miniers : concepts et bonnes pratiques.* Québec : Presses scientifiques.

Bussière, B., Guittonny, L., & Wilson, D. (2022). *Guide de bonnes pratiques en restauration minière dans un contexte de changements climatiques.* Québec : Ministère de l'Environnement.

Ceccon, E., González, E., & Martorell, C. (2016). *Is direct seeding a biologically viable strategy for restoring forest ecosystems? Evidences from a meta-analysis. Land Degradation & Development.* 27(3), 511-520.

Cooke, J., & Johnson, M. (2002). *Ecological restoration of land with particular reference to the mining of metals and industrial minerals: A review of theory and practice.* Environmental Reviews, 10(1), 41-71.

DeJong, T., & al., e. (2015). *Vegetation dynamics on reclaimed mine sites: long-term monitoring results.* Ecological Engineering, 81, pp. 1–10.

Fourie, A., & Tibbett, M. (2007). *Vegetation development on mine tailings: a review. .* Environmental Geochemistry and Health, 29, pp. 383–398.

Gann, G., Mcdonald, T., Walder, B., Aronson, J., Nelson, C., Jonson, J., & Dixon, K. (2019). *International principles and standards for the practice of ecological restoration.* Restoration Ecology, 27(S1), S1-S46.

Guittonny, M., Cadet, C., & Hotton, G. (2022). *Synthèse sur la mise en végétation en contexte de restauration minière.* Rapport PU-2021-08-1381, URSTM.

Jackson, R., & al., e. (1996). *A global analysis of root distributions for terrestrial biomes.* (Vol. 108(3)). Oecologia, 108(3), pp. 389–411.

MEND Program. (2014). *Mine Environmental Neutral Drainage: Guidelines for Vegetation and Cover Systems.* Report MEND 1.61.1.

Ministère de l'Agriculture, des Pêcheries et de l'Alimentation (MAPAQ). (2024). *L'implantation de prairies avec une plante-abris, une police d'assurance.*

Ministère des Ressources naturelles et des Forêts. (2024). *Guide de préparation de réaménagement et de restauration des sites miniers au Québec.* Gouvernement du Québec.

Mudrák, O., & al., e. (2016). *Vegetation succession on reclaimed mining sites in Europe: a review. Ecological Engineering, 97, pp. 40–53.*

Proteau, L., & al., e. (2020). *Succession végétale sur recouvrements miniers au Québec : résultats à 16 ans.* Canadian Journal of Forest Research, 50(7), pp. 725–738.

Schenk, H. J., & Jackson, R. B. (2002). *Rooting depths, lateral root spreads and below-ground/above ground allometries of plants in water-limited ecosystems.* Journal of Ecology, 480-494.

Smirnova, O., & al., e. (2011). *Spontaneous forest recolonization of post-mining sites in Québec.* Canadian Journal of Forest Research, 41(5), pp. 1092–1104.

Sterett, R. (2017). *Use of analogues in environmental modeling.* Ecological Modelling, 359, pp. 66–75.

WSP. (2025). *Projet minier Shaakichiuwaanaan. Rapport sectoriel – Végétation et milieux humides. Nord-du-Québec, Québec.* Rapport produit pour Métaux de Batteries Patriot Inc.. RÉF. WSP : CA0001724-3318_005_R_RevA_SC_VEGMHH. 58 pages et annexes.

Annexe A

Carte du site

-73°57,900′ -73°57,000′ -73°56,100′ -73°55,200′ -73°54,300′ -73°53,400′ -73°52,500′

53°33,120′ 53°32,640′ 53°32,160′ 53°31,680′ 53°31,200′ 53°30,720′ 53°30,240′

N

Bassins de collecte du secteur de la halde 002

Halde de co-disposition 002

Bassins de collecte du secteur de la halde 001

Halde à stériles 001

Halde à matières organiques

Haldes à minerai à haute et basse teneur

Halde à minerai brute

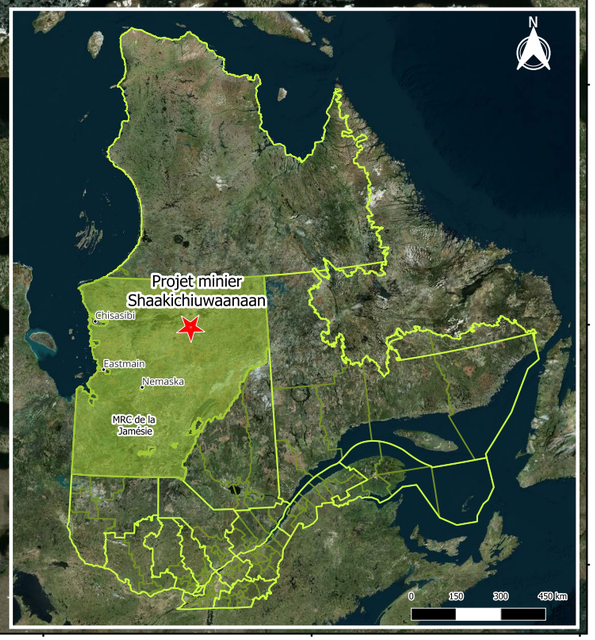
Bassins de collecte du secteur industriel

Plateforme de transfert des stériles de l'exploitation souterraine

Bassins de la filière de traitement des eaux

Haldes à mort-terrain 004

Haldes à mort-terrain 005



RESSOURCES PMET RESOURCES

PROJET MINIER SHAAKICHIUWAANAAN
PLAN DE VÉGÉTALISATION

Localisation des infrastructures et zones de végétalisation

Type d'infrastructure (Motifs)

- Halde à minerai
- Empreinte activitées minières
- Bassin
- Haldes à stériles
- Halde à mort-terrain ou matière organique
- Fosse à ciel ouverte

Zones de végétalisation (Couleurs)

1 (Halde Mt M)	67,1 ha
2 (Empreinte) :	104,3 ha
3 (Stérile) :	83,7 ha
4 (Co-disposition)	231,9 ha
5 (Bassins) :	44,8 ha

Source:
Découpages administratifs : MRNF Québec, 2025
Infrastructures : G Mining Services, 2025 (CASN-A-001-GE-GA-0002_RevC)
Photographie aérienne : © Bing Maps, 2025

Projet: 24-2164-0682

Réalisé par: Marianne Côté
Vérifié par: Jean-Sébastien Berthelot

0 200 400 600 800 1 000 m
Projection MTM, fuseau9, NAD83 (SCRS)

GCM ENVIRO SYNERGIES

Décembre 2025 **Carte 1**

Annexe B

Fiches techniques des espèces sélectionnées

1. Mélange indigène (GRAMINORD)
2. Espèces ligneuses retenues pour la plantation d'îlots

B1. Mélange indigène (GRAMINORD)

aiglon indigo
végétaux et semences indigènes

332 rang St-Joseph
Lourdes, Qc, G0S 1T0
t. 819-385-4509
f. 819-385-4832
info@aiglonindigo.com
www.aiglonindigo.com

GRAMINORD / SÉRIE HABITAT
FICHE TECHNIQUE

Le mélange Graminord est constitué des graminées les plus rustiques au Québec et peut être implanté sans problème jusqu'en zone de rusticité zéro, au soleil ou à la mi-ombre. Contenant une palette d'espèces variées, il s'adapte aux différents degrés d'humidité du site, certaines espèces seront plus abondantes dans les endroits frais et humides, d'autres dans les endroits secs. Il est possible de l'utiliser comme couvre-sol en terrain plat ou pour stabiliser des pentes légères. Dans ce dernier cas, il est nécessaire de maximiser les plantes abris pour une meilleure implantation. Ce mélange peut être tondu périodiquement ou fauché une fois l'an.

COMPOSITION
selon le poids relatif

%	Nom latin	période de floraison: avril	mai	juin	juil	août	sept	oct
1,0%	Agrostis scabra							
20,0%	Beckmannia syzigachne							
20,0%	Bromus ciliatus							
1,2%	Carex vulpinoidea							
10,0%	Deschampsia cespitosa							
35,0%	Elymus trachycaulus							
4,5%	Poa alpina							
2,5%	Poa palustris							
3,5%	Poa pratensis							
2,0%	Trisetum spicatum							
0,3%	Typha latifolia							

ORIGINE INDIGÈNE

RATIOS
selon le nombres de graines

indigène 100% | autres 0%

vivaces 100% | annuelles 0%

graminées 100% | légumineuses 0% | fleurs 0%

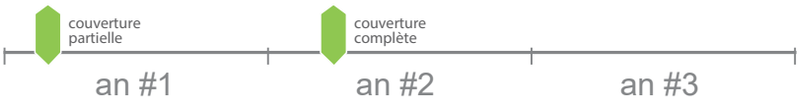
CARACTÉRISTIQUES

- [0] zone de rusticité
- [ ] pollinisateurs
- [ ] mi-ombre
- [x] pente faible
- [ ] pente forte
- [x] milieux humides
- [x] sols sableux
- [x] sols argileux
- [ ] stratification requise

ATOUTS
#résultats dès l'an 1
#rusticité remarquable
#polyvalent
#tolère la sécheresse
#exige peu d'entretien

HAUTEUR
minimum: 70 cm
maximum: 95 cm

DÉVELOPPEMENT



TAUX DE SEMIS

mélanges	Semis mécanique (Brillon)	Semis manuel ou à la volée	Semis hydraulique
kg / ha	54	72	108
g / m²	5,4	7,2	10,8

plantes abri	g/m² printemps	g/m² automne
Lolium multiflorum	2	4
Elymus canadensis	5	8

B2. Espèces ligneuses retenues pour la plantation d'îlots

< Retour

Catalogue (/catalogue) / Arbres (/catalogue/1/arbres) / Betula papyrifera

(https://gestion.aiglonindigo.com/UserFiles/Products,

(https://gestion.ai

(https://gestion.aiglonindigo.com

om/UserFiles/Produc

ARBRES

Suivant > (/produit/76/bouleau-gris#ProductContent)

< Précédent (/produit/72/bouleau-jaune#ProductContent)

Betula papyrifera

Bouleau à papier

Paper birch

Non disponible pour la vente au détail

Port pyramidal, s'arrondissant avec l'âge; écorce rouge, puis blanc pur, se détachant en grandes feuilles horizontales. Rustique, indigène du Québec, constituant important de la forêt boréale, sensible à la pollution urbaine

Informations générales | Caractéristiques

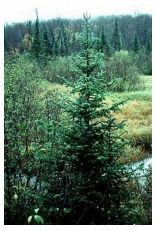
Informations générales

Indigène	indigène
Zone de rusticité	2a
Exposition	soleil
Humidité	sol frais
Floraison	
Couleur fleur	
Couleur fruit	
Hauteur minimum (m)	18,00
Hauteur maximum (m)	20,00
Largeur à maturité (m)	14,00
plant / m2	0,01
Sol	loam sableux
Synonymes	
Nom anglais	Paper birch
Autres noms français	
Autres noms anglais	
pH	acide

Questions et commentaires

< Retour

Catalogue (/catalogue) / Arbres Conifères (/catalogue/2/arbres-coniferes) / Picea mariana



(https://gestion.aiglonindigo.com

(https://gestion.aiglonindigo.com/UserFiles/Produc

ARBRES CONIFÈRES

Suivant > (/produit/327/epinette-du-colorado#ProductContent)

< Précédent (/produit/324/epinette-blanche#ProductContent)

Picea mariana

Épinette noire

Black spruce

Non disponible pour la vente au détail

L'épinette noire évoque les vastes étendues boréales du Québec. Elle est aussi l'arbre indigène qui permet de fabriquer la fameuse bière d'épinette. Cultivez dès maintenant cet emblème de nos forêts sur vos terres!

Cette espèce est aussi disponible en semences : Cliquez ici (https://www.aiglonindigo.com/produit/326/epinette-noire#ProductContent)

Informations générales | Caractéristiques

Informations générales

Indigène	indigène
Zone de rusticité	1a
Exposition	soleil
Humidité	sol humide
Floraison	
Couleur fleur	
Couleur fruit	brun
Hauteur minimum (m)	15,00
Hauteur maximum (m)	20,00
Largeur à maturité (m)	6,00
plant / m2	0,03
Sol	organique humide
Synonymes	
Nom anglais	Black spruce
Autres noms français	
Autres noms anglais	
pH	acide à alcalin

< Retour

Catalogue (/catalogue) / Arbres Conifères (/catalogue/2/arbres-coniferes) / Pinus banksiana (syn. P. divaricata)

(https://gestion.aiglonindigo.com/UserFiles/Products,

(https://gestion.aiglonindigo.com/UserFiles/Produc (https://gestion.aiglonindigo.com (https://gestior

Suivant > (/produit/331/pin-noir-d-autriche#ProductContent)

< Précédent (/produit/328/epinette-bleue-du-colorado#ProductContent)

ARBRES CONIFÈRES

Pinus banksiana (syn. P. divaricata)

Pin gris

Jack pine

Non disponible pour la vente au détail

Port pyramidal; couronne clairsemée; cime devenant aplatie avec l'âge; tronc droit; rameaux fins, brun verdâtre; écorce mince et crevassée. Espèce rustique, indigène de la forêt boréale canadienne; peu exigeant, résistant aux vents.

Informations générales | Caractéristiques

Informations générales

Indigène	indigène
Zone de rusticité	1a
Exposition	soleil
Humidité	sol sec
Floraison	
Couleur fleur	
Couleur fruit	brun
Hauteur minimum (m)	9,00
Hauteur maximum (m)	15,00
Largeur à maturité (m)	12,00
plant / m2	
Sol	pauvre
Synonymes	P. divaricata
Nom anglais	Jack pine
Autres noms français	
Autres noms anglais	
pH	très acide

Questions et commentaires

Annexe C

Plan de suivi technique de la végétalisation par zone

Annexe C

PLAN DE SUIVI ET CORRECTION

Ce plan présente les fiches techniques de suivi de la végétalisation post-restauration du site minier Shaakichiuwaanaan. Chaque fiche est adaptée à la vocation écologique, au type de recouvrement et aux travaux réalisés par zone. Les objectifs, indicateurs, méthodologies, seuils de performance et mesures correctives sont définis selon les recommandations du *Guide de préparation du plan de restauration des sites miniers au Québec* (MRNF, 2024), ainsi que sur le document *Synthèse sur la mise en végétation en contexte de restauration minière* (URSTM, 2022).

Un tableau synthétique accompagne chaque zone pour structurer la gestion adaptative. La méthodologie repose sur des suivis standardisés annuels (fin de la saison de croissance), une validation terrain (transects, quadrats, carottages), et l'analyse de la couverture, de la diversité, de la stabilité des sols et de la fonction écologique des recouvrements.

À noter que ce plan de suivi et de correction devra être révisé au moment de la fermeture de la mine, afin de tenir compte des ajustements apportés au plan de végétalisation.

ZONE 1

Vocation : Biodiversité – Herbacée et arborescente et Habitat pour la petite faune

Type de recouvrement : Aucun

Travaux de végétalisation : Hydroensemencement d'herbacées indigènes + plantation de semis ligneux en îlots ciblés

Objectif spécifique	Indicateur de suivi	Méthodologie	Seuil de performance	Mesure corrective
Atteindre une couverture végétale de ≥ 75 % en 5 ans	Taux de recouvrement (%)	Imagerie par drone + validation au sol (quadrats)	< 50 % de recouvrement	Réensemencement et replantation ciblée
Réintroduire des espèces végétales indigènes, en mettant l'accent sur la biodiversité	Indice de diversité α Pourcentage d'espèces indigènes Surveillance d'EEE	Relevés floristiques annuels Inspection visuelle terrain	Diversité faible (selon indice) Présence de < 10 % de EEE	Révision du mélange de semences Lutte EEE
Assurer la pérennité des espèces plantées	Taux de survie des semis ligneux Taux de recouvrement stable > 3 ans	Comptage dans les îlots de plantation Suivi annuel	Survie des ligneux < 60 % Régression marquée	Replantation ou réensemencement ciblée Protection contre stress biotiques/abiotiques
Stabiliser les sols et réduire l'érosion superficielle	Taux d'érosion Présence de rigoles	Inspection visuelle terrain	Érosion active observée Rigoles observées	Réensemencement localisé de végétation stabilisante Stabilisation mécanique et réaménagement
Réduire l'impact sur la qualité de l'eau	Présence de turbidité / ruissellement chargé	Inspection visuelle terrain et échantillonnage des écoulements	Sédimentation ou résultats d'analyse hors normes	Ajout de bandes filtrantes végétalisées

ZONE 2

Vocation : Zone tampon faunique

Type de recouvrement : Recouvrement de dépôts meubles seulement sur les fondations des bâtiments

Travaux de végétalisation : Hydroensemencement d'herbacées indigènes

Objectif spécifique	Indicateur de suivi	Méthodologie	Seuil de performance	Mesure corrective
Atteindre une couverture végétale de ≥ 75 % en 5 ans	Taux de recouvrement (%)	Imageries drones	< 50 % de recouvrement	Réensemencement requis
Assurer la pérennité des espèces plantées	Taux de recouvrement stable > 3 ans	Suivi annuel	Régression marquée	Réensemencement ciblé
Améliorer la structure et la fertilité du sol	Teneur en MO et pH Taux d'infiltration	Échantillonnage Infiltromètre à pression	Taux faible (< seuil régional)	Amendements organiques localisés

ZONE 3

Vocation : Stabilisation des sols et biodiversité – Herbacée et arborescente

Type de recouvrement : Argile (reprofilage)

Travaux de végétalisation : Hydroensemencement d'herbacées indigènes + plantation de semis ligneux en îlots ciblés

Objectif spécifique	Indicateur de suivi	Méthodologie	Seuil de performance	Mesure corrective
Atteindre une couverture végétale de ≥ 75 % en 5 ans	Taux de recouvrement (%)	Imageries drones	< 50 % de recouvrement	Réensemencement requis
Réintroduire des espèces végétales indigènes, en mettant l'accent sur la biodiversité	Indice de diversité α Pourcentage d'espèces indigènes Surveillance d'EEE	Relevés floristiques annuels Inspection visuelle	Diversité faible (selon indice) Présence de < 10 % de EEE	Révision du mélange de semences Lutte EEE
Assurer la pérennité des espèces plantées	Taux de survie des semis ligneux Taux de recouvrement stable > 3 ans	Comptage dans les îlots de plantation Suivi annuel	Survie des ligneux < 60 % Régression marquée	Replantation ou réensemencement ciblée Protection contre stress biotiques/abiotiques
Stabiliser les sols, en particulier les pentes	Taux d'érosion	Inspection visuelle terrain	Érosion active observée	Réensemencement localisé de végétation stabilisante Stabilisation mécanique et réaménagement des talus
Réduire le ruissellement et l'érosion superficielle	Traces de ruissellement, rigoles		Présence marquée de rigoles	
Améliorer la structure et la fertilité du sol	Teneur en MO et pH Taux d'infiltration	Échantillonnage Infiltromètre à pression	Taux de MO faible (< seuil régional)	Amendements organiques localisés
Réduire l'impact sur la qualité de l'eau	Présence de turbidité / ruissellement chargé Analyses paramètres de l'eau	Inspection visuelle terrain et échantillonnage des écoulements	Sédimentation ou résultats d'analyse hors normes	Ajout de bandes filtrantes végétalisées

ZONE 4

Vocation : Prairie ouverte (pollinisateurs)

Type de recouvrement : Recouvrement multicouche avec fonction de barrière d'eau et d'oxygène

Travaux de végétalisation : Hydroensemencement d'herbacées indigènes

Objectif spécifique	Indicateur de suivi	Méthodologie	Seuil de performance	Mesure corrective
Atteindre une couverture végétale de ≥ 75 % en 5 ans	Taux de recouvrement (%)	Imageries drones	< 50 % de recouvrement	Réensemencement requis
Assurer la pérennité des espèces plantées	Taux de recouvrement stable > 3 ans	Suivi annuel	Régression marquée	Réensemencement ciblé
Maintenir l'intégrité de la barrière à l'eau et à l'oxygène, éviter la pénétration racinaire profonde.	Profondeur d'enracinement Conductivité hydraulique locale Humidité du sol (capteur ou sonde) Taux d'infiltration	Carottes (profondeur racinaire) TDR (Time Domain Reflectometry) pour humidité Infiltromètre à pression	Racines >15 cm de profondeur Présence d'espèces ligneuses à racines profondes	Coupe sélective Augmentation locale de l'épaisseur de la couche superficielle Remplacement des plantes
Réduire le ruissellement et l'érosion superficielle	Taux d'érosion Traces de ruissellement, rigoles	Inspection visuelle terrain	Érosion active observée Présence marquée de rigoles	Réensemencement localisé de végétation stabilisante Stabilisation mécanique et réaménagement des talus
Réduire l'impact sur la qualité de l'eau	Présence de turbidité / ruissellement chargé Analyses paramètres de l'eau	Inspection visuelle terrain et échantillonnage des écoulements	Sédimentation ou résultats d'analyse hors normes	Ajout de bandes filtrantes végétalisées

ZONE 5

Vocation : Végétation de transition

Type de recouvrement : Aucun

Travaux de végétalisation : Hydroensemencement d'herbacées indigènes

Objectif spécifique	Indicateur de suivi	Méthodologie	Seuil de performance	Mesure corrective
Atteindre une couverture végétale de ≥ 75 % en 5 ans	Taux de recouvrement (%)	Imageries drones	< 50 % de recouvrement	Réensemencement requis
Assurer la pérennité des espèces plantées	Taux de recouvrement stable > 3 ans	Suivi annuel	Régression marquée	Réensemencement ciblé
Stabiliser les sols, en particulier les pentes	Taux d'érosion	Inspection visuelle terrain	Érosion active observée	Réensemencement localisé de végétation stabilisante Stabilisation mécanique et réaménagement des talus

ZONE 6

Vocation : Végétation de transition

Type de recouvrement : Aucun

Travaux de végétalisation : Hydroensemencement d'herbacées indigènes

Objectif spécifique	Indicateur de suivi	Méthodologie	Seuil de performance	Mesure corrective
Atteindre une couverture végétale de ≥ 75 % en 5 ans	Taux de recouvrement (%)	Imageries drones	< 50 % de recouvrement	Réensemencement requis
Assurer la pérennité des espèces plantées	Taux de recouvrement stable > 3 ans	Suivi annuel	Régression marquée	Réensemencement ciblé
Stabiliser les sols, en particulier les pentes	Taux d'érosion	Inspection visuelle terrain	Érosion active observée	Réensemencement localisé de végétation stabilisante Stabilisation mécanique et réaménagement des talus
Maintenir l'intégrité de la barrière à l'eau et à l'oxygène	Conductivité hydraulique locale Humidité du sol (capteur ou sonde) Taux d'infiltration	TDR (Time Domain Reflectometry) pour humidité Infiltromètre à pression	Racines >15 cm de profondeur Présence d'espèces ligneuses à racines profondes	Coupe sélective Augmentation locale de l'épaisseur de la couche superficielle Remplacement des plantes
Réduire l'impact sur la qualité de l'eau	Présence de turbidité / ruissellement chargé Analyses paramètres de l'eau	Inspection visuelle terrain et échantillonnage des écoulements	Sédimentation ou résultats d'analyse hors normes	Ajout de bandes filtrantes végétalisées

Annexe N

Plan des mesures d'urgence préliminaire Phases postexploitation et postrestauration (GCM Enviro, 2026b)

GCM ENVIRO SYNERGIES

L'EXPERTISE À **ÉCHELLE HUMAINE**

PLAN DE MESURES D'URGENCE PRÉLIMINAIRE
PROJET MINIER SHAAKICHIUWAANAAN

Phases postexploitation et postrestauration

ENV0682-1502-00 / PMET-003-10A-JUS-0001-V0

PMET Ressources inc. – Baie-James

23 mars 2026

Montréal • Québec • Varennes • Sherbrooke • Trois-Rivières • Rouyn-Noranda • Amos
Regina • Calgary • Edmonton • Saint John • Rivière-du-Loup

www.gcmenvirosynergies.com

Baie-James (Québec)

PROJET MINIER SHAAKICHIUWAANAAN

PLAN DE MESURES D'URGENCE PRÉLIMINAIRE – PHASES POSTEXPLOITATION ET POSTRESTAURATION

ENV0682-1502-00 / PMET-003-10A-JUS-0001-V0

No de référence GCM : 24-2164-0682

Préparé par : Laurie-Anne Jean, ing., N° OIQ : 6034057
GCM Enviro Synergies

Vérifié par : Mélanie Côté, ing., N° OIQ : 133767
GCM Enviro Synergies

2026-03-24

Révision	Émission	Date
00	**FINALE**	**2026.03.23**

ÉQUIPE DE RÉALISATION – GCM ENVIRO SYNERGIES

Mélanie Côté, ing.	Chargée de projets, révision
Laurie-Anne Jean, ing.	Rédaction et révision
William Beauregard, CPI	Rédaction
France Thibeault	Édition

ÉQUIPE DE RÉALISATION – PMET RESSOURCES INC.

Cathryn Moffett	Vice-présidente – Environnement et autorisations
Andréanne Séguin	Directrice – Environnement

HISTORIQUE DES RÉVISIONS

Révision					Commentaires (raison de la révision)
Rév.	**Préparé par**	**Vérifié par**	**Date**	**Sections révisées**	
PA	W. Beauregard	L.-A. Jean	2026.02.25	–	Pour commentaires
00	L.-A. Jean	M. Côté	2026.03.23	–	Finale

NOTE LIMITATIVE

Ce plan des mesures d'urgence (PMU) a été développé à titre indicatif dans le cadre de la préparation du plan de restauration des activités d'exploitation au site minier Shaakichiuwaanaan. Ce PMU devra être mis à jour et validé par les intervenants de PMET Ressources inc. avant le début des activités de fermeture du site minier.

Référence à citer :

GCM ENVIRO SYNERGIES (2026). *Plan de mesures d'urgence préliminaire – Phases postexploitation et postrestauration. Projet minier Shaakichiuwaanaan.* Produit pour PMET Ressouces inc. #GCM : ENV0682-1502-00. #PMET : PMET-003-10A-JUS-0001-V0. iv + 29 p. et annexe.

TABLE DES MATIÈRES

1 INTRODUCTION 1

1.1 MISE EN CONTEXTE 1
1.2 OBJECTIFS 1

2 DESCRIPTION DU PROJET 3

2.1 LOCALISATION 3
2.2 INFRASTRUCTURES 3

3 IDENTIFICATION ET ÉVALUATION DES RISQUES, ET MESURES DE CONTRÔLE 6

3.1 IDENTIFICATION DES RISQUES ASSOCIÉS AUX ACTIVITÉS SUR LE SITE 6
3.2 ÉVÉNEMENTS D'ORIGINE NATURELLE 7
3.3 ÉVALUATION DES RISQUES ET MESURES DE PRÉVENTION ET CONTRÔLE 7

4 MISE EN PLACE DU PLAN DE MESURES D'URGENCE 12

4.1 DÉCLENCHEMENT 12
4.2 NIVEAUX D'ALERTE 12

5 RÔLE ET RESPONSABILITÉ DES INTERVENANTS 13

5.1 LES EMPLOYÉS FACE À UNE SITUATION D'URGENCE 13
5.2 LE SUPERVISEUR FACE À UNE SITUATION D'URGENCE 13
5.3 LE COORDONNATEUR DU PMU FACE À UNE SITUATION D'URGENCE 14
5.4 LE SECOURISTE EN MILIEU DE TRAVAIL 14
5.5 L'AGENT DE SÛRETÉ 14
5.6 LE COORDONNATEUR SANTÉ ET SÉCURITÉ 15
5.7 LES RESSOURCES D'URGENCE EXTERNES 15

6 PROTOCOLE D'INTERVENTION 16

6.1 PROCÉDURE EN CAS D'ACCIDENT GRAVE 16
6.2 PROCÉDURE AVEC BRIS MATÉRIEL 18
6.3 FEUX DE FORÊT 19
6.4 DÉVERSEMENT ACCIDENTEL OU FUITE DE PRODUITS PÉTROLIERS, DE PRODUITS CHIMIQUES OU DE MATIÈRES DANGEREUSES 20
6.5 PROTOCOLE D'ÉVACUATION 22

7 RESSOURCES IMPORTANTES AU PLAN DE MESURES D'URGENCE 23

7.1 MATÉRIEL D'INTERVENTION 23
7.2 POINTS DE RASSEMBLEMENT 24
7.3 PROGRAMME D'INSPECTION 25

8 RESSOURCES ET BOTTIN TÉLÉPHONIQUE 26

8.1 RESSOURCES INTERNES 26
8.2 RESSOURCES EXTERNES 27

9 RÉFÉRENCES 29

LISTE DES TABLEAUX

Tableau 2-1. Infrastructures prévues sur la propriété Shaakichiuwaanaan 4
Tableau 4-1. Niveau d'alerte des événements 12
Tableau 8-1. Coordonnées des personnes responsables de mettre à exécution le PMU 26
Tableau 8-2. Coordonnées de ressources externes 27

LISTE DES FIGURES

Figure 2-1. Localisation générale du site minier Shaakichiuwaanaan 3
Figure 7-1. Point de rassemblement du campement d'exploration au site minier Shaakichiuwaanaan 24

ANNEXE

A. Exemples de rapport d'incident/déversement

1 INTRODUCTION

1.1 MISE EN CONTEXTE

Ce plan de mesures d'urgence (PMU) a été rédigé dans le cadre du projet d'exploitation minière de PMET Ressources inc. (PMET), compagnie mère de la filière québécoise Lithium Innova inc. qui développe ce projet. PMET est une compagnie d'exploitation minière détenant des projets au Québec et aux États-Unis. En 2016, PMET s'est porté acquéreur du groupe de claims constituant la propriété Shaakichiuwaanaan, située à environ 220 km à l'est de Radisson dans la municipalité d'Eeyou Istchee Baie-James.

Conformément au *Guide de préparation du plan de réaménagement et de restauration des sites miniers au Québec* (MRNF, 2024), PMET doit instaurer un plan des mesures d'urgence « simple, fonctionnel et efficace, pour gérer les risques tant pour la période des travaux de restauration que pour les périodes postexploitation et postrestauration ».

Dans ce contexte, le présent document vise à satisfaire aux exigences de la section 10 du Guide à l'égard de la santé et de la sécurité des travailleurs, de la population et des écosystèmes avoisinants. C'est également dans une optique de saine gestion que le PMU est élaboré afin de répondre aux situations d'urgence susceptibles de survenir à partir de la fermeture définitive du site.

Plus spécifiquement, le PMU précise les objectifs à atteindre, la nature du projet, la localisation du site et la description des lieux. La liste des lois et des règlements reliés aux activités de fermeture des mines est également précisée. L'identification et l'évaluation des risques, les mesures préventives mises en place, la structure fonctionnelle et les contacts d'urgence sont clairement définis. Finalement, la procédure à suivre pour remplir les rapports d'incidents y est décrite de manière formelle. Il est à noter que ce PMU est une version préliminaire et devra être révisé avant le début des travaux de restauration des activités d'exploitation au site minier Shaakichiuwaanaan.

1.2 OBJECTIFS

Les objectifs principaux de ce PMU sont listés ci-après :

- Répertorier les informations inhérentes à la gestion des incidents et à l'application des mesures d'urgence ;
- Mieux outiller les intervenants responsables ;
- Fournir une analyse qualitative des risques plausibles d'accidents associés aux activités postexploitation et postrestauration, ainsi qu'une probabilité d'aggravation de la situation d'urgence en raison de l'existence de risques multiples ;

- Établir les mesures préventives qui permettront d'atténuer les impacts dommageables à la sécurité ou à l'environnement ;
- Établir les mesures et les procédures d'intervention pour entreprendre une réponse rapide et efficace aux situations d'urgence (équipements, formation des personnes concernées, etc.) ;
- Identifier les zones à risque et détecter les défaillances potentielles afin de réagir de façon proactive ;
- Fournir les coordonnées des personnes au site d'exploitation responsables de mettre à exécution les mesures d'intervention, y compris une brève présentation de leurs expertises respectives ;
- Fournir les coordonnées des organismes à contacter (municipalité, police, Urgence-Environnement, Sécurité publique, etc.) ;
- Assurer la conformité de PMET à l'égard des lois et règlements en vigueur en matière de sécurité ;
- Éliminer ou atténuer les risques susceptibles d'affecter la santé et la sécurité du personnel des travaux d'exploitation ainsi que celles de la population ;
- Éliminer ou atténuer les risques liés aux incidents environnementaux.

2 DESCRIPTION DU PROJET

2.1 LOCALISATION

Le projet minier Shaakichiuwaanaan est situé à environ 240 km au nord-est de Nemaska et à environ 220 km à l'est de Radisson dans la région de la Baie-James, sur le territoire régi par le Gouvernement régional Eeyou Istchee Baie-James (GREIBJ). Les coordonnées centrales de localisation du site minier projeté (selon le système de référence géodésique NAD83, UTM Zone 18N) sont les suivantes :

- Latitude : 5 931 000 N.
- Longitude : 573 000 E.

L'accès terrestre au site est possible à partir de Radisson en empruntant successivement la route Billy-Diamond, la route Trans-Taïga et une route quatre-saisons reliant le site minier à la route Trans-Taïga à la hauteur du kilomètre 270 de celle-ci.

La localisation générale du site minier Shaakichiuwaanaan est présentée à la Figure 2-1 ci-après.

Figure 2-1. Localisation générale du site minier Shaakichiuwaanaan

2.2 INFRASTRUCTURES

2.2.1 PHASE D'EXPLOITATION

Plusieurs infrastructures seront mises en place pendant les opérations de la mine. La propriété Shaakichiuwaanaan est éloignée des services publics. Ainsi, toutes les infrastructures sur le site sont privées et gérées par PMET de façon autonome. Le Tableau 2-1 présente une liste des principales infrastructures qui se retrouveront sur le site minier Shaakichiuwaanaan.

Tableau 2-1. Infrastructures prévues sur la propriété Shaakichiuwaanaan

Infrastructures	
Carothèque	Garage
Entrepôts (2)	Usine de traitement des eaux sanitaires
Salle de contrôle – mine souterraine	Caserne de pompiers et hall d'urgence
Bureaux administratifs et réception	Magasin d'explosifs
Station électrique 69 kV	Usine de traitement du minerai
Stations de ravitaillement (2)	Usine de traitement des eaux
Usine de remblai en pâte	Dépôt d'émulsions explosives
Fosse à ciel ouvert	Haldes à stériles et co-disposition (2)
Haldes de mort-terrain (2)	Halde à matières organiques
Rampe d'accès à la mine souterraine	Campement des travailleurs

2.2.2 PHASE POSTEXPLOITATION

Plusieurs travaux sont prévus en phase postexploitation. Les principales étapes de restauration comprennent :

- La sécurisation du site par le biais de la fermeture des ouvertures au jour et l'installation de signalisation.
- La démolition, par un entrepreneur certifié, des bâtiments et autres infrastructures de surface, de même que la mise à niveau, la scarification et la végétalisation des surfaces affectées.
- Tous les équipements de service, comme les réservoirs, les conduites, les pompes, les unités de chauffage, les systèmes de ventilation et autres seront vidangés et nettoyés. Les eaux utilisées pour le nettoyage seront collectées puis traitées (sédimentation et séparation eau-huile, si nécessaire) avant leur rejet dans l'environnement.
- Tous les équipements contenant des huiles ou tout autre liquide à risque de contaminer l'environnement, comme les équipements électriques, les véhicules et les réservoirs de pétrole, seront vidangés de leur liquide avant d'être retirés du site des opérations.
- Au niveau des haldes, la halde 001 sera recouverte d'une couche de matières organiques, puis revégétalisée par hydro-ensemencement. La halde 002, quant à elle, sera recouverte d'un recouvrement multicouche comprenant une géomembrane, puis d'une couche de matières organiques. Finalement, la superficie de la halde 002 sera revégétalisée par hydro-ensemencement.

- Une brèche sera mise en place dans les digues des bassins des haldes 001 et 002. Pour ce qui est des bassins faisant partie de la chaîne de traitement des eaux usées minières, leurs boues seront caractérisées, puis disposées dans un lieu approprié avant que les bassins soient remplis de mort-terrain, puis revégétalisés par hydro-ensemencement.
- En ce qui concerne la fosse, il est prévu qu'une petite partie des résidus miniers à faibles risques soient déposés dans celle-ci, puis qu'une brèche dans une section du barrage soit démantelée afin que la fosse se remplisse naturellement jusqu'à l'atteinte de l'équilibre piézométrique avec le milieu.

2.2.3 PHASE POSTRESTAURATION

À la fin de la période postexploitation, aucune infrastructure ne demeurera opérationnelle à l'exception des chemins d'accès. Ceux-ci sont essentiels pour les suivis agronomiques, les inspections d'ouvrages et des techniques de restauration, ainsi que les suivis de qualité d'eau requis qui auront lieu durant les 5 années prévues de postrestauration.

Les seules infrastructures demeurant au site seront la ligne électrique (qui ne sera plus en fonction), la fosse ennoyée et les deux haldes 001 et 002 restaurées.

3 IDENTIFICATION ET ÉVALUATION DES RISQUES, ET MESURES DE CONTRÔLE

En raison de la nature des activités d'un projet minier, les risques pour la santé et la sécurité des individus de même que l'environnement sont présents tout au long de son cycle de vie. Les risques évoluent à chaque phase d'activité du projet. Ainsi, il est nécessaire d'établir des scénarios potentiels pour chaque phase du cycle de vie, afin d'être proactif à l'égard de la sécurité et de prévenir ou d'atténuer tout risque d'incident. La section qui suit présente une évaluation des risques associés aux activités devant avoir lieu en phases postexploitation et postrestauration.

3.1 IDENTIFICATION DES RISQUES ASSOCIÉS AUX ACTIVITÉS SUR LE SITE

L'identification des risques porte sur deux phases distinctes, soit :

1. **La phase postexploitation** qui comprend la cessation des activités d'exploitation ainsi que les travaux de restauration qui s'échelonneront sur quatre (4) ans.
2. **La phase de postrestauration** qui se résume à inspecter sur cinq (5) ans les travaux réalisés à l'étape précédente.

Les principaux risques d'incidents potentiels en période postexploitation sont :

- Chute à proximité de la fosse et des ouvertures au jour ;
- Instabilité de pentes dans les sols au pourtour de la fosse ;
- Collision ou renversement d'équipements mobiles ;
- Incendie ;
- Déversement ou fuite de produits pétroliers, de produits chimiques ou de matières dangereuses ;
- Instabilité d'une halde, d'une digue de bassin de gestion des eaux ou des digues de rétention dans le lac ;
- Électrisation et électrocution ;
- Submersion dans l'eau lors des travaux et activités d'échantillonnage ;
- Collision ou rencontre avec la faune locale.

En période postrestauration, les risques d'accident seront réduits en raison de la fin des travaux. En effet, durant les cinq (5) années de cette phase, seules des activités d'inspection et de suivi auront lieu. Les principaux incidents actuellement identifiés pour cette période sont :

- Travail seul ou avec présence au site limitée ;
- Collision ou rencontre avec la faune locale.

3.2 ÉVÉNEMENTS D'ORIGINE NATURELLE

Les événements d'origine naturelle sont des éléments externes aux activités de restauration susceptibles de représenter des risques pour les travailleurs, les infrastructures ou le fonctionnement des activités. En période postexploitation et postrestauration, les dangers d'origine naturelle sont :

- Les feux de forêt ;
- Les événements météorologiques extrêmes.

3.3 ÉVALUATION DES RISQUES ET MESURES DE PRÉVENTION ET CONTRÔLE

3.3.1 RISQUE DE CHUTE À PROXIMITÉ DE LA FOSSE ET DES OUVERTURES AU JOUR

Afin d'éviter tout incident tel qu'une chute, les ouvertures minières seront scellées lors de la restauration du site. Les ouvertures au jour du site comprennent des portails d'accès aux galeries souterraines, des puits d'extraction ainsi que des cheminées de remblai à stériles et de ventilation. Les portails seront remblayés avec des stériles afin de bloquer intégralement l'accès. Les autres ouvertures seront sécurisées avec des dalles de béton.

De plus, durant les opérations de la fosse, une levée d'argile, des murets de protection ainsi qu'un fossé de dérivation auront été construits aux pourtours de celles-ci afin de prévenir une chute. Les murets de protection auront été disposés à une distance suffisante de la fosse en fonction des études géotechniques réalisées pour chacune d'entre elles.

3.3.2 RISQUE D'INSTABILITÉ DE PENTES DANS LES SOLS AU POURTOUR DE LA FOSSE

Une instabilité dans les sols au pourtour de la fosse est un risque important pour la sécurité du personnel travaillant au site. Tous les travaux de restauration auront normalement été réalisés afin d'assurer une stabilité physique à long terme des ouvrages. Un suivi de l'intégrité des ouvrages sera réalisé sur une période minimale de cinq (5) ans en phase postrestauration.

Des équipements lourds tels que des grues seront utilisés en phase postexploitation pour le démantèlement d'infrastructures et la manipulation de matériel. Une instabilité des sols à proximité de la fosse sous lesquels se tiennent les équipements amène un risque important d'accident grave. En tel cas, la zone de travail devra être évaluée avant les travaux et un périmètre à ne pas dépasser devra être établi afin d'assurer la protection des travailleurs.

3.3.3 RISQUE DE COLLISION OU DE RENVERSEMENT D'ÉQUIPEMENTS MOBILES

Lors des activités postexploitation du site, l'utilisation de véhicules et de machinerie lourde sera nécessaire. Ainsi, les travailleurs seront exposés à divers risques tels que :

- Être heurtés ou écrasés par un véhicule ou de la machinerie ;
- Renversement de machinerie lourde.

La machinerie et les véhicules utilisés au site devront faire l'objet d'une inspection quotidienne afin d'assurer leur bon état de fonctionnement. De plus, le représentant en santé-sécurité s'assurera que tous les opérateurs ont les qualifications adéquates. Tous les travailleurs devront avoir suivi les formations applicables.

De plus, les aires de travail et voies de circulation seront adéquatement balisées et de la signalisation sera mise en place, au besoin.

Des actions de sensibilisation seront également mises en place, telles que le respect des priorités de passage, les rayons de protection, les éléments pour assurer la visibilité des travailleurs et des autres véhicules, etc.

3.3.4 RISQUE D'INCENDIE

Les activités liées à l'exploitation minière nécessitent l'utilisation de produits réactifs susceptibles de provoquer des incendies. Tous les produits réactifs non utilisés seront retournés aux fournisseurs après la cessation des activités.

Les incendies liés aux événements d'origine naturelle ou externe sont traités à la section 3.3.9.

Une attention particulière sera portée à la manipulation des matières dangereuses susceptibles de représenter des sources d'incendie, de même qu'aux incompatibilités potentielles entre les matières. La manipulation sécuritaire des matières dangereuses est traitée à la section 3.3.5.

De la sensibilisation sera effectuée auprès des travailleurs de manière à réduire les risques d'incendie. De plus, les intervenants seront formés pour intervenir adéquatement en cas de début d'incendie et le matériel adéquat sera présent sur place.

3.3.5 RISQUE DE DÉVERSEMENT OU DE FUITE DE PRODUITS PÉTROLIERS, DE PRODUITS CHIMIQUES OU DE MATIÈRES DANGEREUSES

Lors des activités postexploitation, la récupération ou l'élimination de produits pétroliers, de produits chimiques ou de matières résiduelles dangereuses seront nécessaires. Ainsi, les travailleurs seront exposés à divers risques tels que :

- Bris d'un équipement/réservoir causant un déversement accidentel (mineur ou majeur) ;
- Fuite lors d'une vidange ou du transport ;
- Exposition à des matières dangereuses qui pourrait nuire à la santé des travailleurs.

Les produits pétroliers (propane, essence, diesel et graisses) devraient normalement être épuisés à la fin de l'exploitation. Si certains produits ne sont pas épuisés à la fermeture du site, ils seront récupérés, pour ensuite être vendus ou disposés selon la réglementation en vigueur. Les équipements, les réservoirs de stockage et la tuyauterie seront vidangés. Ces équipements seront nettoyés par des entrepreneurs spécialisés et éliminés hors site, selon la réglementation en vigueur. Il en va de même pour les produits chimiques.

La manipulation inadéquate de ces produits ou un bris d'un équipement ou réservoir peuvent entraîner un déversement accidentel ou une fuite. Afin d'intervenir efficacement et d'assurer la sécurité et la santé des travailleurs, toutes les personnes concernées doivent avoir reçu une formation adaptée. Ils doivent comprendre les caractéristiques de chaque type de produit dangereux ainsi que les procédures des mesures d'urgence à adopter lors d'un accident.

Les produits dangereux devront être identifiés et catégorisés en tenant compte de leur niveau d'incompatibilité avec d'autres produits et leur niveau de toxicité.

Les équipements de prévention des incendies, des trousses de premiers soins et des trousses de nettoyage en cas de déversement mineur seront disponibles sur les lieux de travail.

3.3.6 RISQUE D'ÉLECTRISATION ET ÉLECTROCUTION

Le plan de restauration du site minier Shaakichiuwaanaan prévoit le démantèlement de certaines lignes électriques, ce qui peut représenter un risque d'électrisation et d'électrocution. Les circuits électriques sont susceptibles de causer plusieurs lésions à la personne exposée. La tension électrique et la puissance de courant sont suffisamment élevées pour entraîner un décès par électrocution.

Les mesures de prévention pour éliminer ou réduire les risques seront axées sur la sensibilisation et la formation des travailleurs. Les travailleurs seront sensibilisés à agir de manière prudente lors de travaux où l'énergie électrique est présente et à porter les équipements de protection individuelle appropriés. Les travailleurs doivent toujours s'assurer que la ligne électrique est mise hors tension et que les équipements électriques ne sont pas branchés avant d'entamer toute procédure de démantèlement.

De plus, toutes les machineries roulantes et déployables qui seront utilisées pendant le démantèlement de la ligne électrique et la démolition des bâtiments seront munies d'un dispositif limiteur de portée respectant les distances prévues.

3.3.7 RISQUE D'INSTABILITÉ DES HALDES, DES DIGUES DES BASSINS OU DES DIGUES DE RÉTENTION DANS LE LAC

Les événements naturels sont susceptibles de représenter un risque pour la stabilité des infrastructures. Une fois la restauration complétée, les infrastructures qui demeureront en place sont les suivantes : la halde à stériles 001, la halde de co-disposition des stériles et des résidus 002 et leurs bassins de sédimentation (avec brèche dans les digues) ainsi que certaines sections du barrage qui n'auront pas été démantelées, puisque la brèche dans l'une des sections assurera le libre écoulement de l'eau.

Au niveau des haldes, la restauration et la revégétalisation permettront de limiter l'infiltration d'eau et les problèmes d'érosion superficielle. Le suivi postrestauration des infrastructures permettra d'évaluer la présence d'anomalies et d'appliquer les correctifs appropriés, au besoin.

De plus, les pratiques de surveillance et de contrôle terrain seront maintenues, à la fréquence recommandée par les experts. Des mesures seront aussi immédiatement mises en place si un point critique est atteint par l'un des instruments de surveillance en place.

3.3.8 RISQUE DE COLLISION OU RENCONTRE AVEC LA FAUNE LOCALE

Le site minier Shaakichiuwaanaan se trouve dans un milieu reculé du nord du Québec. La faune locale peut donc représenter un danger potentiel pour les travailleurs du site. Les animaux typiquement retrouvés dans cette région et qui peuvent être rencontrés à tout moment lors des opérations de travail sont, entre autres : le caribou, le castor, l'ours noir, la belette, la martre, le lynx, le loup, le renard, la loutre, le vison et le porc-épic.

Le caribou, le castor, la belette, la martre, le renard, la loutre, le vison et le porc-épic ne représentent pas de danger sérieux pour l'humain, mais les travailleurs doivent tout de même tenter de ne pas entrer en contact inutilement avec ceux-ci. Pour l'ours, le loup et le lynx, les conséquences peuvent devenir plus graves si des précautions ne sont pas prises lors d'une potentielle rencontre. Les rencontres avec l'un de ces animaux devront être reportées au gardien de sécurité, qui tiendra un registre et prendra les mesures nécessaires dépendamment de la situation.

Dans la majorité des cas, les animaux sauvages se sauvent immédiatement en présence de l'humain. Des mesures de prévention doivent tout de même être mises en place, puisque même si l'animal sauvage voit l'humain comme un prédateur, ce dernier est moins bien équipé physiquement en cas d'attaque. Tous les travailleurs devront s'assurer d'être en contact radio avec le gardien de sécurité en tout temps en cas de rencontre impromptue.

Pour se protéger, des klaxons à air comprimé et/ou des bonbonnes de poivre de cayenne pourront être placés à tous les kilomètres sur le bord des chemins empruntés par les travailleurs. Les travailleurs sont d'ailleurs encouragés à porter l'une de ces deux mesures de prévention sur eux lorsqu'ils sont à l'extérieur des bâtiments.

3.3.9 RISQUE DE SUBMERSION DANS L'EAU LORS DES TRAVAUX ET DES ACTIVITÉS D'ÉCHANTILLONNAGE

En phase postexploitation et postrestauration, du personnel devra se déplacer au site afin de prendre des échantillons d'eau. Également, du personnel devra effectuer des brèches dans les digues des bassins et du barrage. Ces activités présentent un risque de chute dans un plan d'eau. Chaque point d'échantillonnage et chaque zone de travail devront être évalués afin que l'approche du plan d'eau soit sécuritaire. De plus, le personnel devra avoir un moyen de contact tel qu'une radio et signaler périodiquement sa localisation. Dans la mesure du possible, un accompagnateur devrait être présent lors de l'échantillonnage d'eau.

3.3.10 TRAVAIL SEUL OU AVEC PRÉSENCE AU SITE LIMITÉE

En phase postrestauration, il est possible qu'un seul travailleur à la fois doive se rendre au site minier (par exemple un agronome). Le site minier Shaakichiuwaanaan est en région isolée ; les ressources humaines et matérielles en cas d'incident seront plus limitées au site. Les travailleurs devant se rendre au site, particulièrement en phase postrestauration, devront analyser les risques associés à leurs tâches avant de se déplacer. Afin de réduire les risques associés à chacune des activités, des mesures adéquates devront être mises en place, telles qu'une communication à fréquence déterminée lors des visites, être accompagné ou encore avoir des équipements d'intervention d'urgence.

3.3.11 FEUX DE FORÊT

Les changements climatiques risquent d'entraîner une augmentation des sécheresses, des saisons de feux prolongées et des conditions météorologiques extrêmes favorisant la foudre dans les prochaines années. Chacun de ces éléments risque de provoquer un nombre croissant d'incendies, des feux plus intenses et une augmentation des surfaces brûlées par les feux de forêt (Gouvernement du Canada, 2024).

Les étés dans le nord du Québec peuvent être très secs avec de fortes périodes de chaleur. Des feux de forêt s'ensuivent presque inévitablement chaque été, aussi bien causés par des sources naturelles comme la foudre, que par des causes humaines comme les feux de camp, le rejet de mégots de cigarettes dans la nature, ou autres activités de loisir ou de travail.

Des mesures spécifiques seront mises en place par PMET en cas de feux de forêt. À la fin de l'événement, un programme de surveillance et de suivi permettra d'appliquer des correctifs au besoin.

3.3.12 ÉVÉNEMENTS MÉTÉOROLOGIQUES EXTRÊMES

Les changements climatiques provoquent l'augmentation des phénomènes météorologiques extrêmes (pluies abondantes, vents violents, tornades, sécheresses prolongées, etc.). Bien qu'il y ait peu d'infrastructures susceptibles d'être affectées par les événements météorologiques extrêmes en périodes postexploitation et postrestauration, ces événements pourraient forcer l'arrêt temporaire des activités.

Une fois revégétalisées, les surfaces seront beaucoup moins susceptibles d'être affectées par de l'érosion excessive. Le plan de revégétalisation prévoit entre autres l'utilisation de plantes à croissance rapide pour favoriser l'implantation d'une couverture végétale. Un programme de surveillance et de suivi permettra d'identifier les non-conformités et d'appliquer des correctifs au besoin.

4 MISE EN PLACE DU PLAN DE MESURES D'URGENCE

4.1 DÉCLENCHEMENT

De manière générale, une personne confrontée à une situation d'urgence ou à un incident doit impérativement et sans délai informer son supérieur immédiat. Selon le niveau d'urgence, un processus décisionnel sera mis en œuvre afin d'agir adéquatement. À ce stade et selon le type d'événement, divers scénarios sont possibles allant de la rédaction d'un rapport d'incident sans arrêt de travail prolongé, jusqu'au déclenchement des mesures d'urgence et l'évacuation du site. Certains exemples de rapport d'incident et de déversement sont fournis à l'Annexe A.

4.2 NIVEAUX D'ALERTE

Les niveaux d'alerte sont décrits au Tableau 4-1. Ils sont basés sur l'analyse des risques présentée à la section 3 du présent document.

Tableau 4-1. Niveau d'alerte des événements

Alerte	Degré 1	Degré 2	Degré 3
Description	Incident mineur maîtrisé, faisant l'objet d'une correction immédiate par le personnel présent et vérifiée par le chef d'équipe, qui peut causer des effets mineurs et transitoires.	Événement non contrôlé par le personnel sur les lieux qui peut causer des effets graves ou irréversibles sur la santé et la sécurité, ainsi que des conséquences sur l'environnement. Nécessite des équipes d'intervention interne. Possible intervention d'une équipe d'intervention externe pour finaliser la sécurisation du secteur.	Tout événement majeur ne pouvant être contrôlé par une équipe d'intervention interne et dont les effets sont susceptibles de menacer la vie de toutes les personnes exposées ou de causer des effets sérieux et irréversibles sur la santé et la sécurité ainsi que des impacts environnementaux majeurs.
Évacuation	Non applicable	Évacuation du secteur touché	Évacuation partielle ou totale du site
Exemples	Incendie mineur maîtrisé immédiatement par l'équipe de travail, déversement mineur d'une substance connue du personnel, accrochage mineur d'équipements mobiles.	Incendie localisé et contrôlé, déversement majeur d'une substance connue du personnel et sans contact avec un plan d'eau.	Incendie majeur, déversement d'un contaminant ayant atteint un plan d'eau, explosion, catastrophe naturelle, tout événement compromettant la vie ou l'intégrité physique du personnel ou du public.

5 RÔLE ET RESPONSABILITÉ DES INTERVENANTS

L'efficience d'un PMU se base sur la participation de tous les employés œuvrant au projet. À cet égard, la diffusion des informations qu'il contient devient primordiale. Conséquemment, des séances d'informations doivent être données régulièrement au personnel afin de maintenir à jour la compréhension des directives en matière de prévention. En ce sens, une première instruction à transmettre concerne la clarification du rôle et des responsabilités imputables à chaque employé. Il est à noter que la liste des intervenants sera à confirmer avant le début de la phase postexploitation. Les responsabilités d'un intervenant identifié ci-après devront être redistribuées si le poste de cet intervenant n'est pas rempli par une personne distincte.

5.1 LES EMPLOYÉS FACE À UNE SITUATION D'URGENCE

Le personnel présent sur les lieux d'un événement forme la première ligne d'intervention sur un site d'exploitation. Pour cette raison, il est primordial que ces derniers soient aptes à réagir efficacement aux situations d'urgence tout en faisant preuve de discernement. Ainsi, lorsqu'un événement survient, l'employé doit :

1. Cesser ses activités ;
2. Tenter de contrôler la situation de façon sécuritaire ;
3. Avertir son superviseur et, si la situation l'exige, communiquer directement avec les secouristes ;
4. En présence du superviseur, du Coordonnateur santé et sécurité ou du Coordonnateur du PMU, suivre les instructions de ces derniers ;
5. Rédiger, sous forme de note, un rapport préliminaire d'événement.

5.2 LE SUPERVISEUR FACE À UNE SITUATION D'URGENCE

Face à une situation d'urgence, le superviseur doit coordonner les opérations. Ainsi, lorsqu'un événement survient, le superviseur doit :

1. Être joignable par les travailleurs ;
2. Analyser les informations transmises par les membres de son équipe ;
3. Déterminer le degré de l'alerte ;
4. Si nécessaire, donner l'ordre d'évacuer le site ;
5. Si nécessaire, demander l'aide d'un secouriste en milieu de travail ;
6. Si nécessaire, mobiliser une équipe de secours externe ;
7. Mobiliser les ressources d'intervention appropriées à la situation ;
8. Faire le décompte des travailleurs (équipe de travail) ;
9. Dans la mesure du possible, contenir la situation problématique ;

10. Si nécessaire, informer le Coordonnateur santé et sécurité, le Coordonnateur du PMU et le directeur général de la mine ;
11. Rédiger le rapport d'incident.

5.3 LE COORDONNATEUR DU PMU FACE À UNE SITUATION D'URGENCE

La fonction du Coordonnateur du PMU consiste à identifier les situations qui pourraient être dangereuses. Il doit faire des inspections et des recommandations. Il doit également favoriser la mise en place de mécanismes de prévention afin de rendre les employés aptes à prendre en charge leur sécurité et celle du public, la sécurité des infrastructures et celle des milieux naturels et de l'environnement en général. Finalement, le Coordonnateur du PMU agit à titre d'expert-conseil auprès de la direction de la mine, des superviseurs et des employés. Alors, lorsqu'un événement survient, le Coordonnateur du PMU doit :

1. Être à la disposition des superviseurs ;
2. Apporter son soutien, son aide et ses conseils aux superviseurs ;
3. Prendre le relais pour coordonner les communications entre les superviseurs, les équipes d'intervention externe et la direction de la mine au besoin ;
4. Faire enquête sur les causes qui ont déclenché l'événement ;
5. Tenir à jour le registre des événements.

5.4 LE SECOURISTE EN MILIEU DE TRAVAIL

Le Secouriste en milieu de travail a la responsabilité de prodiguer les premiers secours à ses collègues, aux visiteurs et ainsi qu'à toute personne blessée ou se trouvant dans un état de santé précaire. Ainsi, en présence d'une personne souffrante, le Secouriste en milieu de travail doit :

1. Connaître l'emplacement des équipements de premiers soins ;
2. Tenir ses connaissances à jour ;
3. Prodiguer les premiers secours aux personnes victimes de lésion ou de malaise jusqu'à l'arrivée de l'ambulance ;
4. Transmettre l'information pertinente aux ambulanciers.

5.5 L'AGENT DE SÛRETÉ

L'Agent de sûreté coordonne les communications et oriente les équipes d'intervention externe.

1. Selon la nature de l'événement, aviser le Coordonnateur santé et sécurité de la situation ;
2. Établir la liste de présences (selon la nature de l'urgence) ;
3. Demeurer disponible pour assister les intervenants au besoin ;
4. Autant que possible, garder un journal chronologique des événements et des communications.

5.6 LE COORDONNATEUR SANTÉ ET SÉCURITÉ

En fonction des informations et des recommandations que lui ont transmises les superviseurs et l'Agent de sûreté, le Coordonnateur santé et sécurité doivent analyser les lieux et coordonner les opérations d'intervention. Il doit s'assurer que les actions prises tiennent compte de la sécurité des personnes, de la sauvegarde des biens et de la protection de l'environnement.

1. Suivant l'appel reçu de l'Agent de sûreté, évaluer la situation d'urgence (ordonner l'évacuation d'un secteur donné, si nécessaire) ;
2. Cerner la « zone dangereuse » et déterminer à quel moment les intervenants peuvent y entrer ;
3. S'assurer que le Coordonnateur du PMU ou un délégué est déployé sur le terrain dans les plus brefs délais ;
4. Coordonner et diriger toutes les opérations d'intervention et d'atténuation prévues dans le PMU selon la situation d'urgence ;
5. Évaluer les besoins, réclamer des ressources supplémentaires, surveiller l'évolution des conditions et modifier les stratégies d'action au besoin ;
6. Informer la direction de PMET des stratégies mises en application et de l'état d'avancement des opérations ;
7. Considérer la gravité de l'urgence, mettre fin à celle-ci et autoriser la reprise normale des opérations ;
8. Soumettre un rapport de la situation d'urgence à la direction.

5.7 LES RESSOURCES D'URGENCE EXTERNES

Selon le type d'événement ou en fonction de l'ampleur de la situation, le superviseur doit recourir à des ressources externes. La liste des intervenants externes est présentée à la section 8.2.

6 PROTOCOLE D'INTERVENTION

Une situation d'urgence peut survenir à tout moment. Afin d'intervenir dans les meilleurs délais, des plans d'intervention sont élaborés afin de répondre de manière spécifique à divers types d'événements.

Ces plans visent à prioriser la protection de la santé et de la sécurité des employés, la protection de l'environnement et la protection des biens matériels.

6.1 PROCÉDURE EN CAS D'ACCIDENT GRAVE

Un accident grave est défini par l'une des situations suivantes :

- Il entraîne des blessures graves ou le décès d'une ou de plusieurs personnes ;
- Il nécessite l'hospitalisation d'un individu pour une durée de plusieurs jours ;
- Il est susceptible d'entraîner une incapacité irréversible ou de longue durée d'une personne ;
- Il concerne un nombre important de victimes ;
- Il nécessite l'intervention des autorités ou de la Sécurité civile, telles que les secours en milieu de travail, les services d'ambulance, de pompiers, de policiers ou de la Société de protection des forêts contre les incendies (SOPFEU).

Voici les étapes à suivre en cas d'accident grave.

1. **Si un employé est témoin d'un accident grave ou découvre un blessé, il doit :**
    - Évaluer les risques pour lui-même, le Secouriste, la personne blessée et l'environnement avant de fournir une assistance.
    - Éviter de s'exposer à des sources d'énergie dangereuses en appliquant la politique d'énergie zéro.
    - Informer immédiatement son superviseur ou le département de santé et sécurité.
    - Indiquer précisément le lieu de l'accident, le type de blessure et toute information pertinente.
    - Préciser si le blessé peut se déplacer ou s'il a besoin de soins sur place.
    - En cas de blessure grave, ne pas déplacer le blessé avant l'arrivée des secours, sauf en cas de risque d'aggravation de la blessure.
2. **Le superviseur informé d'un accident grave doit :**
    - En phase postexploitation, appeler le Coordonnateur santé et sécurité pour signaler la situation ; celui-ci contactera le 9-1-1 selon les circonstances.
    - Prodiguer les premiers soins et appeler les secours aussi rapidement que possible.

- Informer rapidement le Coordonnateur du PMU ou son remplaçant désigné, ou encore le directeur du site si nécessaire.
- Veiller à ce que le lieu de l'accident reste tel quel, sauf en cas de danger pour la vie ou la santé.
- Recueillir autant d'informations que possible et préparer un rapport d'enquête préliminaire.
- Demeurer disponible pour participer à l'enquête immédiate.

3. **Le Secouriste informé d'un accident grave doit :**

- Administrer les premiers soins.
- S'assurer que le blessé est transporté à l'hôpital dès que possible après les premiers soins.
- Donner des instructions claires pour maintenir le lieu de l'accident inchangé, sauf en cas de danger pour la vie ou la santé.
- Tenir informés le superviseur et le Coordonnateur du PMU.

4. **Le Coordonnateur du PMU ou son remplaçant désigné, lorsqu'il est informé, doit :**

- S'informer sur l'état des blessés.
- Obtenir des détails sur l'accident.
- Se renseigner sur le lieu exact de l'accident si nécessaire.
- Produire et soumettre un rapport d'accident à la Commission des normes, de l'équité, de la santé et de la sécurité du travail (CNESST) dans les 24 heures, avec le soutien du département de Santé et sécurité.
- Aviser l'inspecteur de la CNESST par téléphone.

6.1.1 TRANSPORT PAR AMBULANCE

Si le Secouriste détermine que l'état du blessé nécessite un transport d'urgence à l'hôpital par ambulance, la procédure suivante doit être suivie.

1. Le Secouriste doit :

- Informer le Coordonnateur santé et sécurité de la nécessité d'une ambulance.
- Stabiliser la blessure et immobiliser le patient.

2. Dès que la personne responsable du site est informée du besoin d'ambulance, elle doit :

- Composer le 9-1-1.

6.1.2 DÉCÈS D'UN TRAVAILLEUR (ACCIDENT MORTEL)

En cas d'accident mortel, le Coordonnateur du PMU ou son remplaçant désigné doit :

- Informer la CNESST en composant le 1-844-838-0808.
- Avertir la Sûreté du Québec en appelant le 1-819-638-8788.
- Notifier la direction de PMET.

Tous les accidents ou incidents ultérieurs doivent être documentés dans un rapport écrit, soumis à l'inspecteur de la CNESST dans les 24 heures suivant l'incident.

6.2 PROCÉDURE AVEC BRIS MATÉRIEL

De façon générale, les incidents avec bris de matériel s'appliquent à des événements dont le niveau d'urgence est de moindre importance. Toutefois, la vigilance reste de mise, car certains incidents peuvent entraîner des répercussions sur l'ensemble de la productivité d'un projet. C'est dans cette optique de précaution que les incidents avec bris de matériel doivent être analysés. Afin de réagir efficacement, il convient de suivre un protocole standardisé pour traiter ce type d'événement. Ainsi, la marche à suivre lorsque survient un incident avec bris de matériel est la suivante :

1. Cesser le travail.
    - Vérifier si des lignes de transport d'énergie sont touchées.
    - Vérifier s'il y a un risque d'incendie.
    - S'il est sécuritaire de le faire, contrôler la situation.
2. Aviser le superviseur.
    - Déterminer le niveau d'alerte.
    - Déterminer s'il y a un risque de contaminer l'aire de travail ou l'environnement.
    - Déterminer si l'incident risque d'obliger l'évacuation d'un secteur ou la totalité du site.
3. Si nécessaire, informer le coordonnateur santé et sécurité.
4. Prendre une décision concertée.
5. Documenter l'événement.
    - Rapport préliminaire d'incident.
    - Photos.
6. Faire une enquête pour déterminer les causes de l'incident et rédiger un rapport d'enquête.
    - Superviseur et agent en prévention.

6.3 FEUX DE FORÊT

En cas de détection d'un feu de forêt à proximité du site d'exploitation ou des routes d'accès, toute personne doit :

1. Informer immédiatement son superviseur, le département de Santé et sécurité au travail, la guérite ainsi que le Coordonnateur du PMU ou son remplaçant. Ce dernier sera chargé de contacter le service d'incendie de Radisson et de tenir informée la SOPFEU en fournissant tous les détails pertinents.
2. Attendre les instructions de la SOPFEU.

En cas de signalement de feux de forêt à proximité des installations par la SOPFEU, la procédure suivante sera mise en place.

1. Chaque zone et chaque service recevront les instructions spécifiques qui devront être communiquées aux travailleurs.
2. Tout le personnel devra se réunir à un point de rassemblement désigné par le Coordonnateur du PMU ou à un autre endroit spécifié.
3. Les préparatifs pour une éventuelle évacuation générale du site d'exploitation seront entamés. Seule la SOPFEU, en collaboration avec le Coordonnateur du PMU et le Coordonnateur santé et sécurité, est autorisée à ordonner une évacuation.
4. Les travailleurs et les équipements de lutte contre les incendies doivent être prêts à intervenir au besoin.

6.3.1 ÉVACUATION DES BLESSÉS

Les actions à entreprendre par le Secouriste sont les suivantes :

1. Évaluer l'état de la personne blessée et s'assurer de sa conscience.
2. Appeler immédiatement l'ambulance.
3. Informer les secours de la situation en détaillant l'état du patient, la localisation de l'accident et le type d'équipement présent sur les lieux.
4. Désigner un guide chargé d'accompagner l'ambulance depuis le lieu de l'accident jusqu'à l'hôpital.

6.4 DÉVERSEMENT ACCIDENTEL OU FUITE DE PRODUITS PÉTROLIERS, DE PRODUITS CHIMIQUES OU DE MATIÈRES DANGEREUSES

Les déversements sont classés en deux catégories selon le niveau d'intervention requis :

- **Mineurs** : les déversements mineurs présentent peu de risque pour la santé et sont nettoyés par le personnel du secteur.
- **Majeurs** : les déversements majeurs sont plus risqués pour les travailleurs, il est donc préférable de confier l'intervention aux services spécialisés en mesures d'urgence.

À partir du moment où un travailleur constate un déversement, les mesures suivantes doivent être prises.

6.4.1 DÉVERSEMENTS MINEURS

1. Informer immédiatement le responsable du secteur, le supérieur ainsi que le personnel sur place.
2. Ériger un périmètre de sécurité pour délimiter la zone affectée.
3. Restreindre l'accès à la zone aux seuls membres du personnel formés.
4. Identifier la nature du produit pétrolier ou chimique déversé.
5. Évaluer si la fuite a été colmatée.
6. Consulter la fiche signalétique du produit déversé pour :
    - Évaluer les risques pour la santé et l'environnement ;
    - Déterminer les équipements de protection individuelle appropriés ;
    - Suivre les procédures spécifiques en cas de déversement ;
    - Identifier les produits chimiques non compatibles (par exemple, réaction avec l'eau).
7. Si possible et sans danger, récupérer le produit déversé.
8. Arrêter le déversement de manière sécuritaire.
9. Sélectionner le matériau absorbant ou neutralisant adéquat en se référant aux recommandations du fournisseur de la trousse de déversement.
10. Appliquer le matériau absorbant ou neutralisant en commençant par les bords du déversement et en progressant vers le centre.
11. Collecter les déchets selon les instructions du fournisseur de la trousse de déversement.
12. Si l'eau n'est pas incompatible avec le produit déversé, utiliser des feuilles absorbantes pour rincer et nettoyer la zone contaminée.

13. Mettre tous les matériaux utilisés pour la collecte du déversement dans un conteneur hermétique.
14. Apposer une étiquette sur le conteneur indiquant le nom du produit déversé et le nom de la personne responsable de la collecte.
15. Stocker le conteneur hermétique dans un endroit frais, sec et à l'abri des produits incompatibles, conformément aux procédures établies par PMET.
16. Inspecter la zone du déversement et s'assurer de son nettoyage avant de permettre la reprise des activités.
17. Laver minutieusement les équipements et les vêtements contaminés avant de les réutiliser.
18. Compléter les registres de déclaration des déversements ainsi que ceux de l'entrepôt des matières dangereuses pour les produits chimiques concernés.

6.4.2 DÉVERSEMENTS MAJEURS

1. Informer immédiatement le responsable du secteur ainsi que le personnel sur place.
2. Si nécessaire, évacuer rapidement le secteur.
3. Établir un périmètre de sécurité et restreindre l'accès au secteur en attendant l'arrivée de l'équipe d'intervention.
4. Informer le Service de sécurité en fournissant les informations suivantes :
    - Le nom du produit déversé ;
    - La quantité approximative de matière déversée ;
    - Si possible, préciser si la fuite est colmatée ;
    - Le numéro de local et l'emplacement exact du déversement ;
    - Son nom, sa fonction et son numéro de poste téléphonique.
5. Rester sur place pour coordonner avec l'équipe d'intervention.
6. Compléter le registre de déclaration des déversements ainsi que celui de l'entrepôt des matières dangereuses en cas de déchets contaminés.
7. Informer immédiatement Urgence Environnement Québec et Urgence Environnement Canada dès que possible.

6.5 PROTOCOLE D'ÉVACUATION

Lorsque le Coordonnateur du PMU ordonne l'évacuation générale du site, tout le personnel de PMET ainsi que tous les visiteurs présents au site d'exploitation doivent se rendre au point de rassemblement. Lors d'un exercice de simulation ou advenant un événement majeur réel, la procédure suivante doit être suivie par l'ensemble des personnes se trouvant sur le site. Ainsi, lorsque l'alarme est lancée :

- Tous les employés et toutes les personnes présentes sur le site doivent cesser leurs activités, éteindre les équipements motorisés puis se diriger vers le point de rassemblement ;
- Une fois arrivés au point de rassemblement, les employés ont l'obligation de se regrouper avec leurs équipes de travail ;
- Une fois arrivés au point de rassemblement, les visiteurs ont l'obligation de signaler leur présence à leur répondant PMET ;
- Lorsque le personnel est rassemblé, les superviseurs procèdent au décompte des travailleurs ;
- Finalement, l'ordre d'évacuer le site via la sortie principale est donné aux employés et visiteurs.

6.5.1 RETOUR À LA NORMALE

Le retour à la normale se fait lorsque l'événement est maîtrisé et que les inspections requises ont été effectuées. Voici le déroulement des étapes à suivre pour la réintégration du site d'exploitation.

- Délivrance de l'autorisation de réintégrer le site par les autorités ou organisations compétentes (Sûreté du Québec, SOPFEU, CNESST, Sécurité civile).
- Inspection du site et des équipements effectuée par les superviseurs, l'agent en prévention et le surintendant de l'exploitation.
- Retour au travail.

7 RESSOURCES IMPORTANTES AU PLAN DE MESURES D'URGENCE

Certains éléments ont été mis en place par PMET pour intervenir rapidement en cas de situation d'urgence.

7.1 MATÉRIEL D'INTERVENTION

Il est nécessaire d'avoir des équipements d'urgence dédiés afin de permettre une intervention rapide en cas de situation d'urgence. Ces équipements et leurs opérateurs doivent être mobilisés rapidement par le Coordonnateur Santé et sécurité en cas d'urgence. Lors de la phase postrestauration, un besoin en machinerie lourde sera à prévoir sur le terrain. Les équipements et machineries listés ci-après devront être mobilisés sur le site.

7.1.1 ÉQUIPEMENTS POUR LES TRAVAUX DE RESTAURATION

- Bouteur sur chenille ;
- Pelle hydraulique ;
- Chargeurs sur roues ;
- Camions à dix (10) roues ;
- Camions articulés ;
- Pompe à eau ;
- Conduites.

7.1.2 ÉQUIPEMENTS DE SANTÉ ET SÉCURITÉ

- Un ou plusieurs extincteurs dans chaque secteur à risque d'incendie et dans chaque véhicule ;
- Équipements de protection individuelle (sécurité physique, besoins respiratoires, manipulation de produits chimiques, etc.) ;
- Douches oculaires ;
- Civières ;
- Matériel de premiers soins de l'ambulance ;
- Trousses de premiers soins dans tous les secteurs à risque et les véhicules.

7.1.3 ÉQUIPEMENTS POUR LA PROTECTION DE L'ENVIRONNEMENT

- Trousses de déversement dans tous les secteurs à risque et les véhicules ;
- Contenants étanches pour entreposer les matières contaminées ;
- Conteneur pour entreposer les sols contaminés ;
- Pompe portative ;
- Génératrice ;
- Couches absorbantes (en feuilles et en rouleau).

7.2 POINTS DE RASSEMBLEMENT

Le point de rassemblement utilisé est situé au campement d'exploration du site minier Shaakichiuwaanaan et est illustré sur la Figure 7-1.

Figure 7-1. Point de rassemblement du campement d'exploration au site minier Shaakichiuwaanaan

7.3 PROGRAMME D'INSPECTION

Les employés sont responsables de l'inspection des équipements, du matériel et des infrastructures du site, donc de s'assurer de leur bon état et, s'il y a détérioration, de réagir le plus rapidement possible pour régler la situation. Voici une liste d'exemples de responsabilités :

- Vérification des trousses de premiers soins ;
- Recensement de la machinerie présente sur le site et vérification de son bon fonctionnement ;
- Recensement et remplacement des équipements de protection individuelle présents sur le site.

8 RESSOURCES ET BOTTIN TÉLÉPHONIQUE

8.1 RESSOURCES INTERNES

Le Tableau 8-1 présente une liste de coordonnées des personnes responsables de mettre à exécution le PMU.

Tableau 8-1. Coordonnées des personnes responsables de mettre à exécution le PMU

Titre	Nom, prénom	Téléphone bureau	Cellulaire
Président-directeur général	Brinsden, Ken	1-438-270-1349	778-772-5359
Directeur des opérations et Coordonnateur du PMU	Mercier Langevin, Frédéric	S/O	1-819-354-6676
Directrice des finances	Garoute, Natacha	416-904-0439	1-514-519-0763
Coordonnateur des relations avec les investisseurs et des communications	Caza-Lapointe, Olivier	S/O	1-514-913-5264
Directeur des ressources humaines	Dufour, Jérôme	647-884-9479	1-450-712-1824
Relations avec les communautés	Roy Vigneault, Éva	S/O	1-450-346-3267
Assistante exécutive	Pierre, Jeanne	416-805-9404	1-438-270-9671
Directeur Santé et sécurité	Gingras, Donald	S/O	1-819-880-2102
Représentant Santé et sécurité au camp d'exploration et Coordonnateur Santé et sécurité	Gagné, Samuel	S/O	1-581-234-9307

8.2 RESSOURCES EXTERNES

Le Tableau 8-2 présente une liste de coordonnées de ressources externes à contacter en cas d'urgence.

Tableau 8-2. Coordonnées de ressources externes

Ressource	Services	Téléphone
Sécurité publique		
Airmedic	Service d'évacuation par hélicoptère	1-877-999-3322
Centre d'appels d'urgence	Ambulance Évacuation par hélicoptère Police Pompiers	9-1-1 **(24 h)**
Urgence en sécurité civile du Québec	Signalisation d'une urgence	1-866-269-2324 (**24 h)**
Société de protection des forêts contre le feu (SOPFEU)	Feux de forêt	1-800-463-3389 **(24 h)**
Sûreté du Québec (poste de Radisson)	Police	1-819-638-8788
Régie du bâtiment du Québec (RBQ)	Urgence reliée aux produits et équipements pétroliers	1-800-361-0761 Option 5 **(24 h)**
Service incendie de Radisson	Pompiers	1-819-638-7788
Protection de la Faune	Faune	1-819-638-8305
Santé		
Centre hospitalier régional de Chisasibi	Centre de santé ou hôpital	1-819-855-2844
Centre de santé de Radisson		1-819-638-8991
Hôpital d'Amos		1-819-732-3341
Hôpital de Val-d'Or		1-819-825-5858
Centre antipoison du Québec	Urgence en cas d'ingestion de produits dangereux	1-800-463-5060 **(24 h)**
Commission des normes, de l'équité, de la santé et de la sécurité au travail (CNESST)	Lois environnementales, de la santé et de la sécurité du travail	1-844-838-0808
Ambulance du Nord (Matagami)	Services ambulanciers	1-819-739-2834

Ressource	Services	Téléphone
Environnement		
Urgence Environnement Québec (ministère de l'Environnement, de la Lutte contre les changements climatiques, de la Faune et des Parcs [MELCCFP])	Déversements	1-866-694-5454 **(24 h)**
Centre national des urgences environnementales Environnement et Changement climatique Canada	Urgences environnementales	1-514-283-2333 **(24 h)**
CANUTEC	Urgences en lien avec le transport de matières dangereuses	1-888-226-8832 **(24 h)**
Utilités		
Hydro-Québec	Pannes et urgences	1-800-790-2424 **(24 h)**
Faune		
Gouvernement du Québec	Animaux sauvages blessés, malades ou morts	1-877-346-6763
Transports		
Heli Technik	Service général d'hélicoptère	1-819-874-8804
Aéroport de La-Grande-Quatre	Aéroport	1-819-854-6117
Autobus Maheux	Service d'autobus	1-819-874-2200

9 RÉFÉRENCES

EgR inc. (2023, avril 27). *PRÉVENTION INCENDIES : Ne sous-estimez pas vos liquides inflammables*. Récupéré sur https://www.egr.ca/prevention-incendies-ne-sous-estimez-pas-vos-liquides-inflammables/

Gouvernement du Canada. (2024, mai 13). *Évacuation lors des feux de forêts*. Récupéré sur https://ressources-naturelles.canada.ca/indicateurs-des-changements-forestiers/evacuations-lors-feux-foret/17788

Gouvernement du Canada. (2024). *Règlement sur les effluents des mines de métaux et des mines de diamants (DORS/2002-22).* Ministre de la Justice.

Gouvernement du Canada. (2024). *Règlement sur les urgences environnementales (2019) (DORS/2019-51).* Ministre de la Justice.

Gouvernement du Québec. (2024). *Loi sur la qualité de l'environnement (LQE 2024, chapitre Q2).* Québec, Éditeur officiel du Québec.

Gouvernement du Québec. (2024). *Loi sur la sécurité civile (chapitre S-2.3).* Québec, Éditeur officiel du Québec.

Gouvernement du Québec. (2024). *Règlement sur la santé et la sécurité du travail dans les mines (chapitre S-2.1, r.14).* Québec, Éditeur officiel du Québec.

Ministère des Ressources naturelles et des Forêts (MRNF). (2024). *Guide de préparation du plan de réaménagement et de restauration des sites miniers au Québec.*

Société de protection des forêts contre le feu. (2020, juillet 8). *Comment calcule-t-on le danger d'incendie*. Récupéré sur https://sopfeu.qc.ca/comment-calcule-t-on-le-danger-dincendie/

PMET. (2026). *Plan de mesures d'urgence - Projet d'exploitation minière Shaakichiuwaanaan.*

Annexe A

Exemples de rapport d'incident/déversement

PMET Ressources Rapport de Déversement - Resources PMET Specific Spill Report

Ce rapport de déversement est spécifique aux exigences demandées et mises en place par PMET Resources pour le projet Shaakichiuwaanaan. Tous les déversements doivent être documentés et signalés, quelle que soit leur ampleur. Veuillez vous souvenir d'indiquer les coordonnées GPS du déversement. Pour toute demande d'informations sur la soumission, le numéro du Québec est le 1-866-694-5454. - This spill report is specific to the requirements requested and put in place by Ressources PMET on the Shaakichiuwaanaan Project. All spill must be documented and reported no matter how small. Please remember to indicate the GPS location of the spill. For inquiries on submission information the Quebec number is 1-866-694-5454.

Id: 27398390
Organisation: Innova Lithium
Site: Innova Lithium

Lieu:
Préparé par: Samuel Gagne
Date: mars 23 2026

1 INFORMATIONS GÉNÉRALES - GENERAL INFORMATION

1.1 Date et heure du déversement : - Date and Time of Spill:

1.2 Date et heure signalées : - Date and Time Reported:

1.3 Le déversement à été signalée à qui (responsable de l'environnement/ superviseur) ? - Who was the spill reported to (environmental department/supervisor) ?

1.4 Est-ce qu'il y a un suivi à faire auprès de la personne dont le déversement à été signalé ? - Is there any follow-up to be done with the person whose spill was reported?

1.5 Date et heure déclarées à urgence environnement : - Date and time declared as an environmental emergency :

1.6 Décrire ce qu'il a été fait auprès d'urgence environnement : Describe what has been done urgently to address environmental issues :

1.7 Est-ce qu'un deuxième suivi est requis auprès d'urgence environnement ? - Is a second follow-up required with environmental emergency services ?

1.8 Localisation spécifique du déversement : - Specific location of the spill :

- ○ Foreuses - Drills
- ○ Route Trans-taïga - Trans-Taïga road
- ○ Route toute saison (20 km) - all season road (20 km)
- ○ Héliport - Helicopter landing pad
- ○ Camp shaakichiuwaanaan - Shaakichiuwaanaan laydown
- ○ Parc pétrolier - Fuel depot
- ○ Dôme Muskw - Muskw dome
- ○ Usine de traitement de l'eau - Water treatment
- ○ Carothèque - Coreshack
- ○ Autre - Other

Si la réponse est Foreuses - Drills

1.8a Préciser le numéro de la foreuse - Specify the drill number

eCompliance
Part of EcoOnline Global

Si la réponse est Route Trans-taïga - Trans-Taïga road

1.8a Préciser le kilomètre où a eu lieu le déversement - Specify the kilometer where the spill occurred

Si la réponse est Route toute saison (20 km) - all season road (20 km)

1.8a Préciser le kilomètre où a eu lieu le déversement - Specify the kilometer where the spill occurred

Si la réponse est Camp shaakichiuwaanaan - Shaakichiuwaanaan laydown

1.8a Préciser l'endroit du déversement autour du camp - Specify the location of the spill around the camp -

Si la réponse est Autre - Other

1.8a Préciser l'emplacement : Specify the location

1.9 coordonnées GPS : - GPS Coordinates:

1.10 Météo : - Weather:

- ☐ Ensoleillé - Sunny
- ☐ Nuageux - Cloudy
- ☐ Couvert - Overcast
- ☐ Mélange de soleil et de nuages - Mix of sun and cloud
- ☐ Pluie (bruine) - Raining (drizzle)
- ☐ Pluie (modérée) - Raining (moderate)
- ☐ Pluie (forte) - Raining (heavy)
- ☐ Neige (légère) - Snowing (light)
- ☐ Neige (modérée) - Snowing (moderate)
- ☐ Neige (temete) - Snowing (blizzard)
- ☐ Grêle - Hail
- ☐ Brouillard - Foggy
- ☐ Vent (brise) - Wind (breezy)
- ☐ Vent (modéré) - Wind (moderate)
- ☐ Vent (turbulent) - Wind (turbulent)
- ☐ Orages - Thunderstorms
- ☐ Foudre - Lightning
- ☐ Avertissement de temps violent en vigueur (ajouter une description dans les commentaires) - Severe Weather Warning in Effect (add description in comments)
- ☐ Autre (ajouter dans les commentaires) - Other (add in comments)

1.11 Température (°C) : - Temperature (°C):

1.12 Personne témoin du déversement : Witness to the spill :

1.13 compagnie responsables : - Responsible Person and Company:

- ○ PMET Resources - Ressources PMET
- ○ FECTO
- ○ MUSKW
- ○ Dahrouge
- ○ MIS
- ○ Panorama
- ○ Domco
- ○ Synergis
- ○ Petronor
- ○ Autre - Other

Si la réponse est Autre - Other

1.13a Préciser le nom de votre compagnie - Specify the name of your company

1.14 Personne qui a fait le rapport : - Person Who Reported:

2 DESCRIPTION DE L'ÉVÉNEMENT - DESCRIPTION OF THE EVENT

2.1 Description de l'équipement : - Equipment Description:

- ◯ Véhicule Lourd - Heavy equipment
- ◯ Véhicule Léger (camion) - Light equipment (truck)
- ◯ Foreuses - Drills
- ◯ Réservoir de carburant
- ◯ Autobus - Bus
- ◯ Dégivreur - Frost fighter
- ◯ Génératrices - Generators
- ◯ Autre - Other
- ◯ Usine de traitement - Water treatment plant

Si la réponse est Véhicule Lourd - Heavy equipment

2.1a Préciser le type d'équipement et son numéro d'identification -Specify the type of equipment and its identification number.

Si la réponse est Véhicule Léger (camion) - Light equipment (truck)

2.1a Préciser le type d'équipement et son numéro d'identification -Specify the type of equipment and its identification number.

Si la réponse est Foreuses - Drills

2.1a Préciser le numéro de la foreuse - Specify the drill number

Si la réponse est Réservoir de carburant

2.1a Précisez le type de carburant et le numéro du réservoir - Specify the fuel type and tank number.

Si la réponse est Génératrices - Generators

2.1a Précisez le numéro de la génératrice - Specify the generator number

Si la réponse est Autre - Other

2.1a Préciser le type d'équipement et son numéro d'identification -Specify the type of equipment and its identification number.

Si la réponse est Usine de traitement - Water treatment plant

2.1a Préciser le type d'équipement (usine) et son numéro d'identification -Specify the type of equipment and its identification number.

2.2 Circonstance du déversement (décrire en une à deux phrases ce qui s'est passé) - Circumstances of the spill (describe what happened in one or two sentences)

2.3 Cause du déversement : - Reason of the Spill:

- ◯ Bris mécanique - Mechanical failure
- ◯ Erreur humaine - Human error
- ◯ Condition externe - External condition
- ◯ Autre - Other

Si la réponse est Condition externe - External condition

2.3a Préciser le type de condition externe - Specify the type of external condition

Si la réponse est Autre - Other

2.3a Préciser la cause du déversement - Specify the cause of the spill

eCompliance
Part of EcoOnline Global

2.4 Produit déversé : - Product Spilled:

- ◯ Huile Hydraulique - Hydraulic Oil
- ◯ Essence - Gas
- ◯ Huile - Oil
- ◯ Huile Usée - Used Oil
- ◯ Diésel - Diesel
- ◯ Antigel - Anitfreeze
- ◯ Liquide de Refroidissement - Coolant
- ◯ Eaux Usées - Waste Water
- ◯ Chimique (merci de préciser dans les commentaires) - Chemical (please specify in comments)
- ◯ Rejets de Forage - Drill Cuttings
- ◯ Boue de Forage - Drill Mud
- ◯ Carburant d'échappement diesel - Diesel Exhaust Fuel (DEF)
- ◯ Jet A - Jet A
- ◯ Mousse - Foam
- ◯ Autre - Other

Si la réponse est Autre - Other

2.4a Préciser le type de produit - Specify the type of product

2.5 Zone affectée (Dimension) : - Area Affected :

- ◯ moins de 1 m² (petite flaque ou zone localisée) - Small: less than 1 m² (small puddle or localized area)
- ◯ a modif Plus de 1 m2 (zone étendue mais contrôlable) - Medium: between 10 m² and 100 m² (large but manageable area)

2.6 Quantité (L) - Quantity (L)

- ◯ Très petit : moins de 0,5 litre (gouttes, suintement très léger) - Very small: less than 0.5 liters (drops, very slight oozing)
- ◯ Petit : entre 0,5 et 1 litre (petite flaque sous un équipement, fuite localisée) - Small: between 0.5 and 1 liter (small puddle under equipment, localized leak)
- ◯ Moyen – Niveau 1 : entre 1 et 5 litres (petit contenant renversé, fuite notable mais facilement contrôlable) - Medium – Level 1: between 1 and 5 liters (small container overturned, significant leak but easily controllable)
- ◯ Moyen – Niveau 2 : entre 5 et 10 litres (déversement nécessitant plus d'absorbants et une intervention rapide) - Medium – Level 2: between 5 and 10 liters (spill requiring more absorbents and rapid response)
- ◯ Grand : entre 10 et 20 litres (déversement significatif affectant une zone opérationnelle limitée) - Large: between 10 and 20 liters (significant spill affecting a limited operational area)
- ◯ Majeur : plus de 20 litres (baril ou réservoir partiellement vidé, intervention d'urgence requise) - Major: more than 20 liters (partially emptied barrel or tank, emergency response required)
- ◯ Autre - Other

Si la réponse est Autre - Other

2.6a Préciser la quantité en L - Specify the quantity in L

2.7 Type de sol - Ground Type

- ◯ Terrestre - Terrestrial
- ◯ Aquatique - Aquatic
- ◯ Milieu humide - Wetland

2.8 Précision du type de sol dans la zone de déversement : - Specify the ground type in Spill Area:

- ◯ Sols naturels - Natural soil
- ◯ Sols perturbés - Zone campement - routes - Disturbed soils - Campsite area - Roads
- ◯ Milieux aquatiques - Aquatic environments

- ○ Milieux sensibles - Sensitive environments

Si la réponse est Sols naturels - Natural soil

2.8a Préciser le type de sol - Specify the type of soil

- ○ Sol forestier – Litière organique (mousses, humus, racines) - Forest soil – Organic litter (moss, humus, roots)
- ○ Sol organique – Tourbière / mousse épaisse / terrain saturé - Organic soil – Peat bog / thick moss / saturated ground
- ○ Sol minéral naturel – Sable ou gravier naturel - Natural mineral soil – Natural sand or gravel
- ○ Roche affleurante - Outcropping rock
- ○ Glace / Neige - Ice / Snow

Si la réponse est Sols perturbés - Zone campement - routes - Disturbed soils - Campsite area - Roads

2.8a Préciser le type de sol - Specify the type of soil

- ○ Zone déboisée / sol mis à nu - Deforested area / bare soil
- ○ Chemin d'accès ou plateforme en gravier compacté - Path or platform made of compacted gravel
- ○ Remblai ou sol remanié - Backfill or reworked soil
- ○ Glace / Neige - Ice / Snow

Si la réponse est Milieux aquatiques - Aquatic environments

2.8a Préciser le type de sol - Specify the type of soil

- ○ Eau stagnante (étang, mare, fossé rempli) - Stagnant water (pond, pool, filled ditch)
- ○ Eau courante (ruisseau, drainage naturel, petit cours d'eau) - Running water (stream, natural drainage, small watercourse)
- ○ Plan d'eau (lac, étang majeur, rivière) -Body of water (lake, large pond, river)
- ○ Bordure immédiate d'un plan d'eau (moins de 30 m) - Immediate vicinity of a body of water (less than 30 m)

Si la réponse est Milieux sensibles - Sensitive environments

2.8a Préciser le type de sol - Specify the type of soil

- ○ Bordure d'un milieu humide - Edge of a wetland
- ○ Zone de drainage actif / ruissellement - Active drainage/runoff area
- ○ Périmètre protégé du puits (30 m) - Protected perimeter around the well (30 m)

2.9 Mesures de contrôle et de confinement : - Control and Containment Measures:

3 INFORMATIONS SUR LE NETTOYAGE - CLEAN UP INFORMATION

3.1 Description du mode de nettoyage : - Description of the Cleaning Method:

3.2 Joindre une photo du nettoyage de la zone contaminé - Attach a photo of the contaminated area being cleaned

- ○ Oui - Yes
- ○ Non - No

3.3 Élimination des sols contaminés dans le conteneur MDR : - Disposal of contaminated soil in the MDR container :

○ Oui - Yes ○ Non - No

Si la réponse est Non - No

3.3 a Pourquoi ? / Why ?

3.4 Élimination des produits de nettoyage contaminés dans le conteneur MDR : Disposal of contaminated cleaning products in the MDR container

○ Oui - Yes ○ Non - No

Si la réponse est Non - No

3.4 a Pourquoi ? / Why ?

4 Enquête et analyse des causes /action correctives - Investigation and analysis of causes/corrective

4.1 Quelles sont les causes directs ou indirects du déversement : - What are the direct or indirect causes of the spill :

4.2 Quelle est le risque de récurrence : - Risk of Recurrence:

4.3 Quelles sont les mesures corrective afin d'éviter un autre déversement : - What corrective measures are in place to prevent another spill :

5 SIGNATURES DES PARTICIPANTS - SIGNATURES OF PARTICIPANTS

5.1 Noms des témoins : - Names of Witnesses:

5.2 Noms des participants à l'enquête : - Names of Participants in the Investigation:

5.3 Signatures:

6 PHOTOGRAPHIES - PHOTOGRAPHS

6.1 Des photos ont-elles été prises du déversement ? - Have photos been taken of the spill?

○ Oui - Yes ○ Non - No

Si la réponse est Non - No

6.1 a Pourquoi ? - Why?

6.2 Des photos ont-elles été prises pendant le nettoyage ? - Have photos been taken during the clean up?

○ Oui - Yes ○ Non - No

Si la réponse est Non - No

6.2a Pourquoi ? - Why?

6.3 Des photos ont-elles été prises après le nettoyage ? - Have photos been taken after the clean-up?

○ Oui - Yes ○ Non- No

Si la réponse est Non- No

6.3a Pourquoi ? - Why?

7 INFORMATION SUR LES RAPPORTS - REPORTING INFORMATION

7.1 Numéro de dossier MELCCFP : - MELCCFP file number

7.2 Date de soumission du rapport : - Date Report was Submitted:

7.3 Nom de l'agent - Agent Name:

7.4 Un rapport doit-il être soumis au ministère de l'environnement ? - Does a Report Need to be Submitted to the Ministry of Environment?

○ Oui - Yes ○ Non - No

Si la réponse est Oui - Yes

7.4a Nom et adresse électronique de la personne à qui envoyer le courriel : - Name and e-mail of person to submit email to:

7.4b Quand le rapport doit-il être remis ? - When is report due?

7.4c Date et heure de l'appel confirmant qu'un rapport doit être soumis: - Date and time of call confirming a report needs to be submitted:

Bris matériel / Blessure

Bris Matériel

Cout Estimé	< 10 000$	>10 000 <50 000$	>50 000$ <150 000$	>150 000 + CNESST

Décrire La perte:

Blessure

cause:	☐ Coincé dedans ou entre	☐ Effort excessif	☐ Corps étranger dans l'œil
	☐ Condition personnelle	☐ Contractuel	☐ Entrepreneur
	☐ Contact avec électricité	☐ Bris matériel	☐ Passé proche
	☐ Lésion par friction ou abrasion	☐ Environnement	☐ Non-Conformité

Type d'accident:	☐ Fracture	☐ Éraflure	☐ Commotion cérébrale	☐ Luxation/Dislocation
	☐ Amputation	☐ Brûlure (chaud/froid)	☐ Coup de chaleur	☐ Électrisation
	☐ Asphyxie	☐ Brûlure chimique	☐ Coupure	☐ Hernie
	☐ Mortel	☐ Douleur	☐ Ecchymose	☐ Entorse/Foulure
	☐ Malaise/Intoxication			

Partie du corps:	☐ Corps	☐ Nez	☐ Épaule	☐ Poignet	☐ Côte(s)	☐ Aine	☐ Cheville
	☐ Tête	☐ Visage	☐ Coude	☐ Main	☐ Dos	☐ Jambe	☐ Pied
	☐ Oreille	☐ Cou	☐ Bras	☐ Doigt	☐ Hanche	☐ Genou	☐ Orteil
	☐ Œil	☐ Abdomen					

Coté du corps:	☐ Droit	☐ Gauche	☐ N/D	☐ Les deux cotés
Premiers soins donnés par:		☐ contremaitre	☐ secouriste	☐ infirmier(ère)
		☐ collègue	☐ s-même	☐ hopital

Nature des soins reçus:

Premiers soins ☐ **Assistance médicale** ☐ **Assignation temporaire** ☐ **Perte de temps** ☐

Signature de l'infirmier (ère) / secouriste: **Date et heure des soins:**

Se référer a la Matrice de décision de l'enquête (dernière page) et inscrire le nombre du risque réel et potentiel

Risque réel ? ☐ **Risque potentiel ?** ☐

Risque A	**Entre 18 et 25 = Terminer cueillette des faits, faire enquête/rapport 24hrs + rapport 5 jours**
Risque B	**Entre 12 et 17 = Terminer cueillette des faits, faire enquête/rapport 24hrs + (rapport 5 jours sur demande)**
Risque C	**Entre 6 et 11 = Terminer cueillette des faits + (enquête sur demande)**
Risque Mineur	**Entre 1 et 6 = Terminer la cueillette des faits**

Note: s'il y a fait accidentel ou possible enquête selon matrice, compléter la cueillette des faits, sinon arrêter ici le processus.

Cueillette des faits

à compléter par le superviseur si fait accidentel

No de déclaration:

Superviseur : _____ **Date de la cueillette:** _____

Département: _____

Décrire le fait accidentel ou l'événement imprévu et soudain (obligatoire)

A- MACHINE (équipement ou outil) peut-il être en cause dans l'accident? *N/A* ☐

Numéro de l'équipement :	1-Non-Approprié pour la tâche ☐	Bris matériel ☐	3-dispositif de protection inadéquat ☐	Passé proche ☐	5- autre

Si oui expliquez :

B- *MATÉRIAUX (produits)* peuvent-ils être en cause dans l'accident? *N/A* ☐

Décrire matériel ou produit:	1-Non-Approprié pour la tâche ☐	2- mauvaise état ☐	3-dispositif de protection inadéquat ☐	4- Défectueux ☐	5- autre

Si oui expliquez :

C-*MÉTHODE* utilisée peut-elle être en cause dans l'accident? *N/A* ☐

1-Procédure de travail non existante ou non-écrite ☐	2-Procédure inadéquate ☐	3-Mauvaise position de travail ☐
4-Méthode de travail établie mais non sécuritaire ☐	5-Mauvaise communication ☐	6-autre

Si oui expliquez :

D-*MAIN D'OEUVRE (individu)* peut-il être en cause dans l'accident? *N/A* ☐

1-Capacité physique insuffiante ☐	2-Mal utilisé un équipement ☐	3-Non respect d'une procédure ☐
4-Expérience insuffisante,manque de connaissance ☐	5-Utiliser un équipement défectueux ☐	6-Vitesse inappropriée ☐
7- Omettre d'avertir (mauvaise communication) ☐	8-Rendre un dispositif de sécurité inopérable ☐	9-Ne pas avoir sécurisé ou rendre sécuritaire ☐
10-Maintenance sur équipement énergisé ☐	11-Opéré équipement sans autorisation ☐	12-Stress ou pression ☐
13-Enlever un dispositif de sécurité.(06) ☐	14-Jouer ou violence ☐	15-Motivation inadéquate ☐
16- Mal chargé , mal placé, mal levé ☐	17-Inspection inadéquate ☐	18-autre.

Si oui expliquez :

Cueillette des faits (suite)

E- *Milieu (environnement) peut-il être en cause dans l'accident?* N/A ☐

1-Absence de barrière contre les chutes de personne ou d'objets ☐	2-Ventillation inadéquate ☐	3-Bruit ambiant hors du commun ☐
4-Éclairage inadéquat ☐	5-Présence de fumée,gaz,vapeur ☐	6-Mauvaise tenue des lieux ☐
7-Instabilité de la surface, sol glissant ☐	8-Support de terrain inadéquat ☐	9-Zone de travail étroite ☐
10- Température ou humidité inadéquate ☐	11-Moyen de communication ☐	12- Radiation ☐
13-Explosion ou feu ☐	14-autre.	

Si oui expliquez :

Mesure corrective immédiate	*Surperviseur*	*Échéancier*	*Réalisée*	*commentaire*

NOTE: Une mesure corrective doit corriger ou diminuer le risque, mais ne doit pas en créer un.

Signature du superviseur: _____ **Date:** _____

Signature du responsable du département _____ **Date:** _____

Matrice de décision pour l'enquête (rapport 24hr/rapport 5 jours pour le corporatif) établir risque réel et potentiel

Catégorie de risque	Impact				
	Négligeable	***Mineur***	***Modéré***	***Sérieux***	***Désastreux***
	Catégorie 1	**Catégorie 2**	**Catégorie 3**	**Catégorie 4**	**Catégorie 5***
Hygiène, santé et sécurité (HSST)	**Blessure nécessitant des premiers soins/ bris de - de 10000$**	**Blessure nécessitant un traitement médical / bris entre 10k et 50k**	**Blessure invalidante (assignation temporaire, perte de temps) / bris entre 50k et 150 k**	**Perte d'une vie ou invalidité permanente à >1 personne / bris de plus de 150k (aviser la CNESST)**	**Perte de plusieurs vie ou invalidité permanente à >10 personnes**
Fréquence					
CERTAIN ***se produit dans la pluspart des semaines ou des mois. 90% de probabilité***	***9***	***16***	***20***	***23***	***25***
PROBABLE ***se produira plusieurs fois par année. Plus de 50% de probabilité.***	***7***	***10***	***17***	***21***	***24***
POSSIBLE ***peu se produire plus d'une fois aux 3 ans. plus30% de probabilité***	***4***	***8***	***13***	***18***	***22***
IMPROBABLE ***peu se produire tous les 3 a 10 ans. 10 a 30% de probabilité.***	***2***	***5***	***11***	***14***	***19***
RARE ***Peu se produire seulement dans des circonstances exceptionnelles 5 à 30 ans. 10% de probabilité***	***1***	***3***	***6***	***12***	***15***
Risque A	**Entre 18 et 25 = Terminer cueillette des faits, faire enquête/rapport 24hrs + rapport 5 jours**				
Risque B	**Entre 12 et 17 = Terminer cueillette des faits, faire enquête/rapport 24hrs + (rapport 5 jours sur demande)**				
Risque C	**Entre 6 et 11 = Terminer cueillette des faits + (enquête sur demande)**				
Risque Mineur	**Entre 1 et 6 = Terminer la cueillette des faits**				

ENQUÊTE/RAPPORT 24HRS = faire Enquête et envoyer rapport au corporatif. **Rapport 5 jours (ppt)** = rapport a remettre au corporatif max 5 jours après le rapport 24 heures

Liste préétablie à l'exigence d'une enquête (rapport 24h pour Corporatif)

Événements de classe réelle ou potentielle 12 points et + (déterminé à l'aide de la matrice de classification)

Ou

Événements avec blessure résultant une visite médicale, une assignation temporaire ou une perte de temps

Ou

Événements sans blessure selon liste suivante

- **Incendie**
- **Une collision entre deux véhicules**
- **Non-respect d'une procédure écrite**

Type d'accident:

- **Un accident ou incident relatif à une grue, une machine d'extraction, une molette, un câble d'extraction, une cage, un skip**
- **Une explosion ou un incendie relatif à un compresseur, un réservoir ou une canalisation d'air comprimé**
- **Une explosion relative à une chaudière**
- **Une irruption d'eau anormale ou inattendue**
- **Une fissure ou une lézarde dans une cloison étanche ou dans un barrage retenant plus de 23 mètres cubes d'eau**
- **Un incendie dans une mine souterraine, le chevalement d'un puits, une salle de machine d'extraction ou un dépôt d'explosifs**
- **Un tir prématuré ou inattendu provoquant une inflammation d'explosifs**
- **Un coup de charge ou un déplacement important et inattendu de terrain**
- **L'évanouissement d'une personne dû à un gaz nocif ou l'insuffisance d'oxygène**
- **De la connaissance de la présence d'un gaz inflammable dans une mine souterraine**

Note : un avis au représentant à la prévention est requis pour tout événement dont la gravité réelle ou potentielle est risque A selon la matrice de classification.

GCM
ENVIRO
SYNERGIES

Annexe O

Estimation des coûts de restauration

Tableau 1 : Résumé des coûts de restauration de la propriété Shaakichiuwaanaan

# Item	Description	Quantité	Unité	Coût unitaire (CAD $)	Total
Coûts directs					
1.0	**Sécurisation du site**				
1.1	Mise en place d'une clôture de protection autour de la fosse	6 710	m	$ 119.84	804 100 $
1.2	Installation de panneaux de signalisation à chaque 30 m autour de la fosse	224	Unité	$ 352.19	78 800 $
1.3	Remblayage d'un portail et d'une rampe d'accès souterraine à l'aide de stériles miniers[1]	1 162	m^3	$ 15.35	17 800 $
1.4	Mise en place de dalles de béton au droit des monteries de ventilation[2]	45	m^3	$ 2 110.00	95 000 $
				Sous-total 1.0	**995 700 $**
2.0	**Démantèlement, démolition et démobilisation des infrastructures de surface[3,29]**				
2.1	Bâtiments de l'usine de traitement du minerai	1	Lot	N/A	5 638 500 $
2.2	Bâtiments du site minier	1	Lot	N/A	1 112 400 $
2.3	Bâtiments connexes	1	Lot	N/A	580 400 $
2.4	Bâtiments du camp	1	Lot	N/A	272 000 $
2.5	Traitement des eaux	1	Lot	N/A	400 900 $
2.6	Tuyauterie	1	Lot	N/A	248 500 $
2.7	Démantèlement des équipements	1	Lot	N/A	737 900 $
2.8	Fondations	1	Lot	N/A	314 500 $
2.9	Transport des débris hors site au futur LEET de Radisson (330 km)	1	Lot	N/A	1 691 100 $
				Sous-total 2.0	**10 996 200 $**
3.0	**Restauration de l'empreinte affectée par les activités minières (zone industrielle et chemins d'accès)**				
3.1	Nivellement des empreintes affectées[4,5]	792 986	m^2	$ 5.52	4 378 300 $
3.2	Scarification des empreintes affectées[6,7]	1 043 018	m^2	$ 1.30	1 356 500 $
3.3	Recouvrement de 150 mm de dépôts meubles sur les fondations de béton fracturées au droit des bâtiments démantelés[8]	2 145	m^3	$ 11.13	23 900 $
3.4	Mise en végétation des aires par ensemencement hydraulique[9]	898 718	m^2	$ 0.82	736 900 $
				Sous-total 3.0	**6 495 600 $**
4.0	**Restauration des aires d'entreposage**				
4.1	**Halde à stériles 001[8,10,11]**				
4.1.1	Recouvrement de 200 mm de matières organiques	167 315	m^3	$ 14.55	2 434 600 $
4.1.2	Mise en végétation par ensemencement hydraulique (terrain en pente)[9]	711 088	m^2	$ 0.82	583 100 $
4.1.3	Aménagement pour assurer la gestion de l'eau drainée (sable, géotextile et enrochement)	10 010	m^3	$ 104.73	1 048 400 $
				Sous-total 4.1	**4 066 100 $**
4.2	**Halde de co-disposition des stériles et des résidus miniers 002[8,10,11,30]**				
4.2.1	**Recouvrement**				
4.2.1.1	Recouvrement de 150 mm de sable de protection (couche avant la géomembrane)	347 789	m^3	$ 23.13	8 045 600 $
4.2.1.2	Recouvrement d'une géomembrane HDPE	2 318 593	m^2	$ 19.46	45 108 800 $
4.2.1.3	Recouvrement d'un géotextile	2 318 593	m^2	$ 6.04	13 998 800 $
4.2.1.4	Recouvrement de 200 mm de sable de protection (couche après le géotextile)	463 719	m^3	$ 23.13	10 727 500 $
4.2.1.5	Recouvrement de 200 mm de matières organiques	463 719	m^3	$ 14.55	6 747 500 $
4.2.2	**Système de drainage**				
4.2.2.1	Mise en place d'un coussin (sable)	31 210	m^3	$ 23.13	722 000 $
4.2.2.2	Recouvrement d'un géotextile	256 860	m^2	$ 6.04	1 550 800 $
4.2.2.3	Mise en place d'un enrochement	110 610	m^3	$ 15.35	1 697 500 $
4.2.2.4	Installation d'un tuyau perforé (250mm de diamètre)	8 120	m	$ 189.94	1 542 300 $
4.2.3	**Végétation**				
4.2.3.1	Mise en végétation par ensemencement hydraulique (terrain en pente)[9]	1 970 804	m^2	$ 0.82	1 616 100 $
				Sous-total 4.2	**91 756 900 $**
4.3	**Haldes de mort-terrain (2) et haldes à matières organiques (2)**				
4.3.1	Scarification de l'empreinte des deux haldes à mort-terrain[7]	569 125	m^2	$ 1.30	740 200 $
4.3.2	Mise en végétation par ensemencement hydraulique des quatre haldes[9]	702 662	m^2	$ 0.82	576 200 $
				Sous-total 4.3	**1 316 400 $**
4.4	**Plateforme de transfert des stériles de l'exploitation souterraine**				
4.4.1	Scarification de l'empreinte de la plateforme[7]	1 834	m^2	$ 1.30	2 400 $
4.4.2	Mise en végétation par ensemencement hydraulique[9]	1 559	m^2	$ 0.82	1 300 $
				Sous-total 4.4	**3 700 $**
4.5	**Haldes à minerai (HG, LG et ROM)**				
4.5.1	Scarification de l'empreinte des haldes[7]	99 653	m^2	$ 1.30	129 600 $
4.5.2	Mise en végétation par ensemencement hydraulique[9]	84 705	m^2	$ 0.82	69 500 $
				Sous-total 4.5	**199 100 $**
				Sous-total 4.0	**97 342 200 $**

5.0	**Restauration du système de gestion des eaux**				
5.1	**Retrait d'un barrage pour l'ennoiement de la fosse**				
5.1.1	Excavation d'une digue pour l'ennoiement de la fosse[10,12,13]	20 066	m^3	$ 75.32	1 511 300 $
				Sous-total 5.1	**1 511 300 $**
5.2	**Retrait des ponceaux**				
5.2.1	Retrait des ponceaux[14]	4	unité	$ 4 052.39	16 200 $
				Sous-total 5.2	**16 200 $**
5.3	**Restauration des bassins de la filière de traitement des eaux (quatre bassins)[15]**				
5.3.1	Excavation des boues accumulés au fond des bassins et disposition dans un site autorisé[16]	5 551	m^3	$ 20.83	115 600 $
5.3.2	Retrait des géomembranes	5 551	m^3	$ 13.46	74 700 $
5.3.3	Remblayage des bassins à l'aide du matériel contenue dans les digues	222 056	m^3	$ 11.13	2 472 000 $
5.3.4	Nivellement du secteur	111 028	m^2	$ 5.52	613 000 $
5.3.5	Mise en végétation des bassins par ensemencement hydraulique[9]	94 374	m^2	$ 0.82	77 400 $
				Sous-total 5.3	**3 352 700 $**
5.4	**Restauration des bassin de collecte du secteur industriel (deux bassins)[15]**				
5.4.1	Excavation des boues accumulés au fond des bassins et disposition dans la halde 002[17]	488	m^3	$ 20.83	10 200 $
5.4.2	Retrait des géomembranes	488	m^3	$ 13.46	6 600 $
5.4.3	Remblayage des bassins à l'aide du matériel contenue dans les digues	19 526	m^3	$ 11.13	217 400 $
5.4.4	Nivellement du secteur	9 763	m^2	$ 5.52	53 900 $
5.4.5	Mise en végétation des bassins par ensemencement hydraulique[9]	8 299	m^2	$ 0.82	6 800 $
				Sous-total 5.4	**294 900 $**
5.5	**Restauration des bassins de collecte du secteur de la halde à stériles 001 (deux bassins)[18]**				
5.5.1	Excavation d'une brèche dans la digue des bassins	640	m^3	$ 42.71	27 300 $
5.5.2	Mise en place d'un géotextile dans la brèche de chacun	560	m^2	$ 6.04	3 400 $
5.5.3	Mise en place de 250 mm d'enrochement dans la brèche de chacun	140	m^3	$ 15.55	2 200 $
5.5.4	Mise en végétation des bassins par ensemencement hydraulique[9]	71 001	m^2	$ 0.82	58 200 $
				Sous-total 5.5	**91 100 $**
5.6	**Restauration des bassins de collecte du secteur de la halde de co-placement 002 (deux bassins)[19,20,21]**				
5.6.1	Excavation des boues accumulés au fond des bassins (2 bassins) et disposition au site[16]	48 801	m^3	$ 20.83	1 016 500 $
5.6.2	Retrait des géomembranes (2 bassins)	48 801	m^3	$ 13.46	656 700 $
5.6.3	Excavation d'une brèche dans la digue de chacun des bassins	7 900	m^3	$ 42.71	337 400 $
5.6.4	Mise en place d'un géotextile dans la brèche	2 800	m^2	$ 6.04	16 900 $
5.6.5	Mise en place de 250 mm d'enrochement dans la brèche	700	m^3	$ 15.55	10 900 $
5.6.6	Mise en végétation des bassins par ensemencement hydraulique[9]	207 404	m^2	$ 0.82	170 100 $
				Sous-total 5.6	**2 208 500 $**
5.7	**Construction et restauration du bassin requis pour la restauration de la halde de co-placement 002[10]**				
5.7.1	Décapage du secteur	39 804	m^2	$ 3.86	153 600 $
5.7.2	Excavation du bassin	11 941	m^3	$ 11.13	132 900 $
	Construction de la digue[30]				
5.7.3	Excavation, transport et installation de stériles (450 mm)	37 539	m^3	$ 15.35	576 100 $
5.7.4	Excavation, transport et installation de stériles concassés	2 791	m^3	$ 15.35	42 800 $
5.7.5	Couche de sable (décapage essouchement et broyage au banc d'emprunt)	728	m^2	$ 3.86	2 800 $
5.7.6	Couche de sable (chargement, transport et épandage)	2 184	m^3	$ 21.85	47 700 $
5.7.7	Installation de géomembrane 1,5mm LLDPE	34 273	m^2	$ 19.46	666 800 $
5.7.8	Installation d'un tuyau perforé	422	m	$ 189.94	80 200 $
5.7.9	Installation d'un géotextile	99	m^2	$ 6.04	600 $
	Restauration du bassin après la restauration complétée de la halde de co-placement 002[19,31]				
5.7.10	Excavation des boues accumulées au fond du bassin et disposition au site[16]	6 855	m^3	$ 20.83	142 800 $
5.7.11	Retrait de la géomembrane	6 855	m^3	$ 13.46	92 200 $
5.7.12	Excavation d'une brèche dans la digue du bassin[31]	4 767	m^2	$ 42.71	203 600 $
5.7.13	Mise en place d'un géotextile dans la brèche[31]	1 590	m^2	$ 6.04	9 600 $
5.7.14	Mise en place de 250 mm d'enrochement dans la brèche[31]	398	m^3	$ 15.55	6 200 $
5.7.15	Mise en végétation des bassins par ensemencement hydraulique[9]	39 804	m^2	$ 0.82	32 600 $
				Sous-total 5.7	**2 190 500 $**
5.8	**Restauration des fossés collecteurs du site minier**				
5.8.1	Retrait de la géomembrane (fossés de la Halde 002 uniquement)	3 192	m^3	$ 11.13	$ 35 500.00
5.8.2	Remblayage des fossés à l'aide de mort-terrain provenant des haldes à mort-terrain	130 334	m^3	$ 11.13	$ 1 450 900.00
5.8.3	Mise en végétation des bassins par ensemencement hydraulique[9]	155 160	m^2	$ 0.82	$ 127 200.00
				Sous-total 5.8	**1 613 600 $**
				Sous-total 5.0	**11 278 800 $**
6.0	**Gestion des sols contaminés**				
6.1	Caractérisation environnementale du site[22]	1	lot	N/A	340 000 $
6.2	Travaux de réhabilitation des terrains contaminés[23]	1	lot	N/A	12 357 600 $
				Sous total 6.0	**12 697 600 $**

7.0	**Coûts de suivi[24,25]**				
7.1	Suivi annuel de l'intégrité et la stabilité des ouvrages[25]	5	an	$ 21 940.00	109 700 $
7.2	Suivi et entretien de la végétalisation[25]	5	an	$ 12 120.00	60 600 $
7.3	Provision pour retouches à l'ensemencement (5%)	239 520	m^2	$ 0.82	196 400 $
7.4	Suivi de la performance des techniques de restauration[25]	5	an	$ 86 840.00	434 200 $
7.5	Suivi environnemental post exploitation[26]	4	an	$ 122 100.00	488 400 $
7.6	Traitement de l'eau en phase post exploitation[27]	4	an	$ 2 840 000.00	11 360 000 $
7.7	Suivi environnemental post restauration[28]	5	an	$ 262 300.00	1 311 500 $
				Sous total 7.0	**13 960 800 $**
				Sous-total coûts directs	**153 766 900 $**
Coûts indirects					
1.0	Mobilisation et démobilisation (5 %)	1	lot	N/A	7 688 300 $
3.0	Ingénierie conceptuelle pour les items de coûts directs (30 %)	1	lot	N/A	46 130 100 $
				Sous-total coûts indirects	**53 818 400 $**
				Sous-total coûts directs et indirects	**207 585 300 $**
Autres coûts					
1.0	Contingence (20 %)	1	lot	N/A	41 517 100 $
				Total des coûts incluant la contingence	**249 102 400 $**

Notes : *Les coûts unitaires proviennent de soumissions ou de projets similaires indexés en dollars de 2025.*

1 Une rampe de 6,5m (W) x 5,5m (H) x 65m (L) a été considérée pour l'estimation du volume.

2 22.5 m^3 de béton a été considéré pour chaque ouverture. 2 ouvertures dans le 43-101

3 Voir le Tableau 2 pour le détail des lots.

4 Il a été considéré que 75% de la superficie sera nivellée.

5 Basé sur le plan CASN-A-001-GE-GA-0002_RevC, les routes de halage ont une largeur de 30m et les chemins d'accès une largeur de 10m.

6 La superficie à scarifier inclus l'ensemble de l'empreinte affectée par les activités minières industrielles, sauf l'empreinte des anciennes fondations en béton.

7 L'option de scarification a été retenue en raison de la quantité limitée des matériaux de recouvrement au site. Les volumes de matériaux disponibles devront être confirmés aux prochaines phases du projet.

8 Par hypothèse, on suppose que les matériaux de restauration proviendront du site (stériles, dépôts meubles, terre végétale), à part le sable qui proviendra d'une sablière externe. Le matériel pourrait provenir par exemple: des haldes, des digues et autres infrastructures démantelées. Les volumes de matériaux disponibles devront être confirmés aux prochaines phases du projet.

9 85% de la superficie sera ensemencée par hydroensemencement.

10 Ces concepts de restauration et estimation des volumes proviennent d'une estimation transmise par AtkinsRéalis le 5 septembre 2025. Les concepts de restauration sont basées sur le rapport de caractérisation géochimique préparé par BBA et Vision de mai 2024 et juillet 2024.

11 Les haldes seront construites de manière à assurer la stabilité long-terme des ouvrages. Ainsi, aucun reprofilage n'est considéré dans les travaux de restauration. Plus spécifiquement, les travaux suivants seront effectués lors des opérations: déposition des stériles et résidus en pente stable, ainsi que le concassage et le recouvrement d'une couche de stériles concassés pour prévenir une perte de matériel organique lors de la restauration.

12 Il est possible que le taux unitaire utilisé pour l'excavation d'une digue pour l'ennoiement de la fosse soit sous-estimé, car ce taux unitaire ne considère pas que des travaux en présence d'eau seront effectués.

13 On suppose qu'afin d'ennoyer la fosse, 35% du volume de la portion Nord de la digue de rétention principale (lac 001) devra être retiré.

14 Le nombre de ponceaux à retirer a été déterminé selon le plan CASN-A-001-GE-GA-0002_RevC. Un ponceau a été considéré là où une route traverse un plan d'eau.

15 On suppose que les bassins de la filière de traitement des eaux, de même que ceux du secteur industriel, seront profonds d'environ 2m. De plus, on suppose qu'il y aura 5cm de boues accumulées au fond de chacun et qu'il faudra retirer 5cm de matériel afin de pouvoir retirer la géomembrane.

16 Pour les bassins de la filière de traitement des eaux et les bassins de la halde 002, les frais de transport et disposition des boues seront à définir aux prochaines étapes du projet, de même que l'évaluation de la possibilité de créer une cellule d'entreposage au site. Cela vaut également pour les sols qui s'avèrent contaminés après analyse.

17 Il est estimé que les boues des bassins du secteur industriel (2 bassins) pourront être entreposés dans la halde 002, en raison du fait que ces bassins ne seront plus requis dès la fin des opérations.

18 Par hypothèse, la largeur de la base des digues du bassin de la halde 001 est de 30m. La largeur de la crête (10m) et la pente (2H:1V) provient des critères de conception pour la gestion de l'eau (CASN-A-370-GT-DCR-0001_RevB). De plus, les coûts réflètent la création d'une brèche de 4m de large. Les dimensions de la digue et de la brèche devront être revalidés aux prochaines étapes du projet.

19 On suppose que les bassins de la halde 002 seront profonds d'environ 5m. De plus, on suppose qu'il y aura 20cm de boues accumulées au fond de chacun et qu'il faudra retirer 20cm de matériel afin de pouvoir retirer la géomembrane.

20 Par hypothèse, la largeur de la base de la digue du bassin nord-ouest de la halde 002 est de 58m. La largeur de la crête (10m) et la pente (2H:1V) provient des critères de conception pour la gestion de l'eau (CASN-A-370-GT-DCR-0001_RevB). De plus, les coûts réflètent la création d'une brèche de 10m de large. Les dimensions de la digue et de la brèche devront être revalidés aux prochaines étapes du projet.

21 Par hypothèse, la largeur de la base de la digue du bassin sud de la halde 002 est de 66m. La largeur de la crête (10m) et la pente (2H:1V) provient des critères de conception pour la gestion de l'eau (CASN-A-370-GT-DCR-0001_RevB). De plus, les coûts réflètent la création d'une brèche de 11m de large. Les dimensions de la digue et de la brèche devront être revalidés aux prochaines étapes du projet.

22 Il a été considéré que la caractérisation environnementale du site sera réalisée par un tiers. Le forfait inclut la mobilisation et démobilisation par véhicule d'un technicien et d'un ingénieur de la région de Wemindji. Les travaux de caractérisation incluent la réalisation de 45 tranchées et la production d'un rapport de caractérisation. La caractérisation inclut aussi l'échantillonnage des sols sous les anciennes aires d'accumulation de minerai et stériles (vides), ainsi que la boue des bassins (3 échantillons par bassin).

23 Le coût des travaux de réhabilitation a été calculé selon la méthode proposée à l'annexe 6 du Guide de préparation du plan de réaménagement et de restauration des sites miniers au Québec de 2024. De plus, il a été posé comme hypothèse que les stériles, le minerai et les résidus ont des contaminants en concentration supérieure aux normes de l'annexe I du RPRT. En effet, la compilation des analyses géochimiques sur les sols n'a pas encore été réalisé. Seuls les tableaux de données brutes non-colligées en PDF pour l'ensemble des échantillons sont disponibles, rendant la comparaison aux normes très difficile.

24 Les coûts de suivi post-exploitation et post-restauration ont été calculés basés sur les hypothèses suivantes:
•L'accès au site se fera par la route, avec un départ de Wemindji. La mobilisation prends 1 journée (7h).
•Les échantillons seront envoyés au laboratoire par avion avec les travailleurs en phase de restauration. En post-restauration, les échantillons seront envoyés à Val-d'Or par autobus (Autobus Maheux, trajet de Wemindji à Val-d'Or).
•Il sera possible pour les spécialistes d'être logé à proximité du site, soit dans l'ancien campement ou dans un campement appartenant à Hydro-Québec (ou autre entreprise du secteur).

25 Suivi annuel de l'intégrité et la stabilité des ouvrages + Suivi annuel de la performance des techniques de restauration + suivi agronomique : On suppose qu'après 5 ans, soit la même durée que le suivi environnemental, une tendance sur la stabilité des ouvrages, la performance des techniques et la revégétalisation aura été établie.

26 Il a été considéré que 1 effluent et 9 puits seront échantillonnés lors du suivi post-exploitation, qui aura lieu sur une durée de 4 ans. La fréquence d'échantillonnage est celle prescrite par la D019, soit bimensuellement pendant les 6 premiers mois postexploitation, puis 1x par mois pour les eaux de surface et 2x par année pour les eaux souterraines. De plus, on suppose qu'il sera seulement possible d'échantillonner les effluents entre le mois d'avril et novembre, en raison du gel hivernal et de la localisation du site.

27 L'OPEX de l'usine de traitement des eaux est basé sur les critères de conception d'AtkinsRéalis (Water Treatment CASN-A-320-WM-DCR-0001_RevB). Les volumes d'eau issus d'activités qui seront probablement arrêtés au début de la phase post-exploitation ont été retirés (dénoyage et ruissellement de la fosse, eau générée par les activités souterraines (le dénoyage du souterrain a cependant été conservé), eau du procédé, eau de l'usine de remblai en pâte). Le débit moyen d'eau à traiter utilisé pour déterminer le coût d'opération annuel est donc de 829 m3/h.

28 Il a été considéré que 4 effluents et 9 puits seront échantillonnés lors du suivi post-restauration, qui aura lieu sur une durée de 5 ans. La fréquence d'échantillonnage est celle prescrite par la D019, soit 6x par année pour les eaux de surface et 2x par année pour les eaux souterraines. De plus, on suppose qu'il sera seulement possible d'échantillonner les effluents entre le mois d'avril et novembre, en raison du gel hivernal et de la localisation du site.

29 Il a été considéré que le démantèlement de la ligne électrique reliant le site minier au poste d'Hydro-Québec ne serait pas effectué, puisque les communautés locales présentent de l'intérêt à conserver cette infrastructure.

30 On suppose que le reprofilage de la halde afin d'assurer la stabilité long-terme, incluant le concassage des stériles, aura été complété durant les opérations.

31 Par hypothèse, on suppose que la brèche sera similaire à celle effectuée dans le bassin au sud de la halde de co-placement.

GCM
ENVIRO
SYNERGIES

Annexe P

Démarche de calcul – Coûts des travaux de réhabilitation – Annexe 6 du Guide

DÉMARCHE DE CALCUL – TRAVAUX DE RÉHABILITATION DES TERRAINS CONTAMINÉS

La démarche de l'Annexe 6 du *Guide de préparation du plan de réaménagement et de restauration des sites miniers au Québec* (2024) a été utilisé pour calculer le coût des travaux de réhabilitation des terrains contaminés. Voici une description des étapes ayant permis d'obtenir le montant de l'item 2.2 du Tableau 1 à l'annexe H du plan de restauration :

Étape 1 – Montant de la garantie financière, sans les coûts pour les études de caractérisation et pour les travaux de réhabilitation des terrains contaminés (Valeur A).

Ce montant est de 190 443 600 $, soit la somme des items 1.0 à 7.0 en excluant l'item 6.0 du Tableau 1 à l'annexe O du plan de restauration additionné des indirects sur cette somme.

Étape 2 - Calculer une valeur correspondant à 1 % du montant de la garantie financière de l'étape précédente (Valeur B).

B = 1% de A = 1% x 190 443 600 $ = 1 904 436 $

Étape 3 – Déterminer le coefficient

La valeur du coefficient est de 6, tel que calculé à l'aide du tableau ci-dessous. Pour le site, seuls les coefficients pour la mine à ciel ouvert sont utilisés et les coefficients pour la mine souterraine ne sont pas comptabilisés.

Type d'exploration ou composantes du site minier		Coefficient					
		0		1		2	
Mine à ciel ouvert	Caractéristique du stérile entreposé sur le site	Concentration des contaminants à des niveaux inférieurs aux normes de l'annexe I du RPRT				Concentration des contaminants à des niveaux supérieurs aux normes de l'annexe I du RPRT	X
	Caractéristique du minerai entreposé sur le site	Concentration des contaminants à des niveaux inférieurs aux normes de l'annexe I du RPRT		Concentration des contaminants à des niveaux supérieurs aux normes de l'annexe I du RPRT	X		

Type d'exploration ou composantes du site minier		Coefficient					
		0		1		2	
Mine souterraine	Caractéristique du stérile entreposé sur le site	Concentration des contaminants à des niveaux inférieurs aux normes de l'annexe I du RPRT		Concentration des contaminants à des niveaux supérieurs aux normes de l'annexe I du RPRT			
	Caractéristique du minerai entreposé sur le site	Concentration des contaminants à des niveaux inférieurs aux normes de l'annexe I du RPRT		Concentration des contaminants à des niveaux supérieurs aux normes de l'annexe I du RPRT			
Usine de traitement du minerai	Caractéristiques des résidus miniers de traitement et des aires d'accumulation	Concentration des contaminants à des niveaux inférieurs aux normes de l'annexe I du RPRT		Concentration des contaminants à des niveaux supérieurs aux normes de l'annexe I du RPRT et entreposage avec des mesures de mitigation contre l'érosion éolienne		Concentration des contaminants à des niveaux supérieurs aux normes de l'annexe I du RPRT et entreposage sans mesures de mitigation contre l'érosion éolienne	X
	Production de concentré	Chargement à l'intérieur d'un bâtiment	X	Chargement sous un abri partiellement ouvert		Chargement à aire ouverte	
	Stockage des produits dangereux et des réactifs			Stockage des produits dangereux et réactifs à l'extérieur des bâtiments	X		

Valeur du coefficient	6

Étape 4 - Multiplier la somme des coefficients (Valeur C) par 1 % du montant de la garantie financière (Valeur B) pour obtenir le montant à ajouter à la garantie financière pour la réhabilitation des terrains en fonction des risques liés aux caractéristiques de l'exploitation minière (Valeur D).

D = C x B = 6 x 1 904 436 $ = 11 426 616 $

Étape 5 - Déduire le montant prévu pour la restauration des aires d'accumulation (Valeur E) du montant de la garantie financière calculé à l'étape 1 (Valeur A) pour obtenir le montant de la garantie financière sans compter les sommes prévues pour la restauration des aires d'accumulation (Valeur A1).

A1 = A – E = 190 443 600 $ - 97 342 200 $ = 93 101 400 $

Étape 6 - Calculer une valeur correspondant à 1 % du montant de la garantie financière excluant les sommes prévues pour la restauration des aires d'accumulation (Valeur A1) pour estimer les montants à ajouter à la garantie financière pour la réhabilitation des terrains en fonction des risques liés à la contamination aux hydrocarbures (Valeur F).

F = 1% x A1 = 1% x 93 101 400 $= 931 014 $

1% a été utilisé, car il n'y a pas de réservoir enfoui.

Étape 7 - Additionner les montants partiels D et F pour obtenir le montant à ajouter dans la garantie financière pour les travaux de réhabilitation des terrains contaminés (Valeur G1).

G1 = D + F = 11 426 616 $ + 931 014 $ = 12 357 630 $ (arrondi à 12 357 600 $)

Étape 8 - Estimer les montants nécessaires pour les études de caractérisation des terrains (Valeur G2).

Il a été considéré que la caractérisation environnementale du site sera réalisée par un tiers. Le forfait inclut la mobilisation et démobilisation par véhicule d'un technicien et d'un ingénieur de la région de Wemindji. Les travaux de caractérisation incluent la réalisation de 45 tranchées et la production d'un rapport de caractérisation. La caractérisation inclut aussi l'échantillonnage des sols sous les anciennes aires d'accumulation de minerai et stériles (vides), ainsi que la boue des bassins (3 échantillons par bassin).

Ce montant est estimé à 340 000$.

Étape 9 - Additionner les montants partiels G1 et G2 pour obtenir les coûts à inclure dans la garantie financière pour les études de caractérisation et les travaux de réhabilitation des terrains contaminés (Valeur G).

G = 12 357 600 $+ 340 000 $ = 12 697 600 $.

La valeur G est incluse à la garantie financière calculée pour l'ensemble des travaux de restauration du site minier (Section 6.0 du Tableau 1 de l'annexe O du plan de restauration).

Annexe Q

Démarches d'information-consultation réalisées et prévues avec le milieu

Annexe N – Tableau synthèse des consultations liées à la restauration minière

Ce tableau présente sommairement les consultations réalisées à ce jour en lien avec les enjeux sociaux et économiques de la restauration minière. Les consultations se poursuivront tout au long du cycle de vie du projet.

Date	Lieu / format	Parties prenantes	Objectif de la rencontre	Enjeux liés à la restauration abordés	Prise en compte dans la planification de la restauration
2024-07-11	Rencontre virtuelle	Ministère des Ressources naturelles et des Forêts (MRNF) ; MELCCFP	Échanges techniques et réglementaires	Attentes réglementaires, principes de restauration, planification de l'après-mine	Intégration des exigences ministérielles et des meilleures pratiques dans l'élaboration du plan de restauration
2024-09-10	Chisasibi – événement public	Première Nation crie de Chisasibi	Information et échanges avec la communauté	Usage futur du site, sécurité à long terme, qualité de l'environnement post-fermeture, préoccupations sur la santé et le bien-être de la population	Prise en compte des attentes communautaires dans la définition des objectifs de restauration et dans l'approche de consultation continue
2025-05-23	Rencontre virtuelle	MRNF	Suivi des discussions et alignement réglementaire	Orientation générale de la restauration, conformité du plan et processus de mise à jour	Ajustement de la planification de la restauration et confirmation des orientations retenues
2022-01-09 à aujourd'hui	Divers formats	Parties prenantes locales, communautés autochtones, ministères et agences	Suivi continu du projet	L'après-mine comme préoccupation transversale : environnement, sécurité et retombées socioéconomiques	Traçabilité assurée par un registre de plus de 400 entrées servant à alimenter les mises à jour du plan de restauration